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CATALOG/STUDENT HANDBOOK

Welcome to Dunwoody!

The College's Student Catalog and Handbook is your online resource to academic programs, services, policies, and procedures.

Please take a minute to review the catalog and familiarize yourself with this important information. Information provided about our academic programs provides students with a general list of requirements needed to qualify for a degree.

The catalog is published yearly and serves as a snapshot of Dunwoody at the time of publication. Changes that occur after publication will be included in the next catalog.

We are committed to ensuring that your educational experience here at Dunwoody is a positive one.

Thank you.

ABOUT DUNWOODY

Since 1914, Dunwoody has been a place where the curious and the confident have learned by doing. We pioneered the way technical education should be taught: by educating students on the latest technology that is in use in industry so our graduates have the skills employers are looking for.

Located on the western edge of downtown Minneapolis, Dunwoody is the only private, not-for-profit technical college in the Upper Midwest. We have graduated more than 200,000 alumni who have been crucial to the development of the local and regional economy. Many of them have become respected industry leaders and entrepreneurs, and all of them have created a legacy of achievement that can literally be seen in the Minneapolis skyline, across the State of Minnesota, and beyond.

Today, our graduates enter the workforce with competence and confidence, determined to start meaningful and rewarding careers.

Dunwoody offers certificates, associate's degrees, and bachelor's degrees in more than 45 majors in the following areas:

- Automotive
- Business (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/business/)
- Computer Technology (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/computer-technology/)
- Construction Sciences & Building Technology (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/construction-sciences-building-technology/)
- Health Sciences & Technology
- Robotics & Manufacturing (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/robotics-manufacturing/)
- School of Design (p. 65)
- School of Engineering (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/engineering/)

Letter from the President

Dear prospective and current students:

Thank you for your interest in Dunwoody College of Technology. We are delighted you are considering or have selected Dunwoody as your gateway to a better future.

For more than 100 years, Dunwoody has built a reputation as a leader in technical education. We have educated more than 200,000 men and women. Dunwoody's reputation as a best-in-class organization is evident in the high demand for our graduates. Our graduates go on to become the go-to technicians, the best problem solvers, and the leaders in their respective industries. Many Dunwoody graduates have become entrepreneurs who own and operate their own businesses.

Dunwoody's mission is to "change lives by building opportunities for graduates to have successful careers, to develop into leaders and entrepreneurs, and to engage in 'the better performance of life's duties.'" We strive to achieve this mission every day by living up to high standards in the way we teach and support our students. I am confident the Dunwoody team of Admissions counselors, instructors, student advisors, and staff will deliver on that goal.

I wish you the best of luck in your chosen field of study. We will challenge you to achieve your maximum potential; you must challenge us to reach ours as well.

Sincerely,

Rich Wagner, Ph.D.
President, Dunwoody College of Technology

Vision, Mission, Strategic Goals, Core Values & Freedom of Expression

Vision

Dunwoody College of Technology seeks to emerge as a first-choice, nationally-recognized leader in technical education, providing a full college experience rooted in innovative education.

Mission

Dunwoody changes lives by building opportunities for graduates to have successful careers, to develop into leaders and entrepreneurs, and to engage in "the better performance of life's duties."

Quote is from the Last Will and Testament of William Hood Dunwoody.

Strategic Goals

- Organic Growth
- Innovative Growth
- Partnership Development and Management
- Technology to Drive Success

Values

Inclusion

We are for everyone

Everyone has an opportunity to succeed. All voices and viewpoints matter – and deserve to be heard. We treat each other with respect.

Collaboration

We do our best work together

We build connections and partnerships that develop our students and benefit our community. We show up every day with a renewed commitment to work together to meet the needs of others and fuel their success.

Inspiration

We inspire success

We help students succeed as they design, create, engineer, problem solve, repair, and build. Our number one priority is inspiring student success.

Curiosity

We turn curiosity into innovation

We transform problems into innovative solutions and questions into learning. We are always looking for ways to do and be better.

Freedom of Expression

In accordance with its Mission, members of the Dunwoody community are expected to develop into leaders and entrepreneurs. This goal is often accomplished through normal activities of Dunwoody students, staff, faculty and administration while learning and working in an environment of Inclusion, Collaboration, Inspiration, and Curiosity.

Dunwoody strives to create an environment in which diverse opinions can be expressed and heard. Members of the Dunwoody community have the right to peacefully express their views and opinions, regardless of whether others may agree, but not in such a way as to prevent the speaker's freedom of expression or interfere with college operations. Views expressed should not violate any of Dunwoody's policies or values.

Accreditations

Overview

Dunwoody College of Technology is approved by a number of regulatory agencies both at the institutional and programmatic levels. Institutional approvals are required for Dunwoody to conduct business. All education offered in the United States and the financial aid to support students in pursuing their education is regulated by the Department of Education (DOE). The function of accrediting and monitoring institutions of higher education both in their compliance with federal financial aid standards and in the quality of the education delivered, the DOE delegates to approved regional and national accrediting bodies. Dunwoody is accredited by the DOE approved regional accreditor, The Higher Learning Commission. Dunwoody is located in the State of Minnesota and as such must demonstrate compliance with all Minnesota laws and standards both in regard to state financial aid and quality of the education being delivered in the state. As such, Dunwoody is registered with the Minnesota Office of Higher Education. Programmatic approvals are carried out by specialized accreditation bodies associated with a specific area of expertise. Dunwoody programs in seeking and attaining programmatic accreditation demonstrate compliance with the standards of excellence within the given profession.

The U.S. Department of Education (DOE)

The United States Department of Education's mission is to promote student achievement and preparation for global competitiveness by fostering educational excellence and ensuring equal access. Public Law 96-88 outlines four major activities for which the Department is responsible:

1. Establishes policies relating to federal financial aid for education; administers distribution of those funds and monitors their use
2. Collects data and oversees research on American Schools and disseminates this information to Congress, educators and the general public
3. Identifies the major issues and problems in education and focuses national attention on them
4. Enforces federal statutes prohibiting discrimination in programs and activities receiving federal funds and ensures equal access to education for every individual

For more information, please visit https://www.ed.gov/

The Higher Learning Commission (HLC)

Dunwoody College of Technology is accredited by the Higher Learning Commission (HLC). The HLC was founded in 1895 as one of six regional institutional accreditors in the United States. The HLC is recognized as an accreditor by the U.S. Department of Education and the Council of Higher Education Accreditation (CHEA) and is required to conduct programmatic approval for the dissemination of financial aid. All Dunwoody programs obtain approval from the Higher Learning Commission for financial aid eligibility. The Higher Learning Commission's telephone number is (800) 621-7440; the website is www.hlcommission.org (http://www.hlcommission.org/).

Minnesota Office of Higher Education (MOHE)

The Minnesota Office of Higher Education is a cabinet-level state agency providing students with financial aid programs and information to help them gain access to postsecondary education. The agency serves as the state's clearinghouse for data, research, and analysis on postsecondary enrollment, financial aid, finance and trends. Through collaboration with systems and institutions, the agency assists in the development of the state's education technology infrastructure and library programs. The mission of MOHE is to advance the promise of higher education to all Minnesotans and to provide the critical information that guides higher education decisions. Within MOHE is the Office of School Licensure & Registration. The role of this office is to protect consumers by ensuring that private and out-of-state institutions of higher learning register with the state and meet state standards to operate legally in Minnesota.

Dunwoody College of Technology is registered with the Minnesota Office of Higher Education pursuant to Minnesota Statutes Sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

Minnesota Office of Higher Education
Address: 1450 Energy Park Dr #350, St Paul, MN 55108
Phone: 651.642.0567
Website: www.ohe.state.mn.us (https://www.ohe.state.mn.us/)

Dunwoody College of Technology is registered as a private, non-profit college offering programs in Minnesota on three levels: certificate, associate degree, and bachelor's degree. This registration is renewed annually. Programmatic review and approval is also required of and provided by MOHE for state and federal financial aid.

Dunwoody's financial aid involvement with MOHE includes the following:

- Minnesota State Grant Program
- Minnesota Child Care Program
- Minnesota GI Bill Scholarship Program
- Minnesota Indian Scholarship Program
- Minnesota Work-Study Program
- Minnesota Self Loan Program

National Council for State Authorization Reciprocity Agreements (NC-SARA)

Dunwoody College of Technology has been approved to participate in the National Council for State Authorization Reciprocity Agreements (NC-SARA) to offer online learning in NC-SARA's network of U.S. states and territories. NC-SARA's policies help protect students and provide benefits to both states and institutions carrying out distance education/online learning.

Specialized Accreditors

In addition to the Dunwoody College of Technology's institutional accreditation, many of the college's programs have specialized accreditors that evaluate and accredit professional and occupational education at the program level. A rigorous evaluation is completed by a specialized accrediting body and is often associated with a national professional organization or a specific discipline.

ABET, Inc

ABET (http://www.abet.org/) accredits college and university programs in applied and natural science, computing, engineering, and engineering technology. Dunwoody College of Technology's

ABET's Engineering Technology Accreditation Commission (ETAC) accredits Dunwoody's B.S. Industrial Engineering Technology.

ABET's Engineering Accreditation Commission (EAC) accredits Dunwoody's B.S Mechanical Engineering

American council for construction education

The American Council for Construction Education (ACCE) (https://www.acce-hq.org/) is a non-profit organization dedicated to becoming a leading global advocate of quality construction education; and promoting, supporting, and accrediting quality construction education programs.

Programs accredited: A.A.S. Construction Project Management, B.S. Construction Management

ASE Education Foundation

The ASE Education Foundation (https://www.ase.com/) accredits Automobile, Collision Repair and Refinish, or Medium/Heavy Duty Truck programs through a thorough, strategic review and offers accreditation to programs that meet the requirements of the industry's instructional standards.

Programs accredited: A.A.S. Automotive Service Technology, A.A.S. Automotive Collision Repair & Refinishing

Council for Interior Design Accreditation (CIDA)

The Council for Interior Design Accreditation (CIDA) (http://accredit-id.org/) accredits interior design education programs at colleges and universities in the United States and internationally. CIDA advances the interior design profession as the definitive source for quality standards and accreditation in higher education and is recognized by the Council for Higher Education Accreditation (CHEA) and The U.S. Department of Education.

Program accredited: B.S. Interior Design

HVAC Excellence

HVAC Excellence (https://www.escogroup.org/hvac/) accredits HVACR programs using established standards of excellence for HVACR educational programs. These standards are designed to ensure that the future workforce receives the quality of training required to provide the skills necessary for success in the HVACR industry.

Programs accredited: A.A.S. HVACR Systems Servicing, A.A.S. HVAC Installation & Residential Service, Sheet Metal & HVAC Installation certificate

Joint Review Committee on Education in Radiologic Technology (JRCERT)

The Joint Review Committee on Education in Radiologic Technology (JRCERT) (https://www.jrcert.org/) promotes excellence in education and elevates the quality and safety of patient care through the accreditation of educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry. The JRCERT is recognized by the Council for Higher Education Accreditation (CHEA) and The U.S. Department of Education.

Program accredited: A.A.S. Radiologic Technology

National Institute for Metalworking Skills (NIMS)

The National Institute for Metalworking Skills (NIMS) (https://www.nims-skills.org/accreditation/?q=web/nims/5) is a metalworking trade association that sets skills standards for the industry, certifies individual skills against the standards, and accredits training programs that meet NIMS standards.

Program accredited: A.A.S. Machine Tool Technology

National architecture accrediting board (NAAB)

The National Architecture Accrediting Board (NAAB (https://www.naab.org/)) accredits professional degrees in architecture offered by institutions accredited by a U.S. regional accrediting agency. NAAB accreditation is the primary means by which professional degree programs in architecture assure quality to students and the public. Most state registration boards in the U.S. require any applicant for licensure to have graduated from a NAAB-accredited program; obtaining such a degree is an essential aspect of preparing for the professional practice of architecture.

Program accredited: Bachelor of Architecture

ACADEMIC PROGRAMS

Academic Philosophy

Dunwoody College teaches problem solving and critical thinking along with practical, real-world skills that are much sought after by business and industry. It's a rigorous style of hands-on, applied learning that requires discipline and personal responsibility. The emphasis is on understanding the basic theory and skills in lecture courses and then applying those skills in hands-on lab work with labs and shops that use equipment and processes that mirror what is found in industry.

The College also fosters such values as work ethic, teamwork, and punctuality. It prepares graduates to enter the diverse, performance-oriented, and modern workplace by requiring students to take industry-focused General Education courses in addition to technical curriculum.

This applied approach to learning has been part of Dunwoody since its founding in 1914 and was championed by the College's first director Charles Prosser, who is known as the father of vocational education in the United States. While the applied approach is Dunwoody's tradition, the College is committed to growth and evolution as industry sees fit.

Alternate Course Formats

Various delivery methods can be used for General Education and technical courses. Students are encouraged to connect with the instructor on the first day of the course in order to determine access, navigation, participation, and course requirements. Students are expected to adhere to time frames as dictated by the course syllabus. Standard drop/add deadline and time frames for withdrawing apply to all types of delivery.

Directed or independent study options are granted only under specific circumstances.

Statutory Requirements

Federal Program Integrity – 2021

Definition of a Credit Hour (600.2 (https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-600/))

- "One hour of classroom or direct faculty instruction and minimum of two hours of out of class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or
- At least an equivalent amount of work as required in paragraph (1) of the definition for other academic activities as established by the institution including laboratory work internships, practica, studio work, and other academic work leading to the award of credit hours."

Definition of a Clock Hour (600.2 (https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-600/))

"A period of time consisting of:

- A 50-60 minute class, lecture, or recitation in a 60-minute period;
- A 50-60 minute faculty-supervised laboratory, shop training, or internship in a 60-minute period;
- In distance education, 50-60 minutes in a 60-minute period of attendance in:

- A synchronous or asynchronous class, lecture, or recitation where there is opportunity for direct interaction between the instructor and students; or
- An asynchronous learning activity involving academic engagement in which the student interacts with technology that can monitor and document the amount of time that the student participates in the activity"

For Certificate Programs eligible for clock-to-credit hour conversion [668.8 (https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-668/subpart-A/)(k)(1)&(l)] "A semester hour must include at least 30 clock hours of instruction."

Definition of Distance Education (600.2 (https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-600/))

- Education that uses one or more of the technologies listed below "to deliver instruction to students who are separated from the instructor or instructors and to support regular and substantive interaction between the students and the instructor or instructors, either synchronously or asynchronously.
  - The internet;
  - One-way and two-way transmissions through open broadcast, closed circuit, cable, microwave, broadband lines, fiber optics, satellite, or wireless communications devices;
  - Audio conference; or
  - Other media used in a course in conjunction with any of the technologies listed in paragraphs (2)(i) through (iii) of this definition."

Policy

General Principles:

1. The academic year will be two 16 week semesters (Fall and Spring), a 3 week J-Term, and one 8 week summer session
   - A 16 week semester can include 16 weeks of general instruction.
   - Within the 16 weeks is included time for experiential learning activities.
2. Academic terms may include general instruction and experiential learning activities
3. The credit hour will be calculated on a 50 minute nominal hour and is the same for every delivery method
4. Experiential Delivery Methods that take place at an alternative facility or off campus, such as an internship, travel study or clinical, cannot comprise more than 25% of the overall program requirements, which includes both Technical and Arts & Sciences courses.

Credit Allocation by Category
The following categories will be used to assign credits

Category	Course Type	Definition
Lecture	Lecture, Seminar	Lecture: one credit equals one nominal hour in combination of face-to-face or distance/hybrid instruction with a minimum of two nominal hours of out of class student work (homework and application) each week for approximately 16 weeks for one semester for a total of 48 Clock Hours. Seminar: One credit equals two nominal hours in combination of face-to-face or distance/hybrid instruction with a minimum of one nominal hour of out of class student work (homework and application) each week for approximately 16 weeks for one semester for a total of 48 Clock Hours.
Laboratory	Laboratory, Studio, Capstone	One credit equals three nominal hours of laboratory/studio work (1:48) with little or no out of class student work each week for approximately 16 weeks for one semester or 48 Clock Hours OR one credit equals two nominal hours of laboratory/studio work (1:32) with a minimum of one nominal hour of out of class student work each week for approximately 16 weeks for one semester for a total of 48 Clock Hours.
Experiential	Practicum, Internship, Clinical, Directed Study, Travel Study	One credit shall be awarded for a minimum of 48 Clock Hours in combination of experiential learning, instruction and out of class student work as indicated on the course syllabus.
Combination	Lecture/Lab, Lecture/Studio, Lecture/Practicum, Etc.	Consistent with Dunwoody's Instructional Delivery Model, a combination of the categories may be used. In some cases, laboratory or studio may replace homework time, allowing in class time for application and competency demonstration

Faculty members have the ability to select their own learning activities, assignments, and assessments, and determine the appropriate time per individual activity. The table below represents a general guideline for various learning activities, but the average time per activity can be adjusted to reflect the true time spent performing the activity created by a faculty member. For instance, a shorter quiz may only require 10 minutes, and a longer one may need 30 minutes. Faculty should use their best judgement when assigning a timeframe for the chosen activity.

Average time per activity should be listed for the student (i.e. on the course syllabus or on Canvas). If a time is not listed, the table below will help calculate estimated clock hours for a course:

Activity	Average Time Per Activity
Quiz	20 minutes each
Exam	50 minutes each
Midterm or Final	60 minutes each
Informal Writing Assignment	15 minutes per page (250 words)
Formal Writing Assignment	30 minutes per page (250 words)
Textbook Reading	8 minutes per page (250 words)
Reading of Linked Article/Paper	10 minutes per page (250 words)
Listen to or Watch Lined Audio/Video	15 minutes each
Listen to or Watch Webinar	50 minutes each
Complete a Guided Lab Exercise	50 minutes each
Complete a Virtual Field Observation	60 minutes each
Complete a Guided Field Observation	60 minutes each
Complete a Game/Simulation	30 minutes each
Complete a Tutorial/Module	30 minutes each
Watch/Make Synchronous Presentations	30 minutes each
Make a Blog Entry	10 minutes each
Participate in a Chat Room or Forum Discussion	30 minutes each
Study or Assignment Group Presentation	40 minutes each
Online Meeting or Office Hours with Instructor	20 minutes each

*chart quoted from Dickinson State University, 2016 HLC Conference

Definition of Course Type

LECTURE

A lecture is formal instruction, conducted on or off campus by the instructor, applying any combination of instructional methods. This definition is applicable only when the course organization requires that the instructor bear the primary responsibility for the instructional activity and is directly involved with all students in the class. Students are expected to work on out-of-class assignments on a regular basis over the length of the course.

LABORATORY

A laboratory is an educational experience where students conduct experiments, develop skills, or practice procedures under the supervision of a faculty member.

STUDIO

A studio is an educational environment where students work on individual or group projects under the guidance of a faculty member. Projects may vary in scope, content and length.

SEMINAR

A seminar provides a flexible and active learning forum for students to engage in lectures, discussions, or projects focused on a specific topic(s) in a content area.

PRACTICUM

A practicum is an educational experience replicating what a student would do on-the-job; applying previous or concurrent knowledge guided by an instructor where the student demonstrates content proficiency of a specific area within a program of study.

CAPSTONE

A capstone is a major project related to a student's area of study that demonstrates a student's content knowledge of the program outcomes.

INTERNSHIP

An internship is a supervised educational work experience, located on or off campus at a work site where a faculty member monitors and provides final assessment.

CLINICAL

A clinical applies only to Health Sciences & Technology programs. This type of credit is awarded to a student assigned to a clinical experience off-campus in which the student is under constant supervision by a clinical instructor. The clinical experience will typically be in a healthcare setting such as a hospital, clinic or nursing home. The clinical instructor may be a practicing clinician in the field of study or faculty member of the College. Students should receive individual instruction and critique in their performance. The faculty member coordinating the clinical experience provides the final grade for each student based in part on input from the clinical instructor.

DIRECTED STUDY

A directed study is a course in which the student must meet a specific set of objectives agreed upon by the instructor and the student. The course requires one-on-one instructional conferences.

TRAVEL STUDY

Travel study is an educational experience that combines travel and cultural study as a main competency within the student's program of study.

Academic Plan

The academic plan is a degree progress tracking tool based on the academic year of admission. This lists both General Education and Technical course requirements for the student's declared degree. The academic plan shows what courses and credits completed, in progress, and remaining to satisfy academic requirements for graduation.

The academic plan also has a 'What If' feature, that allows for a student to view how completed courses will satisfy requirements of other programs, of which the student may not yet be enrolled.

Students should monitor their progress toward their declared degree or certificate path using the academic plan on my.dunwoody (https://my.dunwoody.edu/my/Home/LogIn/?ReturnUrl=%2Fmy%2FHome). Academic progress will be monitored by Program Advisors.

Degree Offerings
Degree Offerings

Dunwoody offers certificate, Associate in Applied Science, and Bachelor degree programs.

Associate of Applied Science (A.A.S.) and Certificates

Dunwoody offers a variety of two-year AAS degrees which include technical and Arts & Sciences courses and prepare students for a career in a specific industry. A variety of certificate programs are also offered, some of which are stackable.

Baccalaureate Degrees

Dunwoody offers bachelor degree completion programs as well as stand-alone Bachelor of Science and Bachelor of Architecture.

Arts & Sciences Department

Arts & Sciences help students acquire the critical thinking, creative problem solving, and communications skills required by the modern workplace as well as provide them with the foundational knowledge they need to succeed in their technical coursework. The department offers courses in five different content areas:

- Arts & Humanities
- Communications
- Math
- Natural Science
- Social Sciences

Arts & Sciences faculty work with technical faculty to integrate classes into students' academic plans based on industry feedback and the skills needed for graduates to succeed in their profession.

Arts & Sciences classes are taught by instructors with academic expertise in their subject areas. They help students by providing a well-rounded education that helps them develop broad thinking skills; an appreciation for life-long learning; professional oral and written

communication skills; and a better understanding of the world around them.

Program Outcomes

Program Outcomes for Arts, Humanities, Communications, and Social Sciences:

- Construct written, oral, and visual communication for author, audience, text, context, and purpose.
- Apply ethically and civically responsible behaviors for professional and personal settings in a dynamic society.
- Collaborate to promote inquiry, discover solutions, and generate new ideas and creative works that are relevant and responsive to the world around them.
- Explain concepts that influence the behavior and decisions of individuals and institutions.
- Access, evaluate, and use information gathered through a variety of resources and technologies in developing projects and presentations.
- Connect and transfer skills and learning among disciplines, domains of thinking, experiences, and situations.

Program Outcomes for Math and Sciences:

- Analyze natural phenomena by using math and science principles.
- Interpret solutions supported by reason and evidence.
- Solve math and science problems using formulas and equations.
- Apply research and problem-solving skills.

General Education

Communications

- WRIT2010 can also fulfill Communications with Writing category requirement on Academic Plan.

Code	Title	Credits
COMM1000	Communication in Context	3
COMM1030	Project Communication	3
COMM1150	Interpersonal Communication	3
COMM2000	Communication for Technical Professions	5
COMM2900	Technology in Science Fiction & Fantasy	3
COMM3000	Professional Communication	2
SPCH1000	Speech	3
WRIT2010	Technical Writing	3

Humanities

Code	Title	Credits
ARTS1000	Introduction to Drawing	3
ARTS1250	History of Design	3
HUMN1000	Ethics	3
HUMN2900	Ethics of Artificial Intelligence	3
HUMN3600	Critical Thinking & Creativity	3
PHIL1000	Introduction to Logic	2
PHIL2000	Introduction to Philosophy	3
PHIL2400	Introduction to Ethics	2
PHIL4000	Ethical Decision-Making	2

Mathematics

- All mathematics courses can also fulfill the Natural Sciences/Mathematics requirements on Academic Plan.

Code	Title	Credits
MATH1000	Algebra & Trigonometry	3
MATH1010	Algebra I	3
MATH1020	Algebra II	3
MATH1050	Algebra, Trigonometry & Geometry	3
MATH1250	Boolean Algebra	3
MATH1300	Boolean Algebra & Number Systems	2
MATH1700	Pre Calculus	3
MATH1810	Calculus I	3
MATH1811	Calculus I	4
MATH1812	Calculus I with Lab	4
MATH1820	Calculus II	3
MATH1821	Calculus II	4
MATH2250	Statistics	3
MATH2260	Probability & Statistics	4
MATH2810	Multi-Variable Calculus	4
MATH2820	Linear Algebra & Differential Equations	4
MATH2830	Discrete Math	3

Natural Sciences

- All natural sciences courses can also fulfill the Natural Sciences/Mathematics requirements on Academic Plan.

Code	Title	Credits
BIOL1230	Anatomy	4
BIOL1310	Physiology I	2
BIOL1320	Physiology II	2
BIOL1400	Human Disease	4
CHEM2000	Introduction to Chemistry	3
CHEM2001	Introduction to Chemistry with Lab	3
CHEM2210	Chemistry of Fluids & Gases	3
GSCI1080	Environmental Science	3
GSCI1095	How Science Explores the Natural World	3
GSCI3100	Materials System Chemistry	3
PHYS1810	Calculus-Based Physics	3

Physical Science with Lab

- All Physical Science with Lab courses can also fulfill the Natural Sciences and Natural Sciences/Mathematics requirements on Academic Plan. GSCI3000 course can also fulfill the Upper Physical Science with Lab requirements on Academic Plan.

Code	Title	Credits
CHEM2110	Chemistry with Lab	4
GSCI1081	Environmental Science with Lab	3
GSCI3000	Applied Environmental Science with Lab	3
PHYS1800	Physics I with Lab	4
PHYS1801	Physics I Lab	1
PHYS1820	Physics II with Lab	4

Social Sciences

- PSYC1000 course can also fulfill the Psychology requirements on Academic Plan.

Code	Title	Credits
ECON1000	Introduction to Micro & Macro Economics	3
GEOG1000	World Geography	3
SOC2400	Sociology of Positive Thinking	3
SOC2500	Essentials of Global Health	3
SSCI1000	Psychology of Human Behavior	3
SSCI1000	Psychology of Human Behavior	3
SSCI2800	Sustainable Communities	3
SSCI2900	Smart Cities	3

Upper Communications

Code	Title	Credits
COMM3000	Professional Communication	2
RSCH4000	Research Methods	3
WRIT4001	Capstone Writing	3
WRIT4020	Capstone Technical Writing	2

Upper Humanities

Code	Title	Credits
HUMN3600	Critical Thinking & Creativity	3
PHIL4000	Ethical Decision-Making	2

Upper Social Sciences

- Please note that PSYC3000 course can also fulfill the Upper Psychology requirements on Academic Plan.

Code	Title	Credits
PSYC3000	Organizational Behavior	2
SOC3100	Workforce Diversity Issues	3

Automotive Department

Dunwoody Automotive prepares students to succeed in the automotive industry as a technician at a wide range of service/repair facilities such as independents, franchises, fleets, and dealerships. Students acquire both the diagnostic and repair skills needed to service the sophisticated technologies, materials, and complex systems used in modern automobiles.

Dunwoody provides training in both automotive service and collision repair and refinishing. The automotive service area also has manufacturer-specific offerings for Honda/Acura and Toyota/Lexus. Additional online training is also available for Audi, Mercedes, Mopar (Chrysler, Dodge, Jeep®, Ram, FIAT), and Subaru.

Dunwoody has one of the most sophisticated automotive educational labs in the country. Instructors are certified ASE (Automotive Service Excellence) technicians and all programs are accredited by their industry-specific professional organization including, the ASE Education Foundation (previously known as the National Automotive Technicians Education Foundation or NATEF) and I-CAR (Inter-Industry Conference on Auto Collision Repair).

Graduates are highly valued by industry. In fact, most Dunwoody Automotive graduates have job offers long before they graduate.

Graduates earn an associate of applied science degree. Classes are offered during the day. Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Degree Offerings

- Automotive Collision Repair & Refinishing (COLL), AAS (p. 11)
- Automotive Service Technology (AUTO), AAS (p. 13)
- Honda Professional Auto Career Training (PACT), AAS (p. 15)
- Toyota Technician Training & Education Network (TTEN), AAS (p. 16)

Automotive Collision Repair & Refinishing (COLL), AAS

At Dunwoody College of Technology, the Automotive Collision Repair & Refinishing program prepares graduates for employment in the collision repair and refinishing industry. Students receive classroom and hands-on training in vehicle repair procedures and techniques. Students learn to use specialized tools, materials, and techniques to straighten or replace damaged body panels and structural components as well as perform related mechanical and electrical repairs, restraint system repairs, and stationary glass replacement. Students also learn the latest procedures for partial and complete refinishing of an automobile as well as custom painting techniques.

Arts & Sciences curriculum supports the technical skills students learn and enhances oral and written communication skills, fundamental math skills, and critical thinking ability.

In addition to the regular technical and Arts & Sciences courses, students complete two summer experiences.

The first summer features a production course at the College that focuses on customer vehicle work in the Collision Repair & Refinishing lab. The second summer features either an internship at an approved collision repair facility or another production course on site at the College.

Dunwoody's programs utilize Inter-Industry Conference on Auto Collision Repair (I-CAR) training materials, and the program is an I-CAR Training Alliance Member. Instructors are certified as master technicians by the National Institute for Automotive Service Excellence (ASE) and are I-CAR Gold Class professionals.

The ASE (Automotive Service Excellence) Education Foundation (previously known as the National Automotive Technicians Education Foundation or NATEF) which certifies and accredits automotive education programs, has accredited Dunwoody's Collision Program in all areas of collision repair and refinishing -- the highest level of achievement recognized by ASE.

Credential Earned: AAS
Length of Program: 2 years (4 semesters + 2 summer sessions)
Classes Offered: Day
Available Starts: Fall Semester
Accreditation: ASE Education Foundation

Bachelor's Completion Option(s): Business Management Leadership (AMGT), Bachelor of Science (p. 18)

Program Outcomes

- Analyze and report costs of collision repairs.
- Repair nonstructural damage to vehicles.
- Repair structural damage to vehicles.
- Repair mechanical and electrical components.
- Perform painting and refinishing repairs.
- Demonstrate effective customer satisfaction techniques.

Degree Requirements

Code	Title	Credits
General Requirements		
Communications		3
Humanities		3
Natural Science/Mathematics		3
Social Sciences		3
General Electives		3
Technical Requirements		
ABDY1111	Introduction to Auto Body	1
ABDY1121	Bolt on Panel Replacement I	3
ABDY1131	Panel Straightening & Paint Prep	3
ABDY1140	Auto Body Welding	3
ABDY1151	Plastic Repairs	2
ABDY1211	Brake & Suspension Repairs	3
ABDY1221	Introduction to Refinishing	2
ABDY1230	Automotive Refinishing & Detailing	5
ABDY1311	Damage Analysis & Estimating	1
ABDY1320	Summer Production Repair Lab I	4
or ABDY1321	Summer Internship I	
ABDY2111	Aluminum Welding & Complex Panel Repair	3
ABDY2120	Electrical, A/C Repairs & Hybrid Safety	3
ABDY2131	Restraint Systems & Stationary Glass	3
ABDY2140	Finish Matching & Plastic Refinishing	2
ABDY2211	Panel Replacement II	3
ABDY2222	Structural Analysis, Measuring & Repair	6
ABDY2231	Custom Painting	1
ABDY2310	Production II Internship	4
or ABDY2320	Summer Production Repair Lab II	
Total Credits		**67**

Courses

Descriptions

ABDY1111 | Introduction to Auto Body | Lecture/Laboratory (1 Credit)
Overview of the past, present, and future of the collision industry with emphasis on safety, equipment, tools, and body shop operations. Industry expectations and career opportunities are explored.

ABDY1121 | Bolt on Panel Replacement I | Lecture/Laboratory (3 Credits)
Identify, remove, and install vehicle panels requiring bolt on or other mechanical fastener applications. Practice alignment techniques, identification of fasteners, use of industry and vehicle manufacturer approved methods.

ABDY1131 | Panel Straightening & Paint Prep | Lecture/Laboratory (3 Credits)
Examine and practice industry acceptable methods of metal straightening, plastic filler application and contouring, use of primer surfacers, and sanding techniques. Preparation of substrates and existing finishes for refinishing on metal and plastic panels.

ABDY1140 | Auto Body Welding | Lecture/Laboratory (3 Credits)
Relate safety, equipment, and welding techniques to collision repair. Special consideration to I-CAR welding procedures and tests.

ABDY1151 | Plastic Repairs | Lecture/Laboratory (2 Credits)
Identify and practice techniques associated with welding, bonding, and cosmetic repair of automotive plastics. Prepare interior plastic for refinishing and re-texturing.

ABDY1211 | Brake & Suspension Repairs | Lecture/Laboratory (3 Credits)
Identify automotive brakes, steering systems, and suspension systems. Remove and replace components. Examine systems for collision related damage. Wheel alignment theory and practice.

ABDY1221 | Introduction to Refinishing | Lecture/Laboratory (2 Credits)
Identify personal safety issues and environmental concerns related to refinishing. Use of water-based paint and solvent-based paint systems and procedures. Practice refinishing procedures on metals and plastics as related to collision repair.

ABDY1230 | Automotive Refinishing & Detailing | Lecture/Laboratory (5 Credits)
Practice refinishing of automotive collision repairs, and vehicle masking techniques; identify paint problems and corrections.

ABDY1311 | Damage Analysis & Estimating | Lecture/Laboratory (1 Credit)
Practice in collision damage appraisal using industry accepted software and computerized estimating programs to prepare collision damage reports or estimates.

ABDY1320 | Summer Production Repair Lab I | Laboratory (4 Credits)
Practice the skills learned in the first year of coursework using customer vehicles.

ABDY1321 | Summer Internship I | Internship (4 Credits)
This Internship is offered for qualified students who are interested in fulfilling their 1st year production requirements for the Collision Program via a 192 hour internship rather than participating in ABDY 1320 Production Lab I at Dunwoody. Students must be able to secure an internship at a collision repair facility and have the approval of the Collision Program Faculty. Internship provides work experience as a technician in an automotive collision repair facility. A formal agreement will be developed between the student, the employer, and an advisor assigned by Dunwoody. Internship must be approved by the Department Director of the Internship Advisor.

ABDY2111 | Aluminum Welding & Complex Panel Repair | Lecture/Laboratory (3 Credits)
Examine the properties of aluminum, aluminum alloys, welding processes and materials utilized in aluminum welding. Setup and adjustment of the MIG welder for aluminum, weld joint preparation, aluminum welding procedures and safety precautions. Welding on aluminum adhering to I-CAR aluminum welding standards and testing methods. Body panel damage assessment. Repair of steel and aluminum body panels with complex shapes and damage to style lines and attached inner panels. Procedures and products used to restore Corrosion Protection to repaired panels.

ABDY2120 | Electrical, A/C Repairs & Hybrid Safety | Lecture/Laboratory (3 Credits)
Fundamentals of electricity and related automotive circuits, tracing of vehicle wiring diagrams and repair of collision related malfunctions of electrical components and wiring. Identification and usage of electrical test tools and head lamp aiming. Air conditioning theory of operation, properties of refrigerants, and safety procedures. Set up and use of air conditioning service equipment. Refrigerant reclaiming, recycling, evacuation and recharging. Diagnostic procedures for troubleshooting air conditioning systems. Safety precautions and disabling procedures for working on and around hybrid vehicle electrical systems.

ABDY2131 | Restraint Systems & Stationary Glass | Lecture/Laboratory (3 Credits)
Explore the history of the development of restraint systems. Examine air bag theory of operation, function of components and wiring, deployment conditions, safety precautions, and inspection procedures for restraint systems. Practice service procedures for air bag and seat belt systems. Examine the role that glass plays in a modern vehicle. Demonstrate procedures for replacement of structural glass, correction of wind noises and water leaks, and removal and re-installation of interior trim.

ABDY2140 | Finish Matching & Plastic Refinishing | Lecture/Laboratory (2 Credits)
Collision industry procedures used for color matching, tinting and blending. Color theory, panel preparation and practical application of urethane (solvent based) and waterborne automotive paint products utilizing color mixing systems. Procedures, techniques, and materials used in tri-coat (three stage) finish repairs. Specialized products and procedures used to refinish automotive plastics. Identification and refinishing of flexible plastic panels.

ABDY2211 | Panel Replacement II | Lecture/Laboratory (3 Credits)
Identify, remove and install welded and adhesively bonded automotive body panels. Identify and use a squeeze type resistance spot welder and other specialized panel removal tools and welding equipment. Practice restoring corrosion protection to replaced panels using primers and anti-corrosion compounds. Identify and properly apply automotive body seam sealers.

ABDY2222 | Structural Analysis, Measuring & Repair | Lecture/Laboratory (6 Credits)
Vehicle collision damage analysis, inspection techniques, damage classification and types of vehicle construction. Measuring concepts, set-up and use of measuring systems, vehicle anchoring systems and structural straightening equipment. Industry (I-CAR) guidelines for structural repairs including frame and unibody straightening, structural component replacement, sectioning and restoring corrosion protection. Disassemble vehicles for repairs, develop a vehicle repair plan, perform structural repairs, including repairs to mechanical and electrical systems as well as replacement of structural glass.

ABDY2231 | Custom Painting | Lecture/Laboratory (1 Credit)
Surface preparation procedures, specialized refinish materials, spray equipment and techniques used for custom painting on vehicle panels or small projects. Materials utilized include standard urethane (solvent-based) base coats, waterborne base coats, candy colors, pearls, and metal flakes. Masking and design transfer techniques for custom painting.

ABDY2320 | Summer Production Repair Lab II | Laboratory (4 Credits)
Perform major and minor collision repairs; repair or replace structural members and exterior panels; remove and replace glass and upholstery; suspension and mechanical components; prepare panels for paint; refinish panels or vehicles as necessary. Create computerized repair estimates, discuss repairs with customers, order parts and assist in completion of repair orders for customer billing.

ABDY2310 | Production II Internship | Internship (4 Credits)
This Internship is offered for qualified students who are interested in fulfilling their 2nd year production requirement for the Collision Program via a 216 hour internship rather than participating in ABDY 2320 Production Lab II. Must be able to secure an internship at a collision repair facility and have the approval of the Collision program faculty. A formal agreement will be developed between the student, the employer, and an advisor assigned by Dunwoody. Internship must be approved by the Department Director of Internship Advisor.

Automotive Service Technology (AUTO), AAS

At Dunwoody College of Technology, the Automotive Service Technology program prepares graduates for a career as a technician in automotive repair facilities, such as independents, dealerships, fleets, or franchises. The program combines classroom, lab, and, in some cases, internship experiences in all aspects of automotive diagnosis and repair. Students use hands-on, applied learning with state-of-the-industry tools, equipment, and systems to acquire knowledge and skills, which foster the ability to continuously adapt to an ever-changing technology.

Arts & Sciences curriculum supports the technical skills students learn as well as enhances students' oral and written communication skills and critical thinking ability.

All instructors are National Institute for Automotive Service Excellence (ASE) certified technicians. The ASE Education Foundation (previously known as the National Automotive Technicians Education Foundation or NATEF), which certifies and accredits automotive education programs has accredited Dunwoody's Automotive Service Technology program in Master Automobile Service Technology — the highest level of achievement recognized by ASE.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Accreditation: ASE Education Foundation
Bachelor's Completion Option(s): Business Management Leadership (AMGT), Bachelor of Science (p. 18)

Program Outcomes

- Identify and describe automobile components.
- Explain automotive systems' operations.
- Disassemble and assemble components.
- Diagnose vehicle conditions.
- Evaluate component condition and recommend action.
- Repair conditions and verify operation.
- Demonstrate effective customer satisfaction techniques.
- Demonstrate effective use of service information.

Degree Requirements

Code	Title	Credits
General Requirements		
Communications		3
Humanities		3
Natural Sciences/Mathematics		3
Social Sciences		3
General Electives		3
Technical Requirements		
AUTO1111	Fundamentals of Automotive Service I	6
AUTO1121	Fundamentals of Automotive Service II	6
AUTO1211	HVAC/Advanced Electrical	6
AUTO1221	Chassis Systems	6
AUTO2111	Engine Performance/Engine Repair	12
AUTO2212	Transmissions/Driveline	6
Technical Elective (Choose One Course):		
AUTO1251	Exploration of Automotive Systems	1
or AUTO1252	Exploration of Audi Automotive Systems	
or AUTO1253	Exploration of Mopar Automotive Systems	
or AUTO1254	Exploration of Honda Automotive Systems	
or AUTO1255	Exploration of Subaru Automotive Systems	
or AUTO1256	Exploration of Mercedes Benz Systems	
Experiential Learning (Choose One Course):		
AUTO2252	Hybrid/EV Technology & Production	6
or AUTO2511	Internship	
Total Credits		**64**

Courses

Descriptions

AUTO1111 | Fundamentals of Automotive Service I | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 1: Use of tools and measuring instruments. Identify fasteners and fittings. Removed damaged fasteners. Research service procedures using automotive information systems. Examine theory of design, principles of operation, and repair procedures of automotive chassis steering, suspension, and brake systems. Perform maintenance and service procedures in the following areas: tire/wheel service, four-wheel alignments, drivetrain inspection and fluid maintenance.

AUTO1121 | Fundamentals of Automotive Service II | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 2: Research service procedures using automotive information systems. Disassemble, assemble component engines. Describe engine parts, systems, and operation. Perform vehicle oil changes and vehicle inspections. Identify HVAC system components. Perform OBD II code scan. Examine electrical systems. Introduction to Ohm's Law, theory and principles, circuits, magnetism, electromagnetism, induction, and basic electronics including semiconductors. Test batteries, test and replace starters. Practice use of digital multimeters and wiring schematics to trace, test, and diagnose circuits.

AUTO1211 | HVAC/Advanced Electrical | Lecture/Laboratory (6 Credits)
Apply Ohm's Law theory and principles. Explore electrical circuit principles, batteries, cranking motors, charging systems, in addition to accessory operation, lighting system design, and instrumentation. Use digital multimeters and wiring schematics to trace, test, and diagnose circuits. Inspect, test starters and alternators. On vehicle diagnosis of body electrical systems, including diagnosis of battery, starting, and charging systems; heating/air conditioning component operation and physics. Control system diagnosis, service, repair procedures, and pressure diagnosis. On vehicle procedures for recovery/recycling equipment.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1221 | Chassis Systems | Lecture/Laboratory (6 Credits)
Examine theory of design and principles of operation, diagnosis, and repair procedures of automotive brake, steering and suspension systems. Practice performing service procedures, four-wheel alignments.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1251 | Exploration of Automotive Systems | Lecture (1 Credit)
Explore a variety of automotive mechanical and electrical systems through discussion and online training, using a variety of manufacturer and alternative resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1252 | Exploration of Audi Automotive Systems | Lecture (1 Credit)
Explore Audi mechanical and electrical systems through discussion and online self-studies, using Audi specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1253 | Exploration of Mopar Automotive Systems | Lecture (1 Credit)
Explore Mopar (Chrysler, Dodge, Jeep®, Ram, and Fiat) systems through discussion and online self-studies, using Mopar specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1254 | Exploration of Honda Automotive Systems | Lecture (1 Credit)
Explore Honda/Acura mechanical and electrical systems through discussion and online self-studies, using Honda/Acura PACT specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1255 | Exploration of Subaru Automotive Systems | Lecture (1 Credit)
Explore Subaru shop operations, vehicle telematics, and hybrid systems through discussion and online self-studies, using Subaru specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO2111 | Engine Performance/Engine Repair | Lecture/Laboratory (12 Credits)
Analyze theory of operation, design, diagnosis, and repair procedures of engines, in addition to computerized engine control systems, electrical and electronic devices. Examine emerging engine performance and vehicle propulsion technology. Use standard and computerized test equipment on OBDII equipped vehicles to make a complete performance analysis and/or diagnose specific problems to determine work needed on vehicles. Make repairs to restore vehicle performance, emissions, and fuel economy to as near as possible to original factory and Environmental Protection Agency (EPA) standards.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2211 | Transmissions/Driveline | Lecture/Laboratory (4 Credits)
Theory and operation of gears, controls, and components relating to transmissions, transfer case, and differentials. Explain the operation, diagnosis, disassembly, reassembly, and power flow of driveline components, as well as testing of hydraulic and electronic controls using service information. Explain the operation, theory and repair of constant velocity and variable velocity joints. Examine the principles of NVH (noise, velocity, and harshness).
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2251 | Production | Lecture/Laboratory (8 Credits)
Practical shop experience in all aspects of automotive repair on customer's vehicle. Fundamentals of shop management, repair order writing, parts procurement, and customer relations.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2510 | Internship | Internship (8 Credits)
Perform a paid internship at a sponsoring repair facility. Work under the supervision of service management. Student must secure their own employment. A Dunwoody Automotive faculty will oversee the internship. Need department director approval and must meet acceptance criteria. Application must be submitted at least eight weeks prior to the start of the internship. Must follow approved guidelines listed in the internship packet. This course can be taken in lieu of AUTO2251 Production.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

Honda Professional Auto Career Training (PACT), AAS

At Dunwoody College of Technology, the Honda PACT program prepares graduates to be technicians servicing Honda and Acura vehicles at authorized dealerships. Students train specifically on current model Honda and Acura vehicles, information systems, scan tools, and training materials. Students also complete an internship under the guidance of a master technician at a sponsoring American Honda or Acura dealership. These paid internships give students the opportunity to integrate their learning and further develop their skills in service technology.

Arts & Sciences curriculum supports the technical skills students learn as well as enhances their oral and written communication skills and critical thinking ability.

All Honda PACT instructors are certified by Honda in the areas that they teach, in addition to being certified as Master Technicians by the National Institute for Automotive Service Excellence (ASE).

Dunwoody's Honda PACT program has received several awards from American Honda for being one of the best Honda PACT automotive schools in the nation.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Bachelor's Completion Option(s): Business Management Leadership (AMGT), Bachelor of Science (p. 18)

Program Outcomes

- Identify and describe automobile components.
- Explain automotive systems' operations.
- Disassemble and assemble components.
- Diagnose vehicle conditions.
- Repair conditions and verify operation.
- Demonstrate effective customer satisfaction techniques.
- Evaluate component condition and recommend action.
- Demonstrate effective use of service information.

Degree Requirements

Code	Title	Credits
General Requirements		
Communications		3
Humanities		3
Natural Science/Mathematics		3
Social Sciences		3
General Electives		3
Technical Requirements		
AUTO1111	Fundamentals of Automotive Service I	6
AUTO1121	Fundamentals of Automotive Service II	6
AUTO1211	HVAC/Advanced Electrical	6
AUTO1221	Chassis Systems	6
AUTO1254	Exploration of Honda Automotive Systems	1
PACT2112	Engine Performance/Engine Repair	12
PACT2132	PACT Self Studies I	2
PACT2213	Transmission/Driveline	6
PACT2232	PACT Self-Studies II	2
PACT2561	PACT Internship	6
Total Credits		**68**

Courses
Descriptions

AUTO1111 | Fundamentals of Automotive Service I | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 1: Use of tools and measuring instruments. Identify fasteners and fittings. Removed damaged fasteners. Research service procedures using automotive information systems. Examine theory of design, principles of operation, and repair procedures of automotive chassis steering, suspension, and brake systems. Perform maintenance and service procedures in the following areas: tire/wheel service, four-wheel alignments, drivetrain inspection and fluid maintenance.

AUTO1121 | Fundamentals of Automotive Service II | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 2: Research service procedures using automotive information systems. Disassemble, assemble component engines. Describe engine parts, systems, and operation. Perform vehicle oil changes and vehicle inspections. Identify HVAC system components. Perform OBD II code scan. Examine electrical systems. Introduction to Ohm's Law, theory and principles, circuits, magnetism, electromagnetism, induction, and basic electronics including semiconductors. Test batteries, test and replace starters. Practice use of digital multimeters and wiring schematics to trace, test, and diagnose circuits.

AUTO1211 | HVAC/Advanced Electrical | Lecture/Laboratory (6 Credits)
Apply Ohm's Law theory and principles. Explore electrical circuit principles, batteries, cranking motors, charging systems, in addition to accessory operation, lighting system design, and instrumentation. Use digital multimeters and wiring schematics to trace, test, and diagnose circuits. Inspect, test starters and alternators. On vehicle diagnosis of body electrical systems, including diagnosis of battery, starting, and charging systems; heating/air conditioning component operation and physics. Control system diagnosis, service, repair procedures, and pressure diagnosis. On vehicle procedures for recovery/recycling equipment.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1221 | Chassis Systems | Lecture/Laboratory (6 Credits)
Examine theory of design and principles of operation, diagnosis, and repair procedures of automotive brake, steering and suspension systems. Practice performing service procedures, four-wheel alignments.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1254 | Exploration of Honda Automotive Systems | Lecture (1 Credit)
Explore Honda/Acura mechanical and electrical systems through discussion and online self-studies, using Honda/Acura PACT specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

PACT2112 | Engine Performance/Engine Repair | Lecture/Laboratory (12 Credits)
Analyze theory of operation, design, diagnosis, and repair procedures of engines. Computerized engine control systems electrical and electronic devices. Examine emerging engine performance and vehicle propulsion technology. Use standard and computerized test equipment on OBDII equipped vehicles to make a complete performance analysis and/or diagnose specific problems to determine work needed on vehicles. Make repairs to restore vehicle performance, emissions, and fuel economy to as near as possible to original factory and Environmental Protection Agency (EPA) standards.

PACT2132 | PACT Self Studies I | Directed Study (2 Credits)
Directed Completion of Honda/Acura Self-Studies in the Areas of Engine Rebuilding, Engine Performance and Advanced Electrical.

PACT2213 | Transmission/Driveline | Lecture/Laboratory (6 Credits)
Theory and operation of gears, controls, components relating to transmissions, transfer case, and differentials. Operation, diagnosis, disassembly, reassembly, power flow of driveline components as well as testing of hydraulic and electronic controls using service information.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

PACT2232 | PACT Self-Studies II | Directed Study (2 Credits)
Directed completion of Honda/Acura Self-studies in the areas of New Vehicle information, Electric Vehicles and Honda Electrical Systems. Additional Self-studies may be assigned as needed.

PACT2561 | PACT Internship | Internship (6 Credits)
Cooperative, paid on-the-job training at a sponsoring Honda or Acura repair facility. Preparation providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report. Work under the supervision of service management. Student must secure their own employment. The PACT Coordinator will oversee the internship. Need department director approval and must meet acceptance criteria. (Application must be submitted at least 8 weeks prior to start of the Internship) Must follow approved guidelines listed in the internship packet. PACT students must take this course in lieu of AUTO2252 Production.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

Toyota Technician Training & Education Network (TTEN), AAS

At Dunwoody College of Technology, the Toyota T-TEN program prepares graduates to be technicians servicing Toyota and Lexus vehicles at authorized dealerships. Students train specifically on current model Toyota and Lexus vehicles, information systems, scan tools, and training materials. Students also complete an internship under the guidance of a master technician at a sponsoring Toyota or Lexus dealership. These paid internships give students the opportunity to integrate their learning and further develop their skills in service technology.

Arts & Science curriculum supports the technical skills students learn as well as enhance students' oral and written communication skills.

All T-TEN instructors are certified by Toyota in the areas that they teach, in addition to being certified as Master Technicians by the National Institute for Automotive Service Excellence (ASE).

Dunwoody has received recognition from Toyota for being one of the best T-TEN automotive schools in the nation and is a Chassis, Electrical, Engine, Drivability (CEED) School, the highest level for a T-TEN school.

Credential Earned: AAS
Length of Program: 2 years (4 semesters + 1 summer session)
Classes Offered: Day
Available Starts: Fall Semester
Bachelor's Completion Option(s): Business Management Leadership (AMGT), Bachelor of Science (p. 18)

Program Outcomes

- Identify and describe automobile components.
- Explain automotive systems' operations.
- Disassemble and assemble components.
- Diagnose vehicle conditions.
- Evaluate component condition and recommend action.
- Repair conditions and verify operation.
- Demonstrate effective customer satisfaction techniques.
- Demonstrate effective use of service information.

Degree Requirements

Code	Title	Credits
General Requirements		
Communications		3
Humanities		3
Natural Science/Mathematics		3

Social Sciences		3
General Electives		3
Technical Requirements		
AUTO1111	Fundamentals of Automotive Service I	6
AUTO1121	Fundamentals of Automotive Service II	6
TTEN1240	Introduction to Toyota	3
TTEN1250	Body Electrical I	3
TTEN1260	Body Electrical II	4
TTEN1270	HVAC	3
TTEN1280	Brakes	3
TTEN2140	Engines	4
TTEN2150	Engine Performance	6
TTEN2160	Hybrid	2
TTEN2240	Advanced Suspensions	3
TTEN2250	Drivetrain Systems	5
TTEN2510	TTEN Internship I	2
TTEN2520	TTEN Internship II	2
TTEN2530	TTEN Internship III	2
TTEN2540	TTEN Internship IV	2
Total Credits		**71**

Courses
Descriptions

AUTO1111 | Fundamentals of Automotive Service I | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 1: Use of tools and measuring instruments. Identify fasteners and fittings. Removed damaged fasteners. Research service procedures using automotive information systems. Examine theory of design, principles of operation, and repair procedures of automotive chassis steering, suspension, and brake systems. Perform maintenance and service procedures in the following areas: tire/wheel service, four-wheel alignments, drivetrain inspection and fluid maintenance.

AUTO1121 | Fundamentals of Automotive Service II | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 2: Research service procedures using automotive information systems. Disassemble, assemble component engines. Describe engine parts, systems, and operation. Perform vehicle oil changes and vehicle inspections. Identify HVAC system components. Perform OBD II code scan. Examine electrical systems. Introduction to Ohm's Law, theory and principles, circuits, magnetism, electromagnetism, induction, and basic electronics including semiconductors. Test batteries, test and replace starters. Practice use of digital multimeters and wiring schematics to trace, test, and diagnose circuits.

TTEN1240 | Introduction to Toyota | Lecture/Laboratory (3 Credits)
Introduction to dealership systems: repair order writing, dealership management training, and Toyota/Lexus Interactive Networking systems. Emphasis is on vehicle inspection techniques, utilization of Toyota scan tools and Toyota manuals, and a Six Step Diagnostic process in troubleshooting advanced computer controlled vehicles.
Prerequisite(s): AUTO1111 And AUTO1121

TTEN1250 | Body Electrical I | Lecture/Laboratory (3 Credits)
Examine the theory of operation and diagnostic principles of Toyota/Lexus chassis and body electrical systems. On-vehicle component testing utilizing the Toyota scan tool, Toyota manuals, Six Step Process, digital multimeters, lab scopes, and factory electrical schematics.
Prerequisite(s): TTEN1240

TTEN1260 | Body Electrical II | Lecture/Laboratory (4 Credits)
Explain the advanced theory of operation and diagnostic principles of Toyota/Lexus chassis and body electrical systems using CAN Body communications. On-vehicle component testing utilizing the Toyota scan tool, Toyota manuals, Six Step Process, digital multimeters, lab scopes, and factory electrical schematics.
Prerequisite(s): TTEN1250

TTEN1270 | HVAC | Lecture/Laboratory (3 Credits)
Examine the theory of operation and diagnostic principles of Toyota/Lexus air conditioning and heating systems. Using the Toyota scan tool, Toyota manuals, and the Six Step Diagnostic process, perform refrigeration system service, control system repair, heater service, automatic heating/AC systems service, component testing, check for environmental issues, and troubleshoot the various systems.

TTEN1280 | Brakes | Lecture/Laboratory (3 Credits)
Examine the theory of operation and diagnostic principles of Toyota/Lexus brake and suspension systems. Diagnose faults and principles of ABS (anti-lock braking system), traction control systems, advanced steering stability systems, pre-alignment inspections, 4-wheel alignment, suspension and steering systems, component repair and replacement, as well as troubleshooting vibration, noise, and harshness concerns using Toyota manuals and a Toyota scan tool.

TTEN2140 | Engines | Lecture/Laboratory (4 Credits)
Hands-on diagnosis and repair of the Toyota/Lexus engines using diagnostic tools, Toyota manuals, Toyota scan tool, and the Six Step Process. Service procedures include cooling system repair, lubrication system repair, intake systems repair, exhaust repair, engine testing, engine replacement, engine disassembly, cleaning and measurement, cylinder head diagnostics, and timing belt/chain replacement, 4cyl, 6cyl, 8cyl.
Prerequisite(s): TTEN1260

TTEN2150 | Engine Performance | Lecture/Laboratory (6 Credits)
Hands-on repair of the Toyota/Lexus fuel and computerized engine control systems. Service procedures include fuel pressure testing, fuel injector testing, exhaust gas analysis, advanced scan tool usage, and on-vehicle diagnostics using Toyota manuals, Toyota scan tool, and the Six Step Diagnostic Process. Advanced diagnostics, including hands-on repair of the Toyota/Lexus engine control systems. Service procedures include on-vehicle diagnostics of Toyota/Lexus including advanced computer control systems, networking communication, emission control systems, and test drive diagnostic techniques.
Prerequisite(s): TTEN1260

TTEN2160 | Hybrid | Lecture/Laboratory (2 Credits)
Introduction to electrified vehicles, hybrid safety system, HV batteries, hybrid drive systems, hybrid vehicle maintenance and diagnosis using Toyota manuals and scan tool.
Prerequisite(s): TTEN2150

TTEN2240 | Advanced Suspensions | Lecture/Laboratory (3 Credits)
Examine the advanced steering stability systems and pre-alignment inspection process of Toyota/Lexus vehicles. Perform 4-wheel alignment, investigate suspension and steering systems' issues, repair and replace components, as well as troubleshoot vibration, noise, and harshness concerns, using Toyota manuals and a Toyota scan tool.
Prerequisite(s): TTEN1260

TTEN2250 | Drivetrain Systems | Lecture/Laboratory (5 Credits)
Examine the theory of operation and diagnostic principles of Toyota/Lexus drivetrain systems. Using Toyota manuals, perform diagnostics on differentials, CV and universal joints, manual transmissions, transfer cases, automatic and CVT transmissions; perform system maintenance, periodic service and on-vehicle diagnosis; disassemble, inspect, and reassemble system components.
Prerequisite(s): TTEN1260

TTEN2510 | TTEN Internship I | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus dealership. Student must secure their own employment and must maintain good standing with the dealership. Work under the supervision of service management. Provides real life job skills and work habits in a variety of automotive areas. The TTEN Coordinator will oversee the internship.
Prerequisite(s): AUTO1111 And AUTO1121

TTEN2520 | TTEN Internship II | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus dealership. Student must secure their own employment and must maintain good standing with the dealership. Work under the supervision of service management. Provides real life job skills and work habits in a variety of automotive areas. The TTEN Coordinator will oversee the internship.
Prerequisite(s): TTEN2510

TTEN2530 | TTEN Internship III | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus dealership. Student must secure their own employment and must maintain good standing with the dealership. Work under the supervision of service management. Provides real life job skills and work habits in a variety of automotive areas. The TTEN Coordinator will oversee the internship.
Prerequisite(s): TTEN2520

TTEN2540 | TTEN Internship IV | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus dealership. Student must secure their own employment and must maintain good standing with the dealership. Work under the supervision of service management. Provides real life job skills and work habits in a variety of automotive areas. The TTEN Coordinator will oversee the internship.
Prerequisite(s): TTEN2530

Business Department

Dunwoody's Business Department positions students to move into managerial and other leadership positions or start their own businesses in a variety of technical industries. Students take courses in areas such as leadership, accounting, marketing, strategic planning, and leading organization change.

All courses are offered as distance learning courses and taught by faculty members who have extensive industry experience and the appropriate degrees and certifications in their field of expertise. Students learn how to manage business relationships; develop, produce, and market products and services; navigate industry and government regulations; and tackle complex projects. Students also enhance their business soft skills such as communication, business writing, and human relations. The Department offers a bachelor's completion degree in Business Management & Leadership.

Degree Offered

- Business Management & Leadership (AMGT), Bachelor of Science (p. 18)

Business Management & Leadership (AMGT), Bachelor of Science

At Dunwoody College of Technology, Business Management & Leadership is a bachelor's completion program designed for graduates of technical colleges who have earned an AAS or AS degree or equivalent. Graduates are well-positioned to move into managerial or other senior positions or start their own businesses in a variety of technical industries. Students take business and management courses such as managerial accounting, quality systems, leadership, and entrepreneurial/marketing management.

The degree is also designed to enhance business soft skills such as communication, business writing, and human relations. Courses are taught by faculty members who have extensive industry experience along with the appropriate degrees and certifications in their field of expertise.

All courses are distance learning. As such the U.S. Department of Veterans Affairs considers this to be a distance learning program, which may affect the benefits of some veterans.

Credential Earned: BS
Length of Program: 2 years (4 semesters)
Classes Offered: Evening and Distance Learning
Available Starts: Fall Semester; Spring Semester

Program Outcomes

- Demonstrate critical thinking skills applicable to management of a technical business.
- Communicate clearly using business and management terminology.
- Apply human resource standards to manage in a professional environment.
- Value diversity and inclusion in today's global business climate.
- Examine the consequences of failing to adhere to the concepts of inclusion in the global business climate.
- Use computer technology and software in a business environment.
- Apply ethical and professional behaviors to business.
- Demonstrate leadership skills needed to manage people and processes.
- Apply mathematical skills to interpret, understand, and communicate quantitative data.
- Evaluate the importance of world economic systems.
- Solve problems individually and in a team environment.
- Apply customer service and marketing skills in a business setting.
- Complete the process of identifying, gathering, measuring, summarizing, and analyzing financial data.
- Evaluate the importance of synergy in management.

Degree Requirements

Admitted students to Business Management & Leadership (AMGT) can transfer up to 40 technical and 15 Arts & Sciences credits. A transfer evaluation is required. Not all credits may transfer into the degree program.

Code	Title	Credits
Transfer Credits		**40**
General Requirements		
Communications Elective		3
Humanities Elective		3
Math/Science Elective		3
Social Sciences Elective		3
General Elective		18
Technical Requirements		
MGMT3112	Business Management	3
MGMT1100	Principles of Marketing	3
MGMT3250	Business Law	3
MGMT3212	Project Management	3
MGMT3900	Executive Perspectives	1
MGMT1000	Principles of Accounting	3
MGMT3221	Human Resource Management	3
MGMT3231	Strategic Planning	3
MGMT4112	Leadership	3
MGMT3131	Managerial Accounting	3
MGMT4131	Entrepreneurial & Marketing Management	3
MGMT4121	Leading Organization Change	3
MGMT4211	Applied Management Capstone	3
MGMT4221	Negotiation & Conflict Resolution	3
MGMT4231	Management Information Systems	3
MGMT4141	Managerial Economics	3
MGMT4250	Capstone Research	3
MGMT4900	Global Perspectives	1
Total Credits		**120**

Courses
Descriptions

MGMT1100 | Principles of Marketing | Lecture (3 Credits)
Introduction to terms, concepts, and skills for analyzing marketing problems. Manage/integrate communication aspects of marketing, such as advertising, sales promotion, and public relations. Identify how to set objectives, select media and measure effectiveness. Explain sales promotion techniques.

MGMT3112 | Business Management | Lecture (3 Credits)
Examine principles of management in the context of how firms are organized to analyze their management of finances, operations, human resources, processes and strategy to effectively meet an organization's mission, vision and goals.

MGMT3250 | Business Law | Lecture (3 Credits)
Examine the concepts of constitutional, criminal, tort, and contract law to justify ethical decision making in a business environment.

MGMT3212 | Project Management | Lecture (3 Credits)
Utilize the skills for planning and controlling projects utilizing project management principles to successfully execute and manage objectives.

MGMT3900 | Executive Perspectives | Seminar (1 Credit)
Summarize a series of lectures from business leaders to provide a broad range of leadership and management perspectives.

MGMT1000 | Principles of Accounting | Lecture (3 Credits)
Introduction to fundamental accounting concepts and cycles. Includes analyzing, interpreting, and recording transactions, as well as the preparation of financial statements, bank reconciliations and payroll transactions in accordance with commonly accepted accounting principles.

MGMT3221 | Human Resource Management | Lecture (3 Credits)
Examine the role of the human resource professional through legal research, discussions and case studies to support the recruitment, development, and retention of employees.

MGMT3231 | Strategic Planning | Lecture (3 Credits)
Examine the strategy of the business unit and analyze the issues central to a firm's short and long term competitive success. Investigate various models and approaches to designing and conducting strategic planning.

MGMT4112 | Leadership | Lecture (3 Credits)
Examine the traits, skills and values of leadership through case studies, historical research and self reflection to develop an individual definition of leadership.

MGMT3131 | Managerial Accounting | Lecture (3 Credits)
Introduction of the fundamentals of managerial accounting for reporting, decision making and control of transactions, financial statements, strategic and operational planning to facilitate ethical behavior of the managerial accountant.

MGMT4131 | Entrepreneurial & Marketing Management | Lecture (3 Credits)
Entrepreneurial and marketing management fundamentals of planning, strategy, management and issues using skills and competencies needed to generate new ideas to develop a successful business.

MGMT4121 | Leading Organization Change | Lecture (3 Credits)
Examine the competencies and skills required to successfully lead organizational and personal change in the business world.

MGMT4211 | Applied Management Capstone | Directed Study (3 Credits)
Refine and present an industry specific capstone project that draws on the relevant components of previous course work.

MGMT4211 | Applied Management Capstone | Directed Study (3 Credits)
Refine and present an industry specific capstone project that draws on the relevant components of previous course work.

MGMT4221 | Negotiation & Conflict Resolution | Lecture (3 Credits)
Strategies and tactics for conflict analysis, assessment and negotiation using exercises and simulations to successfully manage negotiations and conflict.

MGMT4231 | Management Information Systems | Lecture (3 Credits)
Examine the ways businesses manage data arising from the field of information systems using presentations, discussion and case studies to influence business strategies, communications technology and information systems analysis.

MGMT4250 | Capstone Research | Directed Study (3 Credits)
Research and develop an industry specific capstone project that draws on the relevant components of previous course work.

MGMT4900 | Global Perspectives | Seminar (1 Credit)
Summarize a series of lectures from international companies to value different cultural norms and expectations in the business environment.

Computer Technology Department

Computer Technology prepares students to work in a wide variety of Information Technology (IT) fields, including network support, web and

mobile development, cloud technologies, information security, and computer science.

Programs are offered in the areas of computer networking, web development, and cybersecurity. Learning environments include industry-standard hardware and software. The department offers hands-on labs and up-to-date curriculum developed with input from industry partners. Computer Technology instructors have real-world experience and industry-specific certifications and are passionate about keeping up with the dynamic, ever-changing IT landscape. Graduates are prepared to have success in a variety of IT environments and positions as either generalists, specialists, or engineers.

Degree options include associate of applied science degrees and a bachelor's completion degree in Cybersecurity. The Cybersecurity degree is offered in the evening and is designed to serve the needs of those with previous AAS degrees in web development/programming, networking, or computer infrastructure, including cloud environments.

Degree Offerings

- Cloud Engineering Technology (CLDE), AAS (p. 20)
- Computer Networking Systems (CNTS), AAS (p. 21)
- Cybersecurity (CYBR), Bachelor of Science (p. 23)
- Web Programming & Database Development (CWEB), AAS (p. 25)

Cloud Engineering Technology (CLDE), AAS
OVERVIEW

At Dunwoody College of Technology, the Cloud Engineering Technology program prepares graduates for careers building and managing cloud computing solutions for businesses and organizations. Graduates enter the field in positions such as cloud architect/engineer, network architect/engineer, DevOps engineer, or systems engineer.

Students learn to build, automate, deploy, test, run, and manage cloud-based solutions that meet real world business needs. An emphasis is placed on hands-on projects, including lots of practice with the two leading platforms: Amazon Web Services (AWS) and Microsoft Azure.

Coursework includes cloud architecture, HTML, CSS, JavaScript, GitHub, cloud native practices, DevOps, containers, Docker, Python, databases, SQL, NoSQL, application security, microservices, serverless computing, and more. Interpersonal soft-skills are emphasized in all courses.

Arts & Sciences courses enhance and support the technical coursework.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day on Campus or Evening Online Hybrid
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Cybersecurity (CYBR), Bachelor of Science (p. 23)

PROGRAM OUTCOMES

- Design and secure fault tolerant enterprise networks
- Implement and manage virtual server farms
- Automation of cloud network and service deployment
- Deploy, manage, and optimize applications in multiple enterprise cloud environments
- Securely extend and connect on-premises and public clouds
- Architect cloud solutions based on business use cases

DEGREE REQUIREMENTS

Code	Title	Credits
General Education		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Social Science		3
Technical Credits		
CLDE1110	Introduction to Cloud Services	2
CLDE1120	DevOps Fundamentals	2
CLDE1210	Cloud Architecting	3
CLDE2110	Cloud Security	3
CLDE2120	Cloud Database Systems	3
CLDE2210	Hybrid Cloud Management	3
CLDE2220	Advanced Cloud Networking	3
CLDE2230	Cloud Enterprise Systems	3
CNTS1102	Introduction to Operating Systems	2
CLDE2291	Summative Experience	5
CNTS1123	Introduction to Networking	2
CNTS1212	Server Systems	3
CNTS1202	Scripting	3
CNTS1232	Network Systems	3
CNTS2113	Enterprise Linux Administration	3
CNTS2131	Virtualization	3
CWEB1114	Introduction to Application Dev	2
CWEB1123	Data Fundamentals	2
Total Hours:		65

COURSES

CLDE1110 | Introduction to Cloud Services | Lecture/Laboratory (2 Credits)
Exploration of the technology and terms used in modern cloud services. Portions of this course help to prepare for the Amazon Cloud Practitioner exam.

CLDE1120 | DevOps Fundamentals | Lecture/Laboratory (2 Credits)
Investigation of industry-standard terminology technology and core principles used in automating the modern datacenter. Portions of this course help to prepare for the ICP Foundations of DevOps exam.

CNTS1102 | Introduction to Operating Systems | Lecture/Laboratory (2 Credits)
Examine concepts of computer operating systems found in the datacenter. Navigation and manipulating of the file systems using command line and GUI interfaces of current Linux and Windows operating systems to gain an understanding of how they work, their similarities and differences. Portions of this course help to prepare for the CompTia A+ exam.

CLDE1210 | Cloud Architecting | Lecture/Laboratory (3 Credits)
Architecting business solutions for modern cloud services utilizing industry best practice concepts. Portions of this course help to prepare for the Amazon Cloud Architect Associate exam.

CLDE2110 | Cloud Security | Lecture/Laboratory (3 Credits)
Utilize best practice concepts in securing modern cloud services. Portions of this course help to prepare for the Amazon Security Specialty exam.

CLDE2120 | Cloud Database Systems | Lecture/Laboratory (3 Credits)
Build secure, durable and scalable database solutions for modern cloud services. Portions of this course help to prepare for the Amazon Database Specialty exam.

CLDE2210 | Hybrid Cloud Management | Lecture/Laboratory (3 Credits)
Design and implement integrated environments of on-premises and public cloud services that enable flexibility and the ability to migrate workloads, while maintaining data security and compliance. Portions of this course help to prepare for the Red Hat CloudForms Hybrid Cloud Administration exam.

CLDE2220 | Advanced Cloud Networking | Lecture/Laboratory (3 Credits)
Apply AWS networking nuances and how they relate to the integration of AWS services in provisioning Routing architectures, multi-region solutions for a global enterprise and highly available connectivity solutions. Portions of this course help to prepare for the Amazon Advanced Networking Specialty exam.

CLDE2230 | Cloud Enterprise Systems | Lecture/Laboratory (3 Credits)
Evaluate cloud application requirements and make architectural recommendations for secure implementation, deployment, and provisioning. Portions of this course help to prepare for the Amazon Solutions Architect Professional exam.

CNTS1123 | Introduction to Networking | Lecture/Laboratory (2 Credits)
Introduction to the concepts and terminology of data communications in a datacenter. Examine client-server networking, communication hardware, software, and security. Analyze services and models supporting data communications interoperability. Configure and troubleshoot network connections and the associated hardware/software.

CLDE2291 | Summative Experience | Directed Study (5 Credits)
Portfolio or external intern based project work to exhibit all skills gained throughout program.

CNTS1202 | Scripting | Lecture/Laboratory (3 Credits)
Apply programming best practices to managing computer systems and networks. Topics include: development of real world scripts used to manage enterprise networks with a focus on Python and PowerShell.

CNTS1212 | Server Systems | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage the core services in current Linux and Windows server operating systems. Introduction to the sharing of system resources, remote administration, directory services security and backups. Portions of this course help to prepare for the Microsoft Identity and Access Administrator exam.

CNTS1232 | Network Systems | Lecture/Laboratory (3 Credits)
Expansion of concepts and terminology of business data communications and how they apply to the business environment. Intermediate to advanced client-server networking concepts, including its associated networking hardware, addressing and services; logical addressing, IP routing, and network protocols. Install and configure client-server networking systems. Portions of this course help to prepare for the CompTIA Network+ exam.

CNTS2113 | Enterprise Linux Administration | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a wide variety of Open Source Software (OSS) with an emphasis on common web, file and database servers found in industry; the history of the open source movement. Configure OSS operating systems to support common client-servers, Web hosting, and other services commonly found at the enterprise and ISP levels of industry. In-depth coverage of technologies related to hosting websites including programming language support, database support/connectivity, and remote access. Portions of this course help to prepare for the Red Hat Certified Engineer exam.

CNTS2131 | Virtualization | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a variety of virtualization software; examine the underlying principles of virtualization; create a virtual IT infrastructure; advantages and disadvantages of moving to a virtualized environment; comparison of major virtualization software systems. Portions of this course help to prepare for the Professional VMware vSphere Exam.

CWEB1114 | Introduction to Application Dev | Lecture/Laboratory (2 Credits)
Code responsive, secure web app using HTML, CSS, JavaScript and server-side language while understanding the Software development life cycle and modern development methodologies.

CWEB1123 | Data Fundamentals | Lecture/Laboratory (2 Credits)
Examine the concepts of data and logical structures of data. Explore database types including relational, hierarchical, and graph data structures, and common search algorithms and query structures. Build a relational database using MySQL workbench. Utilize Structured Query Language (SQL) core skills (Queries, operators and keys).

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Computer Networking Systems (CNTS), AAS

At Dunwoody College of Technology, the Computer Networking Systems program prepares graduates for careers in the rapidly growing and changing fields of enterprise computer systems and networking administration.

Students are taught current technologies and skills to architect, support, build, and maintain enterprise networks and systems. Those technologies include cloud services, virtualization, IT security, directory services, network and systems automation, enterprise applications, and routing and switching.

Coursework includes Amazon and Microsoft cloud services featuring Amazon Academy curriculum, Microsoft and Linux operating systems, related network support services featuring Cisco® Academy curriculum, and desktop and server hardware. Students also develop skills in coding,

computer logic, and data communications. Interpersonal soft-skills are emphasized in all courses.

Arts & Sciences courses enhance and support the technical coursework.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day on Campus or Evening Online Hybrid
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Cybersecurity (CYBR), Bachelor of Science (p. 23)

Program Outcomes

- Create an enterprise network system.
- Configure enterprise hardware.
- Build a virtualized enterprise environment.
- Use programming fundamentals for automating networks and services.
- Deploy relevant industry applications in an enterprise environment.
- Apply troubleshooting techniques to discover and resolve problems.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Social Science		3
Technical Requirements		
CLDE1110	Introduction to Cloud Services	2
CLDE1120	DevOps Fundamentals	2
CNTS1102	Introduction to Operating Systems	2
CNTS1123	Introduction to Networking	2
CWEB1114	Introduction to Application Dev	2
CWEB1123	Data Fundamentals	2
CNTS1212	Server Systems	3
CLDE1210	Cloud Architecting	3
CNTS1202	Scripting	3
CNTS1232	Network Systems	3
CNTS2103	Enterprise Routing & Services I	3
CNTS2113	Enterprise Linux Administration	3
CNTS2131	Virtualization	3
CNTS2140	Securing Enterprise Server Environments	3
CNTS2203	Enterprise Routing & Services II	3
CNTS2214	Advanced Server Infrastructure	3
CLDE2291	Summative Experience	5
Total Credits		**62**

Courses

Descriptions

CLDE1110 | Introduction to Cloud Services | Lecture/Laboratory (2 Credits)
Exploration of the technology and terms used in modern cloud services. Portions of this course help to prepare for the Amazon Cloud Practitioner exam.

CLDE1120 | DevOps Fundamentals | Lecture/Laboratory (2 Credits)
Investigation of industry-standard terminology technology and core principles used in automating the modern datacenter. Portions of this course help to prepare for the ICP Foundations of DevOps exam.

CNTS1102 | Introduction to Operating Systems | Lecture/Laboratory (2 Credits)
Examine concepts of computer operating systems found in the datacenter. Navigation and manipulating of the file systems using command line and GUI interfaces of current Linux and Windows operating systems to gain an understanding of how they work, their similarities and differences. Portions of this course help to prepare for the CompTia A+ exam.

CNTS1123 | Introduction to Networking | Lecture/Laboratory (2 Credits)
Introduction to the concepts and terminology of data communications in a datacenter. Examine client-server networking, communication hardware, software, and security. Analyze services and models supporting data communications interoperability. Configure and troubleshoot network connections and the associated hardware/software.

CWEB1114 | Introduction to Application Dev | Lecture/Laboratory (2 Credits)
Code responsive, secure web app using HTML, CSS, JavaScript and server-side language while understanding the Software development life cycle and modern development methodologies.

CWEB1123 | Data Fundamentals | Lecture/Laboratory (2 Credits)
Examine the concepts of data and logical structures of data. Explore database types including relational, hierarchical, and graph data structures, and common search algorithms and query structures. Build a relational database using MySQL workbench. Utilize Structured Query Language (SQL) core skills (Queries, operators and keys).

CNTS1212 | Server Systems | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage the core services in current Linux and Windows server operating systems. Introduction to the sharing of system resources, remote administration, directory services security and backups. Portions of this course help to prepare for the Microsoft Identity and Access Administrator exam.

CLDE1210 | Cloud Architecting | Lecture/Laboratory (3 Credits)
Architecting business solutions for modern cloud services utilizing industry best practice concepts. Portions of this course help to prepare for the Amazon Cloud Architect Associate exam.

CNTS1202 | Scripting | Lecture/Laboratory (3 Credits)
Apply programming best practices to managing computer systems and networks. Topics include: development of real world scripts used to manage enterprise networks with a focus on Python and PowerShell.

CNTS1232 | Network Systems | Lecture/Laboratory (3 Credits)
Expansion of concepts and terminology of business data communications and how they apply to the business environment. Intermediate to advanced client-server networking concepts, including its associated networking hardware, addressing and services; logical addressing, IP routing, and network protocols. Install and configure client-server networking systems. Portions of this course help to prepare for the CompTIA Network+ exam.

CNTS2103 | Enterprise Routing & Services I | Lecture/Laboratory (3 Credits)
Examine concepts and application of bridging, switching, routing, and firewalls in an industry-standard networking environment. Install, configure, and manage networks, routers, switches, and firewalls to facilitate basic network communication architectures. Portions of this course help to prepare for the Cisco Certified Networking Associate (CCNA) exam.

CNTS2113 | Enterprise Linux Administration | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a wide variety of Open Source Software (OSS) with an emphasis on common web, file and database servers found in industry; the history of the open source movement. Configure OSS operating systems to support common client-servers, Web hosting, and other services commonly found at the enterprise and ISP levels of industry. In-depth coverage of technologies related to hosting websites including programming language support, database support/ connectivity, and remote access. Portions of this course help to prepare for the Red Hat Certified Engineer exam.

CNTS2131 | Virtualization | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a variety of virtualization software; examine the underlying principles of virtualization; create a virtual IT infrastructure; advantages and disadvantages of moving to a virtualized environment; comparison of major virtualization software systems. Portions of this course help to prepare for the Professional VMware vSphere Exam.

CNTS2140 | Securing Enterprise Server Environments | Lecture/ Laboratory (3 Credits)
Proactively secure enterprise and hybrid environments, implement and manage security and compliance solutions, respond to threats, and enforce data governance. Portions of this course help to prepare for the Microsoft 365 Certified: Security Administrator Associate exam.

CNTS2203 | Enterprise Routing & Services II | Lecture/Laboratory (3 Credits)
Advanced concepts and application of bridging, switching, routing, and firewalls in an industry-standard networking environment. Practice advanced business network communication architectures. This course helps to prepare for the Cisco Certified Networking Associate (CCNA) exam.

CNTS2214 | Advanced Server Infrastructure | Lecture/Laboratory (3 Credits)
Evaluate, plan, migrate, deploy, and manage Microsoft 365 services. Portions of this course help to prepare for the Microsoft 365 Certified: Enterprise Administrator Expert exam.

CLDE2291 | Summative Experience | Directed Study (5 Credits)
Portfolio or external intern based project work to exhibit all skills gained throughout program.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Cybersecurity (CYBR), Bachelor of Science

At Dunwoody College of Technology, the Cybersecurity bachelor's completion program is a two-year evening program designed for working professionals who have a two-year degree in computer networking and are looking to build upon those skills. Students graduate ready to work in cybersecurity positions at corporate, nonprofit, and governmental organizations.

The program prepares students to secure, test, and defend information technology systems. Graduates learn how to recognize various forms of cyberattack, stop them, and repair and mitigate any damage caused by attacks. An emphasis is placed on cybersecurity within the context of business priorities and levels of acceptable risk for organizations.

Coursework includes such topics as security for software and networks, cyber warfare, scripting, forensic investigation, data protection laws, and risk mitigation.

Arts & Sciences courses enhance and support the technical coursework.

Students complete a capstone project that demonstrates their skills as a cybersecurity professional.

Credential Earned: BS
Length of Program: 2 years (4 semesters)
Classes Offered: Day on Campus or Evening Online Hybrid
Available Starts: Fall Semester only

Program Outcomes
- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgements in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply security principles and practices to the environment, hardware, software, and human aspects of a system.
- Analyze and evaluate systems with respect to maintaining operations in the presence of risks and threats.

Degree Requirements

Admitted students to Cybersecurity (CYBR) can transfer up to 47 technical and 15 Arts & Sciences credits. A transfer evaluations is required. Not all credits may transfer into the degree program.

Code	Title	Credits
Transfer Credits		**62**
General Requirements		
MATH2250	Statistics	3
MATH2830	Discrete Math	3
WRIT4001	Capstone Writing	3
Humanities		3
Social Science		3
Technical Requirements		
CYBR3110	Systems Security I	3
CYBR3120	Software Security	3
CYBR3140	Cybersecurity Fundamentals	2
CYBR3160	Business Principles for Cybersecurity	2
CYBR3130	Legal Issues & Policy	2
CYBR3210	Systems Security II	4
CYBR3220	Scripting for Cyber Professionals	4
CYBR3231	Digital Forensic Theory	2
CYBR4110	Network Security	5
CYBR4120	Introduction to Cyber Warfare	2
CYBR4131	Operating Systems Forensics	3
CYBR4210	Cybersecurity Capstone	5
CYBR4221	Network Forensics	2
CYBR4230	Industrial Cybersecurity Awareness	4
Total Credits		**120**

Courses

CYBR3110 | Systems Security I | Lecture/Laboratory (3 Credits)
Examine, configure and troubleshoot authentication and authorization applications supporting confidentiality and integrity. Topics include the basics of symmetric asymmetric encryption and their implementation for authentication and protection of data at rest and in transit as well as implementing patch management, hot fixes, and revision updates and their risks.

CYBR3120 | Software Security | Lecture/Laboratory (3 Credits)
Explore common issues with software security and methods of mitigating attack vectors. Topics include how software is made and maintained, cross site scripting, SQL Injection, the OWASP Top 10 Report, API Gateways and Security, and elements of pen-testing software.

CYBR3140 | Cybersecurity Fundamentals | Lecture (2 Credits)
Discover the many career paths in the wide and growing field of cybersecurity. Explore the world of cybersecurity by researching and practicing industry roles.

CYBR3160 | Business Principles for Cybersecurity | Lecture (2 Credits)
Examine basic business organization and principles, including financial management, budgets and revenue streams with an emphasis on risk mitigation and the levels of acceptable risk in conducting business.

CYBR3130 | Legal Issues & Policy | Lecture (2 Credits)
Examine the responsibilities of the cybersecurity professional in regards to standards, the law, and policy. Topics include data protection standards, common security policies in business, and proper communication with internal and external entities related to policy and supply risk management.

CYBR3210 | Systems Security II | Lecture/Laboratory (4 Credits)
Examine methods of protecting against intrusions from within and without. Analyze public key infrastructure and its trust models. Other topics include advanced methods of authentication under the philosophy of "zero trust" as well as an integrated approach to reducing risk, reducing the attack surface, and continuous improvement of the security posture.
Prerequisite(s): CYBR3110
Corequisite(s): CYBR3220

CYBR3210 | Systems Security II | Lecture/Laboratory (4 Credits)
Examine methods of protecting against intrusions from within and without. Analyze public key infrastructure and its trust models. Other topics include advanced methods of authentication under the philosophy of "zero trust" as well as an integrated approach to reducing risk, reducing the attack surface, and continuous improvement of the security posture.
Prerequisite(s): CYBR3110
Corequisite(s): CYBR3220

CYBR3220 | Scripting for Cyber Professionals | Lecture/Laboratory (4 Credits)
Use various methods of scripting to automate, test, and secure a computer system. Scripting languages include common shell languages PowerShell and BASH as well as the popular Python language. Detect security issues and use scripts to mitigate the found vulnerability.
Corequisite(s): CYBR3210

CYBR3231 | Digital Forensic Theory | Lecture (2 Credits)
Explore scientific theory, methods, and evidence preservation from a digital forensics perspective. Emphasis is on the fundamentals of forensic theory, attacker techniques, and procedures used in the cybersecurity profession.

CYBR4110 | Network Security | Lecture/Laboratory (5 Credits)
Explore network security in theory. Examine and practice the use of tools used for protecting networks against malicious attacks. Topics include implementation of secure networking systems including intrusion detection and prevention systems, proxy servers, wireless and point of sales systems and firewall configurations.

CYBR4120 | Introduction to Cyber Warfare | Lecture (2 Credits)
Examine methods and techniques used to perform politically motivated attacks against other nation states for strategic or military objectives including cyber espionage. Identify diverse motivations of nation state actors, non-state actors such as terrorist groups, companies and politically or economically motivated groups and individuals. Explore both offensive and defensive techniques.
Prerequisite(s): CYBR3231

CYBR4131 | Operating Systems Forensics | Lecture/Laboratory (3 Credits)
Identify common operating system storage techniques. Examine common techniques to retrieve information at file and operating systems levels. Investigate additional artifacts for information that include memory, virtual memory, slack space, and swap spaces.
Prerequisite(s): CYBR3231

CYBR4210 | Cybersecurity Capstone | Capstone (5 Credits)
Demonstrate overall content knowledge of the program outcomes through a final project. Present project with explanation of skills required by a cybersecurity professional.
Prerequisite(s): CYBR4120

CYBR4221 | Network Forensics | Lecture/Laboratory (2 Credits)
Examine network data acquisition methods. Research network protocols vulnerabilities. Activities are related to monitoring and analysis of network data.
Prerequisite(s): CYBR4110

CYBR4230 | Industrial Cybersecurity Awareness | Lecture (4 Credits)
Every aspect of modern life depends on industrial control systems (ICS) operating as expected. As ICS devices become increasingly connected, they also become increasingly vulnerable. In the class you will learn how to implement industrial frameworks and foundational security controls, aligning IT/OT, gaining executive buy-in and selecting the right tools for the job.

MATH2250 | Statistics | Lecture (3 Credits)
Descriptive and inferential statistics, frequency distributions, probability theory, and issues related to gathering data; computer spreadsheets facilitate the organization, analysis and display of data.
General Education: Mathematics

MATH2830 | Discrete Math | Lecture (3 Credits)
Examine a set of branches of math that all have in common the feature that they are "discrete" rather than "continuous".
General Education: Mathematics

WRIT4001 | Capstone Writing | Lecture (3 Credits)
Examine the essentials of writing clearly and efficiently within the framework of argumentative research writing. Formulate a coherent thesis and defend it logically with evidence drawn from research. Practice working through the stages of planning, research, organizing, and revising writing.
General Education: Upper Communications

Web Programming & Database Development (CWEB), AAS

At Dunwoody College of Technology, the Web Programming & Database Development program provides graduates with the necessary skills and knowledge to design, create, host and maintain web applications. While the goal of user-friendly, efficient, and appealing website design is expected, adherence to industry standards and best practices is paramount. Typical job titles for graduates of the program include web developer, webmaster, database administrator, data analyst, web designer, content manager, software engineer, and software developer.

Students learn full stack web development, which includes both front-end development (client-side scripting; responsive web development; component-based web development; basic user interface and user experience principles) and back-end development (industry-standard database creation and management with multiple database systems; server-side scripting; secure coding practices and programming logic, including object-oriented principles). Students also learn how to configure their application to work with a continuous integration/delivery (CI/CD) pipeline to host application on a variety of cloud-based vendors.

Courses are divided between content lectures and hands-on demonstrations and practice. Interpersonal soft-skills are emphasized in all courses.

Arts & Sciences courses enhance and support the technical coursework.

The program culminates in a comprehensive final/capstone project that incorporates the knowledge learned throughout the program.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day on Campus or Evening Online Hybrid
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Cybersecurity (CYBR), Bachelor of Science (p. 23)

Program Outcomes

- Create web solutions using a variety of programming languages.
- Articulate development solutions to peers and supervisors.
- Use appropriate project management strategies for software development.
- Evaluate and implement data structures for applications and business.
- Apply secure programming techniques during development efforts.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Social Science		3
Technical Requirements		
CLDE1110	Introduction to Cloud Services	2
CLDE1120	DevOps Fundamentals	2
CNTS1102	Introduction to Operating Systems	2
CNTS1123	Introduction to Networking	2
CWEB1114	Introduction to Application Dev	2
CWEB1123	Data Fundamentals	2
CNTS1212	Server Systems	3
CNTS1202	Scripting	3
CWEB1115	Programming Fundamentals	3
CWEB1131	Web Tooling	3
CWEB2102	UX/UI Design Fundamentals	3
CWEB2116	Application Design I	3
CWEB2125	Database Systems: Programming and Admin	3
CWEB2140	Continuous Testing	3
CWEB2225	Database Systems: Concept and Design	3
CWEB2226	Application Design II	3
CLDE2291	Summative Experience	5
Total Credits		**62**

Courses
Descriptions

CLDE1110 | Introduction to Cloud Services | Lecture/Laboratory (2 Credits)
Exploration of the technology and terms used in modern cloud services. Portions of this course help to prepare for the Amazon Cloud Practitioner exam.

CLDE1120 | DevOps Fundamentals | Lecture/Laboratory (2 Credits)
Investigation of industry-standard terminology technology and core principles used in automating the modern datacenter. Portions of this course help to prepare for the ICP Foundations of DevOps exam.

CNTS1102 | Introduction to Operating Systems | Lecture/Laboratory (2 Credits)
Examine concepts of computer operating systems found in the datacenter. Navigation and manipulating of the file systems using command line and GUI interfaces of current Linux and Windows operating systems to gain an understanding of how they work, their similarities and differences. Portions of this course help to prepare for the CompTia A+ exam.

CNTS1123 | Introduction to Networking | Lecture/Laboratory (2 Credits)
Introduction to the concepts and terminology of data communications in a datacenter. Examine client-server networking, communication hardware, software, and security. Analyze services and models supporting data communications interoperability. Configure and troubleshoot network connections and the associated hardware/software.

CWEB1114 | Introduction to Application Dev | Lecture/Laboratory (2 Credits)
Code responsive, secure web app using HTML, CSS, JavaScript and server-side language while understanding the Software development life cycle and modern development methodologies.

CWEB1123 | Data Fundamentals | Lecture/Laboratory (2 Credits)
Examine the concepts of data and logical structures of data. Explore database types including relational, hierarchical, and graph data structures, and common search algorithms and query structures. Build a relational database using MySQL workbench. Utilize Structured Query Language (SQL) core skills (Queries, operators and keys).

CNTS1202 | Scripting | Lecture/Laboratory (3 Credits)
Apply programming best practices to managing computer systems and networks. Topics include: development of real world scripts used to manage enterprise networks with a focus on Python and PowerShell.

CNTS1212 | Server Systems | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage the core services in current Linux and Windows server operating systems. Introduction to the sharing of system resources, remote administration, directory services security and backups. Portions of this course help to prepare for the Microsoft Identity and Access Administrator exam.

CWEB1115 | Programming Fundamentals | Lecture/Laboratory (3 Credits)
Examine programming principles like data types, variables, expressions, operators, Boolean logic, algorithm creation, flowcharts. Topics include: structured programming and programming logic constructs (sequence, selection, and loops); abstraction, modularization, dynamic and static data-structures, object-oriented and event driven programming.

CWEB1131 | Web Tooling | Lecture/Studio (3 Credits)
Use various tools to construct, manage, test, and maintain a web application throughout the life of the application. Explore concepts such as development environments, version control, continuous integration/deployment, testing, hosted environments, and application frameworks. **Prerequisite(s):** CWEB1114

CWEB2102 | UX/UI Design Fundamentals | Lecture/Laboratory (3 Credits)
Develop basic Adobe CC software skills. Explore design and user-centered approaches to web development. Model UX/UI best practices in planning, research, prototyping, and user testing.

CWEB2116 | Application Design I | Lecture/Laboratory (3 Credits)
Construct application using modern front-end, back-end frameworks with an emphasis on understanding secure authentication and authorization practices, design patterns, sorting and filtering algorithms and automated unit testing and deployment using a continuous integration tool.

CWEB2125 | Database Systems: Programming and Admin | Lecture/Laboratory (3 Credits)
Create use and manage industry standard Linux and Windows based SQL database servers in a virtualized environment. Utilize Structured Query Language (SQL) advanced skills (Joins, Views and Stored Procedures). Stand up and define database driven web front ends on both Linux and Windows.

CWEB2140 | Continuous Testing | Lecture/Laboratory (3 Credits)
Solidify a firm understanding of DevOps and DevSecOps. Evaluate automation tools that perform Unit, Integration, End-to-End, UI testing. Solidify an understanding of version, securing and feature enhancing code-based through the lens of the Software Development Life Cycle (SDLC) model.

CWEB2225 | Database Systems: Concept and Design | Lecture/Laboratory (3 Credits)
Develop databases to support specific applications; explain database design methodology; use graphical models to document databases (UML, ERD, Data flow, etc.); optimize relational and NoSQL databases using normalization, de-normalization, indexing and ACID principles.

CWEB2226 | Application Design II | Lecture/Laboratory (3 Credits)
Building on knowledge learned from Application Design I, you will create a secure comprehensive full-stack application that implements CRUD(Create, Retrieve, Update, Delete) operations and utilize RESTful Web Service all while ensuring standards are upheld as it relates to usability, accessibility, performance.

CLDE2291 | Summative Experience | Directed Study (5 Credits)
Portfolio or external intern based project work to exhibit all skills gained throughout program.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Construction Sciences & Building Technology Department

Construction Sciences & Building Technology prepares students for jobs designing, constructing, and servicing the built environment. Courses of study include the areas of construction management, mechanical and electrical construction, and land surveying and civil engineering technology.

Dunwoody's programs offer hands-on learning in industry-specific labs and studios and a curriculum informed by industry experts. Instructors have real-world experience and industry-specific certifications and are passionate about how their specific field positively contributes to the built environment. Students graduate with technical knowledge of their field as well as a solid awareness of industry trends, best practices, and green and sustainable concepts.

Construction Sciences & Building Technology offers a variety of two-year associate in applied science degree programs as well as two bachelor's completion degrees and some certificate options. Both evening and day programs are available for some programs.

Degree Offerings

- Construction Management (CMGT), Bachelor of Science (p. 27)
- Construction Project Management (PMGT), AAS (p. 29)
- Construction Project Management (PMGT), Certificate (p. 30)
- Electrical Construction & Maintenance (ELEC), AAS (p. 31)
- Electrical Construction Design & Management (ECDM), AAS (p. 33)
- Electrical Drafting & Estimating (ECDE), Certificate (p. 34)
- HVAC Installation & Residential Service (HEAT), AAS (p. 35)
- HVACR Systems Servicing (SERV), AAS (p. 37)
- Land Surveying (SURV), Certificate (p. 40)
- Power Construction & Engineering Technology (PCET), Bachelor of Science (p. 40)
- Sheet Metal & HVAC Installation (HEATSM), Certificate (p. 43)
- Surveying & Civil Engineering Technology (SCVL), AAS (p. 44)

Construction Management (CMGT), Bachelor of Science

At Dunwoody College of Technology, the Construction Management bachelor's completion program prepares students to successfully manage, lead, and influence construction projects, teams, and companies. Graduates develop the critical thinking, problem solving, and decision making skills to take on professional roles as project managers, construction managers, business leaders, and entrepreneurs. Students in the program represent various construction industries and combine their specialized technical knowledge with leadership skills required to manage all phases and types of construction and make ethical and strategic decisions about the built environment.

Coursework features lectures on the principles of management and leadership, marketing, construction finance and law, green construction, and field engineering, with advanced training in estimating, planning, and scheduling.

Students also complete professional development projects and capstones within the construction industry.

Arts & Sciences courses enhance a student's technical education through study in oral and written communications; math and physical science; social/behavioral studies; and the arts and humanities.

Credential Earned: BS
Length of Program: 2 years (4 semesters) Summer courses are available to reduce fall/spring course load. Evening AAS students may take up to 5 semesters to complete unless they have technical transfer credits.
Classes Offered: Evening; Distance Learning
Available Starts: Fall Semester; Spring Semester; Summer Session

Program Outcomes

- Create written communications appropriate to the construction discipline.
- Create oral presentations appropriate to the construction discipline.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based on ethical principles.
- Analyze construction documents for planning and management of construction processes.
- Analyze methods, materials, and equipment used to construct projects.
- Apply construction management skills as a member of a multi-disciplinary team.
- Apply electronic-based technology to manage the construction process.
- Apply basic surveying techniques for construction layout and control.
- Understand different methods of project delivery and the roles and responsibilities of all constituencies involved in the design and construction process.
- Understand construction risk management.
- Understand construction accounting and cost control.
- Understand construction quality assurance and control.
- Understand construction project control processes.
- Understand the legal implications of contract, common, and regulatory law to manage a construction project.
- Understand the basic principles of sustainable construction.
- Understand the basic principles of structural behavior.
- Understand the basic principles of mechanical, electrical, and piping systems.

Degree Requirements

Admitted students to Construction Management (CMGT) can transfer up to 45 technical credits. A transfer evaluation is required. Not all credits may transfer into the degree program.

Construction Management (CMGT) also has the following prerequisite courses, which may be taken at Dunwoody after acceptance into the program if the requirements have not been met during prior study: CMGT1211, CMGT1231 and CMGT1131

Code	Title	Credits
Transfer Credits:		**45**
General Requirements		
MATH1700 or MATH2250	Pre Calculus Statistics	3

Communications Elective		6
Humanities Elective		3
Physical/Environmental Science w/Lab		6
Social Sciences Elective		3
General Elective		9
Technical Requirements		
CMGT3111	Construction Law	3
CMGT3130	Quality Assurance & Risk	3
MGMT1100	Principles of Marketing	3
MGMT3131	Managerial Accounting	3
CMGT3121	Construction Estimating II	3
MGMT4141	Managerial Economics	3
CMGT3211	Construction Accounting & Finance	3
MGMT3112	Business Management	3
CMGT3221	Construction Planning & Scheduling II	3
CMGT4120	Field Engineering	3
CMGT4501	Project Management	3
CMGT4140	Construction Leadership	3
CMGT4130	Green Construction	3
CMGT4220	Utility & Construction Design	3
Technical Elective		
Choose any CMGT course(s)		4
Total Credits		**121**

Courses

Descriptions

CMGT1211 | Construction Estimating I | Lecture/Laboratory (3 Credits)
Integrate material quantities with costs through take-offs, estimates and bid analysis, to predict project costs.

CMGT1231 | Construction Planning & Scheduling I | Lecture/Laboratory (3 Credits)
Analyze a sequence of construction tasks using network diagrams, Gantt charts, and the critical path method to create a project schedule.

CMGT1131 | Construction Plans & Measurements | Lecture (3 Credits)
Interpret architectural and engineering graphics and conventions using construction documents to identify materials and calculate quantities.

CMGT3111 | Construction Law | Lecture (3 Credits)
Examine the components of Construction Law using case law studies and construction documents to understand and identify the legal issues and liabilities encountered in connection with a construction project.

CMGT3130 | Quality Assurance & Risk | Lecture (3 Credits)
Analyze the best allocation of people, processes, material, and equipment based on quality and productivity principles and expectations to maintain an efficient and safe work environment.

MGMT1100 | Principles of Marketing | Lecture (3 Credits)
Introduction to terms, concepts, and skills for analyzing marketing problems. Manage/integrate communication aspects of marketing, such as advertising, sales promotion, and public relations. Identify how to set objectives, select media and measure effectiveness. Explain sales promotion techniques.

MGMT3131 | Managerial Accounting | Lecture (3 Credits)
Introduction of the fundamentals of managerial accounting for reporting, decision making and control of transactions, financial statements, strategic and operational planning to facilitate ethical behavior of the managerial accountant.

CMGT3121 | Construction Estimating II | Lecture/Laboratory (3 Credits)
Advanced analysis of the quantity surveying, cost estimating, and bidding methods of building construction using current industry practices and methods to oversee and manage the successful procurement of projects.

MGMT4141 | Managerial Economics | Lecture (3 Credits)
Apply managerial economic decision making in the areas of mathematics, statistics, economic theory, accounting, finance, marketing, and human behavior.

CMGT3211 | Construction Accounting & Finance | Lecture (3 Credits)
Apply basic accounting and finance concepts in the construction industry to analyze project data and financial statements to forecast, monitor and manage the costs of a construction project. Analyze the unique characteristics of construction accounting and finance through their use in budget development, securing funding, and cash flow to forecast the implementation of business decisions on financial statements.

MGMT3112 | Business Management | Lecture (3 Credits)
Examine principles of management in the context of how firms are organized to analyze their management of finances, operations, human resources, processes and strategy to effectively meet an organization's mission, vision and goals.

CMGT3221 | Construction Planning & Scheduling II | Lecture/Laboratory (3 Credits)
Advanced principles and techniques of managing construction schedules to forecast and report progress for construction projects.

CMGT4120 | Field Engineering | Lecture (3 Credits)
Analyze statics and strength of materials as used for the application of material specifications, quality control, and testing required in the field. Emphasis on field documentation and verification of subcontractor work.

CMGT4501 | Project Management | Lecture (3 Credits)
Integrate project management with documentation prepared for review by an industry review panel. Emphasis is on creation and coordination of plans, schedules, estimates, finance, marketing analysis, risk, insurance, and green initiatives for a site development project.

CMGT4140 | Construction Leadership | Lecture (3 Credits)
Explore conflict management, effective communication, decision making and problem solving through case studies, reflections and projects to develop leadership and management techniques relevant to construction management.

CMGT4130 | Green Construction | Lecture (3 Credits)
Examine green building principles and best practices through laboratory exercises, research, discussions, case studies, and presentations; apply to industry documents to understand the green building industry.

CMGT4220 | Utility & Construction Design | Lecture (3 Credits)
Examine the infrastructure systems related to public works projects produced in the United States; presented and discussed through a series of speakers, field trips and readings in order for construction professionals to realize the importance of our infrastructure systems and how they affect our society, including an analysis of current and future needs.

MATH1700 | Pre Calculus | Lecture (3 Credits)
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.
General Education: Mathematics

MATH2250 | Statistics | Lecture (3 Credits)
Descriptive and inferential statistics, frequency distributions, probability theory, and issues related to gathering data; computer spreadsheets facilitate the organization, analysis and display of data.
General Education: Mathematics

Construction Project Management (PMGT), AAS

At Dunwoody College of Technology, the Construction Project Management AAS degree is designed to address the increasing demand for formally trained project managers, estimators, and field personnel. The program prepares students for various entry-level positions in the construction industry. Construction project management requires highly developed critical thinking, problem solving, and decision making skills to manage individual and team performance and functional oversight of a project life cycle.

Through the use of instructional projects, students learn the tools to become leaders of the construction team, including how to develop and manage schedules and estimates; how to monitor and report on the progress of construction activities to stakeholders; and how to track and control construction costs. Key themes include risk and safety management, ethical and legal implications, and financial decision making.

Courses utilize tangible local projects to examine best practices, industry standards, and applications with curriculum specifically designed to emulate various jobs performed in the professional work environment. Current industry software is used to create and manage documents for student projects. In addition, service learning projects, site visits, speakers, and lab exercises introduce students to industry and community partners with a directed focus on gaining an appreciation for the social and environmental responsibilities that extend beyond creating the built environment.

Arts & Sciences courses round out the course of study, providing students with the analytical, communication, and writing skills the industry demands of its professionals. The program also includes a capstone project. A shorter certificate option is also available.

Accredited by the American Council for Construction Education (ACCE). (https://www.acce-hq.org/)

Credential Earned: AAS
Length of Program: 2 years (4 semesters) Evening AAS students may take up to 5 semesters to complete unless they have technical transfer credits.
Classes Offered: Day; Evening; Distance Learning; Hybrid
Available Starts: Fall Semester; Spring Semester; Summer Session
Bachelor's Completion Option(s): Construction Management (CMGT), Bachelor of Science (p. 27)

Program Outcomes

- Create written communications appropriate to the construction discipline.
- Create oral presentations appropriate to the construction discipline.
- Create a construction project safety plan.
- Create construction project cost estimates.
- Create construction project schedules.
- Analyze professional decisions based on ethical principles.
- Analyze construction documents for planning and management of construction processes.
- Analyze methods, materials, and equipment used for construct projects.
- Apply electronic-based technology to manage the construction process.
- Apply basic surveying techniques for construction layout and control.
- Understand construction accounting and cost control.
- Understand the legal implications of contract, common, and regulatory law to manage a construction project.
- Understand the basic principles of structural behavior.
- Understand the basic principles of mechanical, electrical, and piping systems.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
Communications Elective		3
Humanities Elective		3
Physical/Environmental Science with Lab		3
Social Science		3
Technical Requirements		
CMGT1112	The Construction Industry	3
CMGT1002	Construction Drafting	3
CMGT1318	Construction Technology I	1
CMGT1131	Construction Plans & Measurements	3
SCVL1111	Introduction to Topographic Surveying	3
CMGT2203	Construction Mgmt Statics & Structures	3
CMGT1211	Construction Estimating I	3
CMGT1231	Construction Planning & Scheduling I	3
CMGT2222	Construction Administration	3
CMGT2132	Construction Safety Management	1
CMGT1221	Construction Materials & Methods II	3
CMGT2150	Residential Project Management	3
MGMT1000	Principles of Accounting	3
CMGT2211	Integrated Environmental Systems	3
CMGT2111	Building Codes	3
CMGT2230	Commercial Project Management	3
SCVL2111	Materials,Testing, Construction Methods	3
CSBT2000	Professional Development	1
Technical Elective:		**2**
Choose 2 credits of CMGT or SCVL courses		
Total Credits		**65**

Courses
Descriptions

CMGT1112 | The Construction Industry | Lecture (3 Credits)
Aspects of the construction industry are explored through guest speakers, site tours, and exploratory reflections to highlight the variety of opportunities available as a construction professional.

CMGT1002 | Construction Drafting | Lecture/Laboratory (3 Credits)
Implement construction graphics and conventions using hand drafting and drawing software.

CMGT1318 | Construction Technology I | Seminar (1 Credit)
Explore electronic-based technology through research and industry presentations to explain the role technology has in managing the construction process.

CMGT1131 | Construction Plans & Measurements | Lecture (3 Credits)
Interpret architectural and engineering graphics and conventions using construction documents to identify materials and calculate quantities.

SCVL1111 | Introduction to Topographic Surveying | Lecture/Laboratory (3 Credits)
Introduction to the technical equipment and industry processes used by surveying technicians to collect and interpret data.

CMGT2203 | Construction Mgmt Statics & Structures | Lecture (3 Credits)
Evaluate structural behavior, structural materials, and load resistance for vertical and horizontal projects. Focus is on how construction managers work with designers.

CMGT1211 | Construction Estimating I | Lecture/Laboratory (3 Credits)
Integrate material quantities with costs through take-offs, estimates and bid analysis, to predict project costs.

CMGT1231 | Construction Planning & Scheduling I | Lecture/Laboratory (3 Credits)
Analyze a sequence of construction tasks using network diagrams, Gantt charts, and the critical path method to create a project schedule.

CMGT2222 | Construction Administration | Lecture (3 Credits)
Examine the requirements of Construction Administration using industry standard formats and procedures to understand the administrative requirements for their implications on a construction project.

CMGT2132 | Construction Safety Management | Seminar (1 Credit)
Examine the principles of construction safety management to develop strategies to prevent injuries on construction projects.

CMGT1221 | Construction Materials & Methods II | Lecture/Laboratory (3 Credits)
Examine building materials and construction methods through deconstruction of building systems using case studies, field trips and hands on exercises to figure out how buildings are assembled. Emphasis on the methods and materials for the interior of buildings.
Prerequisite(s): CMGT1131

CMGT2150 | Residential Project Management | Laboratory (3 Credits)
Integrate residential project management skills to create and coordinate plans, schedules, and estimates for a site development residential project utilizing construction competition guidelines.

MGMT1000 | Principles of Accounting | Lecture (3 Credits)
Introduction to fundamental accounting concepts and cycles. Includes analyzing, interpreting, and recording transactions, as well as the preparation of financial statements, bank reconciliations and payroll transactions in accordance with commonly accepted accounting principles.

CMGT2211 | Integrated Environmental Systems | Lecture (3 Credits)
Examine mechanical, electrical, plumbing and fire protection systems using case studies to coordinate the integration of these disciplines.

CMGT2111 | Building Codes | Lecture (3 Credits)
Select and apply appropriate federal, state/provincial and municipal codes, standards and accessibility guidelines using industry standards with an emphasis on Life Safety Codes and the ADA to prepare for licensing exams, meet with codes officials, and to design spaces that enhance the health, safety and welfare of the general public.

CMGT2230 | Commercial Project Management | Laboratory (3 Credits)
Manage a construction project from Request for Proposals through closeout integrating software; best practices and ethical decision making illustrate the competencies required of a construction project manager/site supervisor. Emphasis on overall culmination of prerequisite skills achieved in prior courses.
Prerequisite(s): CMGT1211 And CMGT1231

SCVL2111 | Materials,Testing, Construction Methods | Lecture/Laboratory (3 Credits)
Introduction to testing construction materials and methods, inspection and quality control. Examine construction documents to estimate quantities and costs for civil projects.

CSBT2000 | Professional Development | Seminar (1 Credit)
Apply technical skills in a related industry setting to acquire real world experience in an area of student interest.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

Construction Project Management (PMGT), Certificate
Overview

At Dunwoody College of Technology, the Construction Project Management certificate provides individuals with experience in the construction industry and training in the field of construction project management. Construction project managers facilitate successful projects during all phases of design and construction. They are the construction team leaders in the field and in the office.

Construction project managers develop and manage schedules and estimates and control and track construction costs. They seek to minimize risk by understanding risk management techniques including safety concerns, legal ramifications, codes and regulations, and financial decisions. Construction project managers monitor and report on the progress of construction activities to stakeholders.

Through the use of instructional projects, students learn the tools to become leaders of the construction team, including how to develop and manage schedules and estimates; and how to monitor and report on the progress of construction activities to stakeholders. Key themes include risk and safety management, ethical and legal implications, and document controls.

Courses utilize tangible projects to examine best practices, industry standards and applications with curriculum specifically designed to emulate various jobs performed in the professional work environment.

Current industry software is used to create and manage documents for student projects. Instructed by practicing industry professionals, students learn to facilitate successful projects during all phases of construction.

Credits earned in the Construction Project Management certificate directly transfer into Dunwoody's Construction Project Management (PMGT) (p. 29) associate's degree program.

Credential Earned: Certificate
Length of Program: 1 Year (2 Semesters)
Classes Offered: Day; Evening; Distance Learning
Available Starts: Fall Semester, Spring Semester

Program Outcomes

- Interpret construction documents.
- Analyze building assemblies and systems during all phases of construction.
- Demonstrate proficiency in current industry software.
- Utilize industry equipment and tools for construction.
- Implement safe practices in the built environment.
- Implement bidding and estimating procedures.
- Recognize the regulatory environment in design and construction.
- Analyze phases of construction projects.
- Apply business management methods.

Degree Requirements

Code	Title	Credits
CMGT1131	Construction Plans & Measurements	3
CMGT2221	Construction Administration	2
CMGT2132	Construction Safety Management	1
CMGT1231	Construction Planning & Scheduling I	3
CMGT1211	Construction Estimating I	3
CMGT2111	Building Codes	3
Technical Elective		1
Total Credits		**16**

Courses
Descriptions

CMGT1131 | Construction Plans & Measurements | Lecture (3 Credits)
Interpret architectural and engineering graphics and conventions using construction documents to identify materials and calculate quantities.

CMGT2221 | Construction Administration | Lecture (2 Credits)
Examine the requirements of Construction Administration using industry standard formats and procedures to understand the administrative requirements for their implications on a construction project.

CMGT2132 | Construction Safety Management | Seminar (1 Credit)
Examine the principles of construction safety management to develop strategies to prevent injuries on construction projects.

CMGT1231 | Construction Planning & Scheduling I | Lecture/Laboratory (3 Credits)
Analyze a sequence of construction tasks using network diagrams, Gantt charts, and the critical path method to create a project schedule.

CMGT1211 | Construction Estimating I | Lecture/Laboratory (3 Credits)
Integrate material quantities with costs through take-offs, estimates and bid analysis, to predict project costs.

CMGT2111 | Building Codes | Lecture (3 Credits)
Select and apply appropriate federal, state/provincial and municipal codes, standards and accessibility guidelines using industry standards with an emphasis on Life Safety Codes and the ADA to prepare for licensing exams, meet with codes officials, and to design spaces that enhance the health, safety and welfare of the general public.

Electrical Construction & Maintenance (ELEC), AAS

At Dunwoody College of Technology, the Electrical Construction & Maintenance program prepares students for a variety of entry-level positions within the electrical industry, including: construction, maintenance, manufacturing of electrical components, estimating, sales, and other related fields. The program incorporates lecture instruction with application in a laboratory environment to equip graduates with trade knowledge and skills.

Instruction begins with the science of electricity and transitions to various facets of the construction and manufacturing electrical industries. Components of the program include wiring methods, controls, power generation, electrical schematics and blueprints, and electrical and job site safety. Students apply the National Electrical Code to electrical installations and maintenance work while developing critical thinking skills to solve problems and make decisions. Arts & Sciences courses complement the technical major providing technical reading and writing skills, analytic and scientific reasoning, and a global perspective.

The Electrical Construction & Maintenance major is approved by the MN Department of Labor & Industry as a two-year electrical program. Satisfactory completion of an approved two-year electrical program fulfills the one year's experience credit allowance for a Class A journeyman electrician, power limited technician, or maintenance electrician license applicant according to part 3800.3520, subpart 5, items B, E, and I, and Minnesota Statutes, section 326B.33, subdivisions 2, paragraph (b), and 7, paragraph (b).

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Accreditation: Minnesota Department of Labor & Industry approved two-year electrical program
Bachelor's Completion Option(s): Construction Management (CMGT), Bachelor of Science (p. 27) | Business Management Leadership (AMGT), Bachelor of Science (p. 27)

Program Outcomes

- Demonstrate the mechanical skills necessary for electrical work.
- Interpret the National Electrical Code and other related applications.
- Apply the electrical code and theory with practical applications.
- Read, write, and evaluate electrical drawings.
- Install, maintain, and troubleshoot electrical systems and equipment.
- Demonstrate required industry safety standards.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
Communications Elective		3
Humanities Elective		3
Physical/Environmental Science/Lab Elective		3
Social Sciences Elective		3
Technical Requirements		
ELEC1111	AC & DC Electrical Lab	5
ELEC1113	AC & DC Electrical Principles	7
ELEC1114	Introduction to the NEC	1
ELEC1115	Basic Skills of an Electrician	2
ELEC1211	AC & DC Machines & Controls Lab	5
ELEC1213	AC & DC Machines Principles	6
ELEC1214	National Electrical Code-Equipment	1
ELEC1215	Plans & Estimates for Electricians	2
ELEC2111	Wiring & Electrical Systems Lab 1	5
ELEC2113	Residential Wiring Electrical Principles	6
ELEC2114	National Electrical Code-Materials	1
ELEC2115	Building Automation Systems	2
ELEC2211	Wiring & Electrical Systems Lab 2	5
ELEC2213	Commercial Wiring Electrical Principles	6
ELEC2214	National Electrical Code-Special Topics	1
ELEC2215	Alternative Energy	2
Total Credits		**72**

Courses

Descriptions

ELEC1111 | AC & DC Electrical Lab | Laboratory (5 Credits)
Investigation and application of electronics and electrical alternating and direct current principles and theories utilizing electrical math, basic schematics, test equipment, circuit connections, and analysis techniques to identify and predict electrical and electronic component and circuit behaviors.

ELEC1113 | AC & DC Electrical Principles | Lecture (7 Credits)
Examine electronics and electrical alternating and direct current principles and theories utilizing electrical math, basic schematics, and circuit analysis techniques to identify and predict electrical and electronic component and circuit behaviors.
Corequisite(s): ELEC1115

ELEC1114 | Introduction to the NEC | Seminar (1 Credit)
Introduction to the National Electrical Code through investigation of the history to formulate a necessary base knowledge in which to develop basic skills and understanding of the NEC and how it applies to the electrical applications in the field.

ELEC1115 | Basic Skills of an Electrician | Lecture/Laboratory (2 Credits)
Introduce basic skills utilized in the electrical industry through hands-on training in basic tool use and safety protocols. Identify professional development opportunities and required industry ethics to prepare for your electrical career.
Corequisite(s): ELEC1113

ELEC1211 | AC & DC Machines & Controls Lab | Laboratory (5 Credits)
Investigation and analysis of AC and DC machines with both industrial and programmable logic control systems utilizing schematics and components to create and build electrical circuits with the inclusion of testing and troubleshooting procedures of equipment for a comprehensive analysis of industrial manufacturing systems.

ELEC1213 | AC & DC Machines Principles | Lecture (6 Credits)
Examine AC and DC machine principles and theories and various control types with an emphasis on industrial manufacturing system calculations and analysis, including use of the National Electrical Code regulations for installations.

ELEC1214 | National Electrical Code-Equipment | Seminar (1 Credit)
Explore the National Electrical Code requirements for the safe installation of equipment in general use through the interpretation and calculations of the requirements utilized in the electrical industry.

ELEC1215 | Plans & Estimates for Electricians | Lecture/Laboratory (2 Credits)
Investigate construction drawings, specifications, estimates, and sequencing through the interpretation of various symbols, take-off methodologies, cost analysis, and planning utilized in the electrical industry.

ELEC2111 | Wiring & Electrical Systems Lab 1 | Laboratory (5 Credits)
Implementation and installation of electric equipment, wiring methods and print reading for residential, light commercial and limited energy systems performed in a lab environment using proper safety practices and procedures.
Prerequisite(s): ELEC1111 And ELEC1113

ELEC2113 | Residential Wiring Electrical Principles | Lecture (6 Credits)
Interpretation of the National Electrical Code and related calculations are examined and used to determine proper installation and use of wiring methods, devices, and equipment in accordance with the National Electrical Code with a focus on residential electrical systems.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2114 | National Electrical Code-Materials | Seminar (1 Credit)
Examine the National Electrical Code requirements for the safe installation, maintenance and protection of electrical systems utilized in the construction and maintenance industry.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2115 | Building Automation Systems | Lecture/Laboratory (2 Credits)
Analyze Building Automation Systems (BAS) containing Class 1, 2, and 3 wiring, remote control and signaling such as fire alarms, security, phone, and data through the identification of wiring methods and materials.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2211 | Wiring & Electrical Systems Lab 2 | Laboratory (5 Credits)
Implementation of wiring methods for the installation of commercial, industrial, and renewable energy applications with an emphasis on various electrical systems utilizing blue prints, electrical schematics, estimating and take-off, and applicable industry standards along with the National Electrical Code within a laboratory environment.
Prerequisite(s): ELEC1113 And ELEC1111

ELEC2213 | Commercial Wiring Electrical Principles | Lecture (6 Credits)
Examine the methods and materials used for the design, operation, estimation, layout, and installation of commercial and industrial electrical systems utilizing applicable industry standards along with the National Electrical Code.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2214 | National Electrical Code-Special Topics | Seminar (1 Credit)
Examine the specialty topics in the National Electrical Code, including but not limited to special locations, equipment, and occupancies for the electrical industry.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2215 | Alternative Energy | Lecture/Laboratory (2 Credits)
Investigate alternative energy methods, including common and uncommon power generation utilized in today's world.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

Electrical Construction Design & Management (ECDM), AAS

At Dunwoody College of Technology, the Electrical Construction Design & Management program provides graduates with the knowledge and skills necessary for entry-level employment in the electrical engineering/construction industry.

Graduates of the program start a career as drafters, designers, estimators, or project managers at engineering firms or electrical contractor companies. Students receive training in: fundamental electrical theory and application; motors, transformers, and generators; electrical control systems; electrical installations and wiring; electrical safety; drafting and designing power, lighting, and low voltage systems; lighting calculations; power system analysis; cost estimation; CSI specifications; and project management.

The National Electrical Code (NEC) is studied extensively. Students learn crucial problem-solving skills as they advance through the program.

Arts & Sciences curriculum supports the technical skills students learn as well as enhance oral and written communication skills, fundamental math skills, and critical thinking ability.

Students also complete a capstone project that integrates and documents all aspects of drafting, designing, specifying and analyzing, estimating, and managing.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day; Distance Learning
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Construction Management (CMGT), Bachelor of Science (p. 27) | Business Management Leadership (AMGT), Bachelor of Science (p. 27)

Program Outcomes

- An ability to apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
- An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline.
- An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- An ability to conduct standard tests, measurements, and experiments, and to analyze and interpret the results.
- An ability to function effectively as a member of a technical team.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications Elective		3
Humanities Elective		3
Physical/Natural Science w/Lab Elective		3
Social Sciences Elective		3
General Elective		3
Technical Requirements		
ECDM2001	Electrical Lab	3
ECDM2002	Electrical Principles	4
ECDM2003	Introduction to 3D Drafting & Design	2
ELEC1114	Introduction to the NEC	1
CMGT2111	Building Codes	3
ECDM2102	Design Lab - Delta	3
ECDM2104	Illumination Technology & Design	2
ECDM2105	Residential & Commercial Principles	3
ECDM2202	Design Lab - Omega	3
ECDM2205	Electrical Estimating	3
ECDM2206	Commercial & Industrial Principles	3
ECDM2208	Project Management	2
ECDM2304	Design Capstone	3
ECDM2305	Electrical Planning & Scheduling	3
ECDM2306	Risk Management	1
ECDM2307	Advanced Estimating	2
Total Credits		**62**

Courses
Descriptions
ECDM2001 | Electrical Lab | Laboratory (3 Credits)
Investigate and apply electrical principles and theories utilizing electrical math, basic schematics, test equipment, circuit connections, and analysis techniques to identify and predict electrical circuit behaviors for a greater understanding of electricity.
Corequisite(s): ECDM2002

ECDM2002 | Electrical Principles | Lecture (4 Credits)
Examine electrical principles and theories utilizing electrical math, basic schematics, and circuit analysis techniques to identify and predict electrical circuit behaviors and a greater understanding of how electricity works.
Corequisite(s): ECDM2001

ECDM2003 | Introduction to 3D Drafting & Design | Laboratory (2 Credits)
Examine and implement construction graphics and conventions into electrical designs using industry specific 3D drawing software.

ELEC1114 | Introduction to the NEC | Seminar (1 Credit)
Introduction to the National Electrical Code through investigation of the history to formulate a necessary base knowledge in which to develop basic skills and understanding of the NEC and how it applies to the electrical applications in the field.

CMGT2111 | Building Codes | Lecture (3 Credits)
Select and apply appropriate federal, state/provincial and municipal codes, standards and accessibility guidelines using industry standards with an emphasis on Life Safety Codes and the ADA to prepare for licensing exams, meet with codes officials, and to design spaces that enhance the health, safety and welfare of the general public.

ECDM2102 | Design Lab - Delta | Laboratory (3 Credits)
Electrical design of a simulated residential and commercial building project. This project covers utility to outlets, with a focus on branch circuits and low voltage systems utilizing owner specifications and building and electrical codes. Practical design implementation is emphasized. Detailed documentation of all aspects of the project. CAD, Revit, and other modeling and analysis software is used to produce a final portfolio.

ECDM2104 | Illumination Technology & Design | Lecture/Laboratory (2 Credits)
Interior and exterior applications of lighting. Discussion of energy code, including control system implementation and lighting power density. Analyze photometric data and their application and use 3D modeling to design layouts, taking into account luminaire selection and basic aesthetic considerations.

ECDM2105 | Residential & Commercial Principles | Lecture (3 Credits)
Principles and practices of electrical system design. Design and calculations involved in electrical construction for residential and commercial occupancies. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on branch circuits, power distribution and low voltage systems.

ECDM2202 | Design Lab - Omega | Laboratory (3 Credits)
Electrical design of simulated building project. This project covers utility to outlets, with a focus on distribution, such as transformers, generators, panels and feeders for a commercial and industrial project. Practical design implementation is emphasized. Detail documentation of all aspects of the project. Use contemporary 2D, 3D, and other modeling and analysis software to produce a final portfolio.

ECDM2205 | Electrical Estimating | Lecture/Laboratory (3 Credits)
Detailed estimation and project management of electrical construction projects using industry software. Scheduling and bidding of construction projects and project documentations.

ECDM2206 | Commercial & Industrial Principles | Lecture (3 Credits)
Principles and practices of electrical system design for commercial and industrial applications. Design and calculations involved in electrical construction will be used. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on distribution, such as transformers, generators, panels, and feeders and PLC controls.

ECDM2208 | Project Management | Seminar (2 Credits)
Investigate the roles and responsibilities for construction project managers. Examine the ethics within the decision-making process from the request for proposal through close-out.

ECDM2304 | Design Capstone | Capstone (3 Credits)
Integration of all aspects of electrical construction design and management, including drafting, designing, estimating, and managing projects, to create a complete comprehensive capstone project. The capstone project is presented and reviewed by industry experts and leaders, providing valuable feedback from their own experiences.

ECDM2305 | Electrical Planning & Scheduling | Lecture/Laboratory (3 Credits)
Create a sequence of construction tasks using industry methods to generate construction schedules with preplanned and design build work-flow analysis. Examine potential conditions that impact planning of projects including supply chains, logistics of materials and equipment, and the workforce.

ECDM2306 | Risk Management | Seminar (1 Credit)
Investigate the process of identifying, assessing, and managing risks associated with a construction project from the design phase through close-out through analysis of electrical projects.

ECDM2307 | Advanced Estimating | Lecture/Laboratory (2 Credits)
Advanced analysis of cost estimating and bidding methods using industry practices and methods to oversee and manage the successful procurement of electrical construction projects.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Electrical Drafting & Estimating (ECDE), Certificate
OVERVIEW

At Dunwoody College of Technology, the Electrical Construction Design & Estimating certificate provides individuals with experience in the electrical construction industry training in electrical design or electrical estimating. The certificate's two tracks, provide graduates an opportunity to move into the office as a designer, helping to draft the construction documents, or as an estimator, bidding the work.

Students learn the tools and software to become part of the electrical team, providing a bridge between the field and the engineers. This includes learning how to develop schedules and estimates as well as how to design the electrical construction documents. Key topics include 3D drafting and lighting software for electrical design, planning and scheduling, and estimating costs of a project.

Courses are taught by practicing industry professionals with curriculum specifically designed to emulate various jobs performed in the professional work environment. Students use current industry software to complete tangible projects with a focus on best practices, industry codes and standards, and common applications.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Day; Distance Learning

Available Starts: Fall Semester; Spring Semester

Program Outcomes

- An ability to apply knowledge, techniques, skills, and modern tools of mathematics, science, engineering, and technology to solve well-defined engineering problems appropriate to the discipline.
- An ability to design solutions for well-defined technical problems and assist with the engineering design of systems, components, or processes appropriate to the discipline.
- An ability to apply written, oral, and graphical communication in well-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- An ability to function effectively as a member of a technical team.

DEGREE REQUIREMENTS

The following sample academic plan demonstrates how a student's schedule might look on a semester-by-semester basis, including elective courses. Your actual degree plan may differ from this sequence, depending on whether you start in the fall or spring semester, what transfer credits you may have (if any), and which General Education courses and electives you take and when you take them.

The sample academic plan is for informational purposes only. To determine your academic plan, please meet with an academic advisor.

Code	Title	Credits
ECDM2003	Introduction to 3D Drafting & Design	2
ECDM2205	Electrical Estimating	3
ECDM2305	Electrical Planning & Scheduling	3
ECDM2102	Design Lab - Delta	3
or ECDM2202	Design Lab - Omega	
ECDM2105	Residential & Commercial Principles	3
or ECDM2206	Commercial & Industrial Principles	
ECDM2104	Illumination Technology & Design	2
or ECDM2307	Advanced Estimating	

COURSES

ECDM2003 | Introduction to 3D Drafting & Design | Laboratory (2 Credits)
Examine and implement construction graphics and conventions into electrical designs using industry specific 3D drawing software.

ECDM2102 | Design Lab - Delta | Laboratory (3 Credits)
Electrical design of a simulated residential and commercial building project. This project covers utility to outlets, with a focus on branch circuits and low voltage systems utilizing owner specifications and building and electrical codes. Practical design implementation is emphasized. Detailed documentation of all aspects of the project. CAD, Revit, and other modeling and analysis software is used to produce a final portfolio.

ECDM2104 | Illumination Technology & Design | Lecture/Laboratory (2 Credits)
Interior and exterior applications of lighting. Discussion of energy code, including control system implementation and lighting power density. Analyze photometric data and their application and use 3D modeling to design layouts, taking into account luminaire selection and basic aesthetic considerations.

ECDM2105 | Residential & Commercial Principles | Lecture (3 Credits)
Principles and practices of electrical system design. Design and calculations involved in electrical construction for residential and commercial occupancies. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on branch circuits, power distribution and low voltage systems.

ECDM2202 | Design Lab - Omega | Laboratory (3 Credits)
Electrical design of simulated building project. This project covers utility to outlets, with a focus on distribution, such as transformers, generators, panels and feeders for a commercial and industrial project. Practical design implementation is emphasized. Detail documentation of all aspects of the project. Use contemporary 2D, 3D, and other modeling and analysis software to produce a final portfolio.

ECDM2205 | Electrical Estimating | Lecture/Laboratory (3 Credits)
Detailed estimation and project management of electrical construction projects using industry software. Scheduling and bidding of construction projects and project documentations.

ECDM2206 | Commercial & Industrial Principles | Lecture (3 Credits)
Principles and practices of electrical system design for commercial and industrial applications. Design and calculations involved in electrical construction will be used. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on distribution, such as transformers, generators, panels, and feeders and PLC controls.

ECDM2305 | Electrical Planning & Scheduling | Lecture/Laboratory (3 Credits)
Create a sequence of construction tasks using industry methods to generate construction schedules with preplanned and design build work-flow analysis. Examine potential conditions that impact planning of projects including supply chains, logistics of materials and equipment, and the workforce.

ECDM2307 | Advanced Estimating | Lecture/Laboratory (2 Credits)
Advanced analysis of cost estimating and bidding methods using industry practices and methods to oversee and manage the successful procurement of electrical construction projects.

HVAC Installation & Residential Service (HEAT), AAS

At Dunwoody College of Technology, the HVAC Installation & Residential Service program provides graduates with the entry-level skills and theoretical knowledge needed to install and maintain the safe operation and energy efficiency of residential and light commercial heating, ventilation, and air conditioning systems.

Graduates typically secure jobs as residential, commercial or industrial installers, shop workers, erectors, and service technicians working for existing and new construction HVAC companies. Students learn blueprint reading, load calculations, warm air systems design, mechanical and fuel gas code knowledge, installation techniques, pattern development, and fabrication skills.

Students also learn how to service — troubleshoot and repair — residential and light commercial HVAC systems.

In addition to field-related skills, students gain oral and written communication skills, advanced computation skills, customer relations, and critical thinking skills through Arts & Sciences and technical course work. A shorter certificate option is also available.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Accreditation: HVAC Excellence
Bachelor's Completion Option(s): Construction Management (CMGT), Bachelor of Science (p. 27) | Business Management Leadership (AMGT), Bachelor of Science (p. 27)

Program Outcomes

- Select HVAC equipment for a designated application.
- Assess HVAC electrical circuits for proper operation.
- Assess HVAC mechanical equipment for proper operation.
- Analyze HVAC air and refrigerant systems for proper operation.
- Fabricate industry's most commonly used fittings.
- Generate HVAC systems on residential and commercial working plans.
- Install industry's most commonly used equipment.
- Apply effective safety practices while installing HVAC equipment.
- Complete installation of HVAC equipment according to national, state, and local codes.
- Demonstrate effective customer relation skills.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
Communications		3
Humanities		3
Social Sciences		3
General Electives		3
Technical Requirements		
SERV1110	HVAC Electrical I	2
SERV1120	Heating Systems I	3
SERV1130	Residential Controls I	2
SERV1140	Basic Motor Technology	3
SERV1150	Cooling Systems I	3
SERV1210	Heating Systems II	3
SERV1220	Cooling Systems II	3
SERV1230	HVAC Electrical II	2
SERV1240	Heating Systems III	2
SERV1250	Cooling Systems III	3
HEAT1110	HVAC Ducts & Fittings	2
HEAT1120	Transitional Fittings	3
HEAT1130	HVAC Trunk-line Construction	2
HEAT1140	Fundamentals of Pattern Development	3
HEAT1150	Advanced Pattern Development	3
HEAT2210	Welding Fundamentals	3
HEAT2220	HVAC Design	2
HEAT2230	Residential HVAC Installation	6
HEAT2240	Commercial Blueprint Reading	2
Total Credits		**67**

Courses

Descriptions

SERV1110 | HVAC Electrical I | Lecture/Laboratory (2 Credits)
Basic electrical terminology and theory. Introduction to simple circuit construction. Basic electrical properties and their effects on circuits. Load capacity for wiring and fuses. Simple circuit diagramming. Theory of electrical generation through magnetism and electromagnetism. Analyzing and testing circuits with various test equipment.

SERV1120 | Heating Systems I | Lecture/Laboratory (3 Credits)
Basic fundamentals and terminology pertaining to heat transfer. Thermal environmental science properties. Latent and sensible heat, conduction, convection and radiation. Fundamental psychrometrics. Air distribution, room air movement characteristics and the fundamentals of balancing air systems. Analyzing static, velocity and total pressure along with airflow measurements within ductwork.

SERV1130 | Residential Controls I | Lecture/Laboratory (2 Credits)
Introduction to basic environmental controls with an emphasis on theory, application, and practical installation. Principles of Effective Temperature will be applied to various temperature, humidity, and air movement controls. Basic control of secondary circuits including transformers, relays, and contactors used in the operation of heating and cooling equipment. Sketch, diagram, and wire basic secondary control circuits. Job safety.
Prerequisite(s): SERV1110

SERV1140 | Basic Motor Technology | Lecture/Laboratory (3 Credits)
Theory of magnetism and circuitry as it pertains to the induction motor. Introduction to fundamental types of motors used in the HVAC field. Wiring of various power and control circuits. Introduction to the relay, contactor and motor starter. Motor usage and service problems encountered in the field. Electrical diagramming and schematics. Troubleshooting motor circuits. Motor nomenclature and safety.
Prerequisite(s): SERV1110

SERV1150 | Cooling Systems I | Lecture/Laboratory (3 Credits)
Basic fundamentals of cooling as it pertains to HVAC&R systems. Gas laws and the principles of the basic refrigeration cycle. Skills pertaining to refrigeration: tubing handling, flaring, swedging, soft and hard soldering and brazing. Introduction to refrigerants and refrigerant management.
Prerequisite(s): SERV1120

SERV1210 | Heating Systems II | Lecture/Laboratory (3 Credits)
Heat generation as it pertains to residential furnaces. Natural and LP gases. Furnace types, sequence of operation, component identification, ignition types, test equipment and safety. Troubleshooting pertaining to the mechanical operation and the electrical control functions of gas furnaces. Diagnostic skills to meet service problems encountered in the field. Combustion testing and job safety.
Prerequisite(s): SERV1110, SERV1130, And SERV1140

SERV1220 | Cooling Systems II | Lecture/Laboratory (3 Credits)
Fundamentals of residential air conditioning. Evacuation principles and procedures for deep vacuums. Basic split system air conditioning systems wiring and controls examined and diagrammed in schematics. Refrigerant chemistry examined. Refrigerant recycling, recovery, and management reviewed in accordance with EPA standards. Systematic refrigerant charging procedures determined and validated through hands-on guidance using actual equipment. Basic cooling analysis through psychrometrics and pressure-enthalpy processes. Job safety.
Prerequisite(s): SERV1110, SERV1130, SERV1140, And SERV1150

SERV1230 | HVAC Electrical II | Lecture/Laboratory (2 Credits)
Introduction to semiconductors and elementary solid-state circuits used in HVACR control circuits. Electrical schematics for HVACR secondary and load circuitry. Fundamental operation and wiring of motor starter secondary and load circuits examined, diagrammed, and wired. Electronic theory applied to electronic air cleaners, electronically commutated motors, and digital temperature controls. Continued application of relays, and contactors developed in lab jobs and servicing situations encountered in the field. EPA Section 608 Technician Certification test review and exam (required). Job safety.
Prerequisite(s): SERV1110

SERV1240 | Heating Systems III | Lecture/Laboratory (2 Credits)
Introduction to forced air, oil burning, and electric furnaces. Evaluation of gas, oil, and electric furnace sequences of operation coupled with combustion analysis. Practice of start up procedures and combustion testing processes. Mechanical and electrical applications using wiring diagrams and schematics. Diagnostic skills of mechanical, combustion, and electrical problems encountered in the field. Job safety.
Prerequisite(s): SERV1110, SERV1120, SERV1130, SERV1140, SERV1210, And SERV1230

SERV1250 | Cooling Systems III | Lecture/Laboratory (3 Credits)
Advanced residential air conditioning and air-to-air heat pump systems. Theory and troubleshooting of heat pumps. Application and operation of air conditioning and heat pump controls examined. Wiring diagrams and schematics examined and evaluated. Hydrocarbon Refrigerants certification test review and exam (required). Introduction to customer relations skills with a focus on occupational professionalism. Job safety.
Prerequisite(s): SERV1110, SERV1120, SERV1130, SERV1140, SERV1220, And SERV1230

HEAT1110 | HVAC Ducts & Fittings | Lecture/Laboratory (2 Credits)
Development and fabrication of ducts and fittings common to the heating, ventilation, and air conditioning industry, with emphasis on uniform and state code requirements. Methods of connecting ducts and fittings in an air system. Principles of geometric pattern development as it applies to duct construction and application. Multiple uses and care of hand tools common to the industry.

HEAT1120 | Transitional Fittings | Lecture/Laboratory (3 Credits)
Focus on transitional fittings where the triangulation method of pattern development is required. Use of direct triangulation, as a short-cut method of layout, is emphasized. Identification, care, adjustment, and maintenance of floor equipment common to the sheet metal industry.
Prerequisite(s): HEAT1110

HEAT1130 | HVAC Trunk-line Construction | Lecture/Laboratory (2 Credits)
Pattern development, and the fabrication of a scaled-down trunk-line, emphasizing the quality and quantity of work. Usage, construction methods, and installation of various types of dampers.
Prerequisite(s): HEAT1110 And HEAT1120

HEAT1140 | Fundamentals of Pattern Development | Lecture/Laboratory (3 Credits)
Principles of pattern development as they apply to the layout of round fittings requiring parallel, or radial line methods of pattern development. Fabrication procedures for round fittings, including use of rotary machines for fabricating purposes, riveting, and spot welding. Use, safety, and proper procedures for soldering sheet metal are incorporated.
Prerequisite(s): HEAT1110, HEAT1120, And HEAT1130

HEAT1150 | Advanced Pattern Development | Lecture/Laboratory (3 Credits)
Advanced theory and application of single, and double-line triangulation in the development of irregular patterns. Use of plan and elevation views in the visualization, and development of irregular objects as well as the procedure for the development of true-length lines seen in the foreshortened mode.
Prerequisite(s): HEAT1110, HEAT1120, HEAT1130, And HEAT1140

HEAT2210 | Welding Fundamentals | Lecture/Laboratory (3 Credits)
Applications, safety, and procedures for oxyacetylene, stick, GMAW, and TIG welding. Light and heavy-metal welding in flat position, freehand-cutting procedures, types of weld joints, and joint preparation. Vulcan software for CNC plasma table controllers.

HEAT2220 | HVAC Design | Lecture/Laboratory (2 Credits)
Heat loss and heat gain energy calculation based upon Manual J: Calculation. Development of the requirements for selecting and designing heating and cooling systems for residential construction. Operating characteristics, proper application, cost, advantages/disadvantages, and specific requirements for designing systems to meet specific needs.

HEAT2230 | Residential HVAC Installation | Lecture/Laboratory (6 Credits)
Installation procedures of residential and small commercial heating, ventilation, and air conditioning systems. Emphasis on the Uniform Mechanical code, and Minnesota State Mechanical, Fuel Gas, and Plumbing code, pertaining to heating, ventilation, and air conditioning installation procedures. Air-handling ducts, venting, combustion and fresh-air ducts requirements. Use of available standard-type fittings; sizing, cutting, and threading of gas pipe as well as installation and code requirement of residential-style gas systems. Installation, setup, and maintenance, of industries most common indoor air quality accessories is included.
Prerequisite(s): HEAT2210, HEAT2220, HEAT1110, HEAT1120, HEAT1130, HEAT1140, And HEAT1150

HEAT2240 | Commercial Blueprint Reading | Lecture/Laboratory (2 Credits)
Architectural, structural, civil, electrical and mechanical blueprint reading with a major emphasis on heating, ventilation, and air conditioning systems contained within these plans. Duct construction, hangers and dampers evaluated according to specification and SMACNA requirements. Make drawings using AutoCAD: 2-D drafting commands for HVAC drafting.

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

HVACR Systems Servicing (SERV), AAS

At Dunwoody College of Technology, the HVACR Systems Servicing program prepares graduates to secure employment as technicians who maintain the safe operation and energy efficiency of residential, light, and large-scale commercial and industrial Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) systems. Modern HVACR systems consist of multiple mechanical, electrical, energy management, and electronic components to operate and drive the equipment. Students learn the skills and theoretical knowledge needed to maintain these

operating systems as well as troubleshoot, diagnose, and correctly repair environmental and product cooling systems.

In addition to field-related skills, students gain oral and written communication skills, advanced computation skills, customer relations, and critical thinking skills through Arts & Sciences and technical course work.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Accreditation: HVAC Excellence
Bachelor's Completion Option(s): Construction Management (CMGT), Bachelor of Science (p. 27) | Business Management Leadership (AMGT), Bachelor of Science (p. 27)

Program Outcomes

- Select HVAC & R equipment for a designated application.
- Assess HVAC & R electrical circuits for proper operation.
- Assess HVAC & R mechanical equipment for proper operation.
- Determine proper operation of comfort cooling, high, medium, and low temperature refrigeration equipment.
- Analyze HVAC & R air, water, steam, and refrigerant systems for proper operation.
- Demonstrate effective customer relation skills.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
Communications Elective		3
Humanities Elective		3
Social Sciences Elective		3
General Electives		3
Technical Requirements		
SERV1110	HVAC Electrical I	2
SERV1120	Heating Systems I	3
SERV1130	Residential Controls I	2
SERV1140	Basic Motor Technology	3
SERV1150	Cooling Systems I	3
SERV1210	Heating Systems II	3
SERV1220	Cooling Systems II	3
SERV1230	HVAC Electrical II	2
SERV1240	Heating Systems III	2
SERV1250	Cooling Systems III	3
SERV2110	Domestic Refrigeration	2
SERV2121	Commercial Refrigeration I	3
SERV2131	Commercial Refrigeration II	3
SERV2140	HVAC Commercial Controls I	3
SERV2150	HVAC Piping & State Mechanical Code	2
SERV2210	HVAC Commercial Controls II	3
HEAT2220	HVAC Design	2
SERV2231	Metal Fabrication	3
SERV2240	Steam & Hydronic Heating	3
SERV2250	Commercial Air Conditioning	2
Total Credits		**67**

Courses

Descriptions

SERV1110 | HVAC Electrical I | Lecture/Laboratory (2 Credits)
Basic electrical terminology and theory. Introduction to simple circuit construction. Basic electrical properties and their effects on circuits. Load capacity for wiring and fuses. Simple circuit diagramming. Theory of electrical generation through magnetism and electromagnetism. Analyzing and testing circuits with various test equipment.

SERV1120 | Heating Systems I | Lecture/Laboratory (3 Credits)
Basic fundamentals and terminology pertaining to heat transfer. Thermal environmental science properties. Latent and sensible heat, conduction, convection and radiation. Fundamental psychrometrics. Air distribution, room air movement characteristics and the fundamentals of balancing air systems. Analyzing static, velocity and total pressure along with airflow measurements within ductwork.

SERV1130 | Residential Controls I | Lecture/Laboratory (2 Credits)
Introduction to basic environmental controls with an emphasis on theory, application, and practical installation. Principles of Effective Temperature will be applied to various temperature, humidity, and air movement controls. Basic control of secondary circuits including transformers, relays, and contactors used in the operation of heating and cooling equipment. Sketch, diagram, and wire basic secondary control circuits. Job safety.
Prerequisite(s): SERV1110

SERV1140 | Basic Motor Technology | Lecture/Laboratory (3 Credits)
Theory of magnetism and circuitry as it pertains to the induction motor. Introduction to fundamental types of motors used in the HVAC field. Wiring of various power and control circuits. Introduction to the relay, contactor and motor starter. Motor usage and service problems encountered in the field. Electrical diagramming and schematics. Troubleshooting motor circuits. Motor nomenclature and safety.
Prerequisite(s): SERV1110

SERV1150 | Cooling Systems I | Lecture/Laboratory (3 Credits)
Basic fundamentals of cooling as it pertains to HVAC&R systems. Gas laws and the principles of the basic refrigeration cycle. Skills pertaining to refrigeration: tubing handling, flaring, swedging, soft and hard soldering and brazing. Introduction to refrigerants and refrigerant management.
Prerequisite(s): SERV1120

SERV1210 | Heating Systems II | Lecture/Laboratory (3 Credits)
Heat generation as it pertains to residential furnaces. Natural and LP gases. Furnace types, sequence of operation, component identification, ignition types, test equipment and safety. Troubleshooting pertaining to the mechanical operation and the electrical control functions of gas furnaces. Diagnostic skills to meet service problems encountered in the field. Combustion testing and job safety.
Prerequisite(s): SERV1110, SERV1130, And SERV1140

SERV1220 | Cooling Systems II | Lecture/Laboratory (3 Credits)
Fundamentals of residential air conditioning. Evacuation principles and procedures for deep vacuums. Basic split system air conditioning systems wiring and controls examined and diagrammed in schematics. Refrigerant chemistry examined. Refrigerant recycling, recovery, and management reviewed in accordance with EPA standards. Systematic refrigerant charging procedures determined and validated through hands-on guidance using actual equipment. Basic cooling analysis through psychrometrics and pressure-enthalpy processes. Job safety.
Prerequisite(s): SERV1110, SERV1130, SERV1140, And SERV1150

SERV1230 | HVAC Electrical II | Lecture/Laboratory (2 Credits)
Introduction to semiconductors and elementary solid-state circuits used in HVACR control circuits. Electrical schematics for HVACR secondary and load circuitry. Fundamental operation and wiring of motor starter secondary and load circuits examined, diagrammed, and wired. Electronic theory applied to electronic air cleaners, electronically commutated motors, and digital temperature controls. Continued application of relays, and contactors developed in lab jobs and servicing situations encountered in the field. EPA Section 608 Technician Certification test review and exam (required). Job safety.
Prerequisite(s): SERV1110

SERV1240 | Heating Systems III | Lecture/Laboratory (2 Credits)
Introduction to forced air, oil burning, and electric furnaces. Evaluation of gas, oil, and electric furnace sequences of operation coupled with combustion analysis. Practice of start up procedures and combustion testing processes. Mechanical and electrical applications using wiring diagrams and schematics. Diagnostic skills of mechanical, combustion, and electrical problems encountered in the field. Job safety.
Prerequisite(s): SERV1110, SERV1120, SERV1130, SERV1140, SERV1210, And SERV1230

SERV1250 | Cooling Systems III | Lecture/Laboratory (3 Credits)
Advanced residential air conditioning and air-to-air heat pump systems. Theory and troubleshooting of heat pumps. Application and operation of air conditioning and heat pump controls examined. Wiring diagrams and schematics examined and evaluated. Hydrocarbon Refrigerants certification test review and exam (required). Introduction to customer relations skills with a focus on occupational professionalism. Job safety.
Prerequisite(s): SERV1110, SERV1120, SERV1130, SERV1140, SERV1220, And SERV1230

SERV2110 | Domestic Refrigeration | Lecture/Laboratory (2 Credits)
Examine the mechanical refrigeration cycle as it pertains to domestic refrigerators, freezers, room air conditioners, and residential dehumidifiers. Topics include system controls and component troubleshooting and repair, electrical schematic interpretation and diagramming, analysis of refrigerant and electrical components for proper operation and temperature control, as well as job safety.
Prerequisite(s): SERV1240 And SERV1250

SERV2121 | Commercial Refrigeration I | Lecture/Laboratory (3 Credits)
Investigate the operation, maintenance, troubleshooting, and repair of restaurant product cooling equipment. Topics include a diverse cross section of ice maker, reach-in refrigerator, and freezing refrigeration equipment. Examine methods of defrost, electronic and mechanical refrigeration and temperature controls. Interpret and analyze schematics and diagrams. Apply refrigerant recovery and charging procedures. Job safety standards are applied.

SERV2131 | Commercial Refrigeration II | Lecture/Laboratory (3 Credits)
Analyze the operation, maintenance, troubleshooting, and repair of commercial product cooling equipment. Topics include: walk-in coolers, walk-in freezers, light commercial, and supermarket refrigeration equipment and operation. A variety of refrigeration controls, both electrical and mechanical are examined along with methods of defrost and heat recovery. Identify refrigeration pipe and equipment sizing, as well as electrical schematics and diagramming. Job safety standards are applied.

SERV2140 | HVAC Commercial Controls I | Lecture/Laboratory (3 Credits)
Examine the fundamentals of commercial HVAC controls. Control conceptions include pneumatic and DDC control functions with the inclusion of building energy management systems for an environmentally green HVAC setting. Demonstrate the application of these controls along with variable frequency drives, air handler, multi-zoning, VAV systems and economizers in a variety of hands-on experiments. Job safety standards are applied.

SERV2150 | HVAC Piping & State Mechanical Code | Lecture/Laboratory (2 Credits)
Introduction to the State of Minnesota Mechanical and Energy Codes. Topics emphasized are: refrigeration, gas piping, venting, steam and hydronic system installation codes. Hands-on labs include fabrication of copper, iron, steel, and pex piping. Job safety standards are applied.

SERV2210 | HVAC Commercial Controls II | Lecture/Laboratory (3 Credits)
Examine three phase power supplies, motor starters, environmental controls, magnetic contactors, and relays used in the commercial HVAC equipment environment. Other topics include: combustion analysis, ventilating exhaust PRV and make-up air equipment and requirements. Industrial heating burner controls and safeties are diagrammed and developed in hands-on lab experiments. Job safety standards are applied.

SERV2231 | Metal Fabrication | Lecture/Laboratory (3 Credits)
Practice metal fabrication skills with a focus on oxyacetylene and wire feed welding. Topics include layout and construction of common sheet metal components found in residential HVAC systems. Job safety standards are applied.

SERV2240 | Steam & Hydronic Heating | Lecture/Laboratory (3 Credits)
Examine steam and hydronic heating systems, both residential and commercial. Topics include: high and low pressure boilers and accessories, including code requirements; and maintenance, troubleshooting and repair practices. Introduction to steam and hydronic boiler controls, safety and component parts in hands-on labs. Prepares student for the State of Minnesota Special Engineers license exam. Job safety standards are applied.

SERV2250 | Commercial Air Conditioning | Lecture/Laboratory (2 Credits)
Explore water-cooled chiller and computer room air conditioning technology and an examination of the compressors that run them. The focus is on HVAC packaged unit (RTU) installation, start up, check out, combustion analysis, and troubleshooting procedures. Job safety standards are applied.

HEAT2220 | HVAC Design | Lecture/Laboratory (2 Credits)
Heat loss and heat gain energy calculation based upon Manual J: Calculation. Development of the requirements for selecting and designing heating and cooling systems for residential construction. Operating characteristics, proper application, cost, advantages/disadvantages, and specific requirements for designing systems to meet specific needs.

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

Land Surveying (SURV), Certificate

Overview

For students with a bachelor's degree in a related field, Dunwoody's Surveying certificate may provide an avenue to licensure as a Land Surveyor. The certificate offers 22 technical credits in land surveying, as currently required by the MN board of licensure (AELSLAGID). Technical courses include lectures and laboratories in areas such as GPS and geodetic surveying, 2D and 3D drafting, boundary control, and land use planning.

Credits earned in the Land Surveying certificate directly transfer into Dunwoody's Surveying & Civil Engineering Technology (SCVL) (p. 44) associate's degree program.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Day; Evening
Available Starts: Fall Semester; Spring Semester

Program Outcomes

- Initiate and apply design of entry level complexity.
- Analyze drawings, specifications, and surveys, and apply industry standards.
- Interpret and review engineering and survey work.
- Analyze surveying and civil engineering principles, practices, and techniques.
- Utilize field and office procedures to complete tasks.
- Operate industry software and equipment.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
Technical Requirements		
SCVL1002	Civil Drafting	3
SCVL1111	Introduction to Topographic Surveying	3
SCVL1130	Legal Descriptions & Boundary Law	4
Technical Elective (Choose one course):		
SCVL1210	Control & Geodetic Surveying	4
or SCVL2210	Laser Scanning & Remote Sensing	
Technical Elective (Choose any course):		
SCVL1220	Transportation & Municipal Design	4
or SCVL2120	Utility & Construction Design	
or SCVL2260	Site & Subdivision Design	
Technical Elective (Choose one course):		
SCVL2250	GIS	4
or SCVL2300	Adv Surveying & Construction Staking	
Total Credits		**25**

Courses

Descriptions

SCVL1002 | Civil Drafting | Lecture/Laboratory (3 Credits)
Introduction to the fundamental aspects and production of drawings through the use of industry software with an emphasis on geometry and problems common to civil disciplines.

SCVL1111 | Introduction to Topographic Surveying | Lecture/Laboratory (3 Credits)
Introduction to the technical equipment and industry processes used by surveying technicians to collect and interpret data.

SCVL1130 | Legal Descriptions & Boundary Law | Lecture (4 Credits)
Introduction to property descriptions and land survey systems with a focus on composing and interpreting legal descriptions used in surveys.

SCVL1220 | Transportation & Municipal Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of transportation and municipal design.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL2120 | Utility & Construction Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of utility infrastructure and its' construction.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL2260 | Site & Subdivision Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of site design, including the design of subdivisions and study of the subdivision process.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL1210 | Control & Geodetic Surveying | Lecture/Laboratory (4 Credits)
Examine the fundamentals of Control Surveys, including Global Positioning Systems, focus and its' application to the geospatial industries, as well as an in-depth study of datums and projections.
Prerequisite(s): SCVL1111

SCVL2210 | Laser Scanning & Remote Sensing | Lecture/Laboratory (4 Credits)
Analyze Laser Scanning and Remote Sensing technology, including the integration of the data to surveying and civil engineering projects.
Prerequisite(s): SCVL1111

SCVL2250 | GIS | Lecture (4 Credits)
Examine the current state of the Geospatial Industry, including Geographic Information Systems(GIS) and Geospatial products.
Prerequisite(s): SCVL1111

SCVL2300 | Adv Surveying & Construction Staking | Lecture/Laboratory (4 Credits)
Examine the fundamentals of advanced surveying methods in the field and office. Focus on field and office techniques for construction, data collection, and survey final products such as land title surveys, boundary and topographic surveys.

Power & Construction Engineering Technology (PCET), Bachelor of Science

OVERVIEW

At Dunwoody College of Technology, the Power & Construction Engineering Technology program provides a bachelor's completion

degree option for graduates of related two-year programs looking to advance into positions as electrical engineers, designers, estimators, or drafters as well as project managers. Related programs include degrees in electrical design and estimating or electrical construction and maintenance.

Power & Construction Engineering Technology is a specialized electrical engineering degree that focuses on the built environment — from vertical and horizontal buildings to infrastructure, including utilities.

The curriculum focuses on the design of power and advanced control systems; advanced design, building and energy codes (including National Electrical Code and National Electrical Safety Code); and advanced training for project managers. Other topics covered include construction law, construction accounting, integrative field technologies (such as surveying), and IoTs (Internet of Things). Students also become familiar with or increase their skills in industry-standard software, including Microstation, Revit, Accubid, and Navisworks.

Learning is project-based with an emphasis on best practices in industry and emerging topics in the field, including renewable energy.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication and critical thinking skills.

The program also incorporates a senior capstone project in its final semester that gives students the chance to demonstrate industry-relevant experience with an emphasis on either commercial building or utilities or both.

Credential Earned: BS
Length of Program: 2 Years (4 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester

PROGRAM OUTCOMES

- ETAC 1: An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.

- ETAC 2: An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.

- ETAC 3: An ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.

- ETAC 4: An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.

- ETAC 5: An ability to function effectively as a member, as well as a leader, on technical teams.

DEGREE REQUIREMENTS

Code	Title	Credits
Transfer Credits		**35**
General Requirements		
MATH1700	Pre Calculus	3
MATH1810	Calculus I	3
MATH1820	Calculus II	3
MATH2260	Probability & Statistics	4
PHIL2400	Introduction to Ethics	2
or PHIL4000	Ethical Decision-Making	
PHYS1800	Physics I with Lab	4
PHYS1820	Physics II with Lab	4
Humanities Elective		3
Social Sciences Elective		3
Communications Elective		3
General Electives		12
Technical Requirements		
CMGT3111	Construction Law	3
ECDM2003	Introduction to 3D Drafting & Design	2
ECDM2205	Electrical Estimating	3
PCET3001	Advanced Electrical Codes	3
PCET3002	Energy Production	3
PCET3003	Safety Engineering	3
PCET3004	Digital Design	2
PCET3006	Renewable Energy Systems	3
PCET4001	Electrical Utility Design and Estimating	4
PCET4002	Advanced 3D Power System Design	3
PCET4003	Power Protection and Controls	4
PCET4004	Power Limited Systems	2
PCET4005	Integrated Field Systems	2
PCET4006	MEP Integration	2
PCET4007	Existing Buildings & Structures	3
PCET4100	Capstone	3
Total Credits		**120**

COURSES

CMGT3111 | Construction Law | Lecture (3 Credits)
Examine the components of Construction Law using case law studies and construction documents to understand and identify the legal issues and liabilities encountered in connection with a construction project.

ECDM2003 | Introduction to 3D Drafting & Design | Laboratory (2 Credits)
Examine and implement construction graphics and conventions into electrical designs using industry specific 3D drawing software.

ECDM2205 | Electrical Estimating | Lecture/Laboratory (3 Credits)
Detailed estimation and project management of electrical construction projects using industry software. Scheduling and bidding of construction projects and project documentations.

PCET3001 | Advanced Electrical Codes | Lecture (3 Credits)
Examine and research the different codes utilized in the building and power industries including the National Electrical Code, the National Electrical Safety Code, Energy Code, and the International Building Codes as they apply to electrical buildings, energy production and transmission systems.

PCET3002 | Energy Production | Lecture/Laboratory (3 Credits)
Investigate how electrical power is produced and distributed through the examination of conventional and renewable methods of energy production including energy storage, transmission, and distribution methods and techniques for design solutions.

PCET3003 | Safety Engineering | Lecture (3 Credits)
Examination of applicable safety codes to assure that engineered systems provide acceptable levels of safety through analysis of safety codes, case studies, and best practices that provides for the safe installation, operation, and maintenance of electric power and communication utility systems and electrical construction.

PCET3004 | Digital Design | Lecture/Laboratory (2 Credits)
Examine digital and electronic systems through the use of Boolean algebra, logic gates, combination and sequential logic through problem solving methods connection to real-world examples, and the design of sequential logic systems.

PCET3006 | Renewable Energy Systems | Lecture (3 Credits)
Investigate the expanding energy industry with an emphasis on existing and emerging renewable energy systems, including the economics of generation and transmission with an emphasis on future usage as a design principle.

PCET4001 | Electrical Utility Design and Estimating | Lecture/Laboratory (4 Credits)
Electrical design and estimate of a simulated utility project covering the generation, transmission and distribution of an electrical power system. This project will include materials, storage solutions, cost estimates with an emphasis on practical design implementations through the utilization of 2D, 3D, and other modeling and analysis software to produce a final portfolio.

PCET4002 | Advanced 3D Power System Design | Lecture/Laboratory (3 Credits)
Electrical design of a complex building project. This project covers the utility to outlets, with a focus on generation and distribution of high, medium, and low voltage interfacing and protection through utilization of building and electrical codes. Practical design implementation is emphasized. Detailed documentation of all aspects of the project through the utilization of 2D, 3D, and other modeling and analysis software to produce a final portfolio.

PCET4003 | Power Protection and Controls | Lecture/Laboratory (4 Credits)
Analyze the components and operation of protective devices and controls in electric utility generation stations, distribution substations, and building services and feeders. Examination of protective device functions, control systems, design perimeters, and coordination from generation to end user. Practical design implementation and coordination is emphasized with utilization of 2D and 3D modeling and analysis software.

PCET4004 | Power Limited Systems | Lecture/Laboratory (2 Credits)
Examine power limited systems including fire, security, controls and information technology utilized in power plants, utility distribution, and automated systems integrated in the built environment. Practical design implementation with application of codes and standards and the utilization of 2D and 3D modeling and analysis software.

PCET4005 | Integrated Field Systems | Lecture/Laboratory (2 Credits)
Application of the principles of geographic information systems for electrical utility and building electrical systems with data modeling, integration methods, and various geospatial analysis utilizing 2D and 3D mapping and modeling software.

PCET4006 | MEP Integration | Lecture/Laboratory (2 Credits)
Employing a holistic approach, integrate electrical design through coordination with mechanical and plumbing (MEP) systems into building information modeling (BIM) software for design decision-making, production of accurate documentation, predicting performance, cost-estimating and construction planning.

PCET4007 | Existing Buildings & Structures | Lecture/Laboratory (3 Credits)
Design medium, low-voltage, and power-limited systems that integrate with existing building electrical systems employing electrical codes and standards and energy appraisals. Practical design implementation is emphasized with utilization of 2D and 3D modeling and analysis.

PCET4100 | Capstone | Capstone (3 Credits)
Integration of all knowledge gained in previous coursework to create a real-world comprehensive electrical construction project. Working in teams, the capstone project is presented and reviewed by industry experts and leaders, providing valuable feedback from their own experiences.

MATH1700 | Pre Calculus | Lecture (3 Credits)
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.
General Education: Mathematics

MATH1810 | Calculus I | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Computer software will enable the application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
Prerequisite(s): MATH1700
General Education: Mathematics

MATH1820 | Calculus II | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as calculating the area under curves or the capacities inside of complex geometries. Computer software will enable the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

PHIL2400 | Introduction to Ethics | Lecture (2 Credits)
The development of ethical standards as related to the individual, government, business, and society. Current legislation is examined from the perspective of its moral and ethical roots with considerations and standards influencing personal and business decisions.
General Education: Humanities

PHIL4000 | Ethical Decision-Making | Lecture (2 Credits)
Examine major moral theories of right and wrong, such as utilitarianism, deontology, egoism, virtue ethics, and feminism. Apply these theories in sound, ethical decision-making particularly in one's professional life. Through case studies, the consequences of a decision in terms of responsibilities to the company and the economy, to the people impacted by the decision, and to the environment at large are weighed. Explore the tension often created by the difference between what is morally right and what the company's code of ethics states or what the society's laws require.
General Education: Upper Humanities

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

PHYS1820 | Physics II with Lab | Lecture/Laboratory (4 Credits)
An introductory calculus-based course in electromagnetic fields and their applications. Topics include: Coulomb's and Gauss' Law, electric fields and potentials, electrical and magnetic properties of matter, Ampere's and Faraday's laws, elementary DC and AC circuits, Maxwell's equations, and electromagnetic waves.
Prerequisite(s): MATH1821, Or MATH1820, And PHYS1800
General Education: Physical Sciences with Lab

Sheet Metal & HVAC Installation (HEATSM), Certificate

Overview

At Dunwoody College of Technology, the Sheet Metal & HVAC Installation certificate provides graduates with the entry-level skills and theoretical knowledge needed to install residential and light commercial heating, ventilation and air conditioning systems. Graduates typically secure jobs as residential, commercial or industrial installers, shop workers, erectors, working for existing and new construction HVAC companies.

Students learn blueprint reading, load calculations, warm air systems design, mechanical and fuel gas code knowledge, installation techniques, pattern development, and fabrication skills. In addition to field-related skills, students gain oral and written communication skills, advanced computation skills, customer relations, and critical thinking skills through Arts & Sciences and technical course work.

Credits earned in the Sheet Metal & HVAC Installation certificate directly transfer into Dunwoody's HVAC Installation & Residential Service (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/construction-sciences-building-technology/hvac-installation-residential-service-heat-aas/) associate's degree program.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Accreditation: HVAC Excellence

Program Outcomes

- Fabricate industry's most commonly used fittings.
- Generate HVAC systems on residential and commercial working plans.
- Install industries most commonly used equipment.
- Apply effective safety practices while installing HVAC equipment.
- Complete installation of HVAC equipment according to national, state, and local codes.
- Demonstrate effective customer relation skills.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
Technical Requirements		
HEAT1110	HVAC Ducts & Fittings	2
HEAT1120	Transitional Fittings	3
HEAT1130	HVAC Trunk-line Construction	2
HEAT1140	Fundamentals of Pattern Development	3
HEAT1150	Advanced Pattern Development	3
HEAT2210	Welding Fundamentals	3
HEAT2220	HVAC Design	2
HEAT2230	Residential HVAC Installation	6
HEAT2240	Commercial Blueprint Reading	2
Total Credits		**29**

Courses

Descriptions

HEAT1110 | HVAC Ducts & Fittings | Lecture/Laboratory (2 Credits)
Development and fabrication of ducts and fittings common to the heating, ventilation, and air conditioning industry, with emphasis on uniform and state code requirements. Methods of connecting ducts and fittings in an air system. Principles of geometric pattern development as it applies to duct construction and application. Multiple uses and care of hand tools common to the industry.

HEAT1120 | Transitional Fittings | Lecture/Laboratory (3 Credits)
Focus on transitional fittings where the triangulation method of pattern development is required. Use of direct triangulation, as a short-cut method of layout, is emphasized. Identification, care, adjustment, and maintenance of floor equipment common to the sheet metal industry.
Prerequisite(s): HEAT1110

HEAT1130 | HVAC Trunk-line Construction | Lecture/Laboratory (2 Credits)
Pattern development, and the fabrication of a scaled-down trunk-line, emphasizing the quality and quantity of work. Usage, construction methods, and installation of various types of dampers.
Prerequisite(s): HEAT1110 And HEAT1120

HEAT1140 | Fundamentals of Pattern Development | Lecture/Laboratory (3 Credits)
Principles of pattern development as they apply to the layout of round fittings requiring parallel, or radial line methods of pattern development. Fabrication procedures for round fittings, including use of rotary machines for fabricating purposes, riveting, and spot welding. Use, safety, and proper procedures for soldering sheet metal are incorporated.
Prerequisite(s): HEAT1110, HEAT1120, And HEAT1130

HEAT1150 | Advanced Pattern Development | Lecture/Laboratory (3 Credits)
Advanced theory and application of single, and double-line triangulation in the development of irregular patterns. Use of plan and elevation views in the visualization, and development of irregular objects as well as the procedure for the development of true-length lines seen in the foreshortened mode.
Prerequisite(s): HEAT1110, HEAT1120, HEAT1130, And HEAT1140

HEAT2210 | Welding Fundamentals | Lecture/Laboratory (3 Credits)
Applications, safety, and procedures for oxyacetylene, stick, GMAW, and TIG welding. Light and heavy-metal welding in flat position, freehand-cutting procedures, types of weld joints, and joint preparation. Vulcan software for CNC plasma table controllers.

HEAT2220 | HVAC Design | Lecture/Laboratory (2 Credits)
Heat loss and heat gain energy calculation based upon Manual J: Calculation. Development of the requirements for selecting and designing heating and cooling systems for residential construction. Operating characteristics, proper application, cost, advantages/disadvantages, and specific requirements for designing systems to meet specific needs.

HEAT2230 | Residential HVAC Installation | Lecture/Laboratory (6 Credits)
Installation procedures of residential and small commercial heating, ventilation, and air conditioning systems. Emphasis on the Uniform Mechanical code, and Minnesota State Mechanical, Fuel Gas, and Plumbing code, pertaining to heating, ventilation, and air conditioning installation procedures. Air-handling ducts, venting, combustion and fresh-air ducts requirements. Use of available standard-type fittings; sizing, cutting, and threading of gas pipe as well as installation and code requirement of residential-style gas systems. Installation, setup, and maintenance, of industries most common indoor air quality accessories is included.
Prerequisite(s): HEAT2210, HEAT2220, HEAT1110, HEAT1120, HEAT1130, HEAT1140, And HEAT1150

HEAT2240 | Commercial Blueprint Reading | Lecture/Laboratory (2 Credits)
Architectural, structural, civil, electrical and mechanical blueprint reading with a major emphasis on heating, ventilation, and air conditioning systems contained within these plans. Duct construction, hangers and dampers evaluated according to specification and SMACNA requirements. Make drawings using AutoCAD: 2-D drafting commands for HVAC drafting.

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

Surveying & Civil Engineering Technology (SCVL), AAS

At Dunwoody College of Technology, the Surveying & Civil Engineering Technology program prepares students to become technicians in the civil engineering and land surveying industries. Technicians may be employed by governmental agencies including counties, cities, and states. Graduates may also be employed in the private sector by contractors and engineering or land surveying firms in a wide range of starting positions. Students are prepared to work in the industries of land surveying and civil engineering under a professional surveyor or civil engineer. Surveying technicians assist surveyors in collecting data and making maps of the earth's surface. Surveying technicians typically work in an office or visit sites to take measurements of the land. Civil engineering technicians help civil engineers plan and design the construction of highways, bridges, utilities, and other major infrastructure projects. They also help with commercial, residential, and land development.

Students are provided with experiences emphasizing surveying, drafting/design, and materials testing. Surveying courses give students the opportunity to learn how to operate industry utilized equipment, including the latest in GNSS (GPS) technology. Survey drawings and engineering plans are developed using enhanced computer-aided drafting programs (CAD).

Arts & Sciences courses round out the course of study, providing students with the analytical, communication, and writing skills the industry demands of its professionals.

The program prepares students to take the National Society of Professional Surveyors (NSPS) Certified Survey Technician (CST) Level I exam.

For students with a bachelor's degree in a related field, Dunwoody's Surveying certificate (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/construction-sciences-building-technology/land-surveying-scvl-certificate/) may provide an avenue to licensure as a Land Surveyor. The certificate offers 22 technical credits in land surveying, as currently required by the MN board of licensure (AELSLAGID). Technical courses include lectures and laboratories in areas such as GPS and geodetic surveying, 2D and 3D drafting, boundary control, and land use planning.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day; Evening
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Construction Management (CMGT), Bachelor of Science (p. 27) | Business Management Leadership (AMGT), Bachelor of Science (p. 27)

Program Outcomes

- Initiate and apply design of entry level complexity.
- Analyze drawings, specifications, and surveys, and apply industry standards.
- Interpret and review engineering and survey work.
- Analyze surveying and civil engineering principles, practices, and techniques.
- Utilize field and office procedures to complete tasks.
- Operate industry software and equipment.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1700	Pre Calculus	3
or MATH2250	Statistics	
Communications Elective		3
Humanities Elective		3
Social Sciences Elective		3
Technical Requirements		

SCVL1002	Civil Drafting	3
SCVL1111	Introduction to Topographic Surveying	3
SCVL1130	Legal Descriptions & Boundary Law	4
CMGT1112	The Construction Industry	3
SCVL1210	Control & Geodetic Surveying	4
SCVL1220	Transportation & Municipal Design	4
SCVL2300	Adv Surveying & Construction Staking	4
SCVL2111	Materials,Testing, Construction Methods	3
SCVL2120	Utility & Construction Design	4
SCVL2210	Laser Scanning & Remote Sensing	4
SCVL2240	Exam Preparation	1
SCVL2250	GIS	4
SCVL2260	Site & Subdivision Design	4
Technical Elective:		**2**
CMGT2000	Professional Development	
SCVL2140	SCVL Topics	
SCVL2141	SCVL Topics - Competition	
SCVL2142	SCVL Topics - Service Learning	
OR Choose any CMGT or SCVL course(s)		
Total Credits		**62**

Courses
Descriptions

SCVL1002 | Civil Drafting | Lecture/Laboratory (3 Credits)
Introduction to the fundamental aspects and production of drawings through the use of industry software with an emphasis on geometry and problems common to civil disciplines.

SCVL1111 | Introduction to Topographic Surveying | Lecture/Laboratory (3 Credits)
Introduction to the technical equipment and industry processes used by surveying technicians to collect and interpret data.

SCVL1130 | Legal Descriptions & Boundary Law | Lecture (4 Credits)
Introduction to property descriptions and land survey systems with a focus on composing and interpreting legal descriptions used in surveys.

CMGT1112 | The Construction Industry | Lecture (3 Credits)
Aspects of the construction industry are explored through guest speakers, site tours, and exploratory reflections to highlight the variety of opportunities available as a construction professional.

SCVL1210 | Control & Geodetic Surveying | Lecture/Laboratory (4 Credits)
Examine the fundamentals of Control Surveys, including Global Positioning Systems, focus and its' application to the geospatial industries, as well as an in-depth study of datums and projections.
Prerequisite(s): SCVL1111

SCVL1220 | Transportation & Municipal Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of transportation and municipal design.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL2300 | Adv Surveying & Construction Staking | Lecture/Laboratory (4 Credits)
Examine the fundamentals of advanced surveying methods in the field and office. Focus on field and office techniques for construction, data collection, and survey final products such as land title surveys, boundary and topographic surveys.

SCVL2111 | Materials,Testing, Construction Methods | Lecture/ Laboratory (3 Credits)
Introduction to testing construction materials and methods, inspection and quality control. Examine construction documents to estimate quantities and costs for civil projects.

SCVL2120 | Utility & Construction Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of utility infrastructure and its' construction.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL2210 | Laser Scanning & Remote Sensing | Lecture/Laboratory (4 Credits)
Analyze Laser Scanning and Remote Sensing technology, including the integration of the data to surveying and civil engineering projects.
Prerequisite(s): SCVL1111

SCVL2240 | Exam Preparation | Seminar (1 Credit)
Review various categories relevant to certification and licensure exams. Emphasis will be on the topics listed to occur on the exams.

SCVL2250 | GIS | Lecture (4 Credits)
Examine the current state of the Geospatial Industry, including Geographic Information Systems(GIS) and Geospatial products.
Prerequisite(s): SCVL1111

SCVL2260 | Site & Subdivision Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of site design, including the design of subdivisions and study of the subdivision process.
Prerequisite(s): CSBT1002 Or SCVL1002

CMGT2000 | Professional Development | Laboratory (1 Credit)
Apply technical skills in a related industry setting to acquire real world experience in an area of student interest.

SCVL2140 | SCVL Topics | Seminar (1 Credit)
Topics in land surveying and civil engineering presented and examined through lectures, speakers, and field trips to develop an awareness of current trends, issues, and the future of the surveying and civil design industries.

SCVL2141 | SCVL Topics - Competition | Seminar (1 Credit)
Examine topics in land surveying and civil engineering through preparation, participation, and completion of a national competition.

SCVL2142 | SCVL Topics - Service Learning | Seminar (1 Credit)
Examine topics in land surveying and civil engineering through preparation, participation, and completion of a service learning project.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1700 | Pre Calculus | Lecture (3 Credits)
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.
General Education: Mathematics

MATH2250 | Statistics | Lecture (3 Credits)
Descriptive and inferential statistics, frequency distributions, probability theory, and issues related to gathering data; computer spreadsheets facilitate the organization, analysis and display of data.
General Education: Mathematics

Health Sciences & Technology Department

Health Sciences & Technology at Dunwoody focuses specifically on the Radiologic Technology program, which prepares students to enter the healthcare industry as radiologic technologists who oversee X-rays, CT scans, and other radiologic procedures. Working in both classroom and lab settings, students gain the skills to use the latest in imaging technologies, including digital X-rays and CT scans. They also complete rotations in clinical settings.

Instructors are industry certified and Dunwoody's program is accredited by the Joint Review Committee on Education in Radiologic Technology. Graduates earn an associate of applied science degree.

Degree Offered

- Radiologic Technology (RTEC), AAS (p. 46)

Radiologic Technology (RTEC), AAS

At Dunwoody College of Technology, the Radiologic Technology program prepares graduates who oversee X-rays, CT scans, and other radiologic procedures. They also manage radiology support staff in hospitals, clinics, and specialized imaging centers.

Students learn to work directly with patients and physicians to create images of internal organs, bones, and tissues that are used to diagnose medical problems.

Working in both classroom and lab settings, students gain the skills to use the latest in imaging technologies, including digital X-rays and CT scans. They also complete rotations in clinical settings.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credential Earned: AAS
Length of Program: 2 years (4 semesters + 2 summer sessions)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Accreditation: Joint Review Committee on Education in Radiologic Technology (JRCERT)

Program Outcomes

- Explain the importance of patient interactions that include ethics, interpersonal communication, physical assistance and monitoring, medical emergencies, infection control and pharmacology in the field of medical imaging
- Explain how the principles of radiation physics and the biological aspects of radiation apply to patient safety
- Explain the various ways to minimize patient exposure to radiation
- Explain the various ways to minimize occupational exposure to radiation
- Compare how the various technical factors affecting radiographic quality to receptor exposure, contrast, spatial resolution and distortion
- Explain how the following concepts affect image production: technique charts, Automatic Exposure Control and Digital Imaging, Equipment
- Explain how equipment operation and quality assurance affects image production
- Apply knowledge of positioning, anatomy, procedure adaptation and evaluation of displayed anatomical structures to include; head, spine and pelvis procedures, thorax and abdomen procedures, and extremity procedures

Degree Requirements

Code	Title	Credits
General Requirements		
BIOL1230	Anatomy	4
BIOL1310	Physiology I	2
BIOL1320	Physiology II	2
BIOL1400	Human Disease	4
Communications		3
Humanities		3
Social Sciences		3
Technical Requirements		
RTEC1111	Introduction to Radiography	1
RTEC1121	Patient Care	1
RTEC1131	Radiographic Procedures I	2
RTEC1151	Clinical I	2
RTEC1200	Radiographic Procedures	1
RTEC1221	Radiographic Procedures II	2
RTEC1231	Radiographic Procedures III	2
RTEC1241	Clinical II	2
RTEC1251	Clinical III	2
RTEC1140	Medical Terminology	1
RTEC1210	Radiologic Exposure	1
RTEC1311	Radiographic Procedures IV	2
RTEC1321	Clinical IV	2
RTEC2110	Radiologic Science	1
RTEC2121	Advanced Imaging	1
RTEC2130	Clinical V	6
RTEC2200	Radiographic Clinicals	1
RTEC2221	Radiologic Topics I	3
RTEC2250	Clinical VI	3
RTEC2260	Clinical VII	3
RTEC2231	Radiologic Topics II	3
RTEC2320	Clinical VIII	3
Total Credits		**66**

Courses
Descriptions

RTEC1111 | Introduction to Radiography | Lecture (1 Credit)
Introduction to the profession of radiologic technology. An overview of the structure of the healthcare environment, imaging equipment, radiation protection, and surgery.

RTEC1121 | Patient Care | Lecture (1 Credit)
Examine the basic concepts of patient care. Routine and emergency patient care procedures are explained, as well as infection control procedures utilizing standard precautions.

RTEC1131 | Radiographic Procedures I | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, routine projections of the abdomen, upper and lower extremities, and the shoulder girdle.

RTEC1151 | Clinical I | Clinical (2 Credits)
Provides opportunities to apply basic theoretical principles of radiography and patient care to practical experience in an imaging department. Observe and participate in radiographic procedures in a hospital or clinical setting . Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC1200 | Radiographic Procedures | Lecture (1 Credit)
Develop the knowledge required to perform radiographic procedures.

RTEC1221 | Radiographic Procedures II | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, routine projections of the pelvis and femur, as well as fluoroscopic procedures.

RTEC1231 | Radiographic Procedures III | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, and routine projections of the spine and the bony thorax.

RTEC1241 | Clinical II | Clinical (2 Credits)
Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC1251 | Clinical III | Clinical (2 Credits)
Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC1140 | Medical Terminology | Lecture (1 Credit)
Develop a medical vocabulary. Skills in spelling, pronunciation, and defining medical terms is emphasized.

RTEC1210 | Radiologic Exposure | Lecture (1 Credit)
Examine the factors that govern and influence the production of the radiographic image, includes exposure calculations.

RTEC1311 | Radiographic Procedures IV | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, and routine projections of the cranium, facial bones, sinuses and the genitourinary. Venipuncture is introduced.

RTEC1321 | Clinical IV | Clinical (2 Credits)
Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC2110 | Radiologic Science | Lecture (1 Credit)
Concepts of basic radiographic physics and the basics of x-ray generating equipment.
Prerequisite(s): RTEC1210

RTEC2121 | Advanced Imaging | Lecture (1 Credit)
Equipment routinely utilized to produce diagnostic images, as well as various recording media and techniques. Topics include: Venipuncture; Image production in CT, MRI, IR, and other imaging modalities; special imaging considerations for geriatric, pediatric, trauma, and mobile imaging procedures; and sectional anatomy of the head, thorax, and abdomen.
Prerequisite(s): RTEC1311

RTEC2130 | Clinical V | Clinical (6 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: common fluoroscopic, surgery, and portable radiography procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

RTEC2200 | Radiographic Clinicals | Clinical (1 Credit)
Apply the concepts learned in the classroom/lab in a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC2221 | Radiologic Topics I | Lecture (3 Credits)
Prepare for the national certification examination with a review of basic knowledge from previous courses. Examine a variety of topics and practice for the registry exam with frequent testing.

RTEC2250 | Clinical VI | Clinical (3 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional and specialty rotations including MRI and CT. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

RTEC2260 | Clinical VII | Clinical (3 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional and specialty rotations including MRI and CT. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

RTEC2231 | Radiologic Topics II | Lecture (3 Credits)
Prepare for the national certification examination with a review of basic knowledge from previous courses. Examine a variety of topics and practice for the registry exam with frequent testing.

RTEC2320 | Clinical VIII | Clinical (3 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Includes participation in and/or observation of routine and special radiographic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

BIOL1230 | Anatomy | Lecture/Laboratory (4 Credits)
Analyze the structure of the human body, molecular, cellular to organism level. Examine cell biology, integumentary, muscular, skeletal, neurological, digestive, respiratory, urinary, cardiovascular, endocrine, lymphatic, and reproductive body systems and the correlation/integration of the various systems to construct the human organism.
General Education: Natural Sciences

BIOL1310 | Physiology I | Lecture/Laboratory (2 Credits)
Analyze the functioning of the human body, molecular, cellular to organism level. Examine body systems, such as cell biology, muscular, skeletal, neurological, digestive and respiratory and the correlation/integration of the various systems in impacting the functioning of the human organism.
Prerequisite(s): BIOL1230
General Education: Natural Sciences

BIOL1320 | Physiology II | Lecture/Laboratory (2 Credits)
Analyze the functioning of the human body, molecular, cellular to organism level. Examine body systems such as urinary, body defenses, cardiovascular, endocrine, lymphatic, and reproductive and the correlation/integration of the various systems in impacting the functioning of the human organism.
Prerequisite(s): BIOL1310
General Education: Natural Sciences

BIOL1400 | Human Disease | Lecture/Laboratory (4 Credits)
Analysis of the disease conditions affecting the human body, including their pathological origin, signs and symptoms, pathological process, diagnostics, and treatment modalities.
Prerequisite(s): BIOL1320
General Education: Natural Sciences

Robotics & Manufacturing Department

Robotics & Manufacturing prepares students for a wide variety of design, technology, and engineering positions across a range of industries. Certificate, associate of applied science, and bachelor of science completion degree options are available in 3D printing, automated systems & robotics, electronics technology, engineering drafting, industrial controls, industrial engineering technology, machining, and welding.

Throughout their program, students master the latest technologies from several disciplines, including computer-aided design, precision manufacturing, and industrial automation, allowing them to immediately contribute to the globally-competitive American manufacturing workforce. Dunwoody's lab spaces feature industry-leading equipment, much of it donated by industry partners. Instructors have industry experience and certifications.

Graduates of these programs are prominent in the industry, with many top Minnesota manufacturing companies owned or operated by department alumni. Both evening and day options are available for most programs.

Degrees Offered

- Automated Systems & Robotics (ASRO), AAS (p. 48)
- Automation & Controls Engineering Technology (AENT), Bachelor of Science (p. 49)
- Design for Manufacturing 3D Printing (3DPT), Certificate (p. 52)
- Electronics Engineering Technology (ELTT), AAS (p. 52)
- Electronics Technology (IELT), AAS (p. 53)
- Electronics Technology (IELT), Certificate (p. 55)
- Engineering Drafting & Design (MDES), AAS (p. 55)
- Industrial Controls & Robotics (ICON), AAS (p. 57)
- Industrial Controls (ICOT), Certificate (p. 58)
- Industrial Engineering Technology (IENG), Bachelor of Science (p. 59)
- Machine Tool Technology (MACH), AAS (p. 61)
- Right Skills Now for Manufacturing (CNC) (RSNM), Certificate (p. 62)
- Welding & Metal Fabrication (WMET), AAS (p. 63)
- Welding Technology (WELD), Certificate (p. 65)

Automated Systems & Robotics (ASRO), AAS

At Dunwoody College of Technology, the Automated Systems & Robotics program provides students with the entry-level skills and theoretical knowledge to maintain the latest in automated manufacturing, packaging, and industrial robotic systems. Graduates from this program are prepared to enter the industry as machine assemblers, electro-mechanical technicians, maintenance mechanics, and field service engineers.

The course of study includes basic electricity and electronics; mechanical systems; electronic sensors; programmable logic controllers (PLCs); industrial robotics; motion-control systems; and advanced packaging and manufacturing systems. Program curriculum is aligned with standards set forth by the Packaging Machinery Manufacturers Institute (PMMI), the Institute of Packaging Professionals (IoPP), the Robotics Industry Association (RIA), the National Fire Protection Association (NFPA), and the Instrumentation Society of America (ISA).

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Automation Controls Engineering Technology (AENT), Bachelor of Science (p. 49) | Industrial Engineering Technology (IENG), Bachelor of Science (p. 49)

Program Outcomes

- Apply the concepts of basic electricity.
- Demonstrate required industry safety standards.
- Explain the operation of electronic devices.
- Troubleshoot circuits and systems using industry standard test equipment.
- Analyze electrical schematics and mechanical prints.

- Perform maintenance on mechanical systems.
- Commission and maintain industrial control systems.
- Commission and maintain industrial robots.
- Perform duties on an industry-related internship or capstone project.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Social Sciences		3
Science Elective		3
Technical Requirements		
ELTT1110	Basic Electricity & Electronics Lab	5
ELTT1120	Basic Electricity & Electronics Theory	8
MDES1110	Engineering Drawings with SolidWorks	4
MACH1200	Machine Shop Fundamentals	3
ASRO1210	Mechanical Transmission of Power Lab	2
ASRO1220	Mechanical Transmission of Power Theory	4
ASRO2110	Industrial Controls & PLCs Lab	5
ASRO2120	Industrial Controls & PLCs Theory	8
ASRO2230	Industrial Robotics Lab	2
ASRO2241	Industrial Robotics Theory	5
ASRO2291	Industrial Internship/Practicum	6
Total Credits		**70**

Courses
Descriptions

ELTT1110 | Basic Electricity & Electronics Lab | Laboratory (5 Credits)
Analyze, design and build series, parallel and combination AC and DC circuits. Semiconductor circuits, power supplies, transistor circuits are built and tested using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MACH1200 | Machine Shop Fundamentals | Laboratory (3 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.

ASRO1210 | Mechanical Transmission of Power Lab | Laboratory (2 Credits)
Assembling, disassembling and observing applications of bearings, gears, cams, motors, clutches, cylinders (hydraulic and pneumatic), fluid systems, mechanical systems and other automation related components. Drawing and fabrication of simple components.

ASRO1220 | Mechanical Transmission of Power Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with various components of machines including bearings, gears, cams, motors, clutches, cylinders (hydraulic and pneumatic), fluid systems, mechanical systems and other automation related components.

ASRO2110 | Industrial Controls & PLCs Lab | Laboratory (5 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2120 | Industrial Controls & PLCs Theory | Lecture (8 Credits)
Wiring and programming fundamentals associated with programmable logic controllers. Identification, recognition and calculations associated with inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2230 | Industrial Robotics Lab | Laboratory (2 Credits)
Set up, configuration, programming and troubleshooting industrial robots to meet industry standards. Industry safety standards, programming methods, applications and interfacing of sensors and I/O devices.

ASRO2241 | Industrial Robotics Theory | Lecture (5 Credits)
Identification, recognition and calculations associated with industrial robotics including terminology, safety practices and procedures, application justifications, robot types, operation, program instructions and techniques, I/O device interfacing, end of arm tooling, system integration and troubleshooting.

ASRO2291 | Industrial Internship/Practicum | Internship (6 Credits)
Internship or practicum option on various manufacturing topics: automation, electronics, robotics, mechanical systems, assembly, troubleshooting, research and/or field service.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Automation & Controls Engineering Technology (AENT), Bachelor of Science

Overview

At Dunwoody College of Technology, the Automation & Controls Engineering Technology program provides a bachelor's completion degree option for graduates of related two-year programs looking to

advance into engineering and management positions. Related programs include degrees in electrical maintenance, electronics, mechatronics, industrial controls, and robotics.

The curriculum builds on a foundation in industrial electricity and controls by providing advanced coursework in: electrical CAD; advanced PLC applications; algorithm development; robotics; AC and DC drives; motion control; machine vision; automated guided vehicles (AGVs) and autonomous mobile robots (AMRs); factory automation; and project management.

Curriculum is lab-intensive, allowing students to apply knowledge of mathematics, science, and engineering to real-world projects.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication and critical thinking skills.

The program also incorporates a senior capstone project in its final semester that gives students the chance to demonstrate industry-relevant controls engineering experience.

Credential Earned: BS
Length of Program: 2 Years (4 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester

Program Outcomes

- ETAC 1: An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.

- ETAC 2: An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.

- ETAC 3: An ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.

- ETAC 4: An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.

- ETAC 5: An ability to function effectively as a member, as well as a leader, on technical teams.

Degree Requirements

Admitted students to Automation & Controls Engineering Technology (AENT) can transfer up to 40 technical and 14 Arts & Sciences credits. A transfer evaluation is required. Not all credits may transfer into the degree program.

Code	Title	Credits
Transfer		54
General Requirements		
CHEM2000	Introduction to Chemistry	3
COMM3000	Professional Communication	2
MATH1700	Pre Calculus	3
MATH1810	Calculus I	3
MATH1820	Calculus II	3
PHIL4000	Ethical Decision-Making	2
PHYS1800	Physics I with Lab	4
WRIT4020	Capstone Technical Writing	2
Humanities		1
Social Science		3
Technical Requirements		
ENGR1110	Introduction to Engineering	3
AENT3110	Advanced Industrial Controllers with Lab	3
AENT3120	CAD for Electrical Controls	2
AENT3130	Engineering Project Management	2
AENT3210	AC, DC & Servo Motor Control with Lab	3
AENT3220	Engineering Statics & Dynamics	3
AENT3230	Machine Vision & Automated Inspection	2
AENT3240	Industrial Networks & IIoT	2
AENT4110	HMI & SCADA Systems with Lab	3
AENT4120	Fluid Power Engineering	3
AENT4130	Machine Safety & Risk Assessment	2
AENT4140	Autonomous Guided Vehicles	2
AENT4210	Industrial Automation with Lab	3
AENT4220	Applied Thermodynamics & Heat Transfer	3
AENT4295	Senior Capstone Project	4
Total Credits		**120**

Courses
Descriptions

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

AENT3110 | Advanced Industrial Controllers with Lab | Lecture/Laboratory (3 Credits)
Develop foundational skills in PLCs while introducing advanced topics and applications. Advanced applications include control algorithms, structured-text programming and network communications with a focus on system design and integration.

AENT3120 | CAD for Electrical Controls | Lecture (2 Credits)
Use E-CAD software to design and layout electrical and electronic circuits for use in both discrete manufacturing and process control systems.

AENT3130 | Engineering Project Management | Lecture (2 Credits)
Introduction to the tools and processes used to manage complex engineering and technology projects. Utilize industry standard software to develop budgets, timelines and project goals.

AENT3210 | AC, DC & Servo Motor Control with Lab | Lecture/Laboratory (3 Credits)
Examine the theories, calculations and applications of various motors and controls for the purpose of controlling industrial machinery and processes.
Prerequisite(s): AENT3110

AENT3220 | Engineering Statics & Dynamics | Lecture (3 Credits)
Apply vector algebra and differentiation to forces in equilibrium as well as the effects of forces on the motion of objects.
Prerequisite(s): MATH1810

AENT3230 | Machine Vision & Automated Inspection | Lecture (2 Credits)
Apply computer-based vision systems for automated inspection, data reporting and deep learning. Program and commission vision-based systems to inspect part features for the purpose of quality control and/or machine guidance.

AENT3240 | Industrial Networks & IIoT | Lecture (2 Credits)
Determine how industrial networks enable machines to communicate real-time data between sensors, machines and enterprises. Apply networking technology to the interface of controls and sensors using industry-standard network protocols.

AENT4110 | HMI & SCADA Systems with Lab | Lecture/Laboratory (3 Credits)
Analyze Supervisory Control & Data Acquisition (SCADA) systems and how they are used to display and control remote field devices for industrial processes. Topics include PC-based terminals, human machine interfaces (HMI), network communications and IEC 60870 standards.
Prerequisite(s): AENT3110

AENT4120 | Fluid Power Engineering | Lecture (3 Credits)
Explore the operation, performance characteristics and maintenance of fluid power systems and components. Perform mathematical calculations for application of pumps, motors, valves and cylinders.

AENT4130 | Machine Safety & Risk Assessment | Lecture (2 Credits)
Examine OSHA machine guarding requirements as they pertain to hazard prevention.

AENT4140 | Autonomous Guided Vehicles | Lecture (2 Credits)
Explore issues concerning the use of AGVs in the manufacturing industry, including material flow optimization, material handling and AGV risk factors.

AENT4210 | Industrial Automation with Lab | Lecture/Laboratory (3 Credits)
The fundamentals of industrial automation identifies the overlap of several automation components. Programmable controllers, machine vision systems, CNC machines and industrial robots are interfaced. Focus is on the justification for automation and productivity calculations.

AENT4220 | Applied Thermodynamics & Heat Transfer | Lecture (3 Credits)
Apply first and second laws of thermodynamics to closed and open systems. Topics include one-dimensional conduction, convection and radiation.
Prerequisite(s): AENT3220

AENT4295 | Senior Capstone Project | Capstone (4 Credits)
Demonstrate overall content knowledge of the program outcomes through a capstone automation project. Conduct a final presentation of the project and explain how it applies to the engineering program outcomes, with a focus on justification for automation and productivity calculations.
Prerequisite(s): WRIT4020

MATH1700 | Pre Calculus | Lecture (3 Credits)
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.
General Education: Mathematics

CHEM2000 | Introduction to Chemistry | Lecture (3 Credits)
Examine contemporary applications of chemistry in such areas as energy, technology and materials, pollution and waste. Applications illustrate many fundamental concepts in chemistry, such as molecular and electronic structure, mixtures, intermolecular forces, phase behavior, thermodynamics, electrochemistry, kinetics, and equilibria. Current and future global challenges are presented and discussed.
General Education: Natural Sciences

COMM3000 | Professional Communication | Lecture (2 Credits)
Professional communication in all forms: researching, selecting, synthesizing, and documenting sources; business e-mail and letter writing, as well as public speaking and power point presentation for application in a management setting.
General Education: Upper Communications

MATH1810 | Calculus I | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Computer software will enable the application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
Prerequisite(s): MATH1700
General Education: Mathematics

MATH1820 | Calculus II | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as calculating the area under curves or the capacities inside of complex geometries. Computer software will enable the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

PHIL4000 | Ethical Decision-Making | Lecture (2 Credits)
Examine major moral theories of right and wrong, such as utilitarianism, deontology, egoism, virtue ethics, and feminism. Apply these theories in sound, ethical decision-making particularly in one's professional life. Through case studies, the consequences of a decision in terms of responsibilities to the company and the economy, to the people impacted by the decision, and to the environment at large are weighed. Explore the tension often created by the difference between what is morally right and what the company's code of ethics states or what the society's laws require.
General Education: Upper Humanities

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

WRIT4020 | Capstone Technical Writing | Lecture (2 Credits)
Research, plan, and organize professional documents for the capstone project. Topics include assessment techniques, special audience considerations, professional speaking skills, and presentation aids.
General Education: Upper Communications

Design for Manufacturing 3D Printing (3DPT), Certificate

At Dunwoody College, the Design for Manufacturing Certificate in 3D Printing is offered as either a standalone certification or stackable credential for individuals looking to advance their knowledge of 3D printing. This certification was designed through a unique partnership between Dunwoody College of Technology and Stratasys Inc. The program prepares students to utilize 3D printing hardware and software in the development of advanced manufacturing processes.

Courses are also offered to non-matriculating students looking to advance their knowledge in specific areas.

Credits earned in the Design for Manufacturing: 3D Printing certificate directly transfer into Dunwoody's **Engineering Drafting & Design (MDES)** or **Machine Tool Technology** (MACH) associate's degree programs.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester

Program Outcomes

- Create professional documentation in support of real-world designs.
- Apply knowledge of mathematics, science, and engineering.
- Analyze traditional and contemporary manufacturing processes.
- Utilize problem-solving skills to overcome manufacturing challenges.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
Technical Requirements		
MACH1000	Machine Shop Fundamentals	2
MDES1110	Engineering Drawings with SolidWorks	4
MDES1230	Geometric Dimensioning & Tolerances	4
MDES2130	Advanced SolidWorks	4
3DPT2100	3D Printing Applications	5
Total Credits		**22**

Courses

Course Descriptions

3DPT2100 | 3D Printing Applications | Lecture (5 Credits)
Explore traditional, additive and hybrid applications in the core manufacturing processes. Design and print prototype parts and tools to be used in various manufacturing processes.
Prerequisite(s): MDES1110

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MACH1000 | Machine Shop Fundamentals | Laboratory (2 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.

MDES1230 | Geometric Dimensioning & Tolerances | Lecture (4 Credits)
Principles of geometric dimensioning and tolerancing in the context of engineering and manufacturing. Application of principles using coordinate measurement machines.
Prerequisite(s): MDES1110

MDES2130 | Advanced SolidWorks | Lecture (4 Credits)
Simulation (Finite Element Analysis) and advanced surface modeling techniques. Culminates in testing for CSWA certification.
Prerequisite(s): MDES1110

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

Electronics Engineering Technology (ELTT), AAS

At Dunwoody College of Technology, the Electronics Engineering Technology program provides students with the entry-level skills and theoretical knowledge needed to design and troubleshoot circuits utilizing the latest semiconductor devices; biomedical devices; microprocessors; microcontrollers; circuit design and fabrication equipment; and data acquisition devices.

Graduates from this program are prepared to enter the industry as electronics technicians, electronic assemblers, programmers, calibration technicians, and field service technicians.

The course of study includes: basic electricity and electronics; digital electronics; microprocessors and micro-controllers; computer programming; programmable logic controllers (PLCs); communication systems; and circuit engineering.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Automation Controls Engineering Technology (AENT), Bachelor of Science (p. 49) | Industrial Engineering Technology (IENG), Bachelor of Science (p. 49)

Program Outcomes

- Apply the concepts of basic electricity.
- Demonstrate required industry safety standards.
- Explain the operation of electronic devices.
- Troubleshoot circuits and systems using industry standard test equipment.

- Analyze electrical schematics and mechanical prints.
- Employ fundamental concepts of industrial electronics and process control.
- Apply concepts of analog and digital communication systems.
- Analyze the operation of microprocessors, micro-controllers, and computers.
- Perform duties on an industry-related internship or capstone project.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Science Elective		3
Social Sciences		3
Technical Requirements		
ELTT1110	Basic Electricity & Electronics Lab	5
ELTT1120	Basic Electricity & Electronics Theory	8
ELTT1210	Digital & Microprocessors Lab	3
ELTT1220	Digital & Microprocessors Theory	8
ELTT1230	PCB & Circuit Development	1
ELTT1240	Programming Fundamentals	1
ASRO2110	Industrial Controls & PLCs Lab	5
ASRO2120	Industrial Controls & PLCs Theory	8
ASRO2291	Industrial Internship/Practicum	6
ELTT2211	Advanced Electronics Lab	2
ELTT2221	Advanced Electronics Theory	5
Total Credits		**70**

Courses

Descriptions

ASRO2110 | Industrial Controls & PLCs Lab | Laboratory (5 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2120 | Industrial Controls & PLCs Theory | Lecture (8 Credits)
Wiring and programming fundamentals associated with programmable logic controllers. Identification, recognition and calculations associated with inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2291 | Industrial Internship/Practicum | Internship (6 Credits)
Internship or practicum option on various manufacturing topics: automation, electronics, robotics, mechanical systems, assembly, troubleshooting, research and/or field service.

ELTT1110 | Basic Electricity & Electronics Lab | Laboratory (5 Credits)
Analyze, design and build series, parallel and combination AC and DC circuits. Semiconductor circuits, power supplies, transistor circuits are built and tested using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

ELTT1210 | Digital & Microprocessors Lab | Laboratory (3 Credits)
Design, build, and troubleshoot digital circuits. Debug and program microprocessors and microcontrollers for various operations and interface to external devices. Analyze digital and microprocessor circuits using industry standard test equipment.
Prerequisite(s): ELTT1110

ELTT1220 | Digital & Microprocessors Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with combinational and sequential logic circuits as well as internal architecture of microprocessors and microcontrollers, programming, logic operations, memory mapping, addressing, data transfer, and system control.
Prerequisite(s): ELTT1120

ELTT1230 | PCB & Circuit Development | Lecture (1 Credit)
Electronic circuit prototyping using various industry standards, hardware, and software. Utilize circuit manufacturing techniques to create surface mount and through hole circuit boards.
Prerequisite(s): ELTT1110

ELTT1240 | Programming Fundamentals | Lecture (1 Credit)
Use algorithms and flowcharts to develop logic, execution control, data types, loops, and control structures for computer executable software. Utilizes National Instrument's LabVIEW.
Prerequisite(s): ELTT1110

ELTT2211 | Advanced Electronics Lab | Laboratory (2 Credits)
Design and build single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.
Prerequisite(s): ELTT1210

ELTT2221 | Advanced Electronics Theory | Lecture (5 Credits)
Identification, recognition and calculations associated with single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.
Prerequisite(s): ELTT1220
Corequisite(s): ELTT2210

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Electronics Technology (IELT), AAS

At Dunwoody College of Technology, the Electronics Technology program provides evening students with the entry-level skills and theoretical knowledge needed to design and troubleshoot circuits utilizing the latest semiconductor devices; biomedical devices; microprocessors;

microcontrollers; circuit design; fabrication equipment; and data acquisition devices.

Graduates from this program are prepared to enter the industry as electronics technicians, assemblers, calibration technicians, and field service technicians.

The course of study includes: basic electricity and electronics; digital electronics; microprocessors and microcontrollers; programmable logic controllers (PLCs); communication systems; and circuit engineering.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

A shorter certificate option (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/robotics-manufacturing/electronics-technology-ielt-certificate/) is also available.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Automation Controls Engineering Technology (AENT), Bachelor of Science (p. 49) | Industrial Engineering Technology (IENG), Bachelor of Science (p. 49)

Program Outcomes

- Apply the concepts of basic electricity.
- Demonstrate required industry safety standards.
- Explain the operation of electronic devices.
- Troubleshoot circuits and systems using industry standard test equipment.
- Analyze electrical schematics and mechanical prints.
- Employ fundamental concepts of industrial electronics and process control.
- Apply concepts of analog and digital communication systems.
- Analyze the operation of microprocessors, micro-controllers, and computers.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
Humanities		3
Science Elective		3
Social Sciences		3
Technical Requirements		
ELTT1100	Basic Electricity & Electronics Lab	2
ELTT1120	Basic Electricity & Electronics Theory	8
ELTT1200	Digital & Microprocessors Lab	2
ELTT1220	Digital & Microprocessors Theory	8
ASRO2101	Industrial Controls & PLC's Lab	3
ASRO2120	Industrial Controls & PLCs Theory	8
ELTT2201	Advanced Electronics Lab	3
ELTT2230	Advanced Electronics Theory	8
Total Credits		**60**

Courses

Descriptions

ELTT1100 | Basic Electricity & Electronics Lab | Laboratory (2 Credits)
Analyze, design, and build series, parallel and combination AC and DC circuits. Build and test semiconductor circuits, power supplies, transistor circuits using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

ELTT1200 | Digital & Microprocessors Lab | Laboratory (2 Credits)
Design, build, and troubleshoot digital circuits. Debug and program microprocessors and microcontrollers for various operations and interface to external devices. Analyze digital and microprocessor circuits using industry standard test equipment.
Prerequisite(s): ELTT1100

ELTT1220 | Digital & Microprocessors Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with combinational and sequential logic circuits as well as internal architecture of microprocessors and microcontrollers, programming, logic operations, memory mapping, addressing, data transfer, and system control.
Prerequisite(s): ELTT1120

ASRO2201 | Automation & Robotics Lab | Laboratory (3 Credits)
Set up, configuration, programming and troubleshooting industrial robots to meet industry standards. Configuration and troubleshooting of installed automation and packaging equipment using machine schematics and related documentation.

ASRO2120 | Industrial Controls & PLCs Theory | Lecture (8 Credits)
Wiring and programming fundamentals associated with programmable logic controllers. Identification, recognition and calculations associated with inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ELTT2201 | Advanced Electronics Lab | Laboratory (3 Credits)
Design and build single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.

ELTT2230 | Advanced Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits as well as other advanced electronics topics.
Prerequisite(s): ELTT1220
Corequisite(s): ELTT2200

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Electronics Technology (IELT), Certificate

Overview

At Dunwoody College of Technology, the Electronics Technology certificate provides evening students with the entry-level skills and theoretical knowledge needed to design and troubleshoot circuits utilizing the latest semiconductor devices, biomedical devices, microprocessors, and microcontrollers. Graduates from this program are prepared to enter the industry as assemblers, troubleshooters, calibration technicians, and field service technicians.

The course of study includes: basic electricity and electronics; digital electronics; microprocessors; and microcontrollers.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credits earned in the Electronics Technology certificate directly transfer into Dunwoody's Industrial Controls & Robotics (ICON) (p. 57) or Electronics Technology (IELT) (p. 53) associate's degree programs.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester

Program Outcomes

- Apply the concepts of basic electricity.
- Demonstrate required industry safety standards.
- Explain the operation of electronic devices.
- Troubleshoot circuits and systems using industry standard test equipment.
- Analyze electrical schematics and mechanical prints.
- Employ fundamental concepts of industrial electronics and process control.
- Apply concepts of analog and digital communication systems.
- Analyze the operation of microprocessors, micro-controllers, and computers.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
Technical Requirements		
ELTT1100	Basic Electricity & Electronics Lab	2
ELTT1120	Basic Electricity & Electronics Theory	8
ELTT1200	Digital & Microprocessors Lab	2
ELTT1220	Digital & Microprocessors Theory	8
Total Credits		**23**

Courses Descriptions

ELTT1100 | Basic Electricity & Electronics Lab | Laboratory (2 Credits)
Analyze, design, and build series, parallel and combination AC and DC circuits. Build and test semiconductor circuits, power supplies, transistor circuits using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

ELTT1200 | Digital & Microprocessors Lab | Laboratory (2 Credits)
Design, build, and troubleshoot digital circuits. Debug and program microprocessors and microcontrollers for various operations and interface to external devices. Analyze digital and microprocessor circuits using industry standard test equipment.
Prerequisite(s): ELTT1100

ELTT1220 | Digital & Microprocessors Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with combinational and sequential logic circuits as well as internal architecture of microprocessors and microcontrollers, programming, logic operations, memory mapping, addressing, data transfer, and system control.
Prerequisite(s): ELTT1120

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

Engineering Drafting & Design (MDES), AAS

At Dunwoody College of Technology, the Engineering Drafting & Design program provides students with the entry-level skills and theoretical knowledge to engineer and design products utilizing the latest technology in CAD/CAM software.

Graduates from this program are prepared to enter the industry as mechanical designers, drafters, CAD/CAM technicians, quality inspectors, and tool designers.

The course of study includes print reading; machine tool applications; measurement and materials; job planning and layout; CAD/CAM software; solid modeling; finite element analysis; transmission of power; and 3D prototyping. Students spend a significant amount of time in the machine shop and metrology lab gaining hands-on manufacturing skills to help them understand the realities of 21st-century manufacturing. Students obtain Certified Solidworks Associate (CSWA) certification as part of their course of study.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)

Classes Offered: Day
Available Starts: Fall Semester
Bachelor's Completion Option(s): Industrial Engineering Technology (IENG), Bachelor of Science (p. 59) | Business Management Leadership (AMGT), Bachelor of Science (p. 59)

Program Outcomes

- Demonstrate required industry safety standards.
- Create professional documentation using appropriate methods.
- Develop a relationship between fit, form, and function using ergonomics to ensure a working product.
- Initiate problem-solving skills and techniques to develop manufacturing related solutions.
- Explore cultural and environmental issues related to manufacturing.
- Demonstrate proper use of manufacturing equipment.
- Perform objectives required of an industry-based capstone project.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
MATH1020	Algebra II	3
Communications		3
Humanities		3
General Science Elective		3
Social Sciences		3
Technical Requirements		
MACH1110	Machine Tool Fundamentals Lab	5
MACH1120	Machine Tool Fundamentals Theory	4
MDES1110	Engineering Drawings with SolidWorks	4
MDES1210	Process & Tool Design Lab	5
MDES1230	Geometric Dimensioning & Tolerances	4
MDES2130	Advanced SolidWorks	4
MDES2110	Product Design Lab	5
MDES2120	Product Design Theory	4
MDES2230	Statics & Strength of Materials	4
MDES1220	Creo Parametric	4
MDES2210	Transmission of Power Lab	5
MDES2220	Transmission of Power Theory	4
Total Credits		**70**

Courses

Descriptions

MACH1110 | Machine Tool Fundamentals Lab | Laboratory (5 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.
Corequisite(s): MACH1120

MACH1120 | Machine Tool Fundamentals Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with basic principles in metal-cutting technology including machine feeds and speeds, threading, tapers, knurling, boring, radii cutting and milling and turning procedures.
Corequisite(s): MACH1110

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MDES1210 | Process & Tool Design Lab | Laboratory (5 Credits)
Distinguish modern manufacturing processes such as molding, welding, heat treating, and machining; identify typical materials, tools, and required equipment. Analysis of process-specific capabilities such as tolerance, surface finish, cost effectiveness, and geometry restrictions.
Prerequisite(s): MACH1110

MDES1230 | Geometric Dimensioning & Tolerances | Lecture (4 Credits)
Principles of geometric dimensioning and tolerancing in the context of engineering and manufacturing. Application of principles using coordinate measurement machines.
Prerequisite(s): MDES1110

MDES2130 | Advanced SolidWorks | Lecture (4 Credits)
Simulation (Finite Element Analysis) and advanced surface modeling techniques. Culminates in testing for CSWA certification.
Prerequisite(s): MDES1110

MDES2110 | Product Design Lab | Laboratory (5 Credits)
Introduction to product design methods and concepts; converting product ideas and requirements into working designs. Design balance and relation to concepts such as aesthetics, performance, ergonomics and manufacturability.
Prerequisite(s): MDES1210
Corequisite(s): MDES2120

MDES2120 | Product Design Theory | Lecture (4 Credits)
Integrate methods and concepts of product design to actual designs of simple products. Determine design parameters, develop product opinions, narrow the focus for balance, and document the final design.
Corequisite(s): MDES2110

MDES2230 | Statics & Strength of Materials | Lecture (4 Credits)
Fundamentals of statics and strength of materials. Development of techniques and mathematical methods used in design. Problem solving includes statics, direct stress, strength of materials, indirect stress, torsional stress and combined stress.
Prerequisite(s): MDES2130

MDES1220 | Creo Parametric | Lecture (4 Credits)
Create solid models, assemblies and engineering documentation using Creo Parametric. Apply fits and geometric dimensioning and tolerancing to models and drawings.
Prerequisite(s): MDES1110

MDES2210 | Transmission of Power Lab | Laboratory (5 Credits)
Design and draw projects with applications of gears, chains, bearings, cams, motors, clutches, cylinders, fluid and mechanical power transmission, robots and automation. Design resolution incorporating; project management, project selection, product design, calculations, design analysis, documentation, technical communications, quality and presentation.
Prerequisite(s): MDES2110
Corequisite(s): MDES2220

MDES2220 | Transmission of Power Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with components of machines; mechanical and fluid power transmission, motors, clutches, gears, chains, bearings, cams, robots and automation. Design resolution incorporating; project management, project selection, product design, calculations, design analysis, documentation, technical communications, quality and presentation.
Prerequisite(s): MDES2120
Corequisite(s): MDES2210

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

MATH1020 | Algebra II | Lecture (3 Credits)
Algebraic and trigonometric skills are developed further. Topics include, functions, graphing, factoring, advanced solving techniques, systems of linear equations, coordinate trigonometry, and vectors.
Prerequisite(s): MATH1010
General Education: Mathematics

Industrial Controls & Robotics (ICON), AAS

At Dunwoody College of Technology, the Industrial Controls & Robotics program provides evening students with the entry-level skills and theoretical knowledge to maintain the latest in automated manufacturing, packaging, and industrial robotic systems.

Graduates from this program are prepared to enter the industry as machine designers, machine assemblers, electro-mechanical technicians, maintenance mechanics, and field service technicians.

The course of study includes: basic electricity and electronics, mechanical systems, electronic sensors, programmable logic controllers (PLCs), industrial robotics, motion-control systems, and advanced packaging and manufacturing systems. The program's curriculum is aligned with standards set forth by the Packaging Machinery Manufacturers Institute (PMMI), the Institute of Packaging Professionals (IoPP), the Robotics Industry Association (RIA), the National Fire Protection Association (NFPA), and the Instrumentation Society of America (ISA) as well as other national trade organizations.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

A shorter certificate option (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/robotics-manufacturing/industrial-controls-robotics-icon-certificate/) is also available.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester
Bachelor's Completion Option(s): Automation Controls Engineering Technology (AENT), Bachelor of Science (p. 49) | Industrial Engineering Technology (IENG), Bachelor of Science (p. 49)

Program Outcomes

- Apply the concepts of basic electricity.
- Demonstrate required industry safety standards.
- Explain the operation of electronic devices.
- Troubleshoot circuits and systems using industry standard test equipment.
- Analyze electrical schematics and mechanical prints.
- Perform maintenance on mechanical systems.
- Commission and maintain industrial control systems.
- Commission and maintain industrial robots.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
MATH1250	Boolean Algebra	3
Communications		3
General Science Elective		3
Humanities		3
Social Sciences		3
Technical Requirements		
ASRO1220	Mechanical Transmission of Power Theory	4
ASRO2101	Industrial Controls & PLC's Lab	3
ASRO2120	Industrial Controls & PLCs Theory	8
ASRO2201	Automation & Robotics Lab	3
ASRO2205	Automation & Robotics Theory	8
ELTT1100	Basic Electricity & Electronics Lab	2
ELTT1120	Basic Electricity & Electronics Theory	8
MACH1000	Machine Shop Fundamentals	2
MDES1110	Engineering Drawings with SolidWorks	4
Total Credits		**60**

Courses
Descriptions

ASRO1220 | Mechanical Transmission of Power Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with various components of machines including bearings, gears, cams, motors, clutches, cylinders (hydraulic and pneumatic), fluid systems, mechanical systems and other automation related components.

ASRO2101 | Industrial Controls & PLC's Lab | Laboratory (3 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2120 | Industrial Controls & PLCs Theory | Lecture (8 Credits)
Wiring and programming fundamentals associated with programmable logic controllers. Identification, recognition and calculations associated with inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2201 | Automation & Robotics Lab | Laboratory (3 Credits)
Set up, configuration, programming and troubleshooting industrial robots to meet industry standards. Configuration and troubleshooting of installed automation and packaging equipment using machine schematics and related documentation.

ASRO2205 | Automation & Robotics Theory | Lecture (8 Credits)
Identification, recognition, programming and calculations associated with automation and packaging components, motion control, industrial robotics and related documentation.

ELTT1100 | Basic Electricity & Electronics Lab | Laboratory (2 Credits)
Analyze, design, and build series, parallel and combination AC and DC circuits. Build and test semiconductor circuits, power supplies, transistor circuits using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

MACH1000 | Machine Shop Fundamentals | Laboratory (2 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

Industrial Controls (ICOT), Certificate

Overview

At Dunwoody College of Technology, the Industrial Controls certificate program provides evening students with the entry-level skills and theoretical knowledge to wire and program the latest Programmable Logic Controllers (PLCs), Human Machine Interfaces (HMIs), and motor controls. Graduates from this program are prepared to enter the industry as programmers, control system designers, panel builders, maintenance mechanics, and field service technicians.

The course of study includes: basic electricity and electronics; electronic sensors; programmable logic controllers; human machine interfaces; motion-control systems; and motor controllers.

The program's curriculum is aligned with standards set forth by the Packaging Machinery Manufacturers Institute (PMMI), the Institute of Packaging Professionals (IoPP), and the National Fire Protection Association (NFPA).

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credits earned in the Industrial Controls certificate directly transfer into Dunwoody's Industrial Controls & Robotics (ICON) (p. 57), Automated Systems & Robotics (ASRO) (p. 48), or Electronics Technology (IELT) (p. 53) associate's degree programs.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester

Program Outcomes

- Apply the concepts of basic electricity.
- Demonstrate required industry safety standards.
- Troubleshoot circuits and systems using industry standard test equipment.
- Analyze electrical schematics.
- Commission and maintain industrial control systems.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1000	Algebra & Trigonometry	3
Technical Requirements		
ASRO2201	Automation & Robotics Lab	3
ASRO2120	Industrial Controls & PLCs Theory	8
ELTT1100	Basic Electricity & Electronics Lab	2
ELTT1120	Basic Electricity & Electronics Theory	8
Total Credits		**24**

Courses

Descriptions

ASRO2101 | Industrial Controls & PLC's Lab | Laboratory (3 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2120 | Industrial Controls & PLCs Theory | Lecture (8 Credits)
Wiring and programming fundamentals associated with programmable logic controllers. Identification, recognition and calculations associated with inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ELTT1100 | Basic Electricity & Electronics Lab | Laboratory (2 Credits)
Analyze, design, and build series, parallel and combination AC and DC circuits. Build and test semiconductor circuits, power supplies, transistor circuits using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

Industrial Engineering Technology (IENG), Bachelor of Science

At Dunwoody College of Technology, the Industrial Engineering Technology program provides a bachelor's completion degree option with the skills and theoretical knowledge needed to advance graduates into engineering and management positions in their respective industries.

Graduates from this program will be prepared to take on new roles such as: industrial engineer, manufacturing engineer, quality engineer, and process engineer.

Students learn how to apply engineering principles to the work environment; how to work collaboratively in a team environment; and how to use tools and data to anticipate and solve issues in the engineering process. Coursework includes study in manufacturing processes and industrial automation, work methods and design, quality and lean, management, and ethics and social responsibility.

Curriculum is project-based so that theoretical engineering principles are reinforced and experienced through hands-on creation and problem-solving.

Arts & Sciences courses help students understand the core mathematical and scientific principles that are the foundation of engineering theory and provide students with the communication and critical thinking skills required to succeed in the profession.

The program also incorporates a senior capstone project in its final semester that gives students the chance to demonstrate real-world industrial engineering experience.

Accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org (https://www.abet.org/), under the general criteria and the Industrial Engineering Technology program criteria.

Credential Earned: BS
Length of Program: 2 years (4 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester
Accreditation: Accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org, under the general criteria and the Industrial Engineering Technology program criteria.

Program Outcomes

- ETAC 1: An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly-defined engineering problems appropriate to the discipline.

- ETAC 2: An ability to design systems, components, or processes meeting specified needs for broadly-defined engineering problems appropriate to the discipline.

- ETAC 3: An ability to apply written, oral, and graphical communication in broadly-defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.

- ETAC 4: An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.

- ETAC 5: An ability to function effectively as a member, as well as a leader, on technical teams.

Degree Requirements

Admitted students to Industrial Engineering Technology (IENG) can transfer up to 45 technical and 9 Arts & Sciences credits. A transfer evaluation is required. Not all credits may transfer into the degree program.

Code	Title	Credits
Transfer Credits		**40**
General Requirements		
COMM3000	Professional Communication	2
MATH1700	Pre Calculus	3
MATH1810	Calculus I	3
MATH1820	Calculus II	3
MATH2250	Statistics	3
PHIL4000	Ethical Decision-Making	2
PHYS1800	Physics I with Lab	4
WRIT4020	Capstone Technical Writing	2
Humanities Elective		1
Social Sciences Elective		3
General Education Electives		14
Technical Requirements		
ENGR1110	Introduction to Engineering	3
IENG3150	Manufacturing Processes I with Lab	3
ENGR1210	Introduction to Programming	3
IENG3160	Quality & Lean Systems	3
IENG3115	Statistical Quality Control	2
AENT4130	Machine Safety & Risk Assessment	2
IENG4111	Ergonomics & Work Measurement	3
ENGR3110	Project Management	3
ENGR3120	Engineering Economics	2
IENG4116	Supply Chain Management	3
IENG4126	Production Planning	3
IENG4295	Senior Capstone	4
Upper Division Electives		6
Total Credits		**120**

Courses

Descriptions

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

IENG3150 | Manufacturing Processes I with Lab | Lecture/Laboratory (3 Credits)
Examine and apply various manufacturing processes and materials used in product development and manufacturing. Each process is covered from a technical perspective, with an emphasis placed on how multiple processes can be linked together. Several manufacturing processes, such as computer aided design, machining, welding, and electronics are used to design a product.

ENGR1210 | Introduction to Programming | Lecture/Laboratory (3 Credits)
Examine and implement computational problem-solving strategies using computer languages to solve engineering problems. Develop algorithms and translate solutions into computer programs. Distinguish differences in programming languages and software tools with applicability to different types of problem solutions. Apply modular design and clear documentation for efficient problem solving.

IENG3160 | Quality & Lean Systems | Lecture/Laboratory (3 Credits)
Investigate the history and evolution of lean systems and current day applications to manufacturing, service, and business. Apply fundamental lean philosophies and tools to manufacturing, service, and business. Explore the role of culture transformation and change management techniques in the application of lean tools, total quality management, and international standards.

IENG3115 | Statistical Quality Control | Lecture (2 Credits)
Apply statistical methods to study the quality of products and services, determining how to reduce the time required to produce the product and ensure the quality of the product. Topics include probability and statistics, control charts, acceptance criteria and sampling, and case studies.
Prerequisite(s): MATH2250

AENT4130 | Machine Safety & Risk Assessment | Lecture (2 Credits)
Examine OSHA machine guarding requirements as they pertain to hazard prevention.

IENG4111 | Ergonomics & Work Measurement | Lecture (3 Credits)
Introduction to ergonomics as applied to the human-machine interface, as well as the fundamental concepts behind work design, with emphasis on measuring work and analyzing work methods. Topics include methods engineering and analysis, time and motion studies, and workplace design considering physical and cognitive ergonomic principles.

ENGR3110 | Project Management | Lecture/Laboratory (3 Credits)
Examine the methods and tools used for effective management of engineering projects. Topics include the analytical methods used to budget, schedule, and control projects, as well as risk management, team leadership, and communication.

ENGR3120 | Engineering Economics | Lecture (2 Credits)
Economic analysis of engineering decisions under uncertainty. Concepts include time value of money, cash flow estimation, rate of return analysis, net present value estimation, and asset evaluation. Applications include comparing different project alternatives accounting for heterogeneity in cost, revenue, taxation, depreciation, inflation, and risk.

IENG4116 | Supply Chain Management | Lecture (3 Credits)
Explain the fundamentals of supply chain management. Topics include the supply chain network, system integration, supply chain strategies, challenges in managing the supply chain, and strategy alignment.

IENG4126 | Production Planning | Lecture (3 Credits)
Utilize aspects of management to maximize productivity in a factory or service environment. Topics include sales & operations planning, inventory and capacity management, material requirements planning, and the theory of constraints.

IENG4295 | Senior Capstone | Practicum (4 Credits)
Demonstrate overall content knowledge of the program outcomes through a major project. Conduct a final presentation of the project and explain how it applies to the engineering program outcomes.
Prerequisite(s): WRIT4020

IENG4211 | Simulation Modeling | Lecture (3 Credits)
Utilize simulation to create, analyze, and evaluate realistic models of real-world environments. Topics include Monte Carlo simulation, queuing theory, selecting input distributions, animation in simulation, and evaluating simulation output.

IENG4250 | Industrial Automation with Lab | Lecture/Laboratory (3 Credits)
Investigate and apply several automated processes used in manufacturing, service, and business processes. Topics include automated work systems, safety, and design of systems.

IENG4260 | Engineering Entrepreneurship | Lecture (3 Credits)
Explain the concept of transforming your ideas from a prototype into a business including customer need, design, launching, and sustaining a business. Topics include strategic thinking, business relationships, dealing with competition, and marketing.

IENG4270 | Manufacturing Processes II with Lab | Lecture/Laboratory (3 Credits)
Use CAD/CAM software to create part geometries, tooling design, tool path, machining parameters and post processes NC code. Design and create parts using other common manufacturing processes. Emphasis on the principles of design for each process. Processes include sheet metal forming, casting, welding, plastic fabrication, injection molding, and sheet metal forming.

PHIL4000 | Ethical Decision-Making | Lecture (2 Credits)
Examine major moral theories of right and wrong, such as utilitarianism, deontology, egoism, virtue ethics, and feminism. Apply these theories in sound, ethical decision-making particularly in one's professional life. Through case studies, the consequences of a decision in terms of responsibilities to the company and the economy, to the people impacted by the decision, and to the environment at large are weighed. Explore the tension often created by the difference between what is morally right and what the company's code of ethics states or what the society's laws require.
General Education: Upper Humanities

MATH1700 | Pre Calculus | Lecture (3 Credits)
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.
General Education: Mathematics

MATH1810 | Calculus I | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Computer software will enable the application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
Prerequisite(s): MATH1700
General Education: Mathematics

MATH1820 | Calculus II | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as calculating the area under curves or the capacities inside of complex geometries. Computer software will enable the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH2250 | Statistics | Lecture (3 Credits)
Descriptive and inferential statistics, frequency distributions, probability theory, and issues related to gathering data; computer spreadsheets facilitate the organization, analysis and display of data.
General Education: Mathematics

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

COMM3000 | Professional Communication | Lecture (2 Credits)
Professional communication in all forms: researching, selecting, synthesizing, and documenting sources; business e-mail and letter writing, as well as public speaking and power point presentation for application in a management setting.
General Education: Upper Communications

WRIT4020 | Capstone Technical Writing | Lecture (2 Credits)
Research, plan, and organize professional documents for the capstone project. Topics include assessment techniques, special audience considerations, professional speaking skills, and presentation aids.
General Education: Upper Communications

Machine Tool Technology (MACH), AAS

At Dunwoody College of Technology, the Machine Tool Technology program provides students with entry-level skills and theoretical knowledge to program and operate all of the latest machine tools utilized in modern manufacturing facilities.

Graduates from this program are prepared to enter the industry as machine operators, production machinists, CAD/CAM technicians, CNC programmers, and tool designers.

The course of study includes: manual milling and turning; measurement and materials; job planning and layout; CAD/CAM software; CNC milling and turning; mold and die making; and EDM technology.

The program's curriculum is closely aligned with standards set forth by the National Institute of Metalworking Skills (NIMS). Due to high demand, most machine tool students can find full-time employment in the field long before graduation, and many will be working in a shop within the first year of the program.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Accreditation: NIMS (National Institute for Metalworking Skills)
Bachelor's Completion Option(s): Industrial Engineering Technology (IENG), Bachelor of Science (p. 59) | Business Management Leadership (AMGT), Bachelor of Science (p. 59)

Program Outcomes

- Demonstrate required industry safety standards.
- Create professional documentation using appropriate methods.
- Develop a relationship between fit, form, and function using ergonomics to ensure a working product.
- Initiate problem-solving skills and techniques to develop manufacturing related solutions.
- Explore cultural and environmental issues related to manufacturing.
- Demonstrate proper use of manufacturing equipment.
- Perform objectives required of an industry-based capstone project.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
MATH1020	Algebra II	3
Communications		3
General Science Elective		3
Humanities		3
Social Sciences		3
Technical Requirements		
MACH1110	Machine Tool Fundamentals Lab	5
MACH1120	Machine Tool Fundamentals Theory	4
MACH1210	Advanced Machining Lab	5
MACH1220	Advanced Machining Theory	4
MACH2110	CNC Lathe, Mill & Mold Making Lab	5
MACH2120	CNC Lathe & Mill Theory	2
MACH2130	Mold Design Theory	2
MACH2140	MasterCAM I	4
MACH2210	CNC Mill, EDM & Die Making Lab	5
MACH2220	CNC Mill & EDM Theory	2
MACH2230	Die Design Theory	2
MACH2240	MasterCAM II	4
MDES1110	Engineering Drawings with SolidWorks	4
MDES1230	Geometric Dimensioning & Tolerances	4
Total Credits		**70**

Courses
Descriptions

MACH1110 | Machine Tool Fundamentals Lab | Laboratory (5 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.
Corequisite(s): MACH1120

MACH1120 | Machine Tool Fundamentals Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with basic principles in metal-cutting technology including machine feeds and speeds, threading, tapers, knurling, boring, radii cutting and milling and turning procedures.
Corequisite(s): MACH1110

MACH1210 | Advanced Machining Lab | Laboratory (5 Credits)
Advanced manufacturing of parts through layout, bench work and job planning. Advanced manual turning and milling and an introduction to CNC M & G codes. CNC portion includes manual programming via machine control and software simulation.
Prerequisite(s): MACH1110
Corequisite(s): MACH1220

MACH1220 | Advanced Machining Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with advanced milling and turning operations, inspection of finished parts and an introduction to the G & M codes used in CNC programming. CNC portion includes manual programming in notepad and Immersive software simulation.
Prerequisite(s): MACH1120
Corequisite(s): MACH1210

MACH2110 | CNC Lathe, Mill & Mold Making Lab | Laboratory (5 Credits)
Advanced manufacturing processes using CNC lathes, CNC mill and EDM, design and build of an injection mold, along with hand and inspection tool techniques.
Prerequisite(s): MACH1210
Corequisite(s): MACH2120

MACH2120 | CNC Lathe & Mill Theory | Lecture (2 Credits)
Advanced CNC mill programming and introduction to CNC lathe programming. G & M codes, canned cycles, jigs, fixtures and work holding methods.
Prerequisite(s): MACH1220
Corequisite(s): MACH2110

MACH2130 | Mold Design Theory | Lecture (2 Credits)
Mold making methods and industry standard practices, history and uses. Design of one injection mold from concept to finished prints. Includes mold steels, press operation, molding cycle and inspection of finished parts.
Prerequisite(s): MACH1220

MACH2140 | MasterCAM I | Lecture (4 Credits)
2D and 3D geometry and surface model creation using MasterCAM software, an associative computer-aided manufacturing system for milling and turning. M and G code programs will be created, debugged and simulated cutter paths run for simple part geometries.
Prerequisite(s): MDES1110

MACH2210 | CNC Mill, EDM & Die Making Lab | Laboratory (5 Credits)
Advanced manufacturing processes using CNC lathe, CNC mill, wire EDM and sinker EDM. Design and build a complete blanking die, along with hand and inspection tool techniques to ensure proper fits and finishes. Explore the set up and operation of 4 axis machine tool.
Corequisite(s): MACH2220

MACH2220 | CNC Mill & EDM Theory | Lecture (2 Credits)
Advanced work holding principles, 4 axis CNC programming, axis definitions, wire EDM programming and power definitions.
Corequisite(s): MACH2210

MACH2230 | Die Design Theory | Lecture (2 Credits)
Die design fundamentals and components including bend tolerances, cutting clearances, tonnage calculations, forming, and fits and clearances for dies.

MACH2240 | MasterCAM II | Lecture (4 Credits)
Advanced 3D design, surface and solid model creation using MasterCAM. Tool path creation and posting for both 2D and 3D geometry including advanced surface and solid models. Lathe part creation and programming in 2D.
Prerequisite(s): MACH2140

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MDES1230 | Geometric Dimensioning & Tolerances | Lecture (4 Credits)
Principles of geometric dimensioning and tolerancing in the context of engineering and manufacturing. Application of principles using coordinate measurement machines.
Prerequisite(s): MDES1110

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

MATH1020 | Algebra II | Lecture (3 Credits)
Algebraic and trigonometric skills are developed further. Topics include, functions, graphing, factoring, advanced solving techniques, systems of linear equations, coordinate trigonometry, and vectors.
Prerequisite(s): MATH1010
General Education: Mathematics

Right Skills Now for Manufacturing (CNC) (RSNM), Certificate

At Dunwoody College of Technology, the Right Skills Now certificate is designed to provide fast-track, high-skilled manufacturing training in the following areas: job planning, bench work, materials, manual milling, manual turning, CNC milling, and CNC turning.

Curriculum aligns with the National Institute for Metalworking Skills (NIMS) accreditation standards.

Graduates from this program are prepared to enter the industry as entry-level manual and CNC machine tool operators.

Credits earned in the Right Skills Now certificate directly transfer into Dunwoody's Machine Tool Technology (MACH) (p. 61), Engineering

Drafting & Design (MDES) (p. 55), or Welding & Metal Fabrication (WMET) (p. 63) associate's degree programs.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Evening
Available Starts: Fall Semester; Spring Semester
Accreditation: NIMS (National Institute for Metalworking Skills)

Program Outcomes

- Demonstrate required industry safety standards.
- Demonstrate proper use of manufacturing equipment.
- Initiate problem-solving skills and techniques to develop manufacturing related solutions.
- Investigate manufacturing careers.

Degree Requirements

Code	Title	Credits
General Requirements		
MATH1010	Algebra I	3
Technical Requirements		
MACH1000	Machine Shop Fundamentals	2
MACH1205	CNC Machining Theory	4
MACH1215	CNC Machining Lab	2
MDES1110	Engineering Drawings with SolidWorks	4
MDES1230	Geometric Dimensioning & Tolerances	4
Total Credits		**19**

Courses
Descriptions

MACH1000 | Machine Shop Fundamentals | Laboratory (2 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.

MACH1205 | CNC Machining Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with CNC milling and turning operations, inspection of finished parts, and an introduction to the G & M codes used in CNC programming.
Prerequisite(s): MACH1000

MACH1215 | CNC Machining Lab | Laboratory (2 Credits)
Manufacturing of parts using CNC milling and turning processes. CNC setup and programming includes manual programming via machine control and software simulation.
Prerequisite(s): MACH1000

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MDES1230 | Geometric Dimensioning & Tolerances | Lecture (4 Credits)
Principles of geometric dimensioning and tolerancing in the context of engineering and manufacturing. Application of principles using coordinate measurement machines.
Prerequisite(s): MDES1110

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

Welding & Metal Fabrication (WMET), AAS

At Dunwoody College of Technology, the Welding & Metal Fabrication program provides students with the unique opportunity to combine skills from both welding and machining. Students gain the entry-level skills and theoretical knowledge to machine parts, layout assemblies for fabrication, weld assemblies, and finish weldments utilizing various welding processes and machine tools.

Graduates from this program are prepared to enter the industry as welders, fabricators, machinists, and machine operators.

The course of study includes: manual milling and turning; measurement and materials; job planning and layout; metallurgy; oxygen-fuel welding and cutting; shielded metal arc welding (SMAW-stick); gas metal arc welding (GMAW-MIG); gas tungsten arc welding (GTAW-TIG); and the various fabrication processes.

The program's curriculum is closely aligned with standards set forth by National Institute of Metalworking Skills (NIMS) and the American Welding Society (AWS).

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

A shorter certificate option (https://catalog.dunwoody.edu/catalog-student-handbook/academic-programs/robotics-manufacturing/welding-technology-certificate/) that focuses only on welding is also available.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Bachelor's Completion Option(s): Industrial Engineering Technology (IENG), Bachelor of Science (p. 59) | Business Management Leadership (AMGT), Bachelor of Science (p. 59)

Program Outcomes

- Demonstrate required industry safety standards.
- Interpret welding blueprints and symbols.
- Fabricate weldments using multiple processes and positions.
- Analyze weldments for quality.
- Create professional documentation using appropriate methods.
- Develop a relationship between fit, form, and function using ergonomics to ensure a working product.
- Demonstrate proper use of manufacturing and fabrication equipment.

Degree Requirements

Code	Title	Credits
General Requirements		
ARTS1000	Introduction to Drawing	3
MATH1010	Algebra I	3
MATH1020	Algebra II	3
Communications		3
Social Sciences		3
General Science Elective		3
Technical Requirements		
MACH1110	Machine Tool Fundamentals Lab	5
MACH1120	Machine Tool Fundamentals Theory	4
MDES1110	Engineering Drawings with SolidWorks	4
MDES2130	Advanced SolidWorks	4
WELD1110	Introduction to Welding Lab	5
WELD1120	Introduction to Welding Theory	4
WELD1130	Welding Math, Prints & Symbols	4
WELD1210	Advanced Welding Lab	5
WELD1220	Advanced Welding Theory	4
WELD2210	Welding & Metal Fabrication Lab	5
WELD2221	Weld Fabrication & Production	8
Total Credits		**70**

Courses
Descriptions

MACH1110 | Machine Tool Fundamentals Lab | Laboratory (5 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.
Corequisite(s): MACH1120

MACH1120 | Machine Tool Fundamentals Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with basic principles in metal-cutting technology including machine feeds and speeds, threading, tapers, knurling, boring, radii cutting and milling and turning procedures.
Corequisite(s): MACH1110

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MDES2130 | Advanced SolidWorks | Lecture (4 Credits)
Simulation (Finite Element Analysis) and advanced surface modeling techniques. Culminates in testing for CSWA certification.
Prerequisite(s): MDES1110

WELD1110 | Introduction to Welding Lab | Laboratory (5 Credits)
Perform welding of standard joint designs on various thicknesses of steel plate. Practice oxyacetylene welding and cutting (OAW), stick welding (SMAW), and wire feed welding (GMAW). Introduction to tungsten inert gas (TIG) welding. Demonstrate shop safety, setup and troubleshooting of welding equipment and applications.
Corequisite(s): WELD1120 WELD1130

WELD1120 | Introduction to Welding Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with weld joint designs and weld materials. Examine various weld processes: oxyacetylene welding and cutting (OAW), stick welding (SMAW), wire feed welding (GMAW). Introduction to tungsten inert gas (TIG) welding. Examine shop safety, setup and troubleshooting of welding equipment and applications.
Corequisite(s): WELD1110 WELD1130

WELD1130 | Welding Math, Prints & Symbols | Lecture (4 Credits)
Principles of weld print reading, measuring systems, decimal/fraction conversions, dimensioning, layout, orthographic views, technical math, and section views.
Corequisite(s): WELD1110 WELD1120

WELD1210 | Advanced Welding Lab | Laboratory (5 Credits)
Practice welding of steel plate and aluminum alloys using stick welding (SMAW), wire feed welding (GMAW) and tungsten inert gas (TIG) welding. Demonstrate shop safety, grinding, finishing, and cutting practices in a final fabrication project.
Prerequisite(s): WELD1110

WELD1220 | Advanced Welding Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with weld joint designs, weld gasses, and metallurgy. Examine various weld processes including oxyacetylene welding and cutting (OAW), stick welding (SMAW), wire feed welding (GMAW), and tungsten inert gas (TIG) welding. Examine shop safety, setup and troubleshooting of welding equipment and applications.
Prerequisite(s): WELD1120

WELD2210 | Welding & Metal Fabrication Lab | Laboratory (5 Credits)
The identification, maintenance and setup of welding and fabrication tools to perform layout, fixturing, forming, cutting and finishing of real-world weldments and assemblies. Utilize all aspects of prior coursework to design and build projects using multiple tools.
Prerequisite(s): WELD1210

WELD2221 | Weld Fabrication & Production | Lecture (8 Credits)
Identification, recognition, and calculations associated with the layout, fixturing, forming, cutting, and finishing of real-world weldments and assemblies. Explore optimal production, project management techniques, and principles of lean manufacturing. Study the properties of metals and how these properties are affected by the heat of welding, brazing, and hard surfacing.

ARTS1000 | Introduction to Drawing | Lecture (3 Credits)
Analyze basic drawing concepts and techniques through demonstrations, discussions, critiques, slide lectures, and the use of a sketchbook. Work from observation using line, tone and other elements of art to solve spatial, compositional and light problems to accurately render the illusion of 3-dimensional form on a 2-dimensional surface.
General Education: Humanities

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

MATH1020 | Algebra II | Lecture (3 Credits)
Algebraic and trigonometric skills are developed further. Topics include, functions, graphing, factoring, advanced solving techniques, systems of linear equations, coordinate trigonometry, and vectors.
Prerequisite(s): MATH1010
General Education: Mathematics

Welding Technology (WELD), Certificate

Overview

At Dunwoody College of Technology, the Welding Technology certificate provides students with the entry-level skills and theoretical knowledge to perform the various welding, cutting, and fabrication processes required in a 21st-century manufacturing facility. Graduates from this program are prepared to enter the industry as welders, fabricators, fitters, and inspectors.

The course of study includes: print reading; weld symbols; measurement and materials; job planning and layout; and metallurgy. Welding techniques instructed include: oxygen-fuel welding and cutting; shielded metal arc welding (SMAW-stick); gas metal arc welding (GMAW-MIG); gas tungsten arc welding (GTAW-TIG); and various fabrication processes.

The program's curriculum is closely aligned with standards set forth by the American Welding Society (AWS). Students may choose to utilize these credits to continue on for an AAS degree in Welding & Metal Fabrication.

Arts & Sciences curriculum supports the technical coursework by enhancing the students' communication, mathematics, and critical thinking skills.

Credits earned in the Welding Technology certificate directly transfer into Dunwoody's Welding & Metal Fabrication (WMET) (p. 63) associate's degree program.

Credential Earned: Certificate
Length of Program: 1 year (2 semesters)
Classes Offered: Day
Available Starts: Fall Semester

Program Outcomes

- Demonstrate required industry safety standards.
- Interpret welding blueprints and symbols.
- Fabricate weldments using multiple processes and positions.
- Analyze weldments for quality.

Degree Requirements

Code	Title	Credits
General Requirements		
ARTS1000	Introduction to Drawing	3
Communications		3
Technical Requirements		
MDES1110	Engineering Drawings with SolidWorks	4
WELD1110	Introduction to Welding Lab	5
WELD1120	Introduction to Welding Theory	4
WELD1130	Welding Math, Prints & Symbols	4
WELD1210	Advanced Welding Lab	5
WELD1220	Advanced Welding Theory	4
Total Credits		**32**

Courses

Descriptions

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

WELD1110 | Introduction to Welding Lab | Laboratory (5 Credits)
Perform welding of standard joint designs on various thicknesses of steel plate. Practice oxyacetylene welding and cutting (OAW), stick welding (SMAW), and wire feed welding (GMAW). Introduction to tungsten inert gas (TIG) welding. Demonstrate shop safety, setup and troubleshooting of welding equipment and applications.
Corequisite(s): WELD1120 WELD1130

WELD1120 | Introduction to Welding Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with weld joint designs and weld materials. Examine various weld processes: oxyacetylene welding and cutting (OAW), stick welding (SMAW), wire feed welding (GMAW). Introduction to tungsten inert gas (TIG) welding. Examine shop safety, setup and troubleshooting of welding equipment and applications.
Corequisite(s): WELD1110 WELD1130

WELD1130 | Welding Math, Prints & Symbols | Lecture (4 Credits)
Principles of weld print reading, measuring systems, decimal/fraction conversions, dimensioning, layout, orthographic views, technical math, and section views.
Corequisite(s): WELD1110 WELD1120

WELD1210 | Advanced Welding Lab | Laboratory (5 Credits)
Practice welding of steel plate and aluminum alloys using stick welding (SMAW), wire feed welding (GMAW) and tungsten inert gas (TIG) welding. Demonstrate shop safety, grinding, finishing, and cutting practices in a final fabrication project.
Prerequisite(s): WELD1110

WELD1220 | Advanced Welding Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with weld joint designs, weld gasses, and metallurgy. Examine various weld processes including oxyacetylene welding and cutting (OAW), stick welding (SMAW), wire feed welding (GMAW), and tungsten inert gas (TIG) welding. Examine shop safety, setup and troubleshooting of welding equipment and applications.
Prerequisite(s): WELD1120

ARTS1000 | Introduction to Drawing | Lecture (3 Credits)
Analyze basic drawing concepts and techniques through demonstrations, discussions, critiques, slide lectures, and the use of a sketchbook. Work from observation using line, tone and other elements of art to solve spatial, compositional and light problems to accurately render the illusion of 3-dimensional form on a 2-dimensional surface.
General Education: Humanities

School of Design

The School of Design prepares students to apply design skills and thinking to create spaces and communications that increase human comfort, productivity, and enjoyment. Dunwoody's design education

focuses on strong technical skills with an understanding of the fundamental and best practices of industry in order to unlock creativity.

Coursework is project-based, with an emphasis on the entire creative process, from research and ideation through final production.

Students learn how to work with clients in order to achieve the best creative solution given the budget and goals of the project. Faculty have experience as working professionals so students learn the skills industry is looking for, including being able to understand and articulate client needs, communication skills, and the ability to create designs that succeed in production.

Degrees are offered in architecture, architectural drafting, graphic design, or interior design. The exact length of the degree is determined by what's needed to succeed in the field, including professional certification.

Students build a strong portfolio of work that shows both the technical expertise they have gained and their ability to creatively problem solve. They also gain real-world experience through field trips, industry speakers, and internship opportunities.

Degrees Offered

Architectural Drafting & Design (ARCH), AAS

At Dunwoody College of Technology, the Associate of Applied Science degree in Architectural Drafting & Design trains students to become ideal employees in the architecture, building design, digital fabrication, and computational design industries.

Students develop skills in a wide array of design technologies including sketching, drawing, manual drafting, digital drafting, physical modeling, digital and parametric modeling, building information modeling, architectural visualization, and digital fabrication. Students acquire a strong knowledge of building technologies including structural systems, building envelope systems, building service systems, building environment systems, building codes, and project management.

Students also develop professional skills through portfolio and project management courses, opportunities for governance, and frequent interaction with professionals in and out of the classroom.

Concurrently, students engage in Arts & Sciences courses in oral and written communications; math and science; social and behavioral studies; and the arts and humanities.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester; Spring Semester
Accreditation: NAAB: National Architectural Accrediting Board (as part of the 5 year BARCH)
Bachelor's Completion Option(s): Architecture (BARCH), Bachelor of Architecture (p. 67) | Business Management Leadership (AMGT), Bachelor of Science (p. 67)

Program Outcomes

- Design: to harness the capacity of established and emerging design and building technologies and generate a capacity for architectural discovery.
- Technology: to embrace and participate in the current and profound changes in design and building technologies.
- The Profession: to create a generation of architects ideally poised to become leaders in the architecture profession.
- Communication: to explore vast architectural modes of representation, documentation, and presentation.

Degree Requirements

Code	Title	Credits
General Requirements		
ARTS1000	Introduction to Drawing	3
Communications		3
Natural Sciences/Mathematics		3
Social Sciences		3
General Electives		3
Technical Requirements		
ARCH1111	Architectural Drawing	5
ARCH1121	The Site	3
ARCH1131	Building Systems	3
ARCH1141	The Profession	1
ARCH1211	Construction Drawings	5
ARCH1221	Building Details	3
ARCH1231	Building & the Environment	3
ARCH2111	Construction Documents	5
ARCH2122	Building Materials	3
ARCH2131	Building Regulations	3
ARCH2211	Capstone	5
ARCH2221	Portfolio	3
ARCH2231	Building Economics	3
Total Credits		**60**

Courses
Descriptions

ARCH1111 | Architectural Drawing | Studio (5 Credits)
Engage in a breadth of architectural representation and design technologies. Develop skills in architectural communication, professionalism, learning culture, and technological agility.

ARCH1121 | The Site | Lecture (3 Credits)
Analyze the relationship between a building site and its physical, cultural, and environmental contexts. Develop technical abilities for site design and documentation.

ARCH1131 | Building Systems | Lecture (3 Credits)
Analyze a breadth of building systems and their associative materials and assemblies. Analyze the basic principles of building structural and envelope systems.

ARCH1141 | The Profession | Seminar (1 Credit)
Engage in the profession of architecture and acquire knowledge of architectural licensure, career paths, and forms of practice. Develop proficiency in professional communication and behavior.

ARCH1211 | Construction Drawings | Studio (5 Credits)
Create and coordinate a set of construction drawings. Develop visual communication, organization, and time management skills. Explain and apply systems of building information management.
Prerequisite(s): ARCH1111

ARCH1221 | Building Details | Lecture (3 Credits)
Analyze and develop critical intersections of building systems. Explain the relationship among systems. Identify the relationship between details and design intent.

ARCH1231 | Building & the Environment | Lecture (3 Credits)
Analyze varying building systems, their relationship to climate change, their integration into buildings, and their standards for documentation. Develop skills for design and documentation of ecologically sustainable building systems.

ARCH2111 | Construction Documents | Studio (5 Credits)
Create and develop building construction drawings and specification. Apply building regulations and codes to inform design development. Engage in collaborative building information management.

ARCH2122 | Building Materials | Lecture (3 Credits)
Analyze varying building systems details, material selections, and their specification standards. Develop skills for detailing, documenting, and specifying building materials.

ARCH2131 | Building Regulations | Lecture (3 Credits)
Examine the design implications of building regulations. Research building codes, zoning ordinances, and other regulatory factors. Explain the role of building regulations to public health. Analyze and apply building regulations to specific building conditions.

ARCH2211 | Capstone | Studio (5 Credits)
Engage in the design process and communicate design intent through architectural representation and construction documentation.
Prerequisite(s): ARCH2111

ARCH2221 | Portfolio | Lecture (3 Credits)
Create a curriculum vitae and portfolio of work suitable for entry into the profession and advancement in education. Expand professional behavior and communication skills.

ARCH2231 | Building Economics | Lecture (3 Credits)
Analyze and create building construction cost estimation. Explain and model building life cycle costs. Identify the relationship between whole building costs and climate change.

Architecture (BARCH), Bachelor of Architecture

Dunwoody's Bachelor of Architecture is a three-year, full-time professional degree program. The program invites applications from students with related degrees from other institutions as well as recipients of the Associate in Applied Science degree in Architectural Drafting & Design. Applications for admission into year three are accepted based on transcript and portfolio review.

Upon acceptance into the Bachelor of Architecture degree program, students acquire the capacity to become leaders in the profession. During their three years in the program, students harness advanced design and building technologies as a design tool to conceive of comprehensive architectural works. Students acquire leadership skills during practice-based studios with real world projects serving under-served communities worldwide. To support these public interest design initiatives, concurrent courses include professional practice and

Architectural Registration Exam preparation. Students learn to design in historical and cultural contexts through courses in history, theory, culture, service learning, community and civic engagement, and design build projects. Concurrently, students engage in Arts & Sciences courses in critical and creative thinking, research methods, and business courses in marketing, accounting, and management.

The Bachelor of Architecture degree program is accredited by the National Architectural Accrediting Board (NAAB). For more information about NAAB visit: http://naab.org/about/home (http://naab.org/about/home/)

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year term, an eight-year term with conditions, or a two-year term of continuing accreditation, or a three-year term of initial accreditation, depending on the extent of its conformance with established education standards. Doctor of Architecture and Master of Architecture degree programs may require a non-accredited undergraduate degree in architecture for admission. However, the non-accredited degree is not, by itself, recognized as an accredited degree.

Dunwoody College of Technology, School of Design offers the following NAAB-accredited degree program:

Bachelor of Architecture: 150 Semester Credits
Year of Next Accreditation Visit: 2023

Credential Earned: BARCH
Length of Program: 3 years (6 semesters)
Classes Offered: Day; Distance Learning
Available Starts: Fall Semester
Accreditation: National Architectural Accrediting Board (NAAB)

Program Outcomes

- Design: to harness the capacity of established and emerging design and building technologies and generate a capacity for architectural discovery.
- Technology: to embrace and participate in the current and profound changes in design and building technologies.
- The Profession: to create a generation of architects ideally poised to become leaders in the architecture profession.
- Communication: to explore vast architectural modes of representation, documentation, and presentation.

Degree Requirements

Admitted students to Architecture (BARCH) can transfer up to 45 technical and 15 Arts & Sciences credits. A transfer evaluation is required. Not all credits may transfer into the degree program.

Code	Title	Credits
Transfer Credits:		**60**
General Requirements		
General Electives		15
Technical Requirements		
ARCH3110	City & Site	5

ARCH3120	2D Rendering	3
ARCH3130	Early Global History of Architecture	3
ARCH3140	Landscape	1
ARCH3210	Program & Society	5
ARCH3220	2D Fabrication	3
ARCH3230	Late Global History of Architecture	3
ARCH3240	Material Studies	1
ARCH4110	Research & Culture	5
ARCH4120	3D Fabrication	3
ARCH4130	Globalization & the Vernacular	3
ARCH4140	Urbanism	1
ARCH4210	Fabrication	5
ARCH4220	Moving Image & Animation	3
ARCH4230	Metropolis & Activism	3
ARCH4240	Parametric Design	1
ARCH5110	Integrative Design	5
ARCH5120	Thesis Preparation	3
ARCH5130	Systems & Envelope	3
ARCH5140	Entrepreneurship	1
ARCH5210	Thesis	8
ARCH5220	Professional Practice	3
ARCH5230	Structures	3
ARCH5240	Architectural Writing	1
Total Credits		**150**

Courses

Descriptions

ARCH3110 | City & Site | Studio (5 Credits)
Apply the fundamental and experimental approaches to a rigorous design process. Apply design thinking at a city scale, through a non-polemic, iterative, multimedia approach.

ARCH3120 | 2D Rendering | Lecture (3 Credits)
Research design thinking through 2D rendering methods. Explain the fundamentals of a design process, iteration, rigor, critical representation, and architectural communication.

ARCH3130 | Early Global History of Architecture | Lecture (3 Credits)
Research and analyze architecture of the world throughout history. Examine the relationships between culture, geography, politics, race, and the ways in which they shape the built environment.

ARCH3140 | Landscape | Seminar (1 Credit)
Explore how form can integrate with and grow from natural systems, as well as how natural systems can integrate into architectural works through legible, self-evident user interaction with processes and phenomena.

ARCH3210 | Program & Society | Studio (5 Credits)
Research client, site and regulatory conditions to create a comprehensive architectural program. Utilize space planning strategies to create form. Use iterative design processes to evolve architectural thought. Expand design thinking and visualization skills toward the development of a complex architectural condition.
Prerequisite(s): ARCH3110

ARCH3220 | 2D Fabrication | Lecture (3 Credits)
Analyze architectural order through 2D fabrication. Develop, fabricate, and present varying ordering systems through iteration, rigor, critical representation, and architectural communication.

ARCH3230 | Late Global History of Architecture | Lecture (3 Credits)
Analyze the history and current context of modern architecture globally. Identify the societies and ideas that shape architecture history and theory. Examine the relationships between culture, geography, politics, race, and the ways in which they influence architectural thought and form.

ARCH3240 | Material Studies | Seminar (1 Credit)
Investigate the value, geography, global history, ecological impact, and strength properties of conventional, novel, and experimental materiality. Develop propositional learning skills and the understanding of technology, nature and design through material.

ARCH4110 | Research & Culture | Studio (5 Credits)
Apply architectural research to design while engaging a real world client and project. Employ an inclusive and participatory design process through engagement with various community stakeholders. Examine the relationship of architecture to public process and community development.

ARCH4120 | 3D Fabrication | Lecture (3 Credits)
Apply analog and digital 3D fabrication techniques as a design and representation tool. Develop skills utilizing design thinking, ordering systems, and digital fabrication methodologies.

ARCH4130 | Globalization & the Vernacular | Lecture (3 Credits)
Identify distinctions between vernacular and formal architecture traditions around the globe. Elaborate on the tensions between the role of architecture in urban and rural landscapes, as well as the distinctions between city and country. Catalog global vs. local processes in the structure of the city and place making. Build vocabulary and make distinctions in terminology such as culture, diversity, equity, modernity, pre-modern, agricultural, rural.

ARCH4140 | Urbanism | Seminar (1 Credit)
Research and analyze ideas of urbanism and their relationship to architecture within a design process. Perform comparative analysis of the Twin Cities and other urban centers through a series of case studies.

ARCH4210 | Fabrication | Studio (5 Credits)
Design and fabricate for varying socio-economic, political, and cultural contexts through immersive learning. Acquire a depth of knowledge of varying cultures and human behaviors and how they manifest themselves architecturally. Engage in intensive, participatory, and prototyping processes.
Prerequisite(s): ARCH4110

ARCH4220 | Moving Image & Animation | Lecture (3 Credits)
Practice skills in still and moving architectural visualization as a design and representation tool. Develop new skills utilizing design thinking, story-telling, and rendering techniques.

ARCH4230 | Metropolis & Activism | Lecture (3 Credits)
Examine the structure of cities and human settlement. Analyze the bio-politics of the city through the lens of safety, equity, race, and social justice, and its effect on humanity and the environment. Explore changes in urbanism based on current cultural conditions.

ARCH4240 | Parametric Design | Seminar (1 Credit)
Analyze ideas of parametric design and their relationship to architecture and the design process. Perform exercises in varying ideas and processes of parametric design in architecture.

ARCH5110 | Integrative Design | Studio (5 Credits)
Integrate site, regulatory, and program elements to create an architectural work. Demonstrate design intent within the design and development of building systems. Demonstrate integrative design through varying forms of architectural representation.
Prerequisite(s): ARCH4210

ARCH5120 | Thesis Preparation | Lecture (3 Credits)
Propose topics of architectural inquiry through peer-reviewed research. Investigate physical and digital modes of representation. Utilize physical and digital modes of representation, design thinking, ordering systems, and investigative skills to develop, represent, and propose a thesis.

ARCH5130 | Systems & Envelope | Lecture (3 Credits)
Research and analyze the building envelope and its performative relationship to building systems. Discover ways in which building systems are designed to reinforce architectural thought. Analyze works of architecture with a focus on integrative thinking.

ARCH5140 | Entrepreneurship | Seminar (1 Credit)
Investigate how architectural businesses form, grow, hire, and create sustainable business plans with lasting value. Analyze real world examples of how the profession of architecture fiscally operates in foundation, operation, capital investment, asset building, and liability management.

ARCH5210 | Thesis | Studio (8 Credits)
Design, develop, and present a provocation that defends a thesis. Demonstrate the power of architecture to creatively solve cultural, environmental, technological, or other substantive problems. Individual design philosophies, processes, self-discipline, autonomy, and time management skills are rigorously developed with an emphasis on iteration and personal evolution.
Prerequisite(s): ARCH5120

ARCH5220 | Professional Practice | Lecture (3 Credits)
Analyze the role of the architect in society as a leader, collaborator, and catalyst toward a better world. Examine the ethical, social, and legal responsibilities of professional practice. Describe the role of equity, diversity, and inclusion within the profession.

ARCH5230 | Structures | Lecture (3 Credits)
Analyze the principles of building structures through quantitative and mathematical means. Examine conventional, unconventional, and emerging structural systems. Explain the relationship between structural systems and design intent.

ARCH5240 | Architectural Writing | Seminar (1 Credit)
Engage in scholarly architectural writing. Discover the means and methods of architectural writing. Gain exposure to scholarly publication opportunities. Generate works which successfully hold up to peer review. Perform peer review for other generated works.

Graphic Design & Production (GRDP), AAS

At Dunwoody College of Technolgy, the Graphic Design & Production program focuses on graduating designers who can take visual communication projects from concept to final product. Students are prepared to work in a variety of creative fields, including marketing, advertising, publishing, packaging, and structural design.

The program places an emphasis on developing fluency with professional design and production processes. Students learn to produce work that solves visual communication challenges creatively and effectively, informed by technical practices and standards. Instruction takes place in a hands-on design studio and experiential maker's space. Students use current professional graphics hardware (Apple OSX) and software (Adobe Creative Cloud). Course content includes design, layout and typography; color theory, color management, and photo editing; web development and animation; structure, packaging, and 3D.

Arts & Sciences curriculum both supports the students' technical direction and enhances their oral and written communication skills, fundamental math skills, and critical thinking ability. The course of study culminates in an industry internship or capstone project where students gain on-the-job experience.

Credential Earned: AAS
Length of Program: 2 years (4 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Bachelor's Completion Option(s): Business Management Leadership (AMGT), Bachelor of Science (p. 18)

Program Outcomes

- Characterize industry models and processes.
- Prepare projects to provided graphic communications specifications.
- Control color processes.
- Demonstrate professional workplace behavior.
- Apply principles and elements of design to visual communications.
- Evaluate graphic communication work/deliverables.
- Model a professional design process.
- Develop a professional brand/persona.

Degree Requirements

Code	Title	Credits
General Requirements		
ARTS1000	Introduction to Drawing	3
Communications		3
Natural Sciences/Mathematics		3
Social Sciences		3
General Elective		3
Technical Requirements		
GRDP1100	Graphic Studio	5
GRDP1102	Industry Focus	3
GRDP1103	Production Focus	3
GRDP1104	Image Editing	1
GRDP1200	Type Studio	5
GRDP1202	Packaging Focus	3
GRDP1203	Identity Focus	3
GRDP2111	Structural Studio	5
GRDP2102	Prepress Focus	3
GRDP2103	DataViz Focus	3
GRDP2201	Interface Studio	5
GRDP2202	Portfolio Focus	3
GRDP2203	CGI Focus	3
GRDP Electives		3
Total Credits		**63**

Courses

GRDP1100 | Graphic Studio | Lecture/Studio (5 Credits)
This course is an introduction to the tools, techniques and principles of graphic design. Students will conduct research, utilize creative problem solving, and explore design workflows. Communication of design intent with an emphasis on typography, drawing, layout and composition will be explored using industry standard software.

GRDP1102 | Industry Focus | Lecture/Laboratory (3 Credits)
This course will explore the design industry. Career paths, professional organizations, and best practices will be introduced. Students will also explore design history, the impact of design on contemporary culture and the importance of effective communication through design.

GRDP1103 | Production Focus | Lecture/Laboratory (3 Credits)
An introduction to the fundamentals of post-design practices as they relate to the production of commercial print pieces. Students will explore industry practices with an emphasis on modern and emerging digital print workflows.

GRDP1104 | Image Editing | Seminar (1 Credit)
Explore post-photography image editing. Utilize industry software tools to create effects and corrections necessary to prepare photos for professional applications.

GRDP1200 | Type Studio | Lecture/Studio (5 Credits)
Develop visual communication skills through the examination of typographic principles and history. Emphasis is placed on typography's power to convey meaning in design.

GRDP1202 | Packaging Focus | Lecture/Laboratory (3 Credits)
Explore the history and contemporary applications of packaging within a retail environment. Emphasis is placed on structural design and sustainable materials and practices.

GRDP1203 | Identity Focus | Lecture/Laboratory (3 Credits)
Explore the communication of abstract ideas though type and symbol. Develop a visual identity system with an emphasis on conveying brand messaging through research, ideation, production and evaluation of design artifacts.

GRDP2111 | Structural Studio | Lecture/Studio (5 Credits)
Develop structural design and production skills while cultivating an awareness of the global impact of packaging. Students will be introduced to sustainable practices. Emphasis is placed on the hands-on development of a retail ready package or store display.

GRDP2102 | Prepress Focus | Lecture/Laboratory (3 Credits)
Explore the post-design production stages related to file preparation with emphasize on output techniques for optimal print outcomes. Workflow automation, variable data printing, and color management will be discussed.

GRDP2103 | DataViz Focus | Lecture/Laboratory (3 Credits)
Explore information analysis and presentation through way-finding and infographics. Emphasis will be placed on accessibility, clarity, and usability.

GRDP2201 | Interface Studio | Lecture/Studio (5 Credits)
Develop human-centered approaches to interface design while cultivating empathy for social, cultural, and ability differences. This course will emphasize planning, research, prototyping, and validation best practices.

GRDP2202 | Portfolio Focus | Lecture/Laboratory (3 Credits)
Develop a personal brand, visual identity and professional portfolio through self-reflection, research, ideation and assessment. Analyze and synthesize current design work and abilities, focusing on selection, organization and presentation for professional advancement.

GRDP2203 | CGI Focus | Lecture/Laboratory (3 Credits)
Explore the creation of computer-generated photorealistic objects and scenes. Emphasis on composing product shots, focusing on 3D objects that are suitable for user interfaces.

GRDP1501 | Photography | Seminar (1 Credit)
Introduction to the technical aspects of digital photography and digital post-processing. Emphasis on studio lighting and creating photographs for visual communication projects.

GRDP1502 | Digital Surface Design | Seminar (1 Credit)
Introduction to the tools, techniques and uses of digital surface design. Explore digital illustration and pattern making with emphasis on enhancing the visual appearance of surfaces.

GRDP1503 | Motion Design | Seminar (1 Credit)
Introduction to the concepts and tools used for creating time and motion-based communications. Explore user-interactivity, frame based animations, storyboarding, and information-rich promotional presentations.

GRDP1504 | EGD | Seminar (1 Credit)
Explore the application of Environmental Graphic Design concepts in 3-dimensional spaces, including way-finding, place-making and branded environments. Emphasis on ADA compliance and human-centered interaction.

GRDP1505 | Web Content | Seminar (1 Credit)
Introduce digital content management systems and apply design thinking to scalable interface solutions. Emphasis on foundational technical skills, and the integration of visual design with the production of visual interfaces.

GRDP1506 | Experimental Type | Seminar (1 Credit)
Explore experimental approaches to typography through digital, hand-drawn and 3D applications. Conceptualize type as image with emphasis on conveying a meaning or emotion through non-traditional visual solutions.

ARTS1000 | Introduction to Drawing | Lecture (3 Credits)
Analyze basic drawing concepts and techniques through demonstrations, discussions, critiques, slide lectures, and the use of a sketchbook. Work from observation using line, tone and other elements of art to solve spatial, compositional and light problems to accurately render the illusion of 3-dimensional form on a 2-dimensional surface.
General Education: Humanities

Interior Design (IDSN), Bachelor of Science

At Dunwoody College of Technology, the Interior Design program provides a professional, applied education with an emphasis on collaboration, critical thinking, and technology. The faculty is comprised of working professionals who are passionate about the field of design as well as student success.

Students use design theories, interior materials, building codes, cost analysis, and both hand and computer-aided drafting to develop and prepare functional and innovative designs for residential and commercial projects. On-campus studios foster an engaging environment where creative problem solving is emphasized. Students participate in cross-disciplinary collaboration with peers in architecture, graphic design, and other construction sciences majors. This holistic, career-based approach prepares the student to be a productive, successful professional.

Interior Design is a four-year Bachelor of Science degree program accredited by the Council for Interior Design Accreditation.

Credential Earned: BS
Length of Program: 4 years (8 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Accreditation: CIDA (Council for Interior Design Accreditation)

Program Outcomes
External Standard 4 (C4) - (CIDA) Standard 4: Global Context

a) Students understand that human and environmental conditions vary according to geographic location and impact design and construction decisions.

b) Student work demonstrates understanding of how social, economic, cultural, and physical contexts inform interior design.

c) Student work demonstrates understanding of how systems thinking informs the practice of interior design.

d) The interior design program provides exposure to the current and relevant events that shape contemporary society and the world.

e) The interior design program provides exposure to a variety of cultural norms.

f) The interior design program provides opportunities for developing multi-cultural awareness.

External Standard 5 (C5) - (CIDA) Standard 5: Collaboration

a) Students have awareness of the integration of multi-disciplinary collaboration in design practices.

b) Students understand the terminology and language necessary to communicate effectively with members of allied disciplines.

c) Students understand technologically based collaboration methods specific to the problem-solving process for the built environment disciplines.

d) Students understand the dynamics of team collaboration and the distribution and structure of team responsibilities.

e) Student work demonstrates the ability to effectively collaborate with multiple disciplines in developing design solutions.

External Standard 6 (C6) - (CIDA) Standard 6: Business Practices and Professionalism

a) Students have awareness of the contexts for interior design practice.

b) Students have awareness of the impact of regional and global markets on design practices.

c) Students have awareness of the breadth and depth of interior design's impact and value.

d) Students have awareness of the components and responsibilities of business practice.

e) Students understand types of professional business formations.

f) Students understand elements of project management.

g) Students understand Instruments of Service.

h) Students understand professional ethics and conduct.

External Standard 7 (C7) - (CIDA) Standard 7: Human-Centered Design

a) Student work demonstrates understanding of theories related to the impact of the built environment on human experience, behavior, and performance.

b) Student work demonstrates understanding of the relationship between the natural, built, virtual, and technological environments as they relate to the human experience.

c) Student work demonstrates the ability to gather and apply human-centered evidence.

d) Student work demonstrates the ability to analyze and synthesize human perception and behavior patterns to inform design solutions.

e) Student work demonstrates the ability to apply human factors, ergonomics, inclusive, and universal design principles to design solutions.

f) Student work demonstrates the ability to apply wayfinding techniques to design solutions.

External Standard 8 (C8) - (CIDA) Standard 8: Design Process

a) Student work demonstrates the ability to apply space planning techniques throughout the design process.

b) Student work demonstrates the ability to apply knowledge and skills learned to solve progressively complex design problems.

c) Student work demonstrates the ability to apply knowledge and skills learned to identify and define issues relevant to the design problem.

d) Student work demonstrates the ability to apply knowledge and skills learned to synthesize information to generate evidence-based design solutions.

e) Student work demonstrates the ability to apply knowledge and skills learned to use precedents to inform design concepts or solutions.

f) Student work demonstrates the ability to apply knowledge and skills learned to explore and iterate multiple ideas.

g) Student work demonstrates the ability to apply knowledge and skills learned to design creative and effective solutions.

h) Student work demonstrates the ability to apply knowledge and skills learned to execute the design process: pre-design, quantitative and qualitative programming, schematic design, and design development.

i) Students understand the importance of evaluating the relevance and reliability of information and research impacting design solutions.

External Standard 9 (C9) - (CIDA) Standard 9: Communication

a) Students are able to effectively interpret and communicate data and research.

b) Students are able to effectively express ideas and their rationale in oral communication.

c) Students are able to effectively express ideas and their rationale in written communication.

d) Students are able to effectively express ideas and their rationale developed in the design process through visual media: ideation drawings and sketches.

e) Students are able to effectively express project solutions using a variety of visual communication techniques and technologies appropriate to a range of purposes and audiences.

External Standard 10 (C10) - (CIDA) Standard 10: History

a) Students understand the basic context and framework of history as it relates to interior design.

b) Students understand the basic context and framework of history as it relates to furniture, decorative arts, and material culture.

c) Students understand the basic context and framework of history as it relates to architecture.

d) Students understand the basic context and framework of history as it relates to art.

e) Students understand the social, political, and physical influences affecting historical changes in design of the built environment.

f) Students apply precedents to inform design solutions.

External Standard 11 (C11) - (CIDA) Standard 11: Design Elements and Principles

a) Students understand the elements and principles of design and related theories, including spatial definition and organization.

b) Student work demonstrates the ability to explore a range of two- and three-dimensional design solutions using a variety of media.

c) Students effectively apply the elements and principles of design and related theories throughout the interior design curriculum to two-dimensional design solutions.

d) Students effectively apply the elements and principles of design and related theories throughout the interior design curriculum to three-dimensional design solutions.

External Standard 12 (C12) - (CIDA) Standard 12: Light and Color

a) Students effectively apply the elements and principles of design and related theories throughout the interior design curriculum to Students

are aware of the environmental impact of illumination strategies and decisions.

b) Students understand the principles of natural and artificial lighting design.

c) Students understand strategies for using and modulating natural light.

d) Students competently select and apply luminaires and light sources.

e) Students have awareness of a range of sources for information and research about color.

f) Students understand how light and color impact health, safety, and wellbeing in the interior environment.

g) Student work demonstrates understanding of color terminology.

h) Student work demonstrates understanding of color principles, theories, and systems.

i) Student work demonstrates understanding of color in relation to materials, textures, light, and form.

j) Student work demonstrates the ability to appropriately select and apply color to support design concepts.

k) Student work demonstrates the ability to appropriately select and apply color to multiple design functions.

l) Student work demonstrates the ability to appropriately use color solutions across different modes of design communication.

External Standard 13 (C13) - (CIDA) Standard 13: Products and Materials

a) Student work demonstrates understanding of how furnishings, objects, materials, and finishes work together to support the design intent.

b) Student work demonstrates understanding of typical fabrication process, installation methods, and maintenance requirements for products and materials.

c) Student work demonstrates understanding of appropriate design or specification of furnishings, equipment, materials, and finishes in relation to project criteria and human and environmental wellbeing.

d) Students select and apply products and materials on the basis of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.

e) Students are able to design and specify a broad range of appropriate products, materials, furniture, fixtures, equipment, and elements in support of the design intent.

f) Students are able to design and specify a broad range of appropriate products, materials, objects, and elements in support of the design intent.

External Standard 14 (C14) - (CIDA) Standard 14: Environmental Systems and Human Wellbeing

a) Students understand that design decisions relating to acoustics, thermal comfort, and indoor air quality impact human wellbeing and the environment.

b) Students understand the principles of acoustical design.

c) Students understand appropriate strategies for acoustical control.

d) Students understand the principles of thermal design.

e) Students understand how active and passive thermal systems and components impact interior design solutions.

f) Students understand the principles of water systems and waste systems.

g) Students understand strategies for integrating water systems and waste systems.

h) Students understand the principles of indoor air quality.

i) Students understand how the selection and application of products and systems impact indoor air quality.

External Standard 15 (C15) - (CIDA) Standard 15: Construction

a) Students have awareness of the environmental impact of construction.

b) Student work demonstrates understanding that design solutions affect and are impacted by base-building structural systems and construction methods.

c) Student work demonstrates understanding that design solutions affect and are impacted by interior systems, construction, and installation methods.

d) Student work demonstrates understanding that design solutions affect and are impacted by detailing and specification of interior construction materials, products, and finishes.

e) Student work demonstrates understanding that design solutions affect and are impacted by the integration of building systems including electrical (such as power, data, lighting, telecommunications, audio visual) and mechanical (such as HVAC, plumbing, and sprinklers).

f) Student work demonstrates understanding that design solutions affect and are impacted by monitoring systems pertaining to energy, security, and building controls systems.

g) Student work demonstrates understanding that design solutions affect and are impacted by vertical and horizontal systems of transport and circulation such as stairs, elevators, or escalators.

h) Students understand the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.

i) Students are able to read and interpret base-building construction documents.

j) Students are able to contribute to the production of interior contract documents including drawings, detailing, schedules, and specifications appropriate to project size and scope.

External Standard 16 (C16) - (CIDA) Standard 16: Regulations and Guidelines

a) Students have awareness of the origins and intent of laws, codes, and standards.

b) Student work demonstrates understanding of standards and guidelines related to sustainability and wellness.

c) Student work demonstrates understanding of sector-specific regulations and guidelines related to construction, products, and materials.

d) Student work demonstrates the ability to apply federal, state/provincial, and local codes including fire and life safety.

e) Student work demonstrates the ability to apply barrier-free and accessibility regulations and guidelines.

Degree Requirements

Code	Title	Credits
General Requirements		
ARTS1000	Introduction to Drawing	3
Communications Elective		3
Natural Sciences/Mathematics Elective		3
Social Sciences Elective		3
General Electives		18
Technical Requirements		
IDSN1101	Studio Design	5
IDSN1102	Composition Lab 1	3
IDSN1103	Color Lab	3
IDSN1201	Studio Mixed Use	5
IDSN1202	Composition Lab 2	3
IDSN1203	Materials Lab	3
IDSN2101	Studio Commercial	5
IDSN2102	Design Lab	3
IDSN2103	Universal Lab	3
IDSN2201	Studio Housing	5
IDSN2202	Lighting Lab	3
IDSN2203	Evidence Lab	3
IDSN3101	Studio Healthcare	5
IDSN3102	Interior Design History	3
IDSN3103	Detailing Lab	3
IDSN3201	Studio Hospitality	5
IDSN3202	Composition Lab 3	3
IDSN3203	Global Lab	3
IDSN4101	Studio Research	5
IDSN4102	Furniture Lab	3
IDSN4201	Studio Capstone	5
IDSN4202	Industry Lab	3
Technical Electives		**8**
Total Credits		**120**

Courses
Descriptions

IDSN1101 | Studio Design | Lecture/Studio (5 Credits)
Introduction to the tools, techniques, and principles of architectural drafting through hand and computer-aided methods. Communicate design intent with emphasis on interior working drawings through a small commercial studio.

IDSN1102 | Composition Lab 1 | Lecture/Laboratory (3 Credits)
Introduction to the tools for design and graphic communication. Create diagrams that support quick 2D and 3D ideation using various methods and techniques.

IDSN1103 | Color Lab | Lecture/Laboratory (3 Credits)
Create color compositions that explore ideas of hue, value, saturation, and color harmony, using traditional media. Explore and research the psychology and symbolism of color, cultural relationships to color, and effects of lighting.

IDSN1201 | Studio Mixed Use | Lecture/Studio (5 Credits)
Practice the design process and how to communicate design intent through a small mixed-use studio project. Emphasis is placed on programming, space planning, presentation methods, and project communication techniques.
Prerequisite(s): IDSN1101

IDSN1202 | Composition Lab 2 | Lecture/Laboratory (3 Credits)
Introduction to digital tools for application in design and graphic layout. Continue to explore ideas of presentation and visual communication.

IDSN1203 | Materials Lab | Lecture/Laboratory (3 Credits)
Analyze materials and textiles for durability, ease of use, life-cycle cost, sustainability, safety, and other performance criteria. Specify appropriate finishes and textiles for a variety of uses.

IDSN1501 | Design Explorations | Seminar (1 Credit)
Develop expressive designs, using observation and imagination, to explore environment, culture, and meaning.

IDSN1502 | 3D Concepts | Seminar (1 Credit)
Introduction to critical thinking methods as they relate to creative problem solving, using basic elements and principles of design. Explore the design process to create visual responses to abstract concepts.

IDSN1503 | Land By Design | Seminar (1 Credit)
Explore ideas related to design and the landscape. Discover how designers interact with and impact our natural environment.

IDSN1504 | Learning Beyond | Seminar (1 Credit)
Explore various learning opportunities beyond the classroom; includes an introduction to educational possibilities for life beyond the college experience.

IDSN1505 | Surface Design | Seminar (1 Credit)
Explore pattern design, color manipulation, and embellishment to create dynamic surfaces using a variety of techniques.

IDSN1506 | Community Connect | Seminar (1 Credit)
Develop professional growth skills by connecting to the greater design community.

IDSN2101 | Studio Commercial | Lecture/Studio (5 Credits)
Develop design skills while cultivating empathy through a commercial studio project for an underserved community. Collaborate in concept, programming, space planning, and schematic design. Emphasis is placed on addressing client, universal design, and wayfinding.
Prerequisite(s): IDSN1201

IDSN2102 | Design Lab | Lecture/Laboratory (3 Credits)
Introduction to Building Information Modeling (BIM) concepts, practices, and drafting techniques. Create a virtual architectural model that will aid in the creation of construction documents and design presentation.

IDSN2103 | Universal Lab | Lecture/Laboratory (3 Credits)
Examine the history and application of federal, state, and municipal codes, standards, and accessibility guidelines with an emphasis on life safety and universal design.

IDSN2201 | Studio Housing | Lecture/Studio (5 Credits)
Develop design skills while exploring evidence-based design through a multi-housing studio project. Emphasis is placed on code application, prototypes, and detailing.
Prerequisite(s): IDSN2102

IDSN2202 | Lighting Lab | Lecture/Laboratory (3 Credits)
Use design factors and strategies to create quality interior illumination. Emphasis is placed on function, specification, and environmental application.

IDSN2203 | Evidence Lab | Lecture/Laboratory (3 Credits)
Gather appropriate research and analyze data to address a design problem. Demonstrate best practices for information communication.

IDSN3101 | Studio Healthcare | Lecture/Studio (5 Credits)
Develop best practices around health, safety, wellbeing, and comfort through a healthcare studio project. Collaborate in the execution of the design process. Emphasis is placed on performance requirements and fostering community.
Prerequisite(s): IDSN2102

IDSN3102 | Interior Design History | Lecture/Laboratory (3 Credits)
Explore the global history of architecture, interiors, and decorative arts focusing on social, cultural, environmental, and economic factors.

IDSN3103 | Detailing Lab | Lecture/Laboratory (3 Credits)
Explore, in-depth, the art of interior detailing, specification, fabrication, and installation.

IDSN3201 | Studio Hospitality | Lecture/Studio (5 Credits)
Strengthen conceptual skills while considering historical precedent through a hospitality studio project, Collaborate in the execution of the design process. Emphasis is placed on advanced digital tools, volumetric expression, custom detailing, and guest experience.
Prerequisite(s): IDSN2102

IDSN3202 | Composition Lab 3 | Lecture/Laboratory (3 Credits)
Create a media package exploring personal branding for professional growth. Focus on visual communication and design impact.

IDSN3203 | Global Lab | Lecture/Laboratory (3 Credits)
Explore ideas of interior design in a global context. Gain knowledge of globalization, inclusivity, and cultural awareness through research and experimentation.

IDSN3501 | Custom Detailing | Seminar (1 Credit)
Complete an installation from concept through documentation to fabrication.

IDSN3502 | Dissecting Space | Seminar (1 Credit)
Explore space and theory around a specific typology.

IDSN3503 | History in Depth | Seminar (1 Credit)
Examine a particular aspect of history (period, region, or designer) and apply to design practice.

IDSN3504 | Biomimicry | Seminar (1 Credit)
Solve design problems based on nature's wisdom and biological blueprints.

IDSN3505 | Design & Health | Seminar (1 Credit)
Explore the relationship between the natural and built environments through the context of sustainable design.

IDSN3506 | Design Psychology | Seminar (1 Credit)
Examine mind and behavior through a design lens.

IDSN4101 | Studio Research | Lecture/Studio (5 Credits)
Conduct an in-depth analysis, and synthesize information through a studio research project. Develop a comprehensive design brief used to guide further design solutions. Emphasis is placed on application of evidence-based design.
Prerequisite(s): IDSN2101, IDSN2201, IDSN3101, And IDSN3201

IDSN4102 | Furniture Lab | Lecture/Laboratory (3 Credits)
Explore aesthetic and functional issues related to the creation of custom, freestanding furniture.

IDSN4201 | Studio Capstone | Lecture/Studio (5 Credits)
Synthesize findings, through the continuation of studio research, to develop a comprehensive design project. Emphasis is placed on execution of design brief into a design solution.
Prerequisite(s): IDSN4101

IDSN4202 | Industry Lab | Lecture/Laboratory (3 Credits)
Examine, in-depth, project management and business practices using industry standards.

ARTS1000 | Introduction to Drawing | Lecture (3 Credits)
Analyze basic drawing concepts and techniques through demonstrations, discussions, critiques, slide lectures, and the use of a sketchbook. Work from observation using line, tone and other elements of art to solve spatial, compositional and light problems to accurately render the illusion of 3-dimensional form on a 2-dimensional surface.
General Education: Humanities

School of Engineering

The School of Engineering prepares students to solve complex engineering problems and projects and gain employment in a variety of industries. Dunwoody's engineering education treats students as professionals from day one. The School offers majors in computer, electrical, and mechanical engineering.

Coursework is project-based, which means theoretical engineering principles are reinforced and applied through hands-on creation and problem-solving. Students learn engineering processes, techniques, and tools, and how to utilize them in their particular discipline. Faculty have both engineering degrees and industry experience so students learn the skills industry is looking for, including teamwork, engineering thinking, and the ability to communicate effectively.

Students gain real-world experience through field trips, industry speakers, internship opportunities, and a senior project.

Degrees Offered

Computer Engineering (CENG), Bachelor of Science

OVERVIEW

At Dunwoody College of Technology, the Computer Engineering bachelor's degree prepares students for careers that focus on the design, integration, and optimization of internet-connected devices (smart technologies). The degree prepares students for careers that focus on the intersection of electrical engineering, software engineering, and computer engineering. Job titles can range from computer engineer and electrical engineer to computer scientist and data scientist.

Students learn to how to use computer and embedded systems that monitor, collect, send, control, and store vast amounts of data in order to solve a variety of problems. The emphasis is not on designing the microprocessor chips themselves, but rather on how they're used in industry and other applications, such as in enterprise development, data-driven systems, and the integration of IT (information technology) and OT (operational technology).

Coursework includes study in electrical circuits, programming, digital and microprocessors systems, connected devices, embedded systems, and data science. Curriculum is project-integrated so that theoretical engineering principles are reinforced and experienced through hands-on creation and problem-solving.

Arts & Sciences courses help students understand the core mathematical and scientific principles that all engineering projects grow out of, as well as provide students with the communication and critical thinking skills required to succeed in the profession.

All students complete a senior project.

Credential Earned: BS
Length of Program: 4 years (8 semesters)
Classes Offered: Day
Available Starts: Fall Semester

PROGRAM OUTCOMES

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- An ability to communicate effectively with a range of audiences
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

DEGREE REQUIREMENTS

Code	Title	Credits
General Education		
ECON1000	Introduction to Micro & Macro Economics	3
MATH1811	Calculus I	4
or MATH1812	Calculus I with Lab	
MATH1821	Calculus II	4
MATH2260	Probability & Statistics	4
MATH2810	Multi-Variable Calculus	4
MATH2820	Linear Algebra & Differential Equations	4
MATH2830	Discrete Math	3
PHYS1800	Physics I with Lab	4
PHYS1820	Physics II with Lab	4
SPCH1000	Speech	3
WRIT2010	Technical Writing	3
Humanities Elective		3
Social Sciences Elective		3
Technical Credits		
ENGR1210	Introduction to Programming	3
ENGR1110	Introduction to Engineering	3
ENGR1115	Intro to Automation,Robotics, & Sensors	2
EENG1240	Circuit Fundamentals I	3
EENG1241	Circuit Fundamentals I Lab	1
SENG1210	Application Development I	4
EENG1210	Logic & Digital Design	2
EENG1220	Logic & Digital Design Lab	1
ENGR1230	Networking, Data Security for Engr	4
EENG2111	Circuit Fundamentals	3
EENG2120	Circuit Fundamentals Lab	1
SENG2240	Connected Devices Development I	3
EENG2132	Digital Systems	3
EENG2210	Analog Circuits	3
EENG2220	Analog Circuits Lab	1
SENG3400	Operating Systems	3
EENG3131	Signals & Systems	3
SENG4400	Data Science & Machine Learning	3
ENGR3120	Engineering Economics	2
EENG3211	Digital & Microprocessors Systems	3
EENG3220	Digital & Microprocessors Systems lab	1
EENG3150	Topics in Applied Instrumentation	3
EENG3260	Motors & Controls	4
SENG3240	Connected Device Development II	3
CENG4200	Embedded Systems	3
CENG4100	Computer Architecture	4
CENG4300	Computational Optimization in HW	3
ENGR4110	Engineering Ethics & Safety	2
EENG4231	DSP & Filters	3
CENG4150	Senior Design Project	2

COURSES

CENG4100 | Computer Architecture | Lecture/Laboratory (4 Credits)
This course will cover the basics of computer architecture and organization. A variety of computer processor architectures will be analyzed and experimented with to evaluate each in terms of performance, power consumption, etc.
Prerequisite(s): EENG3211

CENG4150 | Senior Design Project | Capstone (2 Credits)
Senior Design Project to implement the learning gained from previous years of study. This course will vary based on the instructor and students' areas of interest.

CENG4200 | Embedded Systems | Lecture/Laboratory (3 Credits)
This course will cover the basics of designing, interfacing, configuring, and programming embedded systems. The course will utilize inexpensive, popular embedded systems, like Arduino, which are used by hobbyists, researchers, and in industry, to implement the techniques learned in class.
Prerequisite(s): EENG3211

CENG4300 | Computational Optimization in HW | Lecture/Laboratory (3 Credits)
This course will cover topics such as (but not limited to) techniques for speeding up hardware implementations, including system restructuring, algorithms, and hardware innovations. Students will learn the importance of code optimization trade offs for available hardware resources.
Prerequisite(s): SENG2220

EENG1210 | Logic & Digital Design | Lecture (2 Credits)
Introduction to logic gates and state machines. The foundations of number systems and binary logic are implemented using logic gates. Karnaugh maps are used to realize Boolean algebra, leading to combinational logic circuits. State machines such as flip-flops, counters, and registers are analyzed.
Corequisite(s): EENG1220

EENG1220 | Logic & Digital Design Lab | Laboratory (1 Credit)
Build logic circuits and state machines in a laboratory environment from scratch using components such as IC chips and breadboards. Measure inputs and outputs using oscilloscopes and logic analyzers. Explore potential uses and implementations for real world solutions. Model design with Hardware Description Language coding.
Corequisite(s): EENG1210

EENG2111 | Circuit Fundamentals | Lecture (3 Credits)
Examine transient and steady state conditions in complex circuits. Investigate power, power factor, and power transfer. Explore frequency using Fourier analysis, Bode plots, passive filters and transfer functions.
Prerequisite(s): ENGR1221
Corequisite(s): EENG2120

EENG2120 | Circuit Fundamentals Lab | Laboratory (1 Credit)
Prototype various circuits and determine values using electrical metrology tools and techniques. Compare expected behavior against measured responses.
Prerequisite(s): ENGR1221
Corequisite(s): EENG2111

EENG2132 | Digital Systems | Lecture/Laboratory (3 Credits)
Examine various systems through abstraction from the basic concepts of digital blocks. Use hardware description languages such as Verilog to design the digital systems. Work with memory and programmable logic devices and FPGAs to design and program reconfigurable systems.
Prerequisite(s): EENG1210

EENG2210 | Analog Circuits | Lecture (3 Credits)
Analysis of continuous variable systems. Discuss non-linear components such as diodes and transistors. Explore more advanced concepts and components including multi-transistor amplifiers and op-amps.
Corequisite(s): EENG2220

EENG2220 | Analog Circuits Lab | Laboratory (1 Credit)
Design and construct circuits, focusing on prototyping and debugging, using common electrical engineering equipment and tools.
Prerequisite(s): EENG2120
Corequisite(s): EENG2210

EENG3131 | Signals & Systems | Lecture (3 Credits)
Introduction to the foundation of communications, signal processing and control theory. Analyze linear time invariant continuous and discrete systems and signal transformations, convolution, frequency spectra, Laplace transforms, Z transforms, and fast Fourier transforms.
Prerequisite(s): MATH2820

EENG3150 | Topics in Applied Instrumentation | Lecture/Laboratory (3 Credits)
Introduction to various types of instrumentation and control schemas. Topics include pressure, temperature, level and flow detection and calculations. Lab activities include calibration, tuning and installation of various analog and smart equipment used in industry.
Prerequisite(s): EENG3110

EENG3211 | Digital & Microprocessors Systems | Lecture (3 Credits)
Investigate microprocessor and microcontroller operations. Explain registers, memory and I/O interfacing principles. Describe embedded systems and their applications in real world systems. Utilize microprocessor/microcontroller for embedded system Hardware/Software development.
Prerequisite(s): EENG2132
Corequisite(s): EENG3220

EENG3220 | Digital & Microprocessors Systems lab | Laboratory (1 Credit)
Implement embedded systems using different hardware platforms and different programming languages. Demonstrate the design considerations for systems ranging from basic to complex applications.
Prerequisite(s): EENG2132
Corequisite(s): EENG3211

EENG3260 | Motors & Controls | Lecture/Laboratory (4 Credits)
Examine the fundamentals of electrical motor control components, circuits and systems. Topics include electrical control symbols, power distribution, control transformers, solenoids and relays, motor starters, pilot devices, timers and sequencers, DC and AC motor principles, proximity sensors and troubleshooting.
Prerequisite(s): EENG3110

EENG4231 | DSP & Filters | Lecture (3 Credits)
Analyze Discrete-time signals and systems. Design and implement Digital Filters. Compute Signal Spectrum using FFT algorithms. Implement DSP solutions using industry standard solutions and design tools offered by companies such as Texas Instruments, and ON Semiconductor. Contrast DSP and Microprocessor solutions in meeting performance standards.
Prerequisite(s): EENG4110

ENGR1210 | Introduction to Programming | Lecture/Laboratory (3 Credits)
Examine and implement computational problem-solving strategies using computer languages to solve engineering problems. Develop algorithms and translate solutions into computer programs. Distinguish differences in programming languages and software tools with applicability to different types of problem solutions. Apply modular design and clear documentation for efficient problem solving.

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

ENGR1230 | Networking, Data Security for Engr | Lecture/Laboratory (4 Credits)
Explore data communications, cybersecurity, and Internet of Things (IoT) in a connected world. Explain computer networking concepts with data security in mind. Identify security concepts and security audit processes as well as career opportunities in connectivity/networking/security disciplines.

ENGR3120 | Engineering Economics | Lecture (2 Credits)
Economic analysis of engineering decisions under uncertainty. Concepts include time value of money, cash flow estimation, rate of return analysis, net present value estimation, and asset evaluation. Applications include comparing different project alternatives accounting for heterogeneity in cost, revenue, taxation, depreciation, inflation, and risk.

ENGR4110 | Engineering Ethics & Safety | Lecture (2 Credits)
Interpret the connection between personal morality, the role of engineers and engineering in society, and relationship to one's employer. Case studies involving conflicts within these roles are reviewed and evaluated. Interpret safety and accident information to develop a basic understanding of needed safety protocols in a variety of engineering environments.

SENG1210 | Application Development I | Lecture/Laboratory (4 Credits)
Develop a base level of proficiency in Python and Java programming languages employing simple and moderately complex data structures and algorithms. A range of programming concepts will be covered, including classes, objects, primitives, inheritance, encapsulation, abstraction, polymorphism, and interfaces.
Prerequisite(s): ENGR1210

SENG3400 | Operating Systems | Lecture/Laboratory (3 Credits)
Analyze the purpose of operating systems. Topics include: elements of operating systems, memory and process management, interactions among major components of a computer system, the effects of computer architecture on operating systems, and an examination of how different operating systems (desktop, server, mobile, real-time) impact Software Design.
Prerequisite(s): SENG2220

SENG4400 | Data Science & Machine Learning | Lecture/Laboratory (3 Credits)
Advanced topics in Data Analysis, Data Science, and Machine Learning. Analyze large datasets. Implement supervised and unsupervised learning.
Prerequisite(s): SENG2230

SENG2240 | Connected Devices Development I | Lecture/Laboratory (3 Credits)
Explore and implement Internet connected devices. Internet of Things (IoT) device design and implementation. Use the Raspberry Pi and a variety of sensors, actuators, networking, and programming techniques to create IoT devices. A knowledge of Python is required and prior programming experience.
Prerequisite(s): SENG1210

SENG3240 | Connected Device Development II | Lecture/Laboratory (3 Credits)
Advanced study of Internet connected devices. Design and implement applications and services for mobile and smart devices such as smartphones, smart displays, smart speakers. The Android architecture and operating system will be primarily used. Design challenges and opportunities in the mobile/smart device market. Students must have a strong background in application development, the software lifecyle/tooling, and Operating Systems.
Prerequisite(s): SENG3400

ECON1000 | Introduction to Micro & Macro Economics | Lecture (3 Credits)
Fundamental economic issues and theories are explored through discussion and research. Current events, policy perspectives, and case studies are used to process and apply economics to everyday life.
General Education: Social Sciences

MATH1811 | Calculus I | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
General Education: Mathematics

MATH1821 | Calculus II | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements such as the area under curves, the volumes within complex geometries, and for describing functions as an infinite series. Computer software enables the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1811 Or MATH1812
General Education: Mathematics

MATH2260 | Probability & Statistics | Lecture (4 Credits)
Introduction to probability and statistics with applications. Topics include: basic combinatorics, random variables, probability distributions, hypothesis testing, confidence intervals, and linear regression.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH2810 | Multi-Variable Calculus | Lecture (4 Credits)
Differentiate and integrate functions of two and three variables. Apply differentiation and integration techniques to physical sciences and engineering. Explore the theorems of Green and Stokes.
Prerequisite(s): MATH1820 Or MATH1821
General Education: Mathematics

MATH2820 | Linear Algebra & Differential Equations | Lecture (4 Credits)
Introduction to Linear Algebra, including vector spaces and linear mappings between such spaces. Explore solution methods for ordinary differential equations, qualitative techniques; includes matrix methods approach to systems of linear equations and series solutions.
Prerequisite(s): MATH1821 Or MATH1820
General Education: Mathematics

MATH2830 | Discrete Math | Lecture (3 Credits)
Examine a set of branches of math that all have in common the feature that they are "discrete" rather than "continuous".
General Education: Mathematics

SPCH1000 | Speech | Lecture (3 Credits)
Introduction to public speech making; purpose and organization, audience analysis and response, verbal and non-verbal clues.
General Education: Communications

WRIT2010 | Technical Writing | Lecture (3 Credits)
Technical writing applications are studied for format, style, voice, and point of view; considered for purpose, audience, and subject. Critical thinking and developed expertise are employed to analyze, interpret, evaluate, summarize and generate various technical documents, individually and within teams.
General Education: Communications

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

PHYS1820 | Physics II with Lab | Lecture/Laboratory (4 Credits)
An introductory calculus-based course in electromagnetic fields and their applications. Topics include: Coulomb's and Gauss' Law, electric fields and potentials, electrical and magnetic properties of matter, Ampere's and Faraday's laws, elementary DC and AC circuits, Maxwell's equations, and electromagnetic waves.
Prerequisite(s): MATH1821, Or MATH1820, And PHYS1800
General Education: Physical Sciences with Lab

MATH1812 | Calculus I with Lab | Lecture/Laboratory (4 Credits)
Calculus is the fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. In this course, you will utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates. The lab component of this course is designed for engineering students who have not taken pre-calculus; students who have taken pre-calculus should register for MATH1811. Students cannot receive credit for both MATH1811 and MATH1812.

POLICIES
School of Engineering Policies
General Applicability

While college faculty will provide you with information and advice, it is your responsibility to understand and comply with all policies and to complete satisfactorily all degree requirements within the allotted time frame. This includes the responsibility to track your completion of major, university and campus requirements, as well to comply with residence, minimum progress and scholarship requirements.

For details, you should refer to the college's academic policies (p. 133).

Please note that you are subject to current policies and regulations, regardless of your admission date.

Admission to Dunwoody School of Engineering

Your admission into the Dunwoody School of Engineering is also an admission into the engineering program you have selected. Your completion of this degree requires your compliance with stated degree requirements and academic good standing.

Applicability of Academic Plan

Normally the Academic Plan that you will follow is the plan year that you have entered under. However with program evolution we reserve the right to move you to a newer academic plan resulting from an evolution of the program. This change will not delay your graduation or cost you more than your original plan if you remain in academic good standing and take courses when offered.

In the event that you do not maintain continuous enrollment, your academic plan may be changed to your new admission date.

In the event of part time enrollment, academic plans will be valid for only 6 years.

School of Engineering Student Success Monitoring

The School of Engineering strives to motivate and empower students to complete courses of study leading to degrees in Computer, Electrical, Mechanical, or Software Engineering. The program of study in each of these disciplines is cumulative in nature, that is, content is intended to build upon content learned in earlier semesters.

Student academic progress must consider the level to which students have successfully mastered earlier concepts in determining if a student is making adequate progress in their chosen field of study.

Students will be determined to be making adequate progress toward degree completion if they are following the recommended program of study and are achieving grades of C or better in all of their courses each semester.

A student who is following the recommended program of study who receives a grade of less than a C in any technical or School of Engineering course will be required to meet their Academic Coordinator to review their study skills and to develop a plan for enhanced academic achievement for the next semester. This grade of less than C may result in an adjustment of the next semester schedule to support needed prerequisites or remedial measures.

Any student who is following the recommended program of study who receives two or more grades of C or lower in technical or School of Engineering courses will be required to meet with their Academic Coordinator and the School of Engineering Dean to determine appropriate next steps.

Any student who is not following the program of study defined by the Academic Plan will be required to meet with the Academic Coordinator each semester to ensure that they are registered for the appropriate courses.

Because of the cumulative nature of the Engineering program courses, no more than two passing grades of less than C will be allowed to count toward graduation. The final design experience(s) in all programs must be completed with a grade of no less than C.

Electrical Engineering (EENG), Bachelor of Science

At Dunwoody College of Technology, the Electrical Engineering bachelor's degree prepares students to enter the field of engineering as electrical engineers and work to solve many of the problems facing our society. Graduates can find employment in a variety of industries, including energy, construction, medical, telecommunications, transportation, and computing.

Students learn to apply engineering principles, to work collaboratively, and to create electrical or electronic systems. Coursework includes study in electronics, mechatronics, signals and system theory, power systems, and digital systems. Curriculum is project-integrated so that theoretical engineering principles are reinforced and experienced through hands-on creation and problem-solving.

Arts & Sciences courses help students understand the core mathematical and scientific principles that all engineering projects grow out of, as well as provide students with the communication and critical thinking skills required to succeed in the profession.

All students complete a senior project.

Credential Earned: BS
Length of Program: 4 years (8 semesters)
Classes Offered: Day
Available Starts: Fall Semester

Program Outcomes

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Degree Requirements

Code	Title	Credits
General Requirements		
CHEM2110	Chemistry with Lab	4
ECON1000	Introduction to Micro & Macro Economics	3
MATH1811	Calculus I	4
or MATH1812	Calculus I with Lab	
MATH1821	Calculus II	4

MATH2260	Probability & Statistics	4
MATH2810	Multi-Variable Calculus	4
MATH2820	Linear Algebra & Differential Equations	4
PHYS1800	Physics I with Lab	4
PHYS1820	Physics II with Lab	4
SPCH1000	Speech	3
WRIT2010	Technical Writing	3
Humanities		3
Social Sciences		3
Technical Requirements		
ENGR1210	Introduction to Programming	3
ENGR1110	Introduction to Engineering	3
ENGR1115	Intro to Automation,Robotics, & Sensors	2
EENG1240	Circuit Fundamentals I	3
EENG1241	Circuit Fundamentals I Lab	1
EENG1210	Logic & Digital Design	2
EENG1220	Logic & Digital Design Lab	1
MDES1110	Engineering Drawings with SolidWorks	4
ENGR1230	Networking, Data Security for Engr	4
EENG2112	Circuit Fundamentals II	3
EENG2122	Circuit Fundamentals II Lab	1
EENG2132	Digital Systems	3
EENG2210	Analog Circuits	3
EENG2220	Analog Circuits Lab	1
EENG3110	Advanced Analog Circuits	3
EENG3120	Advanced Analog Circuits Lab	1
EENG3131	Signals & Systems	3
ENGR2210	Mechatronics with Lab	2
ENGR3120	Engineering Economics	2
EENG3260	Motors & Controls	4
EENG3211	Digital & Microprocessors Systems	3
EENG3220	Digital & Microprocessors Systems lab	1
EENG3150	Topics in Applied Instrumentation	3
SENG3240	Connected Device Development II	3
EENG4110	Communication Systems	3
EENG4120	Communication Systems Lab	1
EENG4150	Senior Design Project I	2
EENG4141	Power System Analysis & Design	4
ENGR4110	Engineering Ethics & Safety	2
EENG4231	DSP & Filters	3
EENG4250	Senior Design Project II	4
Total Credits		**125**

Courses
Descriptions

ENGR1210 | Introduction to Programming | Lecture/Laboratory (3 Credits)
Examine and implement computational problem-solving strategies using computer languages to solve engineering problems. Develop algorithms and translate solutions into computer programs. Distinguish differences in programming languages and software tools with applicability to different types of problem solutions. Apply modular design and clear documentation for efficient problem solving.

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

ENGR1115 | Intro to Automation,Robotics, & Sensors | Lecture/Laboratory (2 Credits)
Explore major topics in Automation, Robotics and Sensors as well as learning software tools and practical design and construction techniques to support studies in Electrical and Computer Engineering.

EENG1240 | Circuit Fundamentals I | Lecture (3 Credits)
Analyze fundamental circuits. Investigate the relationship between voltage, current, power and energy. Identify and predict responses of RC and RL circuits. Must be taken with EENG1241.
Corequisite(s): EENG1241

EENG1241 | Circuit Fundamentals I Lab | Laboratory (1 Credit)
Analyze fundamental circuits in a lab environment. Investigate the relationship between voltage, current, power and energy. Identify and predict responses of RC and RL circuits. Must be taken with EENG1240.
Corequisite(s): EENG1240

EENG1210 | Logic & Digital Design | Lecture (2 Credits)
Introduction to logic gates and state machines. The foundations of number systems and binary logic are implemented using logic gates. Karnaugh maps are used to realize Boolean algebra, leading to combinational logic circuits. State machines such as flip-flops, counters, and registers are analyzed.
Corequisite(s): EENG1220

EENG1220 | Logic & Digital Design Lab | Laboratory (1 Credit)
Build logic circuits and state machines in a laboratory environment from scratch using components such as IC chips and breadboards. Measure inputs and outputs using oscilloscopes and logic analyzers. Explore potential uses and implementations for real world solutions. Model design with Hardware Description Language coding.
Corequisite(s): EENG1210

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

ENGR1230 | Networking, Data Security for Engr | Lecture/Laboratory (4 Credits)
Explore data communications, cybersecurity, and Internet of Things (IoT) in a connected world. Explain computer networking concepts with data security in mind. Identify security concepts and security audit processes as well as career opportunities in connectivity/networking/security disciplines.

EENG2112 | Circuit Fundamentals II | Lecture (3 Credits)
Examine transient and steady state conditions in complex circuits. Investigate power, power factor, and power transfer. Explore frequency using Fourier analysis, Bode plots, passive filters and transfer functions.
Prerequisite(s): EENG1240
Corequisite(s): EENG2122

EENG2122 | Circuit Fundamentals II Lab | Laboratory (1 Credit)
Prototype various circuits and determine values using electrical metrology tools and techniques. Compare expected behavior against measured responses.
Prerequisite(s): EENG1240 And EENG1241
Corequisite(s): EENG2112

EENG2132 | Digital Systems | Lecture/Laboratory (3 Credits)
Examine various systems through abstraction from the basic concepts of digital blocks. Use hardware description languages such as Verilog to design the digital systems. Work with memory and programmable logic devices and FPGAs to design and program reconfigurable systems.
Prerequisite(s): EENG1210

EENG2210 | Analog Circuits | Lecture (3 Credits)
Analysis of continuous variable systems. Discuss non-linear components such as diodes and transistors. Explore more advanced concepts and components including multi-transistor amplifiers and op-amps.
Corequisite(s): EENG2220

EENG2220 | Analog Circuits Lab | Laboratory (1 Credit)
Design and construct circuits, focusing on prototyping and debugging, using common electrical engineering equipment and tools.
Prerequisite(s): EENG2120
Corequisite(s): EENG2210

EENG3110 | Advanced Analog Circuits | Lecture (3 Credits)
Evaluate various typologies of circuits and determine useful implementations. Practical design considerations include physical constraints, non-ideal characteristics of transistors, active loads, frequency response, and feedback.
Prerequisite(s): EENG2210
Corequisite(s): EENG3120

EENG3120 | Advanced Analog Circuits Lab | Laboratory (1 Credit)
Design, model, prototype, and fabricate project(s) in an interactive applied lab.
Prerequisite(s): EENG2220
Corequisite(s): EENG3110

EENG3131 | Signals & Systems | Lecture (3 Credits)
Introduction to the foundation of communications, signal processing and control theory. Analyze linear time invariant continuous and discrete systems and signal transformations, convolution, frequency spectra, Laplace transforms, Z transforms, and fast Fourier transforms.
Prerequisite(s): MATH2820

ENGR2210 | Mechatronics with Lab | Lecture/Laboratory (2 Credits)
Analyze electrical and mechanical systems such as drives, sensors, control systems, data presentation, and communication in the context of mechatronics. Different motive forces are utilized, control systems implemented, and operating environment challenges presented. Course content is applied to real-world projects.
Prerequisite(s): ENGR1221 And PHYS1820

ENGR3120 | Engineering Economics | Lecture (2 Credits)
Economic analysis of engineering decisions under uncertainty. Concepts include time value of money, cash flow estimation, rate of return analysis, net present value estimation, and asset evaluation. Applications include comparing different project alternatives accounting for heterogeneity in cost, revenue, taxation, depreciation, inflation, and risk.

EENG3260 | Motors & Controls | Lecture/Laboratory (4 Credits)
Examine the fundamentals of electrical motor control components, circuits and systems. Topics include electrical control symbols, power distribution, control transformers, solenoids and relays, motor starters, pilot devices, timers and sequencers, DC and AC motor principles, proximity sensors and troubleshooting.
Prerequisite(s): EENG3110

EENG3211 | Digital & Microprocessors Systems | Lecture (3 Credits)
Investigate microprocessor and microcontroller operations. Explain registers, memory and I/O interfacing principles. Describe embedded systems and their applications in real world systems. Utilize microprocessor/microcontroller for embedded system Hardware/Software development.
Prerequisite(s): EENG2132
Corequisite(s): EENG3220

EENG3220 | Digital & Microprocessors Systems lab | Laboratory (1 Credit)
Implement embedded systems using different hardware platforms and different programming languages. Demonstrate the design considerations for systems ranging from basic to complex applications.
Prerequisite(s): EENG2132
Corequisite(s): EENG3211

EENG3150 | Topics in Applied Instrumentation | Lecture/Laboratory (3 Credits)
Introduction to various types of instrumentation and control schemas. Topics include pressure, temperature, level and flow detection and calculations. Lab activities include calibration, tuning and installation of various analog and smart equipment used in industry.
Prerequisite(s): EENG3110

SENG3240 | Connected Device Development II | Lecture/Laboratory (3 Credits)
Advanced study of Internet connected devices. Design and implement applications and services for mobile and smart devices such as smartphones, smart displays, smart speakers. The Android architecture and operating system will be primarily used. Design challenges and opportunities in the mobile/smart device market. Students must have a strong background in application development, the software lifecyle/tooling, and Operating Systems.
Prerequisite(s): SENG3400

EENG4110 | Communication Systems | Lecture (3 Credits)
Apply signal and system theory to analog and digital communication. Distinguish characteristics of contemporary communication standards.
Prerequisite(s): EENG3110, EENG3131, And EENG3211
Corequisite(s): EENG4120

EENG4120 | Communication Systems Lab | Laboratory (1 Credit)
Implement and evaluate electrical communication systems in an investigative laboratory.
Prerequisite(s): EENG3110, EENG3131, And EENG3211
Corequisite(s): EENG4110

EENG4150 | Senior Design Project I | Capstone (2 Credits)
Investigate current real world electrical engineering industries, applications, and challenges. Prepare and present a project proposal to an industry panel. Discuss best practices in project management. Projects will be executed in the following semester.

EENG4141 | Power System Analysis & Design | Lecture/Laboratory (4 Credits)
Examine how modern power systems are designed, implemented and controlled. Explain the power system in terms of reliability, safety and maintainability. Modeling and simulation are used in the analysis and conceptual design and study of regulatory codes related to power systems.
Prerequisite(s): EENG3260

ENGR4110 | Engineering Ethics & Safety | Lecture (2 Credits)
Interpret the connection between personal morality, the role of engineers and engineering in society, and relationship to one's employer. Case studies involving conflicts within these roles are reviewed and evaluated. Interpret safety and accident information to develop a basic understanding of needed safety protocols in a variety of engineering environments.

EENG4231 | DSP & Filters | Lecture (3 Credits)
Analyze Discrete-time signals and systems. Design and implement Digital Filters. Compute Signal Spectrum using FFT algorithms. Implement DSP solutions using industry standard solutions and design tools offered by companies such as Texas Instruments, and ON Semiconductor. Contrast DSP and Microprocessor solutions in meeting performance standards.
Prerequisite(s): EENG4110

EENG4250 | Senior Design Project II | Capstone (4 Credits)
Execute project proposal from Senior Project I. Construct a working prototype. Display of project documentation. Present to a jury of peers, faculty and industry representatives.

ECON1000 | Introduction to Micro & Macro Economics | Lecture (3 Credits)
Fundamental economic issues and theories are explored through discussion and research. Current events, policy perspectives, and case studies are used to process and apply economics to everyday life.
General Education: Social Sciences

CHEM2110 | Chemistry with Lab | Lecture/Laboratory (4 Credits)
Develop a basic understanding of the central principles of chemistry that are useful to explain and predict the properties of chemical substances based on their atomic and molecular structure; promotes the development of basic and advanced science process skills.
General Education: Physical Sciences with Lab

MATH1811 | Calculus I | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
General Education: Mathematics

MATH1812 | Calculus I with Lab | Lecture/Laboratory (4 Credits)
Calculus is the fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. In this course, you will utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates. The lab component of this course is designed for engineering students who have not taken pre-calculus; students who have taken pre-calculus should register for MATH1811. Students cannot receive credit for both MATH1811 and MATH1812.

MATH1821 | Calculus II | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements such as the area under curves, the volumes within complex geometries, and for describing functions as an infinite series. Computer software enables the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1811 Or MATH1812
General Education: Mathematics

MATH2260 | Probability & Statistics | Lecture (4 Credits)
Introduction to probability and statistics with applications. Topics include: basic combinatorics, random variables, probability distributions, hypothesis testing, confidence intervals, and linear regression.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH2810 | Multi-Variable Calculus | Lecture (4 Credits)
Differentiate and integrate functions of two and three variables. Apply differentiation and integration techniques to physical sciences and engineering. Explore the theorems of Green and Stokes.
Prerequisite(s): MATH1820 Or MATH1821
General Education: Mathematics

MATH2820 | Linear Algebra & Differential Equations | Lecture (4 Credits)
Introduction to Linear Algebra, including vector spaces and linear mappings between such spaces. Explore solution methods for ordinary differential equations, qualitative techniques; includes matrix methods approach to systems of linear equations and series solutions.
Prerequisite(s): MATH1821 Or MATH1820
General Education: Mathematics

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

PHYS1820 | Physics II with Lab | Lecture/Laboratory (4 Credits)
An introductory calculus-based course in electromagnetic fields and their applications. Topics include: Coulomb's and Gauss' Law, electric fields and potentials, electrical and magnetic properties of matter, Ampere's and Faraday's laws, elementary DC and AC circuits, Maxwell's equations, and electromagnetic waves.
Prerequisite(s): MATH1821, Or MATH1820, And PHYS1800
General Education: Physical Sciences with Lab

SPCH1000 | Speech | Lecture (3 Credits)
Introduction to public speech making; purpose and organization, audience analysis and response, verbal and non-verbal clues.
General Education: Communications

WRIT2010 | Technical Writing | Lecture (3 Credits)
Technical writing applications are studied for format, style, voice, and point of view; considered for purpose, audience, and subject. Critical thinking and developed expertise are employed to analyze, interpret, evaluate, summarize and generate various technical documents, individually and within teams.
General Education: Communications

Policies
School of Engineering Policies
General Applicability

While college faculty will provide you with information and advice, it is your responsibility to understand and comply with all policies and to complete satisfactorily all degree requirements within the allotted time frame. This includes the responsibility to track your completion of major, university and campus requirements, as well to comply with residence, minimum progress and scholarship requirements.

For details, you should refer to the college's academic policies (p. 133).

Please note that you are subject to current policies and regulations, regardless of your admission date.

Admission to Dunwoody School of Engineering

Your admission into the Dunwoody School of Engineering is also an admission into the engineering program you have selected. Your completion of this degree requires your compliance with stated degree requirements and academic good standing.

Applicability of Academic Plan

Normally the Academic Plan that you will follow is the plan year that you have entered under. However with program evolution we reserve the right to move you to a newer academic plan resulting from an evolution of the program. This change will not delay your graduation or cost you more than your original plan if you remain in academic good standing and take courses when offered.

In the event that you do not maintain continuous enrollment, your academic plan may be changed to your new admission date.

In the event of part time enrollment, academic plans will be valid for only 6 years.

School of Engineering Student Success Monitoring

The School of Engineering strives to motivate and empower students to complete courses of study leading to degrees in Computer, Electrical, Mechanical, or Software Engineering. The program of study in each of these disciplines is cumulative in nature, that is, content is intended to build upon content learned in earlier semesters.

Student academic progress must consider the level to which students have successfully mastered earlier concepts in determining if a student is making adequate progress in their chosen field of study.

Students will be determined to be making adequate progress toward degree completion if they are following the recommended program of study and are achieving grades of C or better in all of their courses each semester.

A student who is following the recommended program of study who receives a grade of less than a C in any technical or School of Engineering course will be required to meet their Academic Coordinator to review their study skills and to develop a plan for enhanced academic achievement for the next semester. This grade of less than C may result in an adjustment of the next semester schedule to support needed prerequisites or remedial measures.

Any student who is following the recommended program of study who receives two or more grades of C or lower in technical or School of Engineering courses will be required to meet with their Academic Coordinator and the School of Engineering Dean to determine appropriate next steps.

Any student who is not following the program of study defined by the Academic Plan will be required to meet with the Academic Coordinator each semester to ensure that they are registered for the appropriate courses.

Because of the cumulative nature of the Engineering program courses, no more than two passing grades of less than C will be allowed to count

toward graduation. The final design experience(s) in all programs must be completed with a grade of no less than C.

Mechanical Engineering (MENG), Bachelor of Science

At Dunwoody College of Technology, the Mechanical Engineering bachelor's degree prepares students to enter the field of engineering ready to be a productive member of an engineering team from day one. Graduates can find employment in a variety of industries, including product design, research and development, heating ventilation and air conditioning (HVAC), consulting engineering, medical devices, and manufacturing.

Students learn how to apply engineering principles to the design of mechanical, thermal, and fluid systems. Students also learn to work collaboratively in a team environment and use software tools current in the field. The curriculum is project-integrated so that theoretical engineering principles are reinforced and experienced through hands-on creation and problem-solving.

Arts & Sciences courses help students understand the core mathematical and scientific principles, which are the foundation of engineering theory and provide students with the communication and critical thinking skills required to succeed in the profession.

All students complete a two-semester senior design project.

Accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org (https://www.abet.org/), under the general criteria and the Mechanical Engineering program criteria.

Credential Earned: BS
Length of Program: 4 years (8 semesters)
Classes Offered: Day
Available Starts: Fall Semester
Accreditation: Accredited by the Engineering Accreditation Commission of ABET, https://www.abet.org, under the general criteria and the Mechanical Engineering program criteria.

Program Outcomes

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Degree Requirements

Code	Title	Credits
General Requirements		
CHEM2110	Chemistry with Lab	4
ECON1000	Introduction to Micro & Macro Economics	3
MATH1811	Calculus I	4
MATH1821	Calculus II	4
MATH2260	Probability & Statistics	4
MATH2810	Multi-Variable Calculus	4
MATH2820	Linear Algebra & Differential Equations	4
PHYS1800	Physics I with Lab	4
PHYS1820	Physics II with Lab	4
SPCH1000	Speech	3
WRIT2010	Technical Writing	3
Humanities Electives		3
Social Science Elective		3
Technical Requirements		
ENGR1110	Introduction to Engineering	3
ENGR1210	Introduction to Programming	3
ENGR1221	Electrical Circuits & Automation w/ Lab	4
ENGR2210	Mechatronics with Lab	2
ENGR3120	Engineering Economics	2
ENGR4110	Engineering Ethics & Safety	2
ENGR4120	Principles of Quality, Lean Mfg & DOE	3
MENG1110	Engineering Drawings & 3D Design	4
MENG1210	Machining for Engineers Lab	2
MENG1220	Machining for Engineers	2
MENG1230	Statics	3
MENG3111	Design for Manufacturability with Lab	3
MENG3130	Thermodynamics	4
MENG2230	Dynamics	3
MENG2240	Mechanics of Materials	3
MENG3140	Materials Science	3
MENG3230	Fluid Mechanics	3
MENG3240	Failure Analysis & Design	2
MENG3250	Heat Transfer	3
MENG3212	Measurements and Lab	4
MENG4111	Control of Dynamic Systems w/ Lab	4
MENG4130	Finite Element Analysis	3
MENG4140	Senior Design I	4
MENG4211	Heat Transfer Applications & HVACR w/Lab	4
MENG4240	Senior Design II	4
Total Credits		**124**

Courses

Descriptions

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

ENGR1210 | Introduction to Programming | Lecture/Laboratory (3 Credits)
Examine and implement computational problem-solving strategies using computer languages to solve engineering problems. Develop algorithms and translate solutions into computer programs. Distinguish differences in programming languages and software tools with applicability to different types of problem solutions. Apply modular design and clear documentation for efficient problem solving.

ENGR1221 | Electrical Circuits & Automation w/ Lab | Lecture/Laboratory (4 Credits)
Apply PLCs and electronic components to design and troubleshoot automated industrial equipment. Topics include AC and DC motors, programming, sensors, and basic circuit analysis techniques for design, analysis, and programming of control systems.
Prerequisite(s): MATH1821

ENGR2210 | Mechatronics with Lab | Lecture/Laboratory (2 Credits)
Analyze electrical and mechanical systems such as drives, sensors, control systems, data presentation, and communication in the context of mechatronics. Different motive forces are utilized, control systems implemented, and operating environment challenges presented. Course content is applied to real-world projects.
Prerequisite(s): ENGR1221 And PHYS1820

ENGR3120 | Engineering Economics | Lecture (2 Credits)
Economic analysis of engineering decisions under uncertainty. Concepts include time value of money, cash flow estimation, rate of return analysis, net present value estimation, and asset evaluation. Applications include comparing different project alternatives accounting for heterogeneity in cost, revenue, taxation, depreciation, inflation, and risk.

ENGR4110 | Engineering Ethics & Safety | Lecture (2 Credits)
Interpret the connection between personal morality, the role of engineers and engineering in society, and relationship to one's employer. Case studies involving conflicts within these roles are reviewed and evaluated. Interpret safety and accident information to develop a basic understanding of needed safety protocols in a variety of engineering environments.

ENGR4120 | Principles of Quality, Lean Mfg & DOE | Lecture (3 Credits)
Investigate several quality conventions used to reduce waste, improve quality, decrease production times, and improve customer satisfaction. Topics include statistics, control charts, process capability, and Design of Experiments (DOE).
Prerequisite(s): MATH2260

MENG1110 | Engineering Drawings & 3D Design | Lecture/Laboratory (4 Credits)
Create 3D solid models and assemblies using SolidWorks. Interpret engineering prints; create detail and assembly drawings according to standards. Use freehand drawing as a graphical communication tool.

MENG1210 | Machining for Engineers Lab | Laboratory (2 Credits)
Employ metalworking techniques using typical shop equipment including mills, lathes, grinders, saws, and drills. Utilize hand tools to prep stock and finish edges.
Corequisite(s): MENG1220

MENG1220 | Machining for Engineers | Lecture (2 Credits)
Use theory and understanding of machining operations to plan work to create parts efficiently.
Prerequisite(s): MENG1110 Or MDES1110
Corequisite(s): MENG1210

MENG1230 | Statics | Lecture (3 Credits)
Identification, recognition and calculations associated with forces acting on rigid bodies at rest. Use vector analysis to analyze concurrent forces, non-concurrent forces, friction forces, centroids and moments.
Prerequisite(s): MATH2810

MENG2230 | Dynamics | Lecture (3 Credits)
Theory and calculations associated with kinematics and kinetics of particles, systems of particles and rigid bodies. Analyze the application of Newton's laws to the planar motion of rigid bodies.
Prerequisite(s): MENG1230 And MATH2820

MENG3130 | Thermodynamics | Lecture (4 Credits)
Introduction to thermodynamic analysis which provides a foundation for subsequent thermoscience courses, e.g. fluid dynamics, heat transfer, HVACR. Application of the laws of thermodynamics to the analysis of power and refrigeration cycles is a main focus.
Prerequisite(s): PHYS1800 And MATH1821

MENG2240 | Mechanics of Materials | Lecture (3 Credits)
Discover how materials behave under load including deformation under various loading profiles. Apply concepts to design of mechanical members such as a beams, shafts, columns, and other load bearing devices.
Prerequisite(s): MENG1230

MENG3111 | Design for Manufacturability with Lab | Lecture/Laboratory (3 Credits)
Introduction to common manufacturing processes, with emphasis on the principles of design for each process. Processes include: sheet metal forming, casting, welding, and plastic fabrication. Design and create parts using common manufacturing processes, such as casting, injection molding, and sheet metal forming processes.
Prerequisite(s): MENG1210 And MENG1220

MENG3140 | Materials Science | Lecture (3 Credits)
Identify different types of materials, their properties, and appropriate uses. Processes that change material properties include: alloy composition, heat treatment, coatings, and other modifications.
Prerequisite(s): CHEM2110

MENG3230 | Fluid Mechanics | Lecture (3 Credits)
Introduction to fluid statics and mechanics; laminar and turbulent flow with associated calculations. Applications to industry are used in problems.
Prerequisite(s): MATH2810, MATH2820, MENG3130, And MENG2240

MENG3240 | Failure Analysis & Design | Lecture (2 Credits)
Examine advanced topics in modeling, design and best practices for machines, tooling and system assemblies. Evaluate components for protection against failure from low cycle fatigue, high cycle fatigue, ductile overload, corrosion.
Prerequisite(s): MENG2240

MENG3250 | Heat Transfer | Lecture (3 Credits)
Examine the fundamentals of heat transfer modes, including conduction, convection, and radiation. Calculations for each mode are included.
Prerequisite(s): MATH2820 And MENG3130

MENG3212 | Measurements and Lab | Lecture/Laboratory (4 Credits)
Apply principles of physical measurements and error analysis to evaluate mechanical measurements. Create prints that include callouts for standards of accuracy using ASME/ANSI geometric dimensioning and tolerance standards. Use lab metrology equipment to assess the geometric dimensions and tolerances of parts, and to perform other measurements such as temperature, pressure, and flow.
Prerequisite(s): MATH2260

MENG4111 | Control of Dynamic Systems w/ Lab | Lecture/Laboratory (4 Credits)
Introduction to the fundamentals of controls, covering foundational controls theory (first and second order system response, transfer functions, and design of control systems). Analyze the response of dynamic systems, and then apply these techniques, using a PID control, to the control of real world engineering systems. Possible applications include fluid power, heat transfer, and mechanical systems.
Prerequisite(s): MENG2230 And MATH2820

MENG4130 | Finite Element Analysis | Lecture (3 Credits)
Finite element modeling using both manual and software simulation analysis. Topics include two- and three-dimensional elements along with applications in solid mechanics, heat transfer and fluid mechanics.
Prerequisite(s): MATH2820 And MENG2240

MENG4140 | Senior Design I | Capstone (4 Credits)
Student design teams execute a two semester design project to solve a real world problem. Application of the design process, underlying science, and application of concepts and tools gained in the curriculum are necessary. Application of project management principles and tools. To be taken within 48 credits of graduation or with instructor approval.
Prerequisite(s): MENG2240 And MENG3111

MENG4211 | Heat Transfer Applications & HVACR w/Lab | Lecture/Laboratory (4 Credits)
Apply heat transfer theory to common industrial devices. Analyze HVACR and other applications. Hands-on testing of heat transfer devices includes heat, ventilation, and air conditioning systems.
Prerequisite(s): MENG3250

MENG4240 | Senior Design II | Capstone (4 Credits)
Continuation of Senior Design I projects. Final deliverables are submitted, project is presented and closed out. Presentations are open to students, faculty, and the public in a symposium format.
Prerequisite(s): MENG4140

ECON1000 | Introduction to Micro & Macro Economics | Lecture (3 Credits)
Fundamental economic issues and theories are explored through discussion and research. Current events, policy perspectives, and case studies are used to process and apply economics to everyday life.
General Education: Social Sciences

MATH1811 | Calculus I | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
General Education: Mathematics

MATH1821 | Calculus II | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements such as the area under curves, the volumes within complex geometries, and for describing functions as an infinite series. Computer software enables the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1811 Or MATH1812
General Education: Mathematics

MATH2260 | Probability & Statistics | Lecture (4 Credits)
Introduction to probability and statistics with applications. Topics include: basic combinatorics, random variables, probability distributions, hypothesis testing, confidence intervals, and linear regression.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH2810 | Multi-Variable Calculus | Lecture (4 Credits)
Differentiate and integrate functions of two and three variables. Apply differentiation and integration techniques to physical sciences and engineering. Explore the theorems of Green and Stokes.
Prerequisite(s): MATH1820 Or MATH1821
General Education: Mathematics

MATH2820 | Linear Algebra & Differential Equations | Lecture (4 Credits)
Introduction to Linear Algebra, including vector spaces and linear mappings between such spaces. Explore solution methods for ordinary differential equations, qualitative techniques; includes matrix methods approach to systems of linear equations and series solutions.
Prerequisite(s): MATH1821 Or MATH1820
General Education: Mathematics

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

PHYS1820 | Physics II with Lab | Lecture/Laboratory (4 Credits)
An introductory calculus-based course in electromagnetic fields and their applications. Topics include: Coulomb's and Gauss' Law, electric fields and potentials, electrical and magnetic properties of matter, Ampere's and Faraday's laws, elementary DC and AC circuits, Maxwell's equations, and electromagnetic waves.
Prerequisite(s): MATH1821, Or MATH1820, And PHYS1800
General Education: Physical Sciences with Lab

SPCH1000 | Speech | Lecture (3 Credits)
Introduction to public speech making; purpose and organization, audience analysis and response, verbal and non-verbal clues.
General Education: Communications

WRIT2010 | Technical Writing | Lecture (3 Credits)
Technical writing applications are studied for format, style, voice, and point of view; considered for purpose, audience, and subject. Critical thinking and developed expertise are employed to analyze, interpret, evaluate, summarize and generate various technical documents, individually and within teams.
General Education: Communications

Policies
School of Engineering Policies
General Applicability

While college faculty will provide you with information and advice, it is your responsibility to understand and comply with all policies and to complete satisfactorily all degree requirements within the allotted time frame. This includes the responsibility to track your completion of major, university and campus requirements, as well to comply with residence, minimum progress and scholarship requirements.

For details, you should refer to the college's academic policies (p. 133).

Please note that you are subject to current policies and regulations, regardless of your admission date.

Admission to Dunwoody School of Engineering

Your admission into the Dunwoody School of Engineering is also an admission into the engineering program you have selected. Your completion of this degree requires your compliance with stated degree requirements and academic good standing.

Applicability of Academic Plan

Normally the Academic Plan that you will follow is the plan year that you have entered under. However with program evolution we reserve the right to move you to a newer academic plan resulting from an evolution of the program. This change will not delay your graduation or cost you more than your original plan if you remain in academic good standing and take courses when offered.

In the event that you do not maintain continuous enrollment, your academic plan may be changed to your new admission date.

In the event of part time enrollment, academic plans will be valid for only 6 years.

School of Engineering Student Success Monitoring

The School of Engineering strives to motivate and empower students to complete courses of study leading to degrees in Computer, Electrical, Mechanical, or Software Engineering. The program of study in each of these disciplines is cumulative in nature, that is, content is intended to build upon content learned in earlier semesters.

Student academic progress must consider the level to which students have successfully mastered earlier concepts in determining if a student is making adequate progress in their chosen field of study.

Students will be determined to be making adequate progress toward degree completion if they are following the recommended program of study and are achieving grades of C or better in all of their courses each semester.

A student who is following the recommended program of study who receives a grade of less than a C in any technical or School of Engineering course will be required to meet their Academic Coordinator to review their study skills and to develop a plan for enhanced academic achievement for the next semester. This grade of less than C may result in an adjustment of the next semester schedule to support needed prerequisites or remedial measures.

Any student who is following the recommended program of study who receives two or more grades of C or lower in technical or School

of Engineering courses will be required to meet with their Academic Coordinator and the School of Engineering Dean to determine appropriate next steps.

Any student who is not following the program of study defined by the Academic Plan will be required to meet with the Academic Coordinator each semester to ensure that they are registered for the appropriate courses.

Because of the cumulative nature of the Engineering program courses, no more than two passing grades of less than C will be allowed to count toward graduation. The final design experience(s) in all programs must be completed with a grade of no less than C.

Software Engineering (SENG), Bachelor of Science

At Dunwoody College of Technology, The Software Engineering Bachelor of Science degree prepares students to work as software engineers, ready to design, create, and manage today's complex data-driven software systems.

Graduates can find employment in software-related positions in a broad range of industries including manufacturing, medical, financial, consumer, military, retail, government, nonprofit, and energy.

Today's software engineers confront an ecosystem that generates an immense amount of data due to the Internet of Things (IoT) and industrial, enterprise, and consumer processes and initiatives. The result is that software engineers are tasked with collecting, storing, managing, analyzing, transforming, and using data coming in from everywhere.

The degree's coursework focuses on design, problem solving, and collaboration through applying engineering principles to software solutions. Specific areas of study include data architecture, data analytics, cloud computing, devices/IoT, networking, application design, software product lifecycle, security, algorithms, automation, machine learning, and AI.

Students work in a project-integrated environment that reinforces theoretical concepts through extensive hands-on activities. They also have access to various on-campus maker spaces, allowing them to not only dream about their ideas, but also implement and improve them.

Arts & Sciences courses are completed alongside the engineering coursework, helping students understand the core mathematical and scientific principles that all engineering projects grow out of. They also help students develop the communication and critical thinking skills and cultural and business competencies required to succeed in the profession.

The degree culminates in a senior project, which provides students the opportunity to round out their professional portfolio.

Credential Earned: BS
Length of Program: 4 years (8 semesters)
Classes Offered: Day
Available Starts: Fall Semester

Program Outcomes

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Degree Requirements

Code	Title	Credits
General Requirements		
CHEM2110	Chemistry with Lab	4
ECON1000	Introduction to Micro & Macro Economics	3
MATH1811	Calculus I	4
MATH1821	Calculus II	4
MATH2260	Probability & Statistics	4
MATH2830	Discrete Math	3
PHYS1800	Physics I with Lab	4
PHYS1820	Physics II with Lab	4
SPCH1000	Speech	3
WRIT2010	Technical Writing	3
Humanities Electives		3
Natural Sciences Electives		3
Social Science Electives		3
Technical Requirements		
EENG1210	Logic & Digital Design	2
EENG1220	Logic & Digital Design Lab	1
ENGR1110	Introduction to Engineering	3
ENGR1210	Introduction to Programming	3
ENGR1221	Electrical Circuits & Automation w/ Lab	4
ENGR1230	Networking, Data Security for Engr	4
ENGR2210	Mechatronics with Lab	2
ENGR3120	Engineering Economics	2
SENG1210	Application Development I	4
SENG1310	Data Fundamentals	3
SENG2200	Business Requirements & Analysis	3
SENG2210	Software Design	4
SENG2240	Connected Devices Development I	3
SENG2310	Data Architecture	3
SENG2230	Application Development II	3
SENG3110	Software Testing	3
SENG3210	Distributed Systems Design	3
SENG3400	Operating Systems	3
SENG3120	Software Development Lifecycle	3

SENG3230	Human-Computer Interaction	3
SENG3240	Connected Device Development II	3
SENG3250	Distributed Systems Implementation	3
SENG4111	Senior Project I	2
ENGR4110	Engineering Ethics & Safety	2
SENG4210	Senior Project II	3
SENG4310	Security I	3
SENG4320	Security II	3
SENG4400	Data Science & Machine Learning	3
Total Credits		**126**

Courses
Descriptions

EENG1210 | Logic & Digital Design | Lecture (2 Credits)
Introduction to logic gates and state machines. The foundations of number systems and binary logic are implemented using logic gates. Karnaugh maps are used to realize Boolean algebra, leading to combinational logic circuits. State machines such as flip-flops, counters, and registers are analyzed.
Corequisite(s): EENG1220

EENG1220 | Logic & Digital Design Lab | Laboratory (1 Credit)
Build logic circuits and state machines in a laboratory environment from scratch using components such as IC chips and breadboards. Measure inputs and outputs using oscilloscopes and logic analyzers. Explore potential uses and implementations for real world solutions. Model design with Hardware Description Language coding.
Corequisite(s): EENG1210

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

ENGR1210 | Introduction to Programming | Lecture/Laboratory (3 Credits)
Examine and implement computational problem-solving strategies using computer languages to solve engineering problems. Develop algorithms and translate solutions into computer programs. Distinguish differences in programming languages and software tools with applicability to different types of problem solutions. Apply modular design and clear documentation for efficient problem solving.

ENGR1221 | Electrical Circuits & Automation w/ Lab | Lecture/Laboratory (4 Credits)
Apply PLCs and electronic components to design and troubleshoot automated industrial equipment. Topics include AC and DC motors, programming, sensors, and basic circuit analysis techniques for design, analysis, and programming of control systems.
Prerequisite(s): MATH1821

ENGR1230 | Networking, Data Security for Engr | Lecture/Laboratory (4 Credits)
Explore data communications, cybersecurity, and Internet of Things (IoT) in a connected world. Explain computer networking concepts with data security in mind. Identify security concepts and security audit processes as well as career opportunities in connectivity/networking/security disciplines.

ENGR2210 | Mechatronics with Lab | Lecture/Laboratory (2 Credits)
Analyze electrical and mechanical systems such as drives, sensors, control systems, data presentation, and communication in the context of mechatronics. Different motive forces are utilized, control systems implemented, and operating environment challenges presented. Course content is applied to real-world projects.
Prerequisite(s): ENGR1221 And PHYS1820

ENGR3120 | Engineering Economics | Lecture (2 Credits)
Economic analysis of engineering decisions under uncertainty. Concepts include time value of money, cash flow estimation, rate of return analysis, net present value estimation, and asset evaluation. Applications include comparing different project alternatives accounting for heterogeneity in cost, revenue, taxation, depreciation, inflation, and risk.

ENGR4110 | Engineering Ethics & Safety | Lecture (2 Credits)
Interpret the connection between personal morality, the role of engineers and engineering in society, and relationship to one's employer. Case studies involving conflicts within these roles are reviewed and evaluated. Interpret safety and accident information to develop a basic understanding of needed safety protocols in a variety of engineering environments.

SENG1210 | Application Development I | Lecture/Laboratory (4 Credits)
Develop a base level of proficiency in Python and Java programming languages employing simple and moderately complex data structures and algorithms. A range of programming concepts will be covered, including classes, objects, primitives, inheritance, encapsulation, abstraction, polymorphism, and interfaces.
Prerequisite(s): ENGR1210

SENG1310 | Data Fundamentals | Lecture/Laboratory (3 Credits)
Beginning course in data usage and management including language syntax, document model, document types, schemas with a focus on creating structured data for business, IT, and IoT applications. Integration of relational database concepts and design of database management systems for enterprise information needs. Data modeling and Structured Query Language (SQL) used for data definition to construct physical databases, for data manipulation and for data computation. Student are required to have introductory programming experience.
Prerequisite(s): ENGR1210

SENG2200 | Business Requirements & Analysis | Lecture/Laboratory (3 Credits)
Software and related technologies must meet the requirements of the stakeholders and the domain for whom the solution is built or configured. Examine scope definition, business, stakeholder and solution requirement definition, select business analysis modeling techniques, the relationship of business requirements and analysis to software design and testing, and a range of methodologies, techniques and approaches.

SENG2210 | Software Design | Lecture/Laboratory (4 Credits)
Designing software with long-term software quality. Software quality attributes, domain-driven design, software design patterns, and documentation.

SENG2240 | Connected Devices Development I | Lecture/Laboratory (3 Credits)
Explore and implement Internet connected devices. Internet of Things (IoT) device design and implementation. Use the Raspberry Pi and a variety of sensors, actuators, networking, and programming techniques to create IoT devices. A knowledge of Python is required and prior programming experience.
Prerequisite(s): SENG1210

SENG2230 | Application Development II | Lecture/Laboratory (3 Credits)
Advanced concepts in enterprise application development in the areas of web application frameworks, data driven applications, and advanced development such as machine learning are examined and applied.
Prerequisite(s): SENG1210

SENG2310 | Data Architecture | Lecture/Laboratory (3 Credits)
Intensive course in data architecture and management. Advanced data modeling principles. Structured Query Language, database normalization, database management systems (DBMS), implementation-independent database design, and security. Database server technology for enterprise-class data services and complex business logic. Server architecture, data integrity, data types, indexing, constraints, stored procedures, database schemas, normalization, data warehouses, data mining, data cubes.
Prerequisite(s): SENG1310

SENG3110 | Software Testing | Lecture/Laboratory (3 Credits)
Investigate testing methodologies. Tools and techniques in automated testing. Creation of documentation at all stages of testing.

SENG3210 | Distributed Systems Design | Lecture/Laboratory (3 Credits)
Design & Architecture of large-scale software and data systems. Architectural patterns, software quality, documentation of scenarios. Design for Cloud-based solutions. Presentation to management for project funding and go-no go decision making. Reusable component design and development. Explanation to design and development personnel.
Prerequisite(s): SENG2230

SENG3120 | Software Development Lifecycle | Lecture (3 Credits)
Explore and implement concepts related to software development pipelines, tooling, and lifecycle. Traditional and emerging software development life cycle models. Techniques for managing software projects. Techniques and tools related to each software development life cycle . Issues include those related to development and maintenance, quality, safety, security assurance, and project management.

SENG3230 | Human-Computer Interaction | Lecture/Laboratory (3 Credits)
Design and evaluate interactive application interfaces, user- and task-centered approaches to design, guidelines for graphical design, interface evaluation techniques, current interface trends, including web interfaces and information visualization. Group projects that include designing, prototyping, and implementing an application interface.

SENG3240 | Connected Device Development II | Lecture/Laboratory (3 Credits)
Advanced study of Internet connected devices. Design and implement applications and services for mobile and smart devices such as smartphones, smart displays, smart speakers. The Android architecture and operating system will be primarily used. Design challenges and opportunities in the mobile/smart device market. Students must have a strong background in application development, the software lifecyle/tooling, and Operating Systems.
Prerequisite(s): SENG3400

SENG3250 | Distributed Systems Implementation | Lecture/Laboratory (3 Credits)
Implement a large scale software and data system on private and/or public cloud infrastructure. And end-to-end architecture will be implemented by student including software, data architecture, pipeline tooling, networking, etc. The student will implement the end-to-end project as a Junior year capstone, readying the student for their design project in the Senior year.
Prerequisite(s): SENG3210

SENG3400 | Operating Systems | Lecture/Laboratory (3 Credits)
Analyze the purpose of operating systems. Topics include: elements of operating systems, memory and process management, interactions among major components of a computer system, the effects of computer architecture on operating systems, and an examination of how different operating systems (desktop, server, mobile, real-time) impact Software Design.
Prerequisite(s): SENG2220

SENG4111 | Senior Project I | Capstone (2 Credits)
End-to-end project exhibiting all skills related to the profession. Focus is on requirements elicitation, scheduling, planning, reviews and postmortem, configuration management, and implementation of the project.

SENG4210 | Senior Project II | Capstone (3 Credits)
End-to-end project exhibiting all skills related to the profession. Focus is on requirements elicitation, scheduling, planning, reviews and postmortem, configuration management, and implementation of the project.
Prerequisite(s): SENG4111 Or SENG4110

SENG4310 | Security I | Lecture/Laboratory (3 Credits)
Integration of data and users with an emphasis on security will be used in client/server, Internet, intranet/extranet, and other technologies. Review state-of-the-art technologies in each of the basic software and hardware arenas, while emphasizing management models and higher-level analysis using the computer.

SENG4320 | Security II | Lecture/Laboratory (3 Credits)
Explore fundamental and emerging concepts of computer security.
  Topics include: maintaining information confidentiality, protecting information integrity, assuring information availability, physical, technical, application, and Internet security, social engineering and associated attacks.

SENG4400 | Data Science & Machine Learning | Lecture/Laboratory (3 Credits)
Advanced topics in Data Analysis, Data Science, and Machine Learning. Analyze large datasets. Implement supervised and unsupervised learning.
Prerequisite(s): SENG2230

ECON1000 | Introduction to Micro & Macro Economics | Lecture (3 Credits)
Fundamental economic issues and theories are explored through discussion and research. Current events, policy perspectives, and case studies are used to process and apply economics to everyday life.
General Education: Social Sciences

CHEM2110 | Chemistry with Lab | Lecture/Laboratory (4 Credits)
Develop a basic understanding of the central principles of chemistry that are useful to explain and predict the properties of chemical substances based on their atomic and molecular structure; promotes the development of basic and advanced science process skills.
General Education: Physical Sciences with Lab

MATH1811 | Calculus I | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
General Education: Mathematics

MATH1821 | Calculus II | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements such as the area under curves, the volumes within complex geometries, and for describing functions as an infinite series. Computer software enables the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1811 Or MATH1812
General Education: Mathematics

MATH2260 | Probability & Statistics | Lecture (4 Credits)
Introduction to probability and statistics with applications. Topics include: basic combinatorics, random variables, probability distributions, hypothesis testing, confidence intervals, and linear regression.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH2830 | Discrete Math | Lecture (3 Credits)
Examine a set of branches of math that all have in common the feature that they are "discrete" rather than "continuous".
General Education: Mathematics

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

PHYS1820 | Physics II with Lab | Lecture/Laboratory (4 Credits)
An introductory calculus-based course in electromagnetic fields and their applications. Topics include: Coulomb's and Gauss' Law, electric fields and potentials, electrical and magnetic properties of matter, Ampere's and Faraday's laws, elementary DC and AC circuits, Maxwell's equations, and electromagnetic waves.
Prerequisite(s): MATH1821, Or MATH1820, And PHYS1800
General Education: Physical Sciences with Lab

SPCH1000 | Speech | Lecture (3 Credits)
Introduction to public speech making; purpose and organization, audience analysis and response, verbal and non-verbal clues.
General Education: Communications

WRIT2010 | Technical Writing | Lecture (3 Credits)
Technical writing applications are studied for format, style, voice, and point of view; considered for purpose, audience, and subject. Critical thinking and developed expertise are employed to analyze, interpret, evaluate, summarize and generate various technical documents, individually and within teams.
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Policies
School of Engineering Policies
General Applicability

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Student academic progress must consider the level to which students have successfully mastered earlier concepts in determining if a student is making adequate progress in their chosen field of study.

Students will be determined to be making adequate progress toward degree completion if they are following the recommended program of study and are achieving grades of C or better in all of their courses each semester.

A student who is following the recommended program of study who receives a grade of less than a C in any technical or School of Engineering course will be required to meet their Academic Coordinator to review their study skills and to develop a plan for enhanced academic achievement for the next semester. This grade of less than C may result in an adjustment of the next semester schedule to support needed prerequisites or remedial measures.

Any student who is following the recommended program of study who receives two or more grades of C or lower in technical or School of Engineering courses will be required to meet with their Academic Coordinator and the School of Engineering Dean to determine appropriate next steps.

Any student who is not following the program of study defined by the Academic Plan will be required to meet with the Academic Coordinator each semester to ensure that they are registered for the appropriate courses.

Because of the cumulative nature of the Engineering program courses, no more than two passing grades of less than C will be allowed to count

toward graduation. The final design experience(s) in all programs must be completed with a grade of no less than C.

COURSE DESCRIPTIONS

Business Management & Leadership (AMGT)

AMGT3211 | Project Management Practicum | Practicum (2 Credits)
Apply project management methodology through the management of a project on an assigned case study for the purpose of integrating information and skills learned in previous courses.
Prerequisite(s): MGMT3211

AMGT3230 | Strategic Planning Practicum | Practicum (2 Credits)
Apply strategic planning management methodology through the management of a project on an assigned case study for the purpose of integrating information and skills learned in previous courses.
Prerequisite(s): MGMT3230

AMGT4110 | Human Resources Practicum | Practicum (3 Credits)
Carry out an in-depth investigation of a variety of Human Resources topics. The course will be project based; each student will identify an HR project relevant to his/her chosen field of study.
Prerequisite(s): MGMT3220

AMGT4112 | Leadership Practicum | Practicum (2 Credits)
Application of leadership theory and methodology through the use of a case study and project for the purpose of integrating information and skills learned in previous program courses.
Prerequisite(s): MGMT4110

AMGT4120 | Leading Organizational Change Practicum | Practicum (2 Credits)
Apply organizational change theory and methodology through the management of a project on an assigned case study for the purpose of integrating information and skills learned in previous courses.
Prerequisite(s): MGMT4120

AMGT4220 | Negotiation & Conflict Resolution Prac | Practicum (2 Credits)
Apply negotiation and conflict resolution methodology through the use of hands on case studies and projects. Strategies and tactics for conflict analysis, assessment and negotiation created and monitored by students.
Prerequisite(s): MGMT4220

Architectural Drafting & Design (ARCH)

ARCH1111 | Architectural Drawing | Studio (5 Credits)
Engage in a breadth of architectural representation and design technologies. Develop skills in architectural communication, professionalism, learning culture, and technological agility.

ARCH1121 | The Site | Lecture (3 Credits)
Analyze the relationship between a building site and its physical, cultural, and environmental contexts. Develop technical abilities for site design and documentation.

ARCH1131 | Building Systems | Lecture (3 Credits)
Analyze a breadth of building systems and their associative materials and assemblies. Analyze the basic principles of building structural and envelope systems.

ARCH1141 | The Profession | Seminar (1 Credit)
Engage in the profession of architecture and acquire knowledge of architectural licensure, career paths, and forms of practice. Develop proficiency in professional communication and behavior.

ARCH1211 | Construction Drawings | Studio (5 Credits)
Create and coordinate a set of construction drawings. Develop visual communication, organization, and time management skills. Explain and apply systems of building information management.
Prerequisite(s): ARCH1111

ARCH1221 | Building Details | Lecture (3 Credits)
Analyze and develop critical intersections of building systems. Explain the relationship among systems. Identify the relationship between details and design intent.

ARCH1231 | Building & the Environment | Lecture (3 Credits)
Analyze varying building systems, their relationship to climate change, their integration into buildings, and their standards for documentation. Develop skills for design and documentation of ecologically sustainable building systems.

ARCH2111 | Construction Documents | Studio (5 Credits)
Create and develop building construction drawings and specification. Apply building regulations and codes to inform design development. Engage in collaborative building information management.

ARCH2122 | Building Materials | Lecture (3 Credits)
Analyze varying building systems details, material selections, and their specification standards. Develop skills for detailing, documenting, and specifying building materials.

ARCH2131 | Building Regulations | Lecture (3 Credits)
Examine the design implications of building regulations. Research building codes, zoning ordinances, and other regulatory factors. Explain the role of building regulations to public health. Analyze and apply building regulations to specific building conditions.

ARCH2211 | Capstone | Studio (5 Credits)
Engage in the design process and communicate design intent through architectural representation and construction documentation.
Prerequisite(s): ARCH2111

ARCH2221 | Portfolio | Lecture (3 Credits)
Create a curriculum vitae and portfolio of work suitable for entry into the profession and advancement in education. Expand professional behavior and communication skills.

ARCH2231 | Building Economics | Lecture (3 Credits)
Analyze and create building construction cost estimation. Explain and model building life cycle costs. Identify the relationship between whole building costs and climate change.

ARCH3110 | City & Site | Studio (5 Credits)
Apply the fundamental and experimental approaches to a rigorous design process. Apply design thinking at a city scale, through a non-polemic, iterative, multimedia approach.

ARCH3120 | 2D Rendering | Lecture (3 Credits)
Research design thinking through 2D rendering methods. Explain the fundamentals of a design process, iteration, rigor, critical representation, and architectural communication.

ARCH3130 | Early Global History of Architecture | Lecture (3 Credits)
Research and analyze architecture of the world throughout history. Examine the relationships between culture, geography, politics, race, and the ways in which they shape the built environment.

ARCH3140 | Landscape | Seminar (1 Credit)
Explore how form can integrate with and grow from natural systems, as well as how natural systems can integrate into architectural works through legible, self-evident user interaction with processes and phenomena.

ARCH3210 | Program & Society | Studio (5 Credits)
Research client, site and regulatory conditions to create a comprehensive architectural program. Utilize space planning strategies to create form. Use iterative design processes to evolve architectural thought. Expand design thinking and visualization skills toward the development of a complex architectural condition.
Prerequisite(s): ARCH3110

ARCH3220 | 2D Fabrication | Lecture (3 Credits)
Analyze architectural order through 2D fabrication. Develop, fabricate, and present varying ordering systems through iteration, rigor, critical representation, and architectural communication.

ARCH3230 | Late Global History of Architecture | Lecture (3 Credits)
Analyze the history and current context of modern architecture globally. Identify the societies and ideas that shape architecture history and theory. Examine the relationships between culture, geography, politics, race, and the ways in which they influence architectural thought and form.

ARCH3240 | Material Studies | Seminar (1 Credit)
Investigate the value, geography, global history, ecological impact, and strength properties of conventional, novel, and experimental materiality. Develop propositional learning skills and the understanding of technology, nature and design through material.

ARCH4110 | Research & Culture | Studio (5 Credits)
Apply architectural research to design while engaging a real world client and project. Employ an inclusive and participatory design process through engagement with various community stakeholders. Examine the relationship of architecture to public process and community development.

ARCH4120 | 3D Fabrication | Lecture (3 Credits)
Apply analog and digital 3D fabrication techniques as a design and representation tool. Develop skills utilizing design thinking, ordering systems, and digital fabrication methodologies.

ARCH4130 | Globalization & the Vernacular | Lecture (3 Credits)
Identify distinctions between vernacular and formal architecture traditions around the globe. Elaborate on the tensions between the role of architecture in urban and rural landscapes, as well as the distinctions between city and country. Catalog global vs. local processes in the structure of the city and place making. Build vocabulary and make distinctions in terminology such as culture, diversity, equity, modernity, pre-modern, agricultural, rural.

ARCH4140 | Urbanism | Seminar (1 Credit)
Research and analyze ideas of urbanism and their relationship to architecture within a design process. Perform comparative analysis of the Twin Cities and other urban centers through a series of case studies.

ARCH4210 | Fabrication | Studio (5 Credits)
Design and fabricate for varying socio-economic, political, and cultural contexts through immersive learning. Acquire a depth of knowledge of varying cultures and human behaviors and how they manifest themselves architecturally. Engage in intensive, participatory, and prototyping processes.
Prerequisite(s): ARCH4110

ARCH4220 | Moving Image & Animation | Lecture (3 Credits)
Practice skills in still and moving architectural visualization as a design and representation tool. Develop new skills utilizing design thinking, story-telling, and rendering techniques.

ARCH4230 | Metropolis & Activism | Lecture (3 Credits)
Examine the structure of cities and human settlement. Analyze the bio-politics of the city through the lens of safety, equity, race, and social justice, and its effect on humanity and the environment. Explore changes in urbanism based on current cultural conditions.

ARCH4240 | Parametric Design | Seminar (1 Credit)
Analyze ideas of parametric design and their relationship to architecture and the design process. Perform exercises in varying ideas and processes of parametric design in architecture.

ARCH5103 | Professional Practice | Lecture (3 Credits)
This business course introduces students to successful models for owning, operating, and managing an architectural practice. Focus is given to business and marketing planning, as well as leadership in business management. Students will research varying established models and develop business and marketing plans to achieve a detailed knowledge of professional practice.

ARCH5110 | Integrative Design | Studio (5 Credits)
Integrate site, regulatory, and program elements to create an architectural work. Demonstrate design intent within the design and development of building systems. Demonstrate integrative design through varying forms of architectural representation.
Prerequisite(s): ARCH4210

ARCH5120 | Thesis Preparation | Lecture (3 Credits)
Propose topics of architectural inquiry through peer-reviewed research. Investigate physical and digital modes of representation. Utilize physical and digital modes of representation, design thinking, ordering systems, and investigative skills to develop, represent, and propose a thesis.

ARCH5130 | Systems & Envelope | Lecture (3 Credits)
Research and analyze the building envelope and its performative relationship to building systems. Discover ways in which building systems are designed to reinforce architectural thought. Analyze works of architecture with a focus on integrative thinking.

ARCH5140 | Entrepreneurship | Seminar (1 Credit)
Investigate how architectural businesses form, grow, hire, and create sustainable business plans with lasting value. Analyze real world examples of how the profession of architecture fiscally operates in foundation, operation, capital investment, asset building, and liability management.

ARCH5201 | Architecture Seminar F | Lecture (1 Credit)
Engage in scholarly architectural writing. Discover the means and methods of architectural writing. Gain exposure to scholarly publication opportunities. Generate works which successfully hold up to peer review. Perform peer review for other generated works.

ARCH5202 | Studio 10 - Comprehensive II | Studio (8 Credits)
The second part of a yearlong studio is a culmination of the core curriculum. Design skills will be demonstrated through an architectural work which integrates critical and abstract thinking, with building systems knowledge, life safety considerations, financial, cultural and environmental balance, and construction documentation skills. Students will acquire a proficiency in integrated systems thinking and comprehensive design.

ARCH5210 | Thesis | Studio (8 Credits)
Design, develop, and present a provocation that defends a thesis. Demonstrate the power of architecture to creatively solve cultural, environmental, technological, or other substantive problems. Individual design philosophies, processes, self-discipline, autonomy, and time management skills are rigorously developed with an emphasis on iteration and personal evolution.
Prerequisite(s): ARCH5120

ARCH5220 | Professional Practice | Lecture (3 Credits)
Analyze the role of the architect in society as a leader, collaborator, and catalyst toward a better world. Examine the ethical, social, and legal responsibilities of professional practice. Describe the role of equity, diversity, and inclusion within the profession.

ARCH5230 | Structures | Lecture (3 Credits)
Analyze the principles of building structures through quantitative and mathematical means. Examine conventional, unconventional, and emerging structural systems. Explain the relationship between structural systems and design intent.

ARCH5240 | Architectural Writing | Seminar (1 Credit)
Engage in scholarly architectural writing. Discover the means and methods of architectural writing. Gain exposure to scholarly publication opportunities. Generate works which successfully hold up to peer review. Perform peer review for other generated works.

Arts (ARTS)

ARTS1000 | Introduction to Drawing | Lecture (3 Credits)
Analyze basic drawing concepts and techniques through demonstrations, discussions, critiques, slide lectures, and the use of a sketchbook. Work from observation using line, tone and other elements of art to solve spatial, compositional and light problems to accurately render the illusion of 3-dimensional form on a 2-dimensional surface.
General Education: Humanities

ARTS1250 | History of Design | Lecture (3 Credits)
A survey of major movements and tendencies, and key figures in the development of graphic, craft, and industrial design between the mid-nineteenth century and the present day.
General Education: Humanities

Auto Collision Repair & Refinishing (ABDY)

ABDY1111 | Introduction to Auto Body | Lecture/Laboratory (1 Credit)
Overview of the past, present, and future of the collision industry with emphasis on safety, equipment, tools, and body shop operations. Industry expectations and career opportunities are explored.

ABDY1121 | Bolt on Panel Replacement I | Lecture/Laboratory (3 Credits)
Identify, remove, and install vehicle panels requiring bolt on or other mechanical fastener applications. Practice alignment techniques, identification of fasteners, use of industry and vehicle manufacturer approved methods.

ABDY1131 | Panel Straightening & Paint Prep | Lecture/Laboratory (3 Credits)
Examine and practice industry acceptable methods of metal straightening, plastic filler application and contouring, use of primer surfacers, and sanding techniques. Preparation of substrates and existing finishes for refinishing on metal and plastic panels.

ABDY1140 | Auto Body Welding | Lecture/Laboratory (3 Credits)
Relate safety, equipment, and welding techniques to collision repair. Special consideration to I-CAR welding procedures and tests.

ABDY1151 | Plastic Repairs | Lecture/Laboratory (2 Credits)
Identify and practice techniques associated with welding, bonding, and cosmetic repair of automotive plastics. Prepare interior plastic for refinishing and re-texturing.

ABDY1211 | Brake & Suspension Repairs | Lecture/Laboratory (3 Credits)
Identify automotive brakes, steering systems, and suspension systems. Remove and replace components. Examine systems for collision related damage. Wheel alignment theory and practice.

ABDY1221 | Introduction to Refinishing | Lecture/Laboratory (2 Credits)
Identify personal safety issues and environmental concerns related to refinishing. Use of water-based paint and solvent-based paint systems and procedures. Practice refinishing procedures on metals and plastics as related to collision repair.

ABDY1230 | Automotive Refinishing & Detailing | Lecture/Laboratory (5 Credits)
Practice refinishing of automotive collision repairs, and vehicle masking techniques; identify paint problems and corrections.

ABDY1311 | Damage Analysis & Estimating | Lecture/Laboratory (1 Credit)
Practice in collision damage appraisal using industry accepted software and computerized estimating programs to prepare collision damage reports or estimates.

ABDY1320 | Summer Production Repair Lab I | Laboratory (4 Credits)
Practice the skills learned in the first year of coursework using customer vehicles.

ABDY1321 | Summer Internship I | Internship (4 Credits)
This Internship is offered for qualified students who are interested in fulfilling their 1st year production requirements for the Collision Program via a 192 hour internship rather than participating in ABDY 1320 Production Lab I at Dunwoody. Students must be able to secure an internship at a collision repair facility and have the approval of the Collision Program Faculty. Internship provides work experience as a technician in an automotive collision repair facility. A formal agreement will be developed between the student, the employer, and an advisor assigned by Dunwoody. Internship must be approved by the Department Director of the Internship Advisor.

ABDY2111 | Aluminum Welding & Complex Panel Repair | Lecture/Laboratory (3 Credits)
Examine the properties of aluminum, aluminum alloys, welding processes and materials utilized in aluminum welding. Setup and adjustment of the MIG welder for aluminum, weld joint preparation, aluminum welding procedures and safety precautions. Welding on aluminum adhering to I-CAR aluminum welding standards and testing methods. Body panel damage assessment. Repair of steel and aluminum body panels with complex shapes and damage to style lines and attached inner panels. Procedures and products used to restore Corrosion Protection to repaired panels.

ABDY2120 | Electrical, A/C Repairs & Hybrid Safety | Lecture/Laboratory (3 Credits)
Fundamentals of electricity and related automotive circuits, tracing of vehicle wiring diagrams and repair of collision related malfunctions of electrical components and wiring. Identification and usage of electrical test tools and head lamp aiming. Air conditioning theory of operation, properties of refrigerants, and safety procedures. Set up and use of air conditioning service equipment. Refrigerant reclaiming, recycling, evacuation and recharging. Diagnostic procedures for troubleshooting air conditioning systems. Safety precautions and disabling procedures for working on and around hybrid vehicle electrical systems.

ABDY2131 | Restraint Systems & Stationary Glass | Lecture/Laboratory (3 Credits)
Explore the history of the development of restraint systems. Examine air bag theory of operation, function of components and wiring, deployment conditions, safety precautions, and inspection procedures for restraint systems. Practice service procedures for air bag and seat belt systems. Examine the role that glass plays in a modern vehicle. Demonstrate procedures for replacement of structural glass, correction of wind noises and water leaks, and removal and re-installation of interior trim.

ABDY2140 | Finish Matching & Plastic Refinishing | Lecture/Laboratory (2 Credits)
Collision industry procedures used for color matching, tinting and blending. Color theory, panel preparation and practical application of urethane (solvent based) and waterborne automotive paint products utilizing color mixing systems. Procedures, techniques, and materials used in tri-coat (three stage) finish repairs. Specialized products and procedures used to refinish automotive plastics. Identification and refinishing of flexible plastic panels.

ABDY2211 | Panel Replacement II | Lecture/Laboratory (3 Credits)
Identify, remove and install welded and adhesively bonded automotive body panels. Identify and use a squeeze type resistance spot welder and other specialized panel removal tools and welding equipment. Practice restoring corrosion protection to replaced panels using primers and anti-corrosion compounds. Identify and properly apply automotive body seam sealers.

ABDY2222 | Structural Analysis, Measuring & Repair | Lecture/Laboratory (6 Credits)
Vehicle collision damage analysis, inspection techniques, damage classification and types of vehicle construction. Measuring concepts, set-up and use of measuring systems, vehicle anchoring systems and structural straightening equipment. Industry (I-CAR) guidelines for structural repairs including frame and unibody straightening, structural component replacement, sectioning and restoring corrosion protection. Disassemble vehicles for repairs, develop a vehicle repair plan, perform structural repairs, including repairs to mechanical and electrical systems as well as replacement of structural glass.

ABDY2231 | Custom Painting | Lecture/Laboratory (1 Credit)
Surface preparation procedures, specialized refinish materials, spray equipment and techniques used for custom painting on vehicle panels or small projects. Materials utilized include standard urethane (solvent-based) base coats, waterborne base coats, candy colors, pearls, and metal flakes. Masking and design transfer techniques for custom painting.

ABDY2310 | Production II Internship | Internship (4 Credits)
This Internship is offered for qualified students who are interested in fulfilling their 2nd year production requirement for the Collision Program via a 216 hour internship rather than participating in ABDY 2320 Production Lab II. Must be able to secure an internship at a collision repair facility and have the approval of the Collision program faculty. A formal agreement will be developed between the student, the employer, and an advisor assigned by Dunwoody. Internship must be approved by the Department Director of Internship Advisor.

ABDY2320 | Summer Production Repair Lab II | Laboratory (4 Credits)
Perform major and minor collision repairs; repair or replace structural members and exterior panels; remove and replace glass and upholstery; suspension and mechanical components; prepare panels for paint; refinish panels or vehicles as necessary. Create computerized repair estimates, discuss repairs with customers, order parts and assist in completion of repair orders for customer billing.

Automated Systems & Robotics (ASRO)

ASRO1210 | Mechanical Transmission of Power Lab | Laboratory (2 Credits)
Assembling, disassembling and observing applications of bearings, gears, cams, motors, clutches, cylinders (hydraulic and pneumatic), fluid systems, mechanical systems and other automation related components. Drawing and fabrication of simple components.

ASRO1220 | Mechanical Transmission of Power Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with various components of machines including bearings, gears, cams, motors, clutches, cylinders (hydraulic and pneumatic), fluid systems, mechanical systems and other automation related components.

ASRO2100 | Industrial Controls & PLCs Lab | Laboratory (2 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2101 | Industrial Controls & PLC's Lab | Laboratory (3 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2110 | Industrial Controls & PLCs Lab | Laboratory (5 Credits)
Installation, wiring, programming, operation, testing and troubleshooting programmable logic controllers. Interfacing programmable logic controllers with switches, sensors, motors, pneumatics, and other I/O devices. Set-up, configuration and troubleshooting inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2120 | Industrial Controls & PLCs Theory | Lecture (8 Credits)
Wiring and programming fundamentals associated with programmable logic controllers. Identification, recognition and calculations associated with inductive and capacitive proximity, photo-electric, temperature and other industrial sensors.

ASRO2200 | Automation & Robotics Lab | Laboratory (2 Credits)
Set up, configuration, programming and troubleshooting industrial robots to meet industry standards. Configuration and troubleshooting of installed automation and packaging equipment using machine schematics and related documentation.

ASRO2201 | Automation & Robotics Lab | Laboratory (3 Credits)
Set up, configuration, programming and troubleshooting industrial robots to meet industry standards. Configuration and troubleshooting of installed automation and packaging equipment using machine schematics and related documentation.

ASRO2205 | Automation & Robotics Theory | Lecture (8 Credits)
Identification, recognition, programming and calculations associated with automation and packaging components, motion control, industrial robotics and related documentation.

ASRO2230 | Industrial Robotics Lab | Laboratory (2 Credits)
Set up, configuration, programming and troubleshooting industrial robots to meet industry standards. Industry safety standards, programming methods, applications and interfacing of sensors and I/O devices.

ASRO2241 | Industrial Robotics Theory | Lecture (5 Credits)
Identification, recognition and calculations associated with industrial robotics including terminology, safety practices and procedures, application justifications, robot types, operation, program instructions and techniques, I/O device interfacing, end of arm tooling, system integration and troubleshooting.

ASRO2291 | Industrial Internship/Practicum | Internship (6 Credits)
Internship or practicum option on various manufacturing topics: automation, electronics, robotics, mechanical systems, assembly, troubleshooting, research and/or field service.

Automotive Service Technology (AUTO)

AUTO1111 | Fundamentals of Automotive Service I | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 1: Use of tools and measuring instruments. Identify fasteners and fittings. Removed damaged fasteners. Research service procedures using automotive information systems. Examine theory of design, principles of operation, and repair procedures of automotive chassis steering, suspension, and brake systems. Perform maintenance and service procedures in the following areas: tire/wheel service, four-wheel alignments, drivetrain inspection and fluid maintenance.

AUTO1121 | Fundamentals of Automotive Service II | Lecture/Laboratory (6 Credits)
Introduction to automotive service, maintenance and repair, Part 2: Research service procedures using automotive information systems. Disassemble, assemble component engines. Describe engine parts, systems, and operation. Perform vehicle oil changes and vehicle inspections. Identify HVAC system components. Perform OBD II code scan. Examine electrical systems. Introduction to Ohm's Law, theory and principles, circuits, magnetism, electromagnetism, induction, and basic electronics including semiconductors. Test batteries, test and replace starters. Practice use of digital multimeters and wiring schematics to trace, test, and diagnose circuits.

AUTO1211 | HVAC/Advanced Electrical | Lecture/Laboratory (6 Credits)
Apply Ohm's Law theory and principles. Explore electrical circuit principles, batteries, cranking motors, charging systems, in addition to accessory operation, lighting system design, and instrumentation. Use digital multimeters and wiring schematics to trace, test, and diagnose circuits. Inspect, test starters and alternators. On vehicle diagnosis of body electrical systems, including diagnosis of battery, starting, and charging systems; heating/air conditioning component operation and physics. Control system diagnosis, service, repair procedures, and pressure diagnosis. On vehicle procedures for recovery/recycling equipment.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1221 | Chassis Systems | Lecture/Laboratory (6 Credits)
Examine theory of design and principles of operation, diagnosis, and repair procedures of automotive brake, steering and suspension systems. Practice performing service procedures, four-wheel alignments.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1251 | Exploration of Automotive Systems | Lecture (1 Credit)
Explore a variety of automotive mechanical and electrical systems through discussion and online training, using a variety of manufacturer and alternative resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1252 | Exploration of Audi Automotive Systems | Lecture (1 Credit)
Explore Audi mechanical and electrical systems through discussion and online self-studies, using Audi specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1253 | Exploration of Mopar Automotive Systems | Lecture (1 Credit)
Explore Mopar (Chrysler, Dodge, Jeep®, Ram, and Fiat) systems through discussion and online self-studies, using Mopar specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1254 | Exploration of Honda Automotive Systems | Lecture (1 Credit)
Explore Honda/Acura mechanical and electrical systems through discussion and online self-studies, using Honda/Acura PACT specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1255 | Exploration of Subaru Automotive Systems | Lecture (1 Credit)
Explore Subaru shop operations, vehicle telematics, and hybrid systems through discussion and online self-studies, using Subaru specific resources.
Prerequisite(s): AUTO1111 And AUTO1121

AUTO1256 | Exploration of Mercedes Benz Systems | Lecture (1 Credit)
Dunwoody's Mercedes Benz Campus program is specifically is an online, add-on credential for students who are already working at a Mercedes Benz dealership or would like to work at one. During the program, you will study Mercedes Benz information systems and various maintenance procedures. You will also gain knowledge of engine, transmission, chassis/brake, electronic, and basic electricity fundamentals. Students complete MB Campus online training modules on their own time. Access to the training modules is available 24/7 at no additional cost to the student. Training credentials come directly from Mercedes Benz, preparing students for employment at any Mercedes dealership nationwide. Students who complete the training are also prepared for Mercedes Benz Drive training while employed at a Mercedes Benz facility.

AUTO2111 | Engine Performance/Engine Repair | Lecture/Laboratory (12 Credits)
Analyze theory of operation, design, diagnosis, and repair procedures of engines, in addition to computerized engine control systems, electrical and electronic devices. Examine emerging engine performance and vehicle propulsion technology. Use standard and computerized test equipment on OBDII equipped vehicles to make a complete performance analysis and/or diagnose specific problems to determine work needed on vehicles. Make repairs to restore vehicle performance, emissions, and fuel economy to as near as possible to original factory and Environmental Protection Agency (EPA) standards.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2211 | Transmissions/Driveline | Lecture/Laboratory (4 Credits)
Theory and operation of gears, controls, and components relating to transmissions, transfer case, and differentials. Explain the operation, diagnosis, disassembly, reassembly, and power flow of driveline components, as well as testing of hydraulic and electronic controls using service information. Explain the operation, theory and repair of constant velocity and variable velocity joints. Examine the principles of NVH (noise, velocity, and harshness).
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2212 | Transmissions/Driveline | Lecture/Laboratory (6 Credits)
Theory and operation of gears, controls, and components relating to automatic and manual transmissions, transfer case, and differentials and all wheel drive systems. Explain the operation, diagnosis, disassembly, reassembly, and power flow of driveline components, as well as testing of hydraulic and electronic controls using service information.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2220 | Production | Lecture/Laboratory (8 Credits)
Practical shop experience in all aspects of automotive repair on customer's vehicle. Fundamentals of shop management, repair order writing, parts procurement, and customer relations. Principles of NVH (noise, vibration, and harshness) diagnosis, and advanced chassis control systems.

AUTO2230 | Auto Internship | Internship (8 Credits)
Supervised training in repairing various problems with customer vehicles while working at an automotive repair facility. Need department director approval (application must be submitted at least 8 weeks prior to start of the Internship); must follow approved guidelines listed in the internship packet. This course can be taken in lieu of AUTO2220 Production.

AUTO2251 | Production | Lecture/Laboratory (8 Credits)
Practical shop experience in all aspects of automotive repair on customer's vehicle. Fundamentals of shop management, repair order writing, parts procurement, and customer relations.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2252 | Hybrid/EV Technology & Production | Lecture/Laboratory (6 Credits)
Hybrid/EV Operation, Safety and Service: In this course section, we will explore the operation, safety and service procedures for Hybrid and Electric vehicle systems, including HV batteries, traction motors and Power electronics in both lecture and lab settings. Production portion includes: Practical shop experience in all aspects of automotive repair on customer vehicles. Fundamentals of shop management, repair order writing, parts procurement, and customer service.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2510 | Internship | Internship (8 Credits)
Perform a paid internship at a sponsoring repair facility. Work under the supervision of service management. Student must secure their own employment. A Dunwoody Automotive faculty will oversee the internship. Need department director approval and must meet acceptance criteria. Application must be submitted at least eight weeks prior to the start of the internship. Must follow approved guidelines listed in the internship packet. This course can be taken in lieu of AUTO2251 Production.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

AUTO2511 | Internship | Internship (6 Credits)
Perform a paid internship at a sponsoring repair facility. Work under the supervision of service management. Student must ssecure their own employment. A Dunwoody Automotive faculty will oversee the internship. Need department director approval and must meet acceptance criteria. Application must be submitted at least eight weeks prior to the start of the internship. Must follow approved guidelines listed in the internship packet. This course can be taken in lieu of AUTO2252.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

Biology (BIOL)

BIOL1230 | Anatomy | Lecture/Laboratory (4 Credits)
Analyze the structure of the human body, molecular, cellular to organism level. Examine cell biology, integumentary, muscular, skeletal, neurological, digestive, respiratory, urinary, cardiovascular, endocrine, lymphatic, and reproductive body systems and the correlation/integration of the various systems to construct the human organism.
General Education: Natural Sciences

BIOL1310 | Physiology I | Lecture/Laboratory (2 Credits)
Analyze the functioning of the human body, molecular, cellular to organism level. Examine body systems, such as cell biology, muscular, skeletal, neurological, digestive and respiratory and the correlation/integration of the various systems in impacting the functioning of the human organism.
Prerequisite(s): BIOL1230
General Education: Natural Sciences

BIOL1320 | Physiology II | Lecture/Laboratory (2 Credits)
Analyze the functioning of the human body, molecular, cellular to organism level. Examine body systems such as urinary, body defenses, cardiovascular, endocrine, lymphatic, and reproductive and the correlation/integration of the various systems in impacting the functioning of the human organism.
Prerequisite(s): BIOL1310
General Education: Natural Sciences

BIOL1400 | Human Disease | Lecture/Laboratory (4 Credits)
Analysis of the disease conditions affecting the human body, including their pathological origin, signs and symptoms, pathological process, diagnostics, and treatment modalities.
Prerequisite(s): BIOL1320
General Education: Natural Sciences

Chemistry (CHEM)

CHEM2000 | Introduction to Chemistry | Lecture (3 Credits)
Examine contemporary applications of chemistry in such areas as energy, technology and materials, pollution and waste. Applications illustrate many fundamental concepts in chemistry, such as molecular and electronic structure, mixtures, intermolecular forces, phase behavior, thermodynamics, electrochemistry, kinetics, and equilibria. Current and future global challenges are presented and discussed.
General Education: Natural Sciences

CHEM2001 | Introduction to Chemistry with Lab | Lecture/Laboratory (3 Credits)
Examine contemporary applications of chemistry in such areas as energy, technology and materials, pollution and waste. Applications illustrate many fundamental concepts in chemistry, such as molecular and electronic structure, mixtures, intermolecular forces, phase behavior, thermodynamics, electrochemistry, kinetics, and equilibria. Current and future global challenges are presented and discussed. A lab component is included.
General Education: Natural Sciences

CHEM2110 | Chemistry with Lab | Lecture/Laboratory (4 Credits)
Develop a basic understanding of the central principles of chemistry that are useful to explain and predict the properties of chemical substances based on their atomic and molecular structure; promotes the development of basic and advanced science process skills.
General Education: Physical Sciences with Lab

CHEM2210 | Chemistry of Fluids & Gases | Lecture (3 Credits)
Examine the principles and methodologies of chemistry involved in the production and operation of automobiles. The main focus is on the various fluids, such as gasoline, motor oil, and antifreeze. Other topics include environmental challenges, including fuel cells, biofuels, and other strategies for reducing carbon dioxide emissions.
General Education: Natural Sciences

Cloud Engineering Technology (CLDE)

CLDE1110 | Introduction to Cloud Services | Lecture/Laboratory (2 Credits)
Exploration of the technology and terms used in modern cloud services. Portions of this course help to prepare for the Amazon Cloud Practitioner exam.

CLDE1120 | DevOps Fundamentals | Lecture/Laboratory (2 Credits)
Investigation of industry-standard terminology technology and core principles used in automating the modern datacenter. Portions of this course help to prepare for the ICP Foundations of DevOps exam.

CLDE1210 | Cloud Architecting | Lecture/Laboratory (3 Credits)
Architecting business solutions for modern cloud services utilizing industry best practice concepts. Portions of this course help to prepare for the Amazon Cloud Architect Associate exam.

CLDE2110 | Cloud Security | Lecture/Laboratory (3 Credits)
Utilize best practice concepts in securing modern cloud services. Portions of this course help to prepare for the Amazon Security Specialty exam.

CLDE2120 | Cloud Database Systems | Lecture/Laboratory (3 Credits)
Build secure, durable and scalable database solutions for modern cloud services. Portions of this course help to prepare for the Amazon Database Specialty exam.

CLDE2210 | Hybrid Cloud Management | Lecture/Laboratory (3 Credits)
Design and implement integrated environments of on-premises and public cloud services that enable flexibility and the ability to migrate workloads, while maintaining data security and compliance. Portions of this course help to prepare for the Red Hat CloudForms Hybrid Cloud Administration exam.

CLDE2220 | Advanced Cloud Networking | Lecture/Laboratory (3 Credits)
Apply AWS networking nuances and how they relate to the integration of AWS services in provisioning Routing architectures, multi-region solutions for a global enterprise and highly available connectivity solutions. Portions of this course help to prepare for the Amazon Advanced Networking Specialty exam.

CLDE2230 | Cloud Enterprise Systems | Lecture/Laboratory (3 Credits)
Evaluate cloud application requirements and make architectural recommendations for secure implementation, deployment, and provisioning. Portions of this course help to prepare for the Amazon Solutions Architect Professional exam.

CLDE2290 | Cloud Capstone Project | Lecture/Laboratory (3 Credits)
Portfolio or external project work to exhibit all skills gained throughout program.

CLDE2291 | Summative Experience | Directed Study (5 Credits)
Portfolio or external intern based project work to exhibit all skills gained throughout program.

Communication (COMM)

COMM1000 | Communication in Context | Lecture (3 Credits)
For the better part of every day, technical professionals rely on communication to get work done efficiently and effectively. In this course, you will develop the communication skills critical for successful problem solving in authentic contexts. You will analyze the situation surrounding a particular message and learn to tailor content, language, structure, and design choices to an intended audience.
General Education: Communications

COMM1030 | Project Communication | Lecture (3 Credits)
Create effective communication strategies critical to project success using language and methodology to assess project communication needs, plan for meeting those needs, and effectively communicate project status and forecasts to all stakeholders throughout the project life cycle.
General Education: Communications

COMM1150 | Interpersonal Communication | Lecture (3 Credits)
Analyze the process of interpersonal communication as a dynamic and complex system of interactions. Integrate interpersonal communication theory into work, family and social relationships. Apply fundamental tools needed to provide quality customer service. Decision making, problem solving, and managing customer service processes are emphasized.
General Education: Communications

COMM2000 | Communication for Technical Professions | Lecture (5 Credits)
Develop the distinctive reading and writing skills critical to success in technical professions. Examine the role of and techniques used within the writing process; the interrelationship between content, language, and structure; and the relationship between the basic conventions of writing and the construction of meaning. Topics include strategies for collaborative and ethical writing in the workplace, creating and interpreting professional communications, and analyzing field-specific texts for application to a specific task and overall effectual performance.
General Education: Communications

COMM2900 | Technology in Science Fiction & Fantasy | Lecture (3 Credits)
Technology has always played an important role in science fiction and fantasy literature. From steam-powered flying machines to jacking into cyberspace, stories abound with a dizzying array of imaginative machines and inventive devices. In this course, you will analyze the role that technology has played in science fiction by reading a variety of Steampunk and Cyberpunk texts including novel excerpts, short stories, essays, and manga. You will examine the characteristics of Steam Punk and Cyber Punk.

COMM3000 | Professional Communication | Lecture (2 Credits)
Professional communication in all forms: researching, selecting, synthesizing, and documenting sources; business e-mail and letter writing, as well as public speaking and power point presentation for application in a management setting.
General Education: Upper Communications

Computer Engineering (CENG)

CENG4100 | Computer Architecture | Lecture/Laboratory (4 Credits)
This course will cover the basics of computer architecture and organization. A variety of computer processor architectures will be analyzed and experimented with to evaluate each in terms of performance, power consumption, etc.
Prerequisite(s): EENG3211

CENG4150 | Senior Design Project | Capstone (2 Credits)
Senior Design Project to implement the learning gained from previous years of study. This course will vary based on the instructor and students' areas of interest.

CENG4200 | Embedded Systems | Lecture/Laboratory (3 Credits)
This course will cover the basics of designing, interfacing, configuring, and programming embedded systems. The course will utilize inexpensive, popular embedded systems, like Arduino, which are used by hobbyists, researchers, and in industry, to implement the techniques learned in class.
Prerequisite(s): EENG3211

CENG4300 | Computational Optimization in HW | Lecture/Laboratory (3 Credits)
This course will cover topics such as (but not limited to) techniques for speeding up hardware implementations, including system restructuring, algorithms, and hardware innovations. Students will learn the importance of code optimization trade offs for available hardware resources.
Prerequisite(s): SENG2220

Computer Networking Systems (CNTS)

CNTS1101 | Introduction to Operating Systems | Lecture/Laboratory (4 Credits)
Examine maintenance and repair concepts of computer operating systems, hardware, peripherals, and component selection/installation for machines commonly found in a business. Practice using the file systems and command line interfaces of Linux and Windows operating systems to gain a basic understanding of how they work and their similarities and differences.

CNTS1102 | Introduction to Operating Systems | Lecture/Laboratory (2 Credits)
Examine concepts of computer operating systems found in the datacenter. Navigation and manipulating of the file systems using command line and GUI interfaces of current Linux and Windows operating systems to gain an understanding of how they work, their similarities and differences. Portions of this course help to prepare for the CompTia A+ exam.

CNTS1123 | Introduction to Networking | Lecture/Laboratory (2 Credits)
Introduction to the concepts and terminology of data communications in a datacenter. Examine client-server networking, communication hardware, software, and security. Analyze services and models supporting data communications interoperability. Configure and troubleshoot network connections and the associated hardware/software.

CNTS1202 | Scripting | Lecture/Laboratory (3 Credits)
Apply programming best practices to managing computer systems and networks. Topics include: development of real world scripts used to manage enterprise networks with a focus on Python and PowerShell.

CNTS1211 | Server Systems | Lecture/Laboratory (5 Credits)
Install, configure, maintain, and manage the primary services in the Server operating system. Introduction to the sharing of system resources, remote administration techniques to facilitate efficient and effective management of business computer systems.

CNTS1212 | Server Systems | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage the core services in current Linux and Windows server operating systems. Introduction to the sharing of system resources, remote administration, directory services security and backups. Portions of this course help to prepare for the Microsoft Identity and Access Administrator exam.

CNTS1231 | Network Systems | Lecture/Laboratory (4 Credits)
Expansion of concepts and terminology of business data communications and how they apply to the business environment. Intermediate to advanced client-server networking concepts, including its associated networking hardware, addressing and services; logical addressing, IP routing, and network protocols. Install and configure client-server networking systems.

CNTS1232 | Network Systems | Lecture/Laboratory (3 Credits)
Expansion of concepts and terminology of business data communications and how they apply to the business environment. Intermediate to advanced client-server networking concepts, including its associated networking hardware, addressing and services; logical addressing, IP routing, and network protocols. Install and configure client-server networking systems. Portions of this course help to prepare for the CompTIA Network+ exam.

CNTS2101 | Routing & Switching | Lecture/Laboratory (5 Credits)
Examine concepts and application of bridging, switching, and routing in an industry-standard networking environment. Install, configure, and manage networks, routers, and switches to facilitate basic network communication architectures. Portions of this course help to prepare for the Cisco Certified Networking Associate (CCNA) exam.
Prerequisite(s): CNTS1231

CNTS2103 | Enterprise Routing & Services I | Lecture/Laboratory (3 Credits)
Examine concepts and application of bridging, switching, routing, and firewalls in an industry-standard networking environment. Install, configure, and manage networks, routers, switches, and firewalls to facilitate basic network communication architectures. Portions of this course help to prepare for the Cisco Certified Networking Associate (CCNA) exam.

CNTS2112 | Advanced Server Systems | Lecture/Laboratory (5 Credits)
Install, configure, maintain, and manage enterprise servers and services. Configure and deploy cloud-based servers and services. Configure and deploy virtual server environments. Configure and deploy highly available server and service solutions. Utilize automation in the management of Directory services.
Prerequisite(s): CNTS1211

CNTS2113 | Enterprise Linux Administration | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a wide variety of Open Source Software (OSS) with an emphasis on common web, file and database servers found in industry; the history of the open source movement. Configure OSS operating systems to support common client-servers, Web hosting, and other services commonly found at the enterprise and ISP levels of industry. In-depth coverage of technologies related to hosting websites including programming language support, database support/connectivity, and remote access. Portions of this course help to prepare for the Red Hat Certified Engineer exam.

CNTS2131 | Virtualization | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a variety of virtualization software; examine the underlying principles of virtualization; create a virtual IT infrastructure; advantages and disadvantages of moving to a virtualized environment; comparison of major virtualization software systems. Portions of this course help to prepare for the Professional VMware vSphere Exam.

CNTS2140 | Securing Enterprise Server Environments | Lecture/Laboratory (3 Credits)
Proactively secure enterprise and hybrid environments, implement and manage security and compliance solutions, respond to threats, and enforce data governance. Portions of this course help to prepare for the Microsoft 365 Certified: Security Administrator Associate exam.

CNTS2201 | Advanced Routing & Switching | Lecture/Laboratory (5 Credits)
Advanced concepts and application of bridging, switching, and routing in an industry-standard networking environment. Practice advanced business network communication architectures. This course helps to prepare for the Cisco Certified Networking Associate (CCNA) exam.
Prerequisite(s): CNTS2101

CNTS2202 | Advanced Routing & Switching | Lecture/Laboratory (4 Credits)
Examine advanced concepts and application of bridging, switching, and routing in an industry-standard networking environment. Practice advanced business network communication architectures. Assists in preparation for the Cisco Certified Networking Associate (CCNA) exam.
Prerequisite(s): CNTS2101

CNTS2203 | Enterprise Routing & Services II | Lecture/Laboratory (3 Credits)
Advanced concepts and application of bridging, switching, routing, and firewalls in an industry-standard networking environment. Practice advanced business network communication architectures. This course helps to prepare for the Cisco Certified Networking Associate (CCNA) exam.

CNTS2212 | Enterprise Systems | Lecture/Laboratory (5 Credits)
Install, configure, maintain, and manage Enterprise email services and the considerations needed to optimize deployment. Manage and maintain Enterprise databases. Develop and deploy Enterprise Content management services including, site security, database connectivity; site administration and monitoring for use in a business setting. Develop skills in Cloud service Architecture as part of the AWS Academy curriculum.
Prerequisite(s): CNTS2112

CNTS2213 | Enterprise Systems | Lecture/Laboratory (4 Credits)
Install, configure, and manage Enterprise databases. Develop and deploy Enterprise IT management services including, site security, database connectivity, site administration, and monitoring. Develop advanced skills in AWS Cloud Architecture and Microsoft Azure.
Prerequisite(s): CNTS2112

CNTS2214 | Advanced Server Infrastructure | Lecture/Laboratory (3 Credits)
Evaluate, plan, migrate, deploy, and manage Microsoft 365 services. Portions of this course help to prepare for the Microsoft 365 Certified: Enterprise Administrator Expert exam.

CNTS2224 | Enterprise Linux Administration | Lecture/Laboratory (3 Credits)
Install, configure, maintain, and manage a wide variety of Open Source Software (OSS) with an emphasis on common web, file and database servers found in industry; the history of the open source movement. Configure OSS operating systems to support common client-servers, Web hosting, and other services commonly found at the enterprise and ISP levels of industry. In-depth coverage of technologies related to hosting websites including programming language support, database support/connectivity, and remote access.

CNTS2231 | Introduction to Cybersecurity | Lecture/Laboratory (2 Credits)
Explore the field of cybersecurity through such topics as computer system architectures, critical infrastructures, cyber threats and vulnerabilities, cryptography, information assurance, network security, and risk assessment and management. Identify fundamental security concepts, technologies, and practices; develop a foundation for further study in cybersecurity.
Prerequisite(s): CNTS2101 And CNTS2112

CNTS2242 | Managing the Software-Defined Datacenter | Lecture/Laboratory (3 Credits)
Advanced IT operations, including networking, virtualization, identity, security, business continuity, disaster recovery, data platforms, and governance. Portions of this course help to prepare for the Designing Microsoft Azure Infrastructure Solutions exam.

CNTS2290 | Capstone Project | Lecture/Laboratory (3 Credits)
Portfolio or external project work to exhibit all skills gained throughout program.

Construction Management (CMGT)

CMGT1002 | Construction Drafting | Lecture/Laboratory (3 Credits)
Implement construction graphics and conventions using hand drafting and drawing software.

CMGT1111 | The Construction Industry | Lecture (2 Credits)
Aspects of the construction industry presented using interviews with practicing professionals, site tours, and exploratory reflections to illustrate the many opportunities available as a professional.

CMGT1112 | The Construction Industry | Lecture (3 Credits)
Aspects of the construction industry are explored through guest speakers, site tours, and exploratory reflections to highlight the variety of opportunities available as a construction professional.

CMGT1131 | Construction Plans & Measurements | Lecture (3 Credits)
Interpret architectural and engineering graphics and conventions using construction documents to identify materials and calculate quantities.

CMGT1211 | Construction Estimating I | Lecture/Laboratory (3 Credits)
Integrate material quantities with costs through take-offs, estimates and bid analysis, to predict project costs.

CMGT1221 | Construction Materials & Methods II | Lecture/Laboratory (3 Credits)
Examine building materials and construction methods through deconstruction of building systems using case studies, field trips and hands on exercises to figure out how buildings are assembled. Emphasis on the methods and materials for the interior of buildings.
Prerequisite(s): CMGT1131

CMGT1231 | Construction Planning & Scheduling I | Lecture/Laboratory (3 Credits)
Analyze a sequence of construction tasks using network diagrams, Gantt charts, and the critical path method to create a project schedule.

CMGT1313 | Construction Contracts | Seminar (1 Credit)
Introduction to construction administration documents, systems, and procedures to understand the construction contracting process including planning and scheduling the job, bidding through closeout to meet project requirements.

CMGT1316 | Certified Aging in Place Specialist | Seminar (1 Credit)
Examine the technical, business management, and customer service requirements associated with an aging society who desire to remain independent and age-in-place. Analyze existing living conditions and propose revisions to increase the likelihood of the aging population being able to remain in their homes.

CMGT1318 | Construction Technology I | Seminar (1 Credit)
Explore electronic-based technology through research and industry presentations to explain the role technology has in managing the construction process.

CMGT1320 | Construction Claims | Seminar (1 Credit)
Explore construction claims through case studies, discussions, and reflections in order to reduce liability in construction projects.

CMGT1321 | Modular Construction | Seminar (1 Credit)
Investigate modular construction technology and processes to explore the applications of utilizing prefabrication in construction.

CMGT1322 | Passive House Construction | Seminar (1 Credit)
Investigate passive house design and construction and its impact on the built environment.

CMGT1323 | Smart Home Technology | Seminar (1 Credit)
Investigate smart home technologies used in the built environment.

CMGT1324 | Composites in Construction | Seminar (1 Credit)
Explore composite building materials and how they can integrate into a building project.

CMGT1325 | Nondestructive Testing | Seminar (1 Credit)
An introduction to nondestructive testing in the construction industry.

CMGT1326 | Metals in Construction | Seminar (1 Credit)
Investigate the types of common metals used in the construction industry.

CMGT1327 | Construction Travel Study | Seminar (1 Credit)
Travel study focused on construction issues nationally and abroad.

CMGT2000 | Professional Development | Laboratory (1 Credit)
Apply technical skills in a related industry setting to acquire real world experience in an area of student interest.

CMGT2111 | Building Codes | Lecture (3 Credits)
Select and apply appropriate federal, state/provincial and municipal codes, standards and accessibility guidelines using industry standards with an emphasis on Life Safety Codes and the ADA to prepare for licensing exams, meet with codes officials, and to design spaces that enhance the health, safety and welfare of the general public.

CMGT2132 | Construction Safety Management | Seminar (1 Credit)
Examine the principles of construction safety management to develop strategies to prevent injuries on construction projects.

CMGT2150 | Residential Project Management | Laboratory (3 Credits)
Integrate residential project management skills to create and coordinate plans, schedules, and estimates for a site development residential project utilizing construction competition guidelines.

CMGT2203 | Construction Mgmt Statics & Structures | Lecture (3 Credits)
Evaluate structural behavior, structural materials, and load resistance for vertical and horizontal projects. Focus is on how construction managers work with designers.

CMGT2211 | Integrated Environmental Systems | Lecture (3 Credits)
Examine mechanical, electrical, plumbing and fire protection systems using case studies to coordinate the integration of these disciplines.

CMGT2221 | Construction Administration | Lecture (2 Credits)
Examine the requirements of Construction Administration using industry standard formats and procedures to understand the administrative requirements for their implications on a construction project.

CMGT2222 | Construction Administration | Lecture (3 Credits)
Examine the requirements of Construction Administration using industry standard formats and procedures to understand the administrative requirements for their implications on a construction project.

CMGT2230 | Commercial Project Management | Laboratory (3 Credits)
Manage a construction project from Request for Proposals through closeout integrating software; best practices and ethical decision making illustrate the competencies required of a construction project manager/ site supervisor. Emphasis on overall culmination of prerequisite skills achieved in prior courses.
Prerequisite(s): CMGT1211 And CMGT1231

CMGT3111 | Construction Law | Lecture (3 Credits)
Examine the components of Construction Law using case law studies and construction documents to understand and identify the legal issues and liabilities encountered in connection with a construction project.

CMGT3121 | Construction Estimating II | Lecture/Laboratory (3 Credits)
Advanced analysis of the quantity surveying, cost estimating, and bidding methods of building construction using current industry practices and methods to oversee and manage the successful procurement of projects.

CMGT3130 | Quality Assurance & Risk | Lecture (3 Credits)
Analyze the best allocation of people, processes, material, and equipment based on quality and productivity principles and expectations to maintain an efficient and safe work environment.

CMGT3211 | Construction Accounting & Finance | Lecture (3 Credits)
Apply basic accounting and finance concepts in the construction industry to analyze project data and financial statements to forecast, monitor and manage the costs of a construction project. Analyze the unique characteristics of construction accounting and finance through their use in budget development, securing funding, and cash flow to forecast the implementation of business decisions on financial statements.

CMGT3221 | Construction Planning & Scheduling II | Lecture/Laboratory (3 Credits)
Advanced principles and techniques of managing construction schedules to forecast and report progress for construction projects.

CMGT3302 | Stormwater Management | Lecture (2 Credits)
Analyze erosion and sediment control requirements on construction sites through review of the NPDES permit, roles and responsibilities of owner, contractors and subcontractors, example specifications, use of stormwater pollution prevention plans, and installation of best management practices to reduce or control erosion and sedimentation.

CMGT3303 | Service Learning II | Lecture (2 Credits)
Develop relationships with public/nonprofit partners through service learning based construction projects to practice community and skill building.

CMGT3304 | Construction Technology II | Lecture (2 Credits)
Analyze electronic-based technology through research and case studies to distinguish the appropriate technology to effectively manage the construction process.

CMGT3306 | Real Estate and Property Development | Lecture (2 Credits)
Overview of real estate development and property management industry including idea inception, feasibility, contracts, and construction through asset and portfolio management. Provide a background of real estate development to enhance projects and communication with real estate developers and property managers.

CMGT3901 | International AEC Fields & Practices | Travel Study (2 Credits)
Advanced study of the international aspects of architecture, engineering, and construction industries. Emphasis on inter-cultural communication, cultural intelligence, and globalization of technology. **NOTE THE FEE WILL CHANGE PER TRIP**

CMGT4006 | Professional Development | Directed Study (1 Credit)
Integrate managerial and leadership skills in a related industry setting to acquire real world experience in an area of student interest.

CMGT4120 | Field Engineering | Lecture (3 Credits)
Analyze statics and strength of materials as used for the application of material specifications, quality control, and testing required in the field. Emphasis on field documentation and verification of subcontractor work.

CMGT4130 | Green Construction | Lecture (3 Credits)
Examine green building principles and best practices through laboratory exercises, research, discussions, case studies, and presentations; apply to industry documents to understand the green building industry.

CMGT4132 | Construction Elective | Lecture (2 Credits)
Orientation to a selected topic through a study of contractor's relationship to society, specific clients, their professions, and other collaborators in the construction industry.

CMGT4140 | Construction Leadership | Lecture (3 Credits)
Explore conflict management, effective communication, decision making and problem solving through case studies, reflections and projects to develop leadership and management techniques relevant to construction management.

CMGT4211 | Construction Topics II | Lecture (3 Credits)
Investigate a selected topic in various areas of construction allowing a problem of special interest to be further examined.

CMGT4220 | Utility & Construction Design | Lecture (3 Credits)
Examine the infrastructure systems related to public works projects produced in the United States; presented and discussed through a series of speakers, field trips and readings in order for construction professionals to realize the importance of our infrastructure systems and how they affect our society, including an analysis of current and future needs.

CMGT4501 | Project Management | Lecture (3 Credits)
Integrate project management with documentation prepared for review by an industry review panel. Emphasis is on creation and coordination of plans, schedules, estimates, finance, marketing analysis, risk, insurance, and green initiatives for a site development project.

Construction Sciences & Building Tech (CSBT)

CSBT1000 | AEC Seminar | Seminar (1 Credit)
Introduction to the academic and classroom culture. Develop a proficiency in communication skills including research, oral presentation, writing, and collaboration.

CSBT1002 | Construction Drafting | Lecture/Laboratory (3 Credits)
Implement construction graphics and conventions using hand drafting and drawing software.

CSBT2000 | Professional Development | Seminar (1 Credit)
Apply technical skills in a related industry setting to acquire real world experience in an area of student interest.

CSBT2110 | Building Codes | Lecture (3 Credits)
Select and apply appropriate federal, state/provincial and municipal codes, standards and accessibility guidelines using industry standards with an emphasis on Life Safety Codes and the ADA to prepare for licensing exams, meet with codes officials, and to design spaces that enhance the health, safety and welfare of the general public.

Cybersecurity (CYBR)

CYBR3110 | Systems Security I | Lecture/Laboratory (3 Credits)
Examine, configure and troubleshoot authentication and authorization applications supporting confidentiality and integrity. Topics include the basics of symmetric asymmetric encryption and their implementation for authentication and protection of data at rest and in transit as well as implementing patch management, hot fixes, and revision updates and their risks.

CYBR3120 | Software Security | Lecture/Laboratory (3 Credits)
Explore common issues with software security and methods of mitigating attack vectors. Topics include how software is made and maintained, cross site scripting, SQL Injection, the OWASP Top 10 Report, API Gateways and Security, and elements of pen-testing software.

CYBR3130 | Legal Issues & Policy | Lecture (2 Credits)
Examine the responsibilities of the cybersecurity professional in regards to standards, the law, and policy. Topics include data protection standards, common security policies in business, and proper communication with internal and external entities related to policy and supply risk management.

CYBR3140 | Cybersecurity Fundamentals | Lecture (2 Credits)
Discover the many career paths in the wide and growing field of cybersecurity. Explore the world of cybersecurity by researching and practicing industry roles.

CYBR3160 | Business Principles for Cybersecurity | Lecture (2 Credits)
Examine basic business organization and principles, including financial management, budgets and revenue streams with an emphasis on risk mitigation and the levels of acceptable risk in conducting business.

CYBR3210 | Systems Security II | Lecture/Laboratory (4 Credits)
Examine methods of protecting against intrusions from within and without. Analyze public key infrastructure and its trust models. Other topics include advanced methods of authentication under the philosophy of "zero trust" as well as an integrated approach to reducing risk, reducing the attack surface, and continuous improvement of the security posture.
Prerequisite(s): CYBR3110
Corequisite(s): CYBR3220

CYBR3220 | Scripting for Cyber Professionals | Lecture/Laboratory (4 Credits)
Use various methods of scripting to automate, test, and secure a computer system. Scripting languages include common shell languages PowerShell and BASH as well as the popular Python language. Detect security issues and use scripts to mitigate the found vulnerability.
Corequisite(s): CYBR3210

CYBR3231 | Digital Forensic Theory | Lecture (2 Credits)
Explore scientific theory, methods, and evidence preservation from a digital forensics perspective. Emphasis is on the fundamentals of forensic theory, attacker techniques, and procedures used in the cybersecurity profession.

CYBR4110 | Network Security | Lecture/Laboratory (5 Credits)
Explore network security in theory. Examine and practice the use of tools used for protecting networks against malicious attacks. Topics include implementation of secure networking systems including intrusion detection and prevention systems, proxy servers, wireless and point of sales systems and firewall configurations.

CYBR4120 | Introduction to Cyber Warfare | Lecture (2 Credits)
Examine methods and techniques used to perform politically motivated attacks against other nation states for strategic or military objectives including cyber espionage. Identify diverse motivations of nation state actors, non-state actors such as terrorist groups, companies and politically or economically motivated groups and individuals. Explore both offensive and defensive techniques.
Prerequisite(s): CYBR3231

CYBR4131 | Operating Systems Forensics | Lecture/Laboratory (3 Credits)
Identify common operating system storage techniques. Examine common techniques to retrieve information at file and operating systems levels. Investigate additional artifacts for information that include memory, virtual memory, slack space, and swap spaces.
Prerequisite(s): CYBR3231

CYBR4210 | Cybersecurity Capstone | Capstone (5 Credits)
Demonstrate overall content knowledge of the program outcomes through a final project. Present project with explanation of skills required by a cybersecurity professional.
Prerequisite(s): CYBR4120

CYBR4221 | Network Forensics | Lecture/Laboratory (2 Credits)
Examine network data acquisition methods. Research network protocols vulnerabilities. Activities are related to monitoring and analysis of network data.
Prerequisite(s): CYBR4110

CYBR4230 | Industrial Cybersecurity Awareness | Lecture (4 Credits)
Every aspect of modern life depends on industrial control systems (ICS) operating as expected. As ICS devices become increasingly connected, they also become increasingly vulnerable. In the class you will learn how to implement industrial frameworks and foundational security controls, aligning IT/OT, gaining executive buy-in and selecting the right tools for the job.

Design for Manufacturing 3D Printing (3DPT)

3DPT2100 | 3D Printing Applications | Lecture (5 Credits)
Explore traditional, additive and hybrid applications in the core manufacturing processes. Design and print prototype parts and tools to be used in various manufacturing processes.
Prerequisite(s): MDES1110

Economics (ECON)

ECON1000 | Introduction to Micro & Macro Economics | Lecture (3 Credits)
Fundamental economic issues and theories are explored through discussion and research. Current events, policy perspectives, and case studies are used to process and apply economics to everyday life.
General Education: Social Sciences

Electrical Const Design & Management (ECDM)

ECDM2001 | Electrical Lab | Laboratory (3 Credits)
Investigate and apply electrical principles and theories utilizing electrical math, basic schematics, test equipment, circuit connections, and analysis techniques to identify and predict electrical circuit behaviors for a greater understanding of electricity.
Corequisite(s): ECDM2002

ECDM2002 | Electrical Principles | Lecture (4 Credits)
Examine electrical principles and theories utilizing electrical math, basic schematics, and circuit analysis techniques to identify and predict electrical circuit behaviors and a greater understanding of how electricity works.
Corequisite(s): ECDM2001

ECDM2003 | Introduction to 3D Drafting & Design | Laboratory (2 Credits)
Examine and implement construction graphics and conventions into electrical designs using industry specific 3D drawing software.

ECDM2101 | Electrical Theory & Practice - Delta | Lecture (3 Credits)
Principles and practices of electrical system design. Design and calculations involved in electrical construction. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on branch circuits and low voltage systems.

ECDM2102 | Design Lab - Delta | Laboratory (3 Credits)
Electrical design of a simulated residential and commercial building project. This project covers utility to outlets, with a focus on branch circuits and low voltage systems utilizing owner specifications and building and electrical codes. Practical design implementation is emphasized. Detailed documentation of all aspects of the project. CAD, Revit, and other modeling and analysis software is used to produce a final portfolio.

ECDM2104 | Illumination Technology & Design | Lecture/Laboratory (2 Credits)
Interior and exterior applications of lighting. Discussion of energy code, including control system implementation and lighting power density. Analyze photometric data and their application and use 3D modeling to design layouts, taking into account luminaire selection and basic aesthetic considerations.

ECDM2105 | Residential & Commercial Principles | Lecture (3 Credits)
Principles and practices of electrical system design. Design and calculations involved in electrical construction for residential and commercial occupancies. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on branch circuits, power distribution and low voltage systems.

ECDM2201 | Electrical Theory & Practice - Omega | Lecture (3 Credits)
Principles and practices of electrical system design. Design and calculations involved in electrical construction. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on distribution, such as transformers, generators, panels, and feeders.
Prerequisite(s): ELEC1111

ECDM2202 | Design Lab - Omega | Laboratory (3 Credits)
Electrical design of simulated building project. This project covers utility to outlets, with a focus on distribution, such as transformers, generators, panels and feeders for a commercial and industrial project. Practical design implementation is emphasized. Detail documentation of all aspects of the project. Use contemporary 2D, 3D, and other modeling and analysis software to produce a final portfolio.

ECDM2204 | Electrical Field Studies | Seminar (1 Credit)
Explore electrical systems in completed construction, and converse with owners and facility managers to discuss implications of design. Tour in-progress projects, and discuss project management obstacles and best practices.

ECDM2205 | Electrical Estimating | Lecture/Laboratory (3 Credits)
Detailed estimation and project management of electrical construction projects using industry software. Scheduling and bidding of construction projects and project documentations.

ECDM2206 | Commercial & Industrial Principles | Lecture (3 Credits)
Principles and practices of electrical system design for commercial and industrial applications. Design and calculations involved in electrical construction will be used. Apply occupant perspectives, construction techniques, and relevant codes. Examine the entire electrical system, with a focus on distribution, such as transformers, generators, panels, and feeders and PLC controls.

ECDM2207 | Project Management | Seminar (1 Credit)
Investigate the roles and responsibilities for construction project managers. Examine the ethics within the decision-making process from the request for proposal through close-out.

ECDM2208 | Project Management | Seminar (2 Credits)
Investigate the roles and responsibilities for construction project managers. Examine the ethics within the decision-making process from the request for proposal through close-out.

ECDM2301 | Advanced Topics & Technology | Lecture (3 Credits)
Building on the design theory and labs, in depth analysis of specific electrical design applications, such as residential, medical, data centers, industrial, and other construction. Examine emerging technologies, such as renewable energy and building automation.
Prerequisite(s): ELEC1111, ECDM2101, And ECDM2201

ECDM2302 | Design Capstone | Laboratory (3 Credits)
Integration of all aspects of electrical construction design and management, including drafting, designing, estimating, and managing projects, to create a complete comprehensive capstone project. The capstone project is presented and reviewed by industry experts and leaders, providing valuable feedback from their own experiences.
Prerequisite(s): ECDM2102 And ECDM2202

ECDM2303 | ECDM Co-op/Internship | Directed Study (3 Credits)
The Co-op or Internship course allows students to gain credit for work experience. In either option, students must have faculty approval before registering for this course. The Co-op Track is an educational experience combining academic and career interests with industry experience, offering the opportunity to test career interests, such as design, estimating, or project management. Students are paired with one or two companies over the course of a semester. Through the Co-op Option students are empowered to create a career plan enabling them to make well-informed choices for early career success. The Internship Track is a work experience in a typical company scenario. Students work on real and current projects that allow them to explore the difference in scope and types of work that exist outside the academic classroom.
Prerequisite(s): ECDM2102

ECDM2304 | Design Capstone | Capstone (3 Credits)
Integration of all aspects of electrical construction design and management, including drafting, designing, estimating, and managing projects, to create a complete comprehensive capstone project. The capstone project is presented and reviewed by industry experts and leaders, providing valuable feedback from their own experiences.

ECDM2305 | Electrical Planning & Scheduling | Lecture/Laboratory (3 Credits)
Create a sequence of construction tasks using industry methods to generate construction schedules with preplanned and design build work-flow analysis. Examine potential conditions that impact planning of projects including supply chains, logistics of materials and equipment, and the workforce.

ECDM2306 | Risk Management | Seminar (1 Credit)
Investigate the process of identifying, assessing, and managing risks associated with a construction project from the design phase through close-out through analysis of electrical projects.

ECDM2307 | Advanced Estimating | Lecture/Laboratory (2 Credits)
Advanced analysis of cost estimating and bidding methods using industry practices and methods to oversee and manage the successful procurement of electrical construction projects.

Electrical Construction & Maintenance (ELEC)

ELEC1111 | AC & DC Electrical Lab | Laboratory (5 Credits)
Investigation and application of electronics and electrical alternating and direct current principles and theories utilizing electrical math, basic schematics, test equipment, circuit connections, and analysis techniques to identify and predict electrical and electronic component and circuit behaviors.

ELEC1113 | AC & DC Electrical Principles | Lecture (7 Credits)
Examine electronics and electrical alternating and direct current principles and theories utilizing electrical math, basic schematics, and circuit analysis techniques to identify and predict electrical and electronic component and circuit behaviors.
Corequisite(s): ELEC1115

ELEC1114 | Introduction to the NEC | Seminar (1 Credit)
Introduction to the National Electrical Code through investigation of the history to formulate a necessary base knowledge in which to develop basic skills and understanding of the NEC and how it applies to the electrical applications in the field.

ELEC1115 | Basic Skills of an Electrician | Lecture/Laboratory (2 Credits)
Introduce basic skills utilized in the electrical industry through hands-on training in basic tool use and safety protocols. Identify professional development opportunities and required industry ethics to prepare for your electrical career.
Corequisite(s): ELEC1113

ELEC1211 | AC & DC Machines & Controls Lab | Laboratory (5 Credits)
Investigation and analysis of AC and DC machines with both industrial and programmable logic control systems utilizing schematics and components to create and build electrical circuits with the inclusion of testing and troubleshooting procedures of equipment for a comprehensive analysis of industrial manufacturing systems.

ELEC1213 | AC & DC Machines Principles | Lecture (6 Credits)
Examine AC and DC machine principles and theories and various control types with an emphasis on industrial manufacturing system calculations and analysis, including use of the National Electrical Code regulations for installations.

ELEC1214 | National Electrical Code-Equipment | Seminar (1 Credit)
Explore the National Electrical Code requirements for the safe installation of equipment in general use through the interpretation and calculations of the requirements utilized in the electrical industry.

ELEC1215 | Plans & Estimates for Electricians | Lecture/Laboratory (2 Credits)
Investigate construction drawings, specifications, estimates, and sequencing through the interpretation of various symbols, take-off methodologies, cost analysis, and planning utilized in the electrical industry.

ELEC2111 | Wiring & Electrical Systems Lab 1 | Laboratory (5 Credits)
Implementation and installation of electric equipment, wiring methods and print reading for residential, light commercial and limited energy systems performed in a lab environment using proper safety practices and procedures.
Prerequisite(s): ELEC1111 And ELEC1113

ELEC2113 | Residential Wiring Electrical Principles | Lecture (6 Credits)
Interpretation of the National Electrical Code and related calculations are examined and used to determine proper installation and use of wiring methods, devices, and equipment in accordance with the National Electrical Code with a focus on residential electrical systems.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2114 | National Electrical Code-Materials | Seminar (1 Credit)
Examine the National Electrical Code requirements for the safe installation, maintenance and protection of electrical systems utilized in the construction and maintenance industry.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2115 | Building Automation Systems | Lecture/Laboratory (2 Credits)
Analyze Building Automation Systems (BAS) containing Class 1, 2, and 3 wiring, remote control and signaling such as fire alarms, security, phone, and data through the identification of wiring methods and materials.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2211 | Wiring & Electrical Systems Lab 2 | Laboratory (5 Credits)
Implementation of wiring methods for the installation of commercial, industrial, and renewable energy applications with an emphasis on various electrical systems utilizing blue prints, electrical schematics, estimating and take-off, and applicable industry standards along with the National Electrical Code within a laboratory environment.
Prerequisite(s): ELEC1113 And ELEC1111

ELEC2213 | Commercial Wiring Electrical Principles | Lecture (6 Credits)
Examine the methods and materials used for the design, operation, estimation, layout, and installation of commercial and industrial electrical systems utilizing applicable industry standards along with the National Electrical Code.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2214 | National Electrical Code-Special Topics | Seminar (1 Credit)
Examine the specialty topics in the National Electrical Code, including but not limited to special locations, equipment, and occupancies for the electrical industry.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

ELEC2215 | Alternative Energy | Lecture/Laboratory (2 Credits)
Investigate alternative energy methods, including common and uncommon power generation utilized in today's world.
Prerequisite(s): ELEC1111, ELEC1113, ELEC1114, And ELEC1115

Electrical Engineering (EENG)

EENG1210 | Logic & Digital Design | Lecture (2 Credits)
Introduction to logic gates and state machines. The foundations of number systems and binary logic are implemented using logic gates. Karnaugh maps are used to realize Boolean algebra, leading to combinational logic circuits. State machines such as flip-flops, counters, and registers are analyzed.
Corequisite(s): EENG1220

EENG1220 | Logic & Digital Design Lab | Laboratory (1 Credit)
Build logic circuits and state machines in a laboratory environment from scratch using components such as IC chips and breadboards. Measure inputs and outputs using oscilloscopes and logic analyzers. Explore potential uses and implementations for real world solutions. Model design with Hardware Description Language coding.
Corequisite(s): EENG1210

EENG1240 | Circuit Fundamentals I | Lecture (3 Credits)
Analyze fundamental circuits. Investigate the relationship between voltage, current, power and energy. Identify and predict responses of RC and RL circuits. Must be taken with EENG1241.
Corequisite(s): EENG1241

EENG1241 | Circuit Fundamentals I Lab | Laboratory (1 Credit)
Analyze fundamental circuits in a lab environment. Investigate the relationship between voltage, current, power and energy. Identify and predict responses of RC and RL circuits. Must be taken with EENG1240.
Corequisite(s): EENG1240

EENG2111 | Circuit Fundamentals | Lecture (3 Credits)
Examine transient and steady state conditions in complex circuits. Investigate power, power factor, and power transfer. Explore frequency using Fourier analysis, Bode plots, passive filters and transfer functions.
Prerequisite(s): ENGR1221
Corequisite(s): EENG2120

EENG2112 | Circuit Fundamentals II | Lecture (3 Credits)
Examine transient and steady state conditions in complex circuits. Investigate power, power factor, and power transfer. Explore frequency using Fourier analysis, Bode plots, passive filters and transfer functions.
Prerequisite(s): EENG1240
Corequisite(s): EENG2122

EENG2120 | Circuit Fundamentals Lab | Laboratory (1 Credit)
Prototype various circuits and determine values using electrical metrology tools and techniques. Compare expected behavior against measured responses.
Prerequisite(s): ENGR1221
Corequisite(s): EENG2111

EENG2122 | Circuit Fundamentals II Lab | Laboratory (1 Credit)
Prototype various circuits and determine values using electrical metrology tools and techniques. Compare expected behavior against measured responses.
Prerequisite(s): EENG1240 And EENG1241
Corequisite(s): EENG2112

EENG2132 | Digital Systems | Lecture/Laboratory (3 Credits)
Examine various systems through abstraction from the basic concepts of digital blocks. Use hardware description languages such as Verilog to design the digital systems. Work with memory and programmable logic devices and FPGAs to design and program reconfigurable systems.
Prerequisite(s): EENG1210

EENG2210 | Analog Circuits | Lecture (3 Credits)
Analysis of continuous variable systems. Discuss non-linear components such as diodes and transistors. Explore more advanced concepts and components including multi-transistor amplifiers and op-amps.
Corequisite(s): EENG2220

EENG2220 | Analog Circuits Lab | Laboratory (1 Credit)
Design and construct circuits, focusing on prototyping and debugging, using common electrical engineering equipment and tools.
Prerequisite(s): EENG2120
Corequisite(s): EENG2210

EENG3110 | Advanced Analog Circuits | Lecture (3 Credits)
Evaluate various typologies of circuits and determine useful implementations. Practical design considerations include physical constraints, non-ideal characteristics of transistors, active loads, frequency response, and feedback.
Prerequisite(s): EENG2210
Corequisite(s): EENG3120

EENG3120 | Advanced Analog Circuits Lab | Laboratory (1 Credit)
Design, model, prototype, and fabricate project(s) in an interactive applied lab.
Prerequisite(s): EENG2220
Corequisite(s): EENG3110

EENG3131 | Signals & Systems | Lecture (3 Credits)
Introduction to the foundation of communications, signal processing and control theory. Analyze linear time invariant continuous and discrete systems and signal transformations, convolution, frequency spectra, Laplace transforms, Z transforms, and fast Fourier transforms.
Prerequisite(s): MATH2820

EENG3150 | Topics in Applied Instrumentation | Lecture/Laboratory (3 Credits)
Introduction to various types of instrumentation and control schemas. Topics include pressure, temperature, level and flow detection and calculations. Lab activities include calibration, tuning and installation of various analog and smart equipment used in industry.
Prerequisite(s): EENG3110

EENG3211 | Digital & Microprocessors Systems | Lecture (3 Credits)
Investigate microprocessor and microcontroller operations. Explain registers, memory and I/O interfacing principles. Describe embedded systems and their applications in real world systems. Utilize microprocessor/microcontroller for embedded system Hardware/ Software development.
Prerequisite(s): EENG2132
Corequisite(s): EENG3220

EENG3220 | Digital & Microprocessors Systems lab | Laboratory (1 Credit)
Implement embedded systems using different hardware platforms and different programming languages. Demonstrate the design considerations for systems ranging from basic to complex applications.
Prerequisite(s): EENG2132
Corequisite(s): EENG3211

EENG3230 | Electrodynamics II | Lecture (3 Credits)
Analyze Maxell's equations in vacuum and matter. Calculate absorption, dispersion and wave guides. Discuss the impact of relativity on electrodynamics.
Prerequisite(s): EENG3140

EENG3260 | Motors & Controls | Lecture/Laboratory (4 Credits)
Examine the fundamentals of electrical motor control components, circuits and systems. Topics include electrical control symbols, power distribution, control transformers, solenoids and relays, motor starters, pilot devices, timers and sequencers, DC and AC motor principles, proximity sensors and troubleshooting.
Prerequisite(s): EENG3110

EENG3900 | Special Topics EENG Motors and Control | Lecture (2 Credits)
Special Topics in EENG: Motors & Controls - Examine the fundamentals of electrical motor control components, circuits and systems. Topics may include electrical control symbols, power distribution, control transformers, solenoids and relays, motor starters, pilot devices, timers and sequencers, DC and AC motor principles, proximity sensors and troubleshooting.
Prerequisite(s): EENG3110

EENG4110 | Communication Systems | Lecture (3 Credits)
Apply signal and system theory to analog and digital communication. Distinguish characteristics of contemporary communication standards.
Prerequisite(s): EENG3110, EENG3131, And EENG3211
Corequisite(s): EENG4120

EENG4120 | Communication Systems Lab | Laboratory (1 Credit)
Implement and evaluate electrical communication systems in an investigative laboratory.
Prerequisite(s): EENG3110, EENG3131, And EENG3211
Corequisite(s): EENG4110

EENG4141 | Power System Analysis & Design | Lecture/Laboratory (4 Credits)
Examine how modern power systems are designed, implemented and controlled. Explain the power system in terms of reliability, safety and maintainability. Modeling and simulation are used in the analysis and conceptual design and study of regulatory codes related to power systems.
Prerequisite(s): EENG3260

EENG4150 | Senior Design Project I | Capstone (2 Credits)
Investigate current real world electrical engineering industries, applications, and challenges. Prepare and present a project proposal to an industry panel. Discuss best practices in project management. Projects will be executed in the following semester.

EENG4231 | DSP & Filters | Lecture (3 Credits)
Analyze Discrete-time signals and systems. Design and implement Digital Filters. Compute Signal Spectrum using FFT algorithms. Implement DSP solutions using industry standard solutions and design tools offered by companies such as Texas Instruments, and ON Semiconductor. Contrast DSP and Microprocessor solutions in meeting performance standards.
Prerequisite(s): EENG4110

EENG4250 | Senior Design Project II | Capstone (4 Credits)
Execute project proposal from Senior Project I. Construct a working prototype. Display of project documentation. Present to a jury of peers, faculty and industry representatives.

Electronics Engineering Technology (ELTT)

ELTT1100 | Basic Electricity & Electronics Lab | Laboratory (2 Credits)
Analyze, design, and build series, parallel and combination AC and DC circuits. Build and test semiconductor circuits, power supplies, transistor circuits using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1110 | Basic Electricity & Electronics Lab | Laboratory (5 Credits)
Analyze, design and build series, parallel and combination AC and DC circuits. Semiconductor circuits, power supplies, transistor circuits are built and tested using protoboards and various test equipment.
Corequisite(s): ELTT1120

ELTT1120 | Basic Electricity & Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with basic electricity, including Ohm's Law, resistance, capacitance, inductance in AC and DC circuits, as well as solid state principles of diodes, power supplies and transistors.
Corequisite(s): ELTT1100 ELTT1110

ELTT1200 | Digital & Microprocessors Lab | Laboratory (2 Credits)
Design, build, and troubleshoot digital circuits. Debug and program microprocessors and microcontrollers for various operations and interface to external devices. Analyze digital and microprocessor circuits using industry standard test equipment.
Prerequisite(s): ELTT1100

ELTT1210 | Digital & Microprocessors Lab | Laboratory (3 Credits)
Design, build, and troubleshoot digital circuits. Debug and program microprocessors and microcontrollers for various operations and interface to external devices. Analyze digital and microprocessor circuits using industry standard test equipment.
Prerequisite(s): ELTT1110

ELTT1220 | Digital & Microprocessors Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with combinational and sequential logic circuits as well as internal architecture of microprocessors and microcontrollers, programming, logic operations, memory mapping, addressing, data transfer, and system control.
Prerequisite(s): ELTT1120

ELTT1230 | PCB & Circuit Development | Lecture (1 Credit)
Electronic circuit prototyping using various industry standards, hardware, and software. Utilize circuit manufacturing techniques to create surface mount and through hole circuit boards.
Prerequisite(s): ELTT1110

ELTT1240 | Programming Fundamentals | Lecture (1 Credit)
Use algorithms and flowcharts to develop logic, execution control, data types, loops, and control structures for computer executable software. Utilizes National Instrument's LabVIEW.
Prerequisite(s): ELTT1110

ELTT2200 | Advanced Electronics Lab | Laboratory (2 Credits)
Design and build single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.
Corequisite(s): ELTT2220 ELTT2230

ELTT2201 | Advanced Electronics Lab | Laboratory (3 Credits)
Design and build single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.

ELTT2211 | Advanced Electronics Lab | Laboratory (2 Credits)
Design and build single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.
Prerequisite(s): ELTT1210

ELTT2221 | Advanced Electronics Theory | Lecture (5 Credits)
Identification, recognition and calculations associated with single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits; other advanced electronics topics.
Prerequisite(s): ELTT1220
Corequisite(s): ELTT2210

ELTT2230 | Advanced Electronics Theory | Lecture (8 Credits)
Identification, recognition and calculations associated with single and multistage transistor amplifiers, operation amplifier control circuits, thyristors, motors, radio frequency circuits as well as other advanced electronics topics.
Prerequisite(s): ELTT1220
Corequisite(s): ELTT2200

Engineering (ENGR)

ENGR1110 | Introduction to Engineering | Lecture (3 Credits)
Explore major topics in Engineering. Provides a pathway to success in the School of Engineering programs, including time management, industry software, study skills, teamwork skills, internship availability and career opportunities.

ENGR1115 | Intro to Automation,Robotics, & Sensors | Lecture/ Laboratory (2 Credits)
Explore major topics in Automation, Robotics and Sensors as well as learning software tools and practical design and construction techniques to support studies in Electrical and Computer Engineering.

ENGR1210 | Introduction to Programming | Lecture/Laboratory (3 Credits)
Examine and implement computational problem-solving strategies using computer languages to solve engineering problems. Develop algorithms and translate solutions into computer programs. Distinguish differences in programming languages and software tools with applicability to different types of problem solutions. Apply modular design and clear documentation for efficient problem solving.

ENGR1221 | Electrical Circuits & Automation w/ Lab | Lecture/Laboratory (4 Credits)
Apply PLCs and electronic components to design and troubleshoot automated industrial equipment. Topics include AC and DC motors, programming, sensors, and basic circuit analysis techniques for design, analysis, and programming of control systems.
Prerequisite(s): MATH1821

ENGR1230 | Networking, Data Security for Engr | Lecture/Laboratory (4 Credits)
Explore data communications, cybersecurity, and Internet of Things (IoT) in a connected world. Explain computer networking concepts with data security in mind. Identify security concepts and security audit processes as well as career opportunities in connectivity/networking/security disciplines.

ENGR2210 | Mechatronics with Lab | Lecture/Laboratory (2 Credits)
Analyze electrical and mechanical systems such as drives, sensors, control systems, data presentation, and communication in the context of mechatronics. Different motive forces are utilized, control systems implemented, and operating environment challenges presented. Course content is applied to real-world projects.
Prerequisite(s): ENGR1221 And PHYS1820

ENGR3110 | Project Management | Lecture/Laboratory (3 Credits)
Examine the methods and tools used for effective management of engineering projects. Topics include the analytical methods used to budget, schedule, and control projects, as well as risk management, team leadership, and communication.

ENGR3120 | Engineering Economics | Lecture (2 Credits)
Economic analysis of engineering decisions under uncertainty. Concepts include time value of money, cash flow estimation, rate of return analysis, net present value estimation, and asset evaluation. Applications include comparing different project alternatives accounting for heterogeneity in cost, revenue, taxation, depreciation, inflation, and risk.

ENGR3900 | Special Topics | Lecture (2 Credits)
Explore a variety of topics in the engineering discipline. Topic will be determined by the student and instructor. Instructor permission required for registration.

ENGR3904 | Special Topics in Engineering | Lecture (4 Credits)
Explore a variety of topics in the engineering discipline. Topic will be determined by the student and instructor. Instructor permission required for registration.

ENGR4110 | Engineering Ethics & Safety | Lecture (2 Credits)
Interpret the connection between personal morality, the role of engineers and engineering in society, and relationship to one's employer. Case studies involving conflicts within these roles are reviewed and evaluated. Interpret safety and accident information to develop a basic understanding of needed safety protocols in a variety of engineering environments.

ENGR4120 | Principles of Quality, Lean Mfg & DOE | Lecture (3 Credits)
Investigate several quality conventions used to reduce waste, improve quality, decrease production times, and improve customer satisfaction. Topics include statistics, control charts, process capability, and Design of Experiments (DOE).
Prerequisite(s): MATH2260

Engineering Drafting & Design (MDES)

MDES1110 | Engineering Drawings with SolidWorks | Lecture (4 Credits)
Creation of 3D solid models, assemblies and related engineering documentation using SolidWorks. Blueprint reading and application of ASME/ANSI standards to CAD drawings.

MDES1210 | Process & Tool Design Lab | Laboratory (5 Credits)
Distinguish modern manufacturing processes such as molding, welding, heat treating, and machining; identify typical materials, tools, and required equipment. Analysis of process-specific capabilities such as tolerance, surface finish, cost effectiveness, and geometry restrictions.
Prerequisite(s): MACH1110

MDES1220 | Creo Parametric | Lecture (4 Credits)
Create solid models, assemblies and engineering documentation using Creo Parametric. Apply fits and geometric dimensioning and tolerancing to models and drawings.
Prerequisite(s): MDES1110

MDES1230 | Geometric Dimensioning & Tolerances | Lecture (4 Credits)
Principles of geometric dimensioning and tolerancing in the context of engineering and manufacturing. Application of principles using coordinate measurement machines.
Prerequisite(s): MDES1110

MDES2110 | Product Design Lab | Laboratory (5 Credits)
Introduction to product design methods and concepts; converting product ideas and requirements into working designs. Design balance and relation to concepts such as aesthetics, performance, ergonomics and manufacturability.
Prerequisite(s): MDES1210
Corequisite(s): MDES2120

MDES2120 | Product Design Theory | Lecture (4 Credits)
Integrate methods and concepts of product design to actual designs of simple products. Determine design parameters, develop product opinions, narrow the focus for balance, and document the final design.
Corequisite(s): MDES2110

MDES2130 | Advanced SolidWorks | Lecture (4 Credits)
Simulation (Finite Element Analysis) and advanced surface modeling techniques. Culminates in testing for CSWA certification.
Prerequisite(s): MDES1110

MDES2210 | Transmission of Power Lab | Laboratory (5 Credits)
Design and draw projects with applications of gears, chains, bearings, cams, motors, clutches, cylinders, fluid and mechanical power transmission, robots and automation. Design resolution incorporating; project management, project selection, product design, calculations, design analysis, documentation, technical communications, quality and presentation.
Prerequisite(s): MDES2110
Corequisite(s): MDES2220

MDES2220 | Transmission of Power Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with components of machines; mechanical and fluid power transmission, motors, clutches, gears, chains, bearings, cams, robots and automation. Design resolution incorporating; project management, project selection, product design, calculations, design analysis, documentation, technical communications, quality and presentation.
Prerequisite(s): MDES2120
Corequisite(s): MDES2210

MDES2230 | Statics & Strength of Materials | Lecture (4 Credits)
Fundamentals of statics and strength of materials. Development of techniques and mathematical methods used in design. Problem solving includes statics, direct stress, strength of materials, indirect stress, torsional stress and combined stress.
Prerequisite(s): MDES2130

General Science (GSCI)

GSCI1080 | Environmental Science | Lecture (3 Credits)
Scientific principles, concepts and methodologies required to understand the interrelationships of the natural world.
General Education: Natural Sciences

GSCI1081 | Environmental Science with Lab | Lecture/Laboratory (3 Credits)
Scientific principles, concepts and methodologies required to understand the interrelationships of the natural world. Labs included.
General Education: Physical Sciences with Lab

GSCI1095 | How Science Explores the Natural World | Lecture (3 Credits)
Explore science as a process rather than a set of topics. Analyze studies of natural phenomena and determine how they align to the scientific method and how they deviate from it. Rate them based on their adherence to scientific practice. Distinguish what is science from what is not.
General Education: Natural Sciences

GSCI3000 | Applied Environmental Science with Lab | Lecture/Laboratory (3 Credits)
The practical application of scientific principles as they relate to environmental health and sustainability. Labs included.
General Education: Physical Sciences with Lab

GSCI3100 | Materials System Chemistry | Lecture/Laboratory (3 Credits)
Examine microstructure controls of properties and processing controls of microstructure. Through processing, the properties of materials can be engineered for different applications. Solve simple problems by conducting tests, interpreting results, determining the efficiency of materials used in construction and selecting materials based on performance indices to suit design specifications.
General Education: Natural Sciences

Geography (GEOG)

GEOG1000 | World Geography | Lecture (3 Credits)
Explore the world through the fascinating cultures, architecture, traditions, politics, people and urban settings of vastly different countries. Examine urban geography in terms of concentration, infrastructure, economy, and environmental impacts.
General Education: Social Sciences

Graphic Design (GRDP)

GRDP1100 | Graphic Studio | Lecture/Studio (5 Credits)
This course is an introduction to the tools, techniques and principles of graphic design. Students will conduct research, utilize creative problem solving, and explore design workflows. Communication of design intent with an emphasis on typography, drawing, layout and composition will be explored using industry standard software.

GRDP1101 | Graphic Studio | Lecture/Studio (4 Credits)
This course is an introduction to the tools, techniques and principles of graphic design. Students will conduct research, utilize creative problem solving, and explore design workflows. Communication of design intent with an emphasis on typography, drawing, layout and composition will be explored using industry standard software.

GRDP1102 | Industry Focus | Lecture/Laboratory (3 Credits)
This course will explore the design industry. Career paths, professional organizations, and best practices will be introduced. Students will also explore design history, the impact of design on contemporary culture and the importance of effective communication through design.

GRDP1103 | Production Focus | Lecture/Laboratory (3 Credits)
An introduction to the fundamentals of post-design practices as they relate to the production of commercial print pieces. Students will explore industry practices with an emphasis on modern and emerging digital print workflows.

GRDP1104 | Image Editing | Seminar (1 Credit)
Explore post-photography image editing. Utilize industry software tools to create effects and corrections necessary to prepare photos for professional applications.

GRDP1200 | Type Studio | Lecture/Studio (5 Credits)
Develop visual communication skills through the examination of typographic principles and history. Emphasis is placed on typography's power to convey meaning in design.

GRDP1201 | Type Studio | Lecture/Studio (4 Credits)
Develop visual communication skills through the examination of typographic principles and history. Emphasis is placed on typography's power to convey meaning in design.

GRDP1202 | Packaging Focus | Lecture/Laboratory (3 Credits)
Explore the history and contemporary applications of packaging within a retail environment. Emphasis is placed on structural design and sustainable materials and practices.

GRDP1203 | Identity Focus | Lecture/Laboratory (3 Credits)
Explore the communication of abstract ideas though type and symbol. Develop a visual identity system with an emphasis on conveying brand messaging through research, ideation, production and evaluation of design artifacts.

GRDP1210 | Packaging Design | Lecture/Laboratory (3 Credits)
Investigate the packaging design process through the development of a custom paperboard or corrugated folding carton intended for retail purposes, from concept sketches to completed prototype. Both structural and graphic design stages are addressed, along with physical and virtual prototyping.

GRDP1240 | Photo Editing & FX | Laboratory (2 Credits)
Practice post-photography image editing, color correction, masking, retouching and comping tasks with RAW camera files and provided high-resolution images. Explore common special effects such as silhouetting, shadow and reflection creation, extreme color alteration, and layer blending. Prepare photos for print, web and interactive uses.

GRDP1501 | Photography | Seminar (1 Credit)
Introduction to the technical aspects of digital photography and digital post-processing. Emphasis on studio lighting and creating photographs for visual communication projects.

GRDP1502 | Digital Surface Design | Seminar (1 Credit)
Introduction to the tools, techniques and uses of digital surface design. Explore digital illustration and pattern making with emphasis on enhancing the visual appearance of surfaces.

GRDP1503 | Motion Design | Seminar (1 Credit)
Introduction to the concepts and tools used for creating time and motion-based communications. Explore user-interactivity, frame based animations, storyboarding, and information-rich promotional presentations.

GRDP1504 | EGD | Seminar (1 Credit)
Explore the application of Environmental Graphic Design concepts in 3-dimensional spaces, including way-finding, place-making and branded environments. Emphasis on ADA compliance and human-centered interaction.

GRDP1505 | Web Content | Seminar (1 Credit)
Introduce digital content management systems and apply design thinking to scalable interface solutions. Emphasis on foundational technical skills, and the integration of visual design with the production of visual interfaces.

GRDP1506 | Experimental Type | Seminar (1 Credit)
Explore experimental approaches to typography through digital, hand-drawn and 3D applications. Conceptualize type as image with emphasis on conveying a meaning or emotion through non-traditional visual solutions.

GRDP2101 | Structural Studio | Lecture/Studio (4 Credits)
Develop structural design and production skills while cultivating an awareness of the global impact of packaging. Students will be introduced to sustainable practices. Emphasis is placed on the hands-on development of a retail ready package or store display.

GRDP2102 | Prepress Focus | Lecture/Laboratory (3 Credits)
Explore the post-design production stages related to file preparation with emphasize on output techniques for optimal print outcomes. Workflow automation, variable data printing, and color management will be discussed.

GRDP2103 | DataViz Focus | Lecture/Laboratory (3 Credits)
Explore information analysis and presentation through way-finding and infographics. Emphasis will be placed on accessibility, clarity, and usability.

GRDP2111 | Structural Studio | Lecture/Studio (5 Credits)
Develop structural design and production skills while cultivating an awareness of the global impact of packaging. Students will be introduced to sustainable practices. Emphasis is placed on the hands-on development of a retail ready package or store display.

GRDP2150 | Advanced Structural Design | Lecture/Laboratory (2 Credits)
Design and build elaborate folding structures such as free-standing displays, trade show marketing, and paper pop-ups. Produce virtualized 3D imagery and animations from the structural and graphics files used to output physical prototypes.
Prerequisite(s): GRDP1210

GRDP2160 | Design for Animation & Interactivity | Lecture/Laboratory (2 Credits)
Investigate the concepts and tools used for creating time and motion-based documents including work that allows user interaction from storyboards to finished stand-alone and web-based projects.

GRDP2170 | Information Design | Lecture/Laboratory (2 Credits)
Explore the theory and practice of information design using basic principles to demonstrate the accessible and effective presentation of information in wayfinding, forms, informational graphics, charts and graphs.

GRDP2201 | Interface Studio | Lecture/Studio (5 Credits)
Develop human-centered approaches to interface design while cultivating empathy for social, cultural, and ability differences. This course will emphasize planning, research, prototyping, and validation best practices.

GRDP2202 | Portfolio Focus | Lecture/Laboratory (3 Credits)
Develop a personal brand, visual identity and professional portfolio through self-reflection, research, ideation and assessment. Analyze and synthesize current design work and abilities, focusing on selection, organization and presentation for professional advancement.

GRDP2203 | CGI Focus | Lecture/Laboratory (3 Credits)
Explore the creation of computer-generated photorealistic objects and scenes. Emphasis on composing product shots, focusing on 3D objects that are suitable for user interfaces.

GRDP2221 | Business of Design | Lecture (1 Credit)
Examine basics of marketing, proposal development, pricing, legal considerations, and client relationships in graphic design and print organizations. Discover various career paths in the graphic and production design industry. Prepare for job search and interviewing, including resume development.
Corequisite(s): GRDP2231

GRDP2231 | Design & Production Portfolio | Laboratory (2 Credits)
Plan and prepare an analog and digital presentation of student design work as evidence of graphic design skills and abilities. Focus is on selection, organization and presentation for professional advancement.
Corequisite(s): GRDP2221

GRDP2250 | Environmental Graphic Design | Laboratory (1 Credit)
Explore the application of Graphic Design concepts in 3-dimensional spaces, including way-finding, place-making, and branded environments.
Prerequisite(s): GRDP2170

GRDP2260 | Design for Web | Laboratory (1 Credit)
Develop a professional portfolio website for self-promotion. Model UX/UI best practices in planning, research, prototyping and user testing.

GRDP2270 | Design & Production Internship | Internship (3 Credits)
Investigate and validate professional skills and processes through a monitored on-the-job work experience.

GRDP2280 | Design & Production Capstone | Capstone (3 Credits)
Identify and express technical skills and professional behavior that reflect advanced graphic design knowledge and production skills.

Honda Professional Auto Career Training (PACT)

PACT2111 | Introduction to PACT | Lecture/Laboratory (2 Credits)
Identify dealership expectations for maintenance and repair. Complete a repair order. Demonstrate express service inspections, fluid changes, and service item replacements. Perform basic scan tool operations with manufacturer's scan tool.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1221, And AUTO1254

PACT2112 | Engine Performance/Engine Repair | Lecture/Laboratory (12 Credits)
Analyze theory of operation, design, diagnosis, and repair procedures of engines. Computerized engine control systems electrical and electronic devices. Examine emerging engine performance and vehicle propulsion technology. Use standard and computerized test equipment on OBDII equipped vehicles to make a complete performance analysis and/or diagnose specific problems to determine work needed on vehicles. Make repairs to restore vehicle performance, emissions, and fuel economy to as near as possible to original factory and Environmental Protection Agency (EPA) standards.

PACT2121 | Honda Electrical Systems | Lecture/Laboratory (4 Credits)
Practice reading wiring diagrams and diagnosing electrical concerns on Honda/Acura vehicles with manufacturer's service information. Identify and follow safety procedures while working on SRS components. Explain vehicle communication systems. Complete PACT HVAC training. Demonstrate scan tool operations for testing and diagnosing electrical system faults. Practice Honda 5 step trouble shooting process.
Prerequisite(s): PACT2111

PACT2132 | PACT Self Studies I | Directed Study (2 Credits)
Directed Completion of Honda/Acura Self-Studies in the Areas of Engine Rebuilding, Engine Performance and Advanced Electrical.

PACT2141 | Drivetrain Systems | Lecture/Laboratory (4 Credits)
Identify drivetrain components. Disassemble manual transmission and make appropriate measurements and service determinations. Remove clutch assembly. Explain 4wd/AWD system operation. Explain automatic transmission operation. Disassemble automatic transmission. Evaluate drivetrain systems with a scan tool. Relate failure scenarios to drivetrain problems. Diagnose electrical and hydraulic failures in drivetrain systems.
Prerequisite(s): PACT2121

PACT2211 | Self-Studies | Lecture (2 Credits)
Directed completion of Honda/Acura self-studies in the areas of new vehicle information, electric vehicles and Honda electrical systems.
Prerequisite(s): PACT2111

PACT2212 | Transmission/Driveline | Lecture/Laboratory (4 Credits)
Theory and operation of gears, controls, components relating to transmissions, transfer case, and differentials. Operation, diagnosis, disassembly, reassembly, power flow of driveline components as well as testing of hydraulic and electronic controls using service information. Operation, theory and repair of constant velocity and variable velocity joints. Principles of NVH (noise, vibration, and harshness)

PACT2213 | Transmission/Driveline | Lecture/Laboratory (6 Credits)
Theory and operation of gears, controls, components relating to transmissions, transfer case, and differentials. Operation, diagnosis, disassembly, reassembly, power flow of driveline components as well as testing of hydraulic and electronic controls using service information.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

PACT2221 | Honda Chassis Systems | Lecture/Laboratory (2 Credits)
Examine brake and steering/suspension specific to Honda/Acura vehicles. Practice TPMS and ABS diagnosis and procedures. Practice use of on-car brake lathe. Explain vehicle driver assist/intervention systems. Diagnose vehicle conditions and complaints using alignment measurements.
Prerequisite(s): PACT2111

PACT2232 | PACT Self-Studies II | Directed Study (2 Credits)
Directed completion of Honda/Acura Self-studies in the areas of New Vehicle information, Electric Vehicles and Honda Electrical Systems. Additional Self-studies may be assigned as needed.

PACT2241 | Engine Repair & Rebuilding | Lecture/Laboratory (2 Credits)
Identify engine components and functions. Analyze theory of operation, design, diagnosis, and repair procedures of engines. Hands-on repair of Honda/Acura engines. Service procedures include repair of cooling system, lubrication system, intake systems, and exhaust, as well as engine testing, engine disassembly, cleaning and measurement, cylinder head diagnostics, timing belt/chain replacement 4cyl, 6cyl.
Prerequisite(s): PACT2221

PACT2251 | Engine Performance | Lecture/Laboratory (4 Credits)
Hands-on repair of the Honda/Acura fuel and computerized engine control systems. Service procedures include: fuel pressure testing, fuel injector testing, advanced scan tool usage, and on-vehicle diagnostics. Advanced diagnostics, including hands-on repair of the Honda/Acura engine control systems. Service procedures include: on-vehicle diagnostics of Honda/Acura vehicles including advanced computer control systems, networking communication, emission control systems, and test drive diagnostic techniques.
Prerequisite(s): PACT2241

PACT2510 | PACT Internship I | Internship (2 Credits)
Cooperative, paid on-the-job training, providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, AUTO1221, And AUTO1254

PACT2520 | PACT Internship II | Internship (2 Credits)
Cooperative, paid on-the-job training, providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report.
Prerequisite(s): PACT2510

PACT2530 | PACT Internship III | Internship (2 Credits)
Cooperative, paid on-the-job training, providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report.
Prerequisite(s): PACT2520

PACT2540 | PACT Internship IV | Internship (2 Credits)
Cooperative, paid on-the-job training, providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report.
Prerequisite(s): PACT2530

PACT2560 | PACT Internship | Internship (8 Credits)
Cooperative, paid on-the-job training at a sponsoring Honda or Acura repair facility. Preparation providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report. Work under the supervision of service management. Student must secure their own employment. The PACT Coordinator will oversee the internship. Need department director approval and must meet acceptance criteria. (Application must be submitted at least 8 weeks prior to start of the Internship) Must follow approved guidelines listed in the internship packet. PACT students must take this course in lieu of AUTO2251 Production.

PACT2561 | PACT Internship | Internship (6 Credits)
Cooperative, paid on-the-job training at a sponsoring Honda or Acura repair facility. Preparation providing real life job skills and work habits in a variety of automotive areas. Document your experience and hours in a weekly internship report. Work under the supervision of service management. Student must secure their own employment. The PACT Coordinator will oversee the internship. Need department director approval and must meet acceptance criteria. (Application must be submitted at least 8 weeks prior to start of the Internship) Must follow approved guidelines listed in the internship packet. PACT students must take this course in lieu of AUTO2252 Production.
Prerequisite(s): AUTO1111, AUTO1121, AUTO1211, And AUTO1221

Humanities (HUMN)

HUMN1000 | Ethics | Lecture (3 Credits)
Ethics is an opportunity for you to develop valuable critical thinking and moral reasoning skills both professionally and personally. The class is a practical overview of foundational ethical theories, questions, and issues in applied ethics. We'll examine a number of personal, social, and professional ethical issues; such as conflicts of interest, the environment, emerging technologies, business conflicts, societal inequalities, among many others.
General Education: Humanities

HUMN2900 | Ethics of Artificial Intelligence | Lecture (3 Credits)
Artificial Intelligence (AI) is changing how we work and how we live our everyday lives, and new tools are being developed at an astounding pace. From chatbots to robots, AI tools--especially for those in technical fields--are embedded in our professional and personal lives. Making sure they are developed and used ethically, and transparently, is imperative. In this course, you will learn how to identify, analyze, and debate the philosophical issues raised by contemporary and future AI systems.

HUMN3600 | Critical Thinking & Creativity | Lecture (3 Credits)
Identify the effect that critical thinking has on human creativity and how creative activity impacts human progress through reading/reflection and hands on activities. Explore various means to develop critical thinking skills and apply that to creative activities.
General Education: Upper Humanities

HVAC Installation & Residential Service (HEAT)

HEAT1110 | HVAC Ducts & Fittings | Lecture/Laboratory (2 Credits)
Development and fabrication of ducts and fittings common to the heating, ventilation, and air conditioning industry, with emphasis on uniform and state code requirements. Methods of connecting ducts and fittings in an air system. Principles of geometric pattern development as it applies to duct construction and application. Multiple uses and care of hand tools common to the industry.

HEAT1120 | Transitional Fittings | Lecture/Laboratory (3 Credits)
Focus on transitional fittings where the triangulation method of pattern development is required. Use of direct triangulation, as a short-cut method of layout, is emphasized. Identification, care, adjustment, and maintenance of floor equipment common to the sheet metal industry.
Prerequisite(s): HEAT1110

HEAT1130 | HVAC Trunk-line Construction | Lecture/Laboratory (2 Credits)
Pattern development, and the fabrication of a scaled-down trunk-line, emphasizing the quality and quantity of work. Usage, construction methods, and installation of various types of dampers.
Prerequisite(s): HEAT1110 And HEAT1120

HEAT1140 | Fundamentals of Pattern Development | Lecture/Laboratory (3 Credits)
Principles of pattern development as they apply to the layout of round fittings requiring parallel, or radial line methods of pattern development. Fabrication procedures for round fittings, including use of rotary machines for fabricating purposes, riveting, and spot welding. Use, safety, and proper procedures for soldering sheet metal are incorporated.
Prerequisite(s): HEAT1110, HEAT1120, And HEAT1130

HEAT1150 | Advanced Pattern Development | Lecture/Laboratory (3 Credits)
Advanced theory and application of single, and double-line triangulation in the development of irregular patterns. Use of plan and elevation views in the visualization, and development of irregular objects as well as the procedure for the development of true-length lines seen in the foreshortened mode.
Prerequisite(s): HEAT1110, HEAT1120, HEAT1130, And HEAT1140

HEAT2210 | Welding Fundamentals | Lecture/Laboratory (3 Credits)
Applications, safety, and procedures for oxyacetylene, stick, GMAW, and TIG welding. Light and heavy-metal welding in flat position, freehand-cutting procedures, types of weld joints, and joint preparation. Vulcan software for CNC plasma table controllers.

HEAT2220 | HVAC Design | Lecture/Laboratory (2 Credits)
Heat loss and heat gain energy calculation based upon Manual J: Calculation. Development of the requirements for selecting and designing heating and cooling systems for residential construction. Operating characteristics, proper application, cost, advantages/disadvantages, and specific requirements for designing systems to meet specific needs.

HEAT2230 | Residential HVAC Installation | Lecture/Laboratory (6 Credits)
Installation procedures of residential and small commercial heating, ventilation, and air conditioning systems. Emphasis on the Uniform Mechanical code, and Minnesota State Mechanical, Fuel Gas, and Plumbing code, pertaining to heating, ventilation, and air conditioning installation procedures. Air-handling ducts, venting, combustion and fresh-air ducts requirements. Use of available standard-type fittings; sizing, cutting, and threading of gas pipe as well as installation and code requirement of residential-style gas systems. Installation, setup, and maintenance, of industries most common indoor air quality accessories is included.
Prerequisite(s): HEAT2210, HEAT2220, HEAT1110, HEAT1120, HEAT1130, HEAT1140, And HEAT1150

HEAT2240 | Commercial Blueprint Reading | Lecture/Laboratory (2 Credits)
Architectural, structural, civil, electrical and mechanical blueprint reading with a major emphasis on heating, ventilation, and air conditioning systems contained within these plans. Duct construction, hangers and dampers evaluated according to specification and SMACNA requirements. Make drawings using AutoCAD: 2-D drafting commands for HVAC drafting.

HVACR Systems Servicing (SERV)

SERV1110 | HVAC Electrical I | Lecture/Laboratory (2 Credits)
Basic electrical terminology and theory. Introduction to simple circuit construction. Basic electrical properties and their effects on circuits. Load capacity for wiring and fuses. Simple circuit diagramming. Theory of electrical generation through magnetism and electromagnetism. Analyzing and testing circuits with various test equipment.

SERV1120 | Heating Systems I | Lecture/Laboratory (3 Credits)
Basic fundamentals and terminology pertaining to heat transfer. Thermal environmental science properties. Latent and sensible heat, conduction, convection and radiation. Fundamental psychrometrics. Air distribution, room air movement characteristics and the fundamentals of balancing air systems. Analyzing static, velocity and total pressure along with airflow measurements within ductwork.

SERV1130 | Residential Controls I | Lecture/Laboratory (2 Credits)
Introduction to basic environmental controls with an emphasis on theory, application, and practical installation. Principles of Effective Temperature will be applied to various temperature, humidity, and air movement controls. Basic control of secondary circuits including transformers, relays, and contactors used in the operation of heating and cooling equipment. Sketch, diagram, and wire basic secondary control circuits. Job safety.
Prerequisite(s): SERV1110

SERV1140 | Basic Motor Technology | Lecture/Laboratory (3 Credits)
Theory of magnetism and circuitry as it pertains to the induction motor. Introduction to fundamental types of motors used in the HVAC field. Wiring of various power and control circuits. Introduction to the relay, contactor and motor starter. Motor usage and service problems encountered in the field. Electrical diagramming and schematics. Troubleshooting motor circuits. Motor nomenclature and safety.
Prerequisite(s): SERV1110

SERV1150 | Cooling Systems I | Lecture/Laboratory (3 Credits)
Basic fundamentals of cooling as it pertains to HVAC&R systems. Gas laws and the principles of the basic refrigeration cycle. Skills pertaining to refrigeration: tubing handling, flaring, swedging, soft and hard soldering and brazing. Introduction to refrigerants and refrigerant management.
Prerequisite(s): SERV1120

SERV1210 | Heating Systems II | Lecture/Laboratory (3 Credits)
Heat generation as it pertains to residential furnaces. Natural and LP gases. Furnace types, sequence of operation, component identification, ignition types, test equipment and safety. Troubleshooting pertaining to the mechanical operation and the electrical control functions of gas furnaces. Diagnostic skills to meet service problems encountered in the field. Combustion testing and job safety.
Prerequisite(s): SERV1110, SERV1130, And SERV1140

SERV1220 | Cooling Systems II | Lecture/Laboratory (3 Credits)
Fundamentals of residential air conditioning. Evacuation principles and procedures for deep vacuums. Basic split system air conditioning systems wiring and controls examined and diagrammed in schematics. Refrigerant chemistry examined. Refrigerant recycling, recovery, and management reviewed in accordance with EPA standards. Systematic refrigerant charging procedures determined and validated through hands-on guidance using actual equipment. Basic cooling analysis through psychrometrics and pressure-enthalpy processes. Job safety.
Prerequisite(s): SERV1110, SERV1130, SERV1140, And SERV1150

SERV1230 | HVAC Electrical II | Lecture/Laboratory (2 Credits)
Introduction to semiconductors and elementary solid-state circuits used in HVACR control circuits. Electrical schematics for HVACR secondary and load circuitry. Fundamental operation and wiring of motor starter secondary and load circuits examined, diagrammed, and wired. Electronic theory applied to electronic air cleaners, electronically commutated motors, and digital temperature controls. Continued application of relays, and contactors developed in lab jobs and servicing situations encountered in the field. EPA Section 608 Technician Certification test review and exam (required). Job safety.
Prerequisite(s): SERV1110

SERV1240 | Heating Systems III | Lecture/Laboratory (2 Credits)
Introduction to forced air, oil burning, and electric furnaces. Evaluation of gas, oil, and electric furnace sequences of operation coupled with combustion analysis. Practice of start up procedures and combustion testing processes. Mechanical and electrical applications using wiring diagrams and schematics. Diagnostic skills of mechanical, combustion, and electrical problems encountered in the field. Job safety.
Prerequisite(s): SERV1110, SERV1120, SERV1130, SERV1140, SERV1210, And SERV1230

SERV1250 | Cooling Systems III | Lecture/Laboratory (3 Credits)
Advanced residential air conditioning and air-to-air heat pump systems. Theory and troubleshooting of heat pumps. Application and operation of air conditioning and heat pump controls examined. Wiring diagrams and schematics examined and evaluated. Hydrocarbon Refrigerants certification test review and exam (required). Introduction to customer relations skills with a focus on occupational professionalism. Job safety.
Prerequisite(s): SERV1110, SERV1120, SERV1130, SERV1140, SERV1220, And SERV1230

SERV2110 | Domestic Refrigeration | Lecture/Laboratory (2 Credits)
Examine the mechanical refrigeration cycle as it pertains to domestic refrigerators, freezers, room air conditioners, and residential dehumidifiers. Topics include system controls and component troubleshooting and repair, electrical schematic interpretation and diagramming, analysis of refrigerant and electrical components for proper operation and temperature control, as well as job safety.
Prerequisite(s): SERV1240 And SERV1250

SERV2121 | Commercial Refrigeration I | Lecture/Laboratory (3 Credits)
Investigate the operation, maintenance, troubleshooting, and repair of restaurant product cooling equipment. Topics include a diverse cross section of ice maker, reach-in refrigerator, and freezing refrigeration equipment. Examine methods of defrost, electronic and mechanical refrigeration and temperature controls. Interpret and analyze schematics and diagrams. Apply refrigerant recovery and charging procedures. Job safety standards are applied.

SERV2131 | Commercial Refrigeration II | Lecture/Laboratory (3 Credits)
Analyze the operation, maintenance, troubleshooting, and repair of commercial product cooling equipment. Topics include: walk-in coolers, walk-in freezers, light commercial, and supermarket refrigeration equipment and operation. A variety of refrigeration controls, both electrical and mechanical are examined along with methods of defrost and heat recovery. Identify refrigeration pipe and equipment sizing, as well as electrical schematics and diagramming. Job safety standards are applied.

SERV2140 | HVAC Commercial Controls I | Lecture/Laboratory (3 Credits)
Examine the fundamentals of commercial HVAC controls. Control conceptions include pneumatic and DDC control functions with the inclusion of building energy management systems for an environmentally green HVAC setting. Demonstrate the application of these controls along with variable frequency drives, air handler, multi-zoning, VAV systems and economizers in a variety of hands-on experiments. Job safety standards are applied.

SERV2150 | HVAC Piping & State Mechanical Code | Lecture/Laboratory (2 Credits)
Introduction to the State of Minnesota Mechanical and Energy Codes. Topics emphasized are: refrigeration, gas piping, venting, steam and hydronic system installation codes. Hands-on labs include fabrication of copper, iron, steel, and pex piping. Job safety standards are applied.

SERV2210 | HVAC Commercial Controls II | Lecture/Laboratory (3 Credits)
Examine three phase power supplies, motor starters, environmental controls, magnetic contactors, and relays used in the commercial HVAC equipment environment. Other topics include: combustion analysis, ventilating exhaust PRV and make-up air equipment and requirements. Industrial heating burner controls and safeties are diagrammed and developed in hands-on lab experiments. Job safety standards are applied.

SERV2231 | Metal Fabrication | Lecture/Laboratory (3 Credits)
Practice metal fabrication skills with a focus on oxyacetylene and wire feed welding. Topics include layout and construction of common sheet metal components found in residential HVAC systems. Job safety standards are applied.

SERV2240 | Steam & Hydronic Heating | Lecture/Laboratory (3 Credits)
Examine steam and hydronic heating systems, both residential and commercial. Topics include: high and low pressure boilers and accessories, including code requirements; and maintenance, troubleshooting and repair practices. Introduction to steam and hydronic boiler controls, safety and component parts in hands-on labs. Prepares student for the State of Minnesota Special Engineers license exam. Job safety standards are applied.

SERV2250 | Commercial Air Conditioning | Lecture/Laboratory (2 Credits)
Explore water-cooled chiller and computer room air conditioning technology and an examination of the compressors that run them. The focus is on HVAC packaged unit (RTU) installation, start up, check out, combustion analysis, and troubleshooting procedures. Job safety standards are applied.

Industrial Engineering Technology (IENG)

IENG1910 | Engineering Topics I | Directed Study (1 Credit)
Engineering Topics I focuses on topics in engineering selected by faculty assigned to the course.

IENG3115 | Statistical Quality Control | Lecture (2 Credits)
Apply statistical methods to study the quality of products and services, determining how to reduce the time required to produce the product and ensure the quality of the product. Topics include probability and statistics, control charts, acceptance criteria and sampling, and case studies.
Prerequisite(s): MATH2250

IENG3150 | Manufacturing Processes I with Lab | Lecture/Laboratory (3 Credits)
Examine and apply various manufacturing processes and materials used in product development and manufacturing. Each process is covered from a technical perspective, with an emphasis placed on how multiple processes can be linked together. Several manufacturing processes, such as computer aided design, machining, welding, and electronics are used to design a product.

IENG3160 | Quality & Lean Systems | Lecture/Laboratory (3 Credits)
Investigate the history and evolution of lean systems and current day applications to manufacturing, service, and business. Apply fundamental lean philosophies and tools to manufacturing, service, and business. Explore the role of culture transformation and change management techniques in the application of lean tools, total quality management, and international standards.

IENG4111 | Ergonomics & Work Measurement | Lecture (3 Credits)
Introduction to ergonomics as applied to the human-machine interface, as well as the fundamental concepts behind work design, with emphasis on measuring work and analyzing work methods. Topics include methods engineering and analysis, time and motion studies, and workplace design considering physical and cognitive ergonomic principles.

IENG4116 | Supply Chain Management | Lecture (3 Credits)
Explain the fundamentals of supply chain management. Topics include the supply chain network, system integration, supply chain strategies, challenges in managing the supply chain, and strategy alignment.

IENG4126 | Production Planning | Lecture (3 Credits)
Utilize aspects of management to maximize productivity in a factory or service environment. Topics include sales & operations planning, inventory and capacity management, material requirements planning, and the theory of constraints.

IENG4211 | Simulation Modeling | Lecture (3 Credits)
Utilize simulation to create, analyze, and evaluate realistic models of real-world environments. Topics include Monte Carlo simulation, queuing theory, selecting input distributions, animation in simulation, and evaluating simulation output.

IENG4250 | Industrial Automation with Lab | Lecture/Laboratory (3 Credits)
Investigate and apply several automated processes used in manufacturing, service, and business processes. Topics include automated work systems, safety, and design of systems.

IENG4260 | Engineering Entrepreneurship | Lecture (3 Credits)
Explain the concept of transforming your ideas from a prototype into a business including customer need, design, launching, and sustaining a business. Topics include strategic thinking, business relationships, dealing with competition, and marketing.

IENG4270 | Manufacturing Processes II with Lab | Lecture/Laboratory (3 Credits)
Use CAD/CAM software to create part geometries, tooling design, tool path, machining parameters and post processes NC code. Design and create parts using other common manufacturing processes. Emphasis on the principles of design for each process. Processes include sheet metal forming, casting, welding, plastic fabrication, injection molding, and sheet metal forming.

IENG4295 | Senior Capstone | Practicum (4 Credits)
Demonstrate overall content knowledge of the program outcomes through a major project. Conduct a final presentation of the project and explain how it applies to the engineering program outcomes.
Prerequisite(s): WRIT4020

IENG4296 | Senior Capstone | Capstone (3 Credits)
Demonstrate overall content knowledge of the program outcomes through a major project. Conduct a final presentation of the project and explain how it applies to the engineering program outcomes.

Interior Design (IDSN)

IDSN1101 | Studio Design | Lecture/Studio (5 Credits)
Introduction to the tools, techniques, and principles of architectural drafting through hand and computer-aided methods. Communicate design intent with emphasis on interior working drawings through a small commercial studio.

IDSN1102 | Composition Lab 1 | Lecture/Laboratory (3 Credits)
Introduction to the tools for design and graphic communication. Create diagrams that support quick 2D and 3D ideation using various methods and techniques.

IDSN1103 | Color Lab | Lecture/Laboratory (3 Credits)
Create color compositions that explore ideas of hue, value, saturation, and color harmony, using traditional media. Explore and research the psychology and symbolism of color, cultural relationships to color, and effects of lighting.

IDSN1201 | Studio Mixed Use | Lecture/Studio (5 Credits)
Practice the design process and how to communicate design intent through a small mixed-use studio project. Emphasis is placed on programming, space planning, presentation methods, and project communication techniques.
Prerequisite(s): IDSN1101

IDSN1202 | Composition Lab 2 | Lecture/Laboratory (3 Credits)
Introduction to digital tools for application in design and graphic layout. Continue to explore ideas of presentation and visual communication.

IDSN1203 | Materials Lab | Lecture/Laboratory (3 Credits)
Analyze materials and textiles for durability, ease of use, life-cycle cost, sustainability, safety, and other performance criteria. Specify appropriate finishes and textiles for a variety of uses.

IDSN1501 | Design Explorations | Seminar (1 Credit)
Develop expressive designs, using observation and imagination, to explore environment, culture, and meaning.

IDSN1502 | 3D Concepts | Seminar (1 Credit)
Introduction to critical thinking methods as they relate to creative problem solving, using basic elements and principles of design. Explore the design process to create visual responses to abstract concepts.

IDSN1503 | Land By Design | Seminar (1 Credit)
Explore ideas related to design and the landscape. Discover how designers interact with and impact our natural environment.

IDSN1504 | Learning Beyond | Seminar (1 Credit)
Explore various learning opportunities beyond the classroom; includes an introduction to educational possibilities for life beyond the college experience.

IDSN1505 | Surface Design | Seminar (1 Credit)
Explore pattern design, color manipulation, and embellishment to create dynamic surfaces using a variety of techniques.

IDSN1506 | Community Connect | Seminar (1 Credit)
Develop professional growth skills by connecting to the greater design community.

IDSN2101 | Studio Commercial | Lecture/Studio (5 Credits)
Develop design skills while cultivating empathy through a commercial studio project for an underserved community. Collaborate in concept, programming, space planning, and schematic design. Emphasis is placed on addressing client, universal design, and wayfinding.
Prerequisite(s): IDSN1201

IDSN2102 | Design Lab | Lecture/Laboratory (3 Credits)
Introduction to Building Information Modeling (BIM) concepts, practices, and drafting techniques. Create a virtual architectural model that will aid in the creation of construction documents and design presentation.

IDSN2103 | Universal Lab | Lecture/Laboratory (3 Credits)
Examine the history and application of federal, state, and municipal codes, standards, and accessibility guidelines with an emphasis on life safety and universal design.

IDSN2201 | Studio Housing | Lecture/Studio (5 Credits)
Develop design skills while exploring evidence-based design through a multi-housing studio project. Emphasis is placed on code application, prototypes, and detailing.
Prerequisite(s): IDSN2102

IDSN2202 | Lighting Lab | Lecture/Laboratory (3 Credits)
Use design factors and strategies to create quality interior illumination. Emphasis is placed on function, specification, and environmental application.

IDSN2203 | Evidence Lab | Lecture/Laboratory (3 Credits)
Gather appropriate research and analyze data to address a design problem. Demonstrate best practices for information communication.

IDSN3101 | Studio Healthcare | Lecture/Studio (5 Credits)
Develop best practices around health, safety, wellbeing, and comfort through a healthcare studio project. Collaborate in the execution of the design process. Emphasis is placed on performance requirements and fostering community.
Prerequisite(s): IDSN2102

IDSN3102 | Interior Design History | Lecture/Laboratory (3 Credits)
Explore the global history of architecture, interiors, and decorative arts focusing on social, cultural, environmental, and economic factors.

IDSN3103 | Detailing Lab | Lecture/Laboratory (3 Credits)
Explore, in-depth, the art of interior detailing, specification, fabrication, and installation.

IDSN3141 | Evidence Based Design | Lecture (1 Credit)
Gather appropriate information and research findings to solve an interior design problem. APA format is used to produce a technical paper.

IDSN3150 | Interior Design Seminar | Seminar (1 Credit)
Provides opportunities for problem solving, innovation, and advancing student understanding by focusing on a particular subject related to the Interior Design profession.

IDSN3170 | History of Interiors | Lecture (2 Credits)
Differentiate styles of interiors, furniture, and decorative arts from ancient to present time within their political and cultural context using research, field trips, and site visits to inform design decisions.

IDSN3201 | Studio Hospitality | Lecture/Studio (5 Credits)
Strengthen conceptual skills while considering historical precedent through a hospitality studio project, Collaborate in the execution of the design process. Emphasis is placed on advanced digital tools, volumetric expression, custom detailing, and guest experience.
Prerequisite(s): IDSN2102

IDSN3202 | Composition Lab 3 | Lecture/Laboratory (3 Credits)
Create a media package exploring personal branding for professional growth. Focus on visual communication and design impact.

IDSN3203 | Global Lab | Lecture/Laboratory (3 Credits)
Explore ideas of interior design in a global context. Gain knowledge of globalization, inclusivity, and cultural awareness through research and experimentation.

IDSN3210 | Studio 4 | Studio (5 Credits)
Apply the advanced skills necessary to design interior spaces in a commercial space with an emphasis on hospitality and historical precedent using the typical design phases including programming, schematic design, and design development. Concept development, space planning, material, and FF&E (Furniture, Fixtures, & Equipment) selection. Visual presentation boards with CAD and manual drafting, and verbal presentation critiques by industry professionals.

IDSN3220 | Interior Design Portfolio | Lecture/Laboratory (2 Credits)
Create portfolio by compiling projects to produce a representative sample of work.

IDSN3240 | LEED | Lecture (1 Credit)
An introduction to the processes and procedures associated with LEED certification and sustainable design strategies.

IDSN3501 | Custom Detailing | Seminar (1 Credit)
Complete an installation from concept through documentation to fabrication.

IDSN3502 | Dissecting Space | Seminar (1 Credit)
Explore space and theory around a specific typology.

IDSN3503 | History in Depth | Seminar (1 Credit)
Examine a particular aspect of history (period, region, or designer) and apply to design practice.

IDSN3504 | Biomimicry | Seminar (1 Credit)
Solve design problems based on nature's wisdom and biological blueprints.

IDSN3505 | Design & Health | Seminar (1 Credit)
Explore the relationship between the natural and built environments through the context of sustainable design.

IDSN3506 | Design Psychology | Seminar (1 Credit)
Examine mind and behavior through a design lens.

IDSN4101 | Studio Research | Lecture/Studio (5 Credits)
Conduct an in-depth analysis, and synthesize information through a studio research project. Develop a comprehensive design brief used to guide further design solutions. Emphasis is placed on application of evidence-based design.
Prerequisite(s): IDSN2101, IDSN2201, IDSN3101, And IDSN3201

IDSN4102 | Furniture Lab | Lecture/Laboratory (3 Credits)
Explore aesthetic and functional issues related to the creation of custom, freestanding furniture.

IDSN4110 | Studio 5 | Studio (5 Credits)
Complete a project using all phases of the design process, including research, a preliminary budget, presentation, and contract documentation to create a project in a career specialty of interest.

IDSN4120 | Internship for Interior Design | Internship (2 Credits)
On-the-job training in the interior design industry to facilitate professional growth.

IDSN4121 | Professional Topics | Practicum (2 Credits)
Explore career readiness techniques and best practices for entering the design industry. Develop professional growth skills by connecting to the greater design community.

IDSN4140 | Furniture Design | Lecture (3 Credits)
Create an imaginative piece of furniture designed to meet a specific need.

IDSN4201 | Studio Capstone | Lecture/Studio (5 Credits)
Synthesize findings, through the continuation of studio research, to develop a comprehensive design project. Emphasis is placed on execution of design brief into a design solution.
Prerequisite(s): IDSN4101

IDSN4202 | Industry Lab | Lecture/Laboratory (3 Credits)
Examine, in-depth, project management and business practices using industry standards.

IDSN4210 | Capstone for Interior Design | Capstone (8 Credits)
Complete a final project using all phases of the design process, including research, a preliminary budget, presentation, and contract documentation to create a project in a career specialty of interest.
Prerequisite(s): IDSN4110

IDSN4211 | Capstone for Interior Design | Capstone (7 Credits)
Complete a final project using all phases of the design process, including research, presentation, and contract documentation to create a project in a career specialty of interest.
Prerequisite(s): IDSN4110

IDSN4221 | Business Practices | Lecture (1 Credit)
Develop an awareness and understanding of the design practice structure of a business formation, operation, brand management, and professional ethics and conduct.

Machine Tool Technology (MACH)

MACH1000 | Machine Shop Fundamentals | Laboratory (2 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.

MACH1110 | Machine Tool Fundamentals Lab | Laboratory (5 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.
Corequisite(s): MACH1120

MACH1120 | Machine Tool Fundamentals Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with basic principles in metal-cutting technology including machine feeds and speeds, threading, tapers, knurling, boring, radii cutting and milling turning procedures.
Corequisite(s): MACH1110

MACH1200 | Machine Shop Fundamentals | Laboratory (3 Credits)
Manufacturing of parts through layout and bench work, includes the use of band saws, drill presses, surface grinders, manual lathes and vertical mills. Basic principles in metal-cutting technology includes threading, tapers, knurling, boring, radii cutting and milling procedures such as squaring stock, the use of rotary table and the many other milling and turning operations.

MACH1205 | CNC Machining Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with CNC milling and turning operations, inspection of finished parts, and an introduction to the G & M codes used in CNC programming.
Prerequisite(s): MACH1000

MACH1210 | Advanced Machining Lab | Laboratory (5 Credits)
Advanced manufacturing of parts through layout, bench work and job planning. Advanced manual turning and milling and an introduction to CNC M & G codes. CNC portion includes manual programming via machine control and software simulation.
Prerequisite(s): MACH1110
Corequisite(s): MACH1220

MACH1215 | CNC Machining Lab | Laboratory (2 Credits)
Manufacturing of parts using CNC milling and turning processes. CNC setup and programming includes manual programming via machine control and software simulation.
Prerequisite(s): MACH1000

MACH1220 | Advanced Machining Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with advanced milling and turning operations, inspection of finished parts and an introduction to the G & M codes used in CNC programming. CNC portion includes manual programming in notepad and Immersive software simulation.
Prerequisite(s): MACH1120
Corequisite(s): MACH1210

MACH2110 | CNC Lathe, Mill & Mold Making Lab | Laboratory (5 Credits)
Advanced manufacturing processes using CNC lathes, CNC mill and EDM, design and build of an injection mold, along with hand and inspection tool techniques.
Prerequisite(s): MACH1210
Corequisite(s): MACH2120

MACH2120 | CNC Lathe & Mill Theory | Lecture (2 Credits)
Advanced CNC mill programming and introduction to CNC lathe programming. G & M codes, canned cycles, jigs, fixtures and work holding methods.
Prerequisite(s): MACH1220
Corequisite(s): MACH2110

MACH2130 | Mold Design Theory | Lecture (2 Credits)
Mold making methods and industry standard practices, history and uses. Design of one injection mold from concept to finished prints. Includes mold steels, press operation, molding cycle and inspection of finished parts.
Prerequisite(s): MACH1220

MACH2140 | MasterCAM I | Lecture (4 Credits)
2D and 3D geometry and surface model creation using MasterCAM software, an associative computer-aided manufacturing system for milling and turning. M and G code programs will be created, debugged and simulated cutter paths run for simple part geometries.
Prerequisite(s): MDES1110

MACH2210 | CNC Mill, EDM & Die Making Lab | Laboratory (5 Credits)
Advanced manufacturing processes using CNC lathe, CNC mill, wire EDM and sinker EDM. Design and build a complete blanking die, along with hand and inspection tool techniques to ensure proper fits and finishes. Explore the set up and operation of 4 axis machine tool.
Corequisite(s): MACH2220

MACH2220 | CNC Mill & EDM Theory | Lecture (2 Credits)
Advanced work holding principles, 4 axis CNC programming, axis definitions, wire EDM programming and power definitions.
Corequisite(s): MACH2210

MACH2230 | Die Design Theory | Lecture (2 Credits)
Die design fundamentals and components including bend tolerances, cutting clearances, tonnage calculations, forming, and fits and clearances for dies.

MACH2240 | MasterCAM II | Lecture (4 Credits)
Advanced 3D design, surface and solid model creation using MasterCAM. Tool path creation and posting for both 2D and 3D geometry including advanced surface and solid models. Lathe part creation and programming in 2D.
Prerequisite(s): MACH2140

Management (MGMT)

MGMT1000 | Principles of Accounting | Lecture (3 Credits)
Introduction to fundamental accounting concepts and cycles. Includes analyzing, interpreting, and recording transactions, as well as the preparation of financial statements, bank reconciliations and payroll transactions in accordance with commonly accepted accounting principles.

MGMT1100 | Principles of Marketing | Lecture (3 Credits)
Introduction to terms, concepts, and skills for analyzing marketing problems. Manage/integrate communication aspects of marketing, such as advertising, sales promotion, and public relations. Identify how to set objectives, select media and measure effectiveness. Explain sales promotion techniques.

MGMT3112 | Business Management | Lecture (3 Credits)
Examine principles of management in the context of how firms are organized to analyze their management of finances, operations, human resources, processes and strategy to effectively meet an organization's mission, vision and goals.

MGMT3113 | Principles of Management | Lecture (3 Credits)
Examine contemporary challenges in management using case studies, guest speakers, and personal reflection to recognize and mitigate critical issues in the complex work environment.

MGMT3120 | Quality Systems | Lecture (2 Credits)
Basic quality concepts, including the concepts of Total Quality Management (TQM), ISO9000, and LEAN/Six-Sigma concepts.

MGMT3130 | Managerial Accounting | Lecture (2 Credits)
Introduction of the fundamentals of managerial accounting for reporting, decision making and control of transactions, financial statements, strategic and operational planning to facilitate ethical behavior of the managerial accountant.

MGMT3131 | Managerial Accounting | Lecture (3 Credits)
Introduction of the fundamentals of managerial accounting for reporting, decision making and control of transactions, financial statements, strategic and operational planning to facilitate ethical behavior of the managerial accountant.

MGMT3141 | Research for Business | Lecture (4 Credits)
Introduction to the basics of research design, and the quantitative and qualitative methods used in addressing policy-relevant research questions. The course has two major goals: 1) Enhance passive literacy of quantitative and qualitative research methods; 2) Develop active skills and apply techniques to original policy studies.

MGMT3142 | Research for Business | Directed Study (3 Credits)
Introduction to the basics of research design, and the quantitative and qualitative methods used in addressing policy-relevant research questions. The course has two major goals: 1) Enhance passive literacy of quantitative and qualitative research methods; 2) Develop active skills and apply techniques to original policy studies.

MGMT3160 | Business Principles for Cybersecurity | Lecture (2 Credits)
Examine basic business organization and principles, including financial management, budgets and revenue streams with an emphasis on risk mitigation and the levels of acceptable risk in conducting business.

MGMT3161 | Operations Management | Lecture (2 Credits)
A survey of the operating practices and procedures found in both manufacturing and service delivery firms. Focus is applied on business processes and procedures used to transform various inputs into finished goods and services. The interdependence of business functions such as accounting, finance, customer service, and information systems requires effective and efficient operations management strategies.

MGMT3211 | Project Management | Lecture (2 Credits)
Examine management concepts through the lens of the project life cycle. Identify various techniques of work planning, control and evaluation used to achieve project objectives.

MGMT3212 | Project Management | Lecture (3 Credits)
Utilize the skills for planning and controlling projects utilizing project management principles to successfully execute and manage objectives.

MGMT3220 | HR/Employment Law | Lecture (2 Credits)
Analyze the role of the human resource professional as a strategic partner in managing today's organizations. Examine key functions such as recruitment, selection, development, appraisal, retention, compensation, and labor relations. Workplace safety, employment laws, legal rights and responsibilities are incorporated.

MGMT3221 | Human Resource Management | Lecture (3 Credits)
Examine the role of the human resource professional through legal research, discussions and case studies to support the recruitment, development, and retention of employees.

MGMT3230 | Strategic Planning | Lecture (2 Credits)
Examine the strategy of the business unit and analyze the issues central to a firm's short and long term competitive success. Investigate various models and approaches to designing and conducting strategic planning.

MGMT3231 | Strategic Planning | Lecture (3 Credits)
Examine the strategy of the business unit and analyze the issues central to a firm's short and long term competitive success. Investigate various models and approaches to designing and conducting strategic planning.

MGMT3250 | Business Law | Lecture (3 Credits)
Examine the concepts of constitutional, criminal, tort, and contract law to justify ethical decision making in a business environment.

MGMT3900 | Executive Perspectives | Seminar (1 Credit)
Summarize a series of lectures from business leaders to provide a broad range of leadership and management perspectives.

MGMT4110 | Leadership | Lecture (2 Credits)
Multidimensional study of leadership related to contemporary issues, privileges and responsibilities through an exploration of historical leaders, leadership styles and philosophies to recognize the traits, skills and values of a leader.

MGMT4112 | Leadership | Lecture (3 Credits)
Examine the traits, skills and values of leadership through case studies, historical research and self reflection to develop an individual definition of leadership.

MGMT4120 | Leading Organizational Change | Lecture (2 Credits)
Examine the competencies and skills required to successfully lead organizational and personal change in the business world.

MGMT4121 | Leading Organization Change | Lecture (3 Credits)
Examine the competencies and skills required to successfully lead organizational and personal change in the business world.

MGMT4130 | Entrepreneurial/Marketing Management | Lecture (2 Credits)
Entrepreneurial and marketing management fundamentals of planning, strategy, management and issues using skills and competencies needed to generate new ideas to develop a successful business.

MGMT4131 | Entrepreneurial & Marketing Management | Lecture (3 Credits)
Entrepreneurial and marketing management fundamentals of planning, strategy, management and issues using skills and competencies needed to generate new ideas to develop a successful business.

MGMT4140 | Managerial Economics | Lecture (2 Credits)
Apply managerial economic decision making in the areas of mathematics, statistics, economic theory, accounting, finance, marketing, and human behavior.

MGMT4141 | Managerial Economics | Lecture (3 Credits)
Apply managerial economic decision making in the areas of mathematics, statistics, economic theory, accounting, finance, marketing, and human behavior.

MGMT4210 | Capstone Research | Capstone (4 Credits)
The research portion of an industry(field)-specific capstone project of student's choice; present a comprehensive project within a field of study, that draws on the relevant components of previous course work.

MGMT4211 | Applied Management Capstone | Directed Study (3 Credits)
Refine and present an industry specific capstone project that draws on the relevant components of previous course work.

MGMT4220 | Negotiation & Conflict Resolution | Lecture (2 Credits)
Strategies and tactics for conflict analysis, assessment and negotiation using exercises and simulations to successfully manage negotiations and conflict.

MGMT4221 | Negotiation & Conflict Resolution | Lecture (3 Credits)
Strategies and tactics for conflict analysis, assessment and negotiation using exercises and simulations to successfully manage negotiations and conflict.

MGMT4230 | Management Information Systems I | Lecture (2 Credits)
The ways in which management and information services influence business strategies, communications technology, information systems analysis and design; issues arising out of the rapidly evolving field of information systems, and a general overview of IT compliance.

MGMT4231 | Management Information Systems | Lecture (3 Credits)
Examine the ways businesses manage data arising from the field of information systems using presentations, discussion and case studies to influence business strategies, communications technology and information systems analysis.

MGMT4240 | Applied Management Capstone | Capstone (4 Credits)
The written portion of an industry (field)-specific capstone project of student's choice; present a comprehensive project within a field of study that draws on the relevant components of previous course work.
Prerequisite(s): MGMT4210 And WRIT4001

MGMT4250 | Capstone Research | Directed Study (3 Credits)
Research and develop an industry specific capstone project that draws on the relevant components of previous course work.

MGMT4900 | Global Perspectives | Seminar (1 Credit)
Summarize a series of lectures from international companies to value different cultural norms and expectations in the business environment.

Mathematics (MATH)

MATH1000 | Algebra & Trigonometry | Lecture (3 Credits)
Real numbers and polynomials, exponents and radicals, fractional equations; proportions and linear equations; trigonometric functions, solutions of triangles, radians, trig functions graphs, vectors, and basic identities.
General Education: Mathematics

MATH1010 | Algebra I | Lecture (3 Credits)
Foundational algebra is applied the in the context of geometry and trigonometry. Topics include rules of exponents, simplifying expressions, solving equations, computing measurements of two and three dimensional shapes, solving right triangles, and solving oblique triangles.
General Education: Mathematics

MATH1020 | Algebra II | Lecture (3 Credits)
Algebraic and trigonometric skills are developed further. Topics include, functions, graphing, factoring, advanced solving techniques, systems of linear equations, coordinate trigonometry, and vectors.
Prerequisite(s): MATH1010
General Education: Mathematics

MATH1050 | Algebra, Trigonometry & Geometry | Lecture (3 Credits)
Principles of algebra, geometry and trigonometry used in the context of a technical setting. Problem-solving strategies are developed and applied to technology.
General Education: Mathematics

MATH1250 | Boolean Algebra | Lecture (3 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

MATH1300 | Boolean Algebra & Number Systems | Lecture (2 Credits)
Binary, octal and hexadecimal number systems. Boolean algebra and mapping.
General Education: Mathematics

MATH1700 | Pre Calculus | Lecture (3 Credits)
Preparation for Calculus. Topics include understanding functions from symbolic, tabular, and graphical perspectives. Explore function transformations and composition, polynomial functions, rational polynomial functions, trigonometric functions, exponential functions, and conic sections. The focus is on problem solving using mathematical models to represent real world situations.
General Education: Mathematics

MATH1810 | Calculus I | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Computer software will enable the application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
Prerequisite(s): MATH1700
General Education: Mathematics

MATH1811 | Calculus I | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. Utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates.
General Education: Mathematics

MATH1812 | Calculus I with Lab | Lecture/Laboratory (4 Credits)
Calculus is the fundamental tool used by engineers and scientists to determine critical measurements, such as maximums, minimums and allowable rates of change. In this course, you will utilize multiple methods in the calculation and application of limits, derivatives, transcendental functions, implicit differentiation and related rates. The lab component of this course is designed for engineering students who have not taken pre-calculus; students who have taken pre-calculus should register for MATH1811. Students cannot receive credit for both MATH1811 and MATH1812.

MATH1820 | Calculus II | Lecture (3 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements, such as calculating the area under curves or the capacities inside of complex geometries. Computer software will enable the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH1821 | Calculus II | Lecture (4 Credits)
The fundamental tool used by engineers and scientists to determine critical measurements such as the area under curves, the volumes within complex geometries, and for describing functions as an infinite series. Computer software enables the application of the definite integral, the fundamental theorem of calculus, applications of integration, and numerical methods of integration.
Prerequisite(s): MATH1811 Or MATH1812
General Education: Mathematics

MATH2250 | Statistics | Lecture (3 Credits)
Descriptive and inferential statistics, frequency distributions, probability theory, and issues related to gathering data; computer spreadsheets facilitate the organization, analysis and display of data.
General Education: Mathematics

MATH2260 | Probability & Statistics | Lecture (4 Credits)
Introduction to probability and statistics with applications. Topics include: basic combinatorics, random variables, probability distributions, hypothesis testing, confidence intervals, and linear regression.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Mathematics

MATH2810 | Multi-Variable Calculus | Lecture (4 Credits)
Differentiate and integrate functions of two and three variables. Apply differentiation and integration techniques to physical sciences and engineering. Explore the theorems of Green and Stokes.
Prerequisite(s): MATH1820 Or MATH1821
General Education: Mathematics

MATH2820 | Linear Algebra & Differential Equations | Lecture (4 Credits)
Introduction to Linear Algebra, including vector spaces and linear mappings between such spaces. Explore solution methods for ordinary differential equations, qualitative techniques; includes matrix methods approach to systems of linear equations and series solutions.
Prerequisite(s): MATH1821 Or MATH1820
General Education: Mathematics

MATH2830 | Discrete Math | Lecture (3 Credits)
Examine a set of branches of math that all have in common the feature that they are "discrete" rather than "continuous".
General Education: Mathematics

Mechanical Engineering (MENG)

MENG1110 | Engineering Drawings & 3D Design | Lecture/Laboratory (4 Credits)
Create 3D solid models and assemblies using SolidWorks. Interpret engineering prints; create detail and assembly drawings according to standards. Use freehand drawing as a graphical communication tool.

MENG1210 | Machining for Engineers Lab | Laboratory (2 Credits)
Employ metalworking techniques using typical shop equipment including mills, lathes, grinders, saws, and drills. Utilize hand tools to prep stock and finish edges.
Corequisite(s): MENG1220

MENG1220 | Machining for Engineers | Lecture (2 Credits)
Use theory and understanding of machining operations to plan work to create parts efficiently.
Prerequisite(s): MENG1110 Or MDES1110
Corequisite(s): MENG1210

MENG1230 | Statics | Lecture (3 Credits)
Identification, recognition and calculations associated with forces acting on rigid bodies at rest. Use vector analysis to analyze concurrent forces, non-concurrent forces, friction forces, centroids and moments.
Prerequisite(s): MATH2810

MENG2230 | Dynamics | Lecture (3 Credits)
Theory and calculations associated with kinematics and kinetics of particles, systems of particles and rigid bodies. Analyze the application of Newton's laws to the planar motion of rigid bodies.
Prerequisite(s): MENG1230 And MATH2820

MENG2240 | Mechanics of Materials | Lecture (3 Credits)
Discover how materials behave under load including deformation under various loading profiles. Apply concepts to design of mechanical members such as a beams, shafts, columns, and other load bearing devices.
Prerequisite(s): MENG1230

MENG3111 | Design for Manufacturability with Lab | Lecture/Laboratory (3 Credits)
Introduction to common manufacturing processes, with emphasis on the principles of design for each process. Processes include: sheet metal forming, casting, welding, and plastic fabrication. Design and create parts using common manufacturing processes, such as casting, injection molding, and sheet metal forming processes.
Prerequisite(s): MENG1210 And MENG1220

MENG3130 | Thermodynamics | Lecture (4 Credits)
Introduction to thermodynamic analysis which provides a foundation for subsequent thermoscience courses, e.g. fluid dynamics, heat transfer, HVACR. Application of the laws of thermodynamics to the analysis of power and refrigeration cycles is a main focus.
Prerequisite(s): PHYS1800 And MATH1821

MENG3140 | Materials Science | Lecture (3 Credits)
Identify different types of materials, their properties, and appropriate uses. Processes that change material properties include: alloy composition, heat treatment, coatings, and other modifications.
Prerequisite(s): CHEM2110

MENG3211 | GD&T & Measurements with Lab | Lecture/Laboratory (4 Credits)
Apply principles of physical measurements and error analysis to evaluate mechanical measurements. Create prints that include callouts for standards of accuracy using ASME/ANSI geometric dimensioning and tolerance standards. Use lab metrology equipment to assess the geometric dimensions and tolerances of parts, and to perform other measurements such as temperature, pressure, and flow.
Prerequisite(s): MATH2260

MENG3212 | Measurements and Lab | Lecture/Laboratory (4 Credits)
Apply principles of physical measurements and error analysis to evaluate mechanical measurements. Create prints that include callouts for standards of accuracy using ASME/ANSI geometric dimensioning and tolerance standards. Use lab metrology equipment to assess the geometric dimensions and tolerances of parts, and to perform other measurements such as temperature, pressure, and flow.
Prerequisite(s): MATH2260

MENG3230 | Fluid Mechanics | Lecture (3 Credits)
Introduction to fluid statics and mechanics; laminar and turbulent flow with associated calculations. Applications to industry are used in problems.
Prerequisite(s): MATH2810, MATH2820, MENG3130, And MENG2240

MENG3240 | Failure Analysis & Design | Lecture (2 Credits)
Examine advanced topics in modeling, design and best practices for machines, tooling and system assemblies. Evaluate components for protection against failure from low cycle fatigue, high cycle fatigue, ductile overload, corrosion.
Prerequisite(s): MENG2240

MENG3250 | Heat Transfer | Lecture (3 Credits)
Examine the fundamentals of heat transfer modes, including conduction, convection, and radiation. Calculations for each mode are included.
Prerequisite(s): MATH2820 And MENG3130

MENG4111 | Control of Dynamic Systems w/ Lab | Lecture/Laboratory (4 Credits)
Introduction to the fundamentals of controls, covering foundational controls theory (first and second order system response, transfer functions, and design of control systems). Analyze the response of dynamic systems, and then apply these techniques, using a PID control, to the control of real world engineering systems. Possible applications include fluid power, heat transfer, and mechanical systems.
Prerequisite(s): MENG2230 And MATH2820

MENG4130 | Finite Element Analysis | Lecture (3 Credits)
Finite element modeling using both manual and software simulation analysis. Topics include two- and three-dimensional elements along with applications in solid mechanics, heat transfer and fluid mechanics.
Prerequisite(s): MATH2820 And MENG2240

MENG4140 | Senior Design I | Capstone (4 Credits)
Student design teams execute a two semester design project to solve a real world problem. Application of the design process, underlying science, and application of concepts and tools gained in the curriculum are necessary. Application of project management principles and tools. To be taken within 48 credits of graduation or with instructor approval.
Prerequisite(s): MENG2240 And MENG3111

MENG4211 | Heat Transfer Applications & HVACR w/Lab | Lecture/Laboratory (4 Credits)
Apply heat transfer theory to common industrial devices. Analyze HVACR and other applications. Hands-on testing of heat transfer devices includes heat, ventilation, and air conditioning systems.
Prerequisite(s): MENG3250

MENG4240 | Senior Design II | Capstone (4 Credits)
Continuation of Senior Design I projects. Final deliverables are submitted, project is presented and closed out. Presentations are open to students, faculty, and the public in a symposium format.
Prerequisite(s): MENG4140

MENG4301 | Directed Research 1 | Directed Study (1 Credit)
In this individual study course, students work with a supervising faculty member on an engineering research project. The coursework will be determined by the research focus, and will typically include experimental design, data analysis, and synthesis of results in a final presentation (e.g. paper, poster or oral presentation). This course is not available for general enrollment; prior arrangement and approval from the supervising faculty member is required for registration.

MENG4302 | Directed Research 2 | Directed Study (2 Credits)
In this individual study course, students work with a supervising faculty member on an engineering research project. The coursework will be determined by the research focus, and will typically include experimental design, data analysis, and synthesis of results in a final presentation (e.g. paper, poster or oral presentation). This course is not available for general enrollment; prior arrangement and approval from the supervising faculty member is required for registration.

MENG4303 | Directed Research 3 | Directed Study (3 Credits)
In this individual study course, students work with a supervising faculty member on an engineering research project. The coursework will be determined by the research focus, and will typically include experimental design, data analysis, and synthesis of results in a final presentation (e.g. paper, poster or oral presentation). This course is not available for general enrollment; prior arrangement and approval from the supervising faculty member is required for registration.

MENG4304 | Directed Research 4 | Directed Study (4 Credits)
In this individual study course, students work with a supervising faculty member on an engineering research project. The coursework will be determined by the research focus, and will typically include experimental design, data analysis, and synthesis of results in a final presentation (e.g. paper, poster or oral presentation). This course is not available for general enrollment; prior arrangement and approval from the supervising faculty member is required for registration.

Philosophy (PHIL)

PHIL1000 | Introduction to Logic | Lecture (2 Credits)
Examine the principles of correct reasoning through the use of language; utilize formal rules of deductive reasoning.
General Education: Humanities

PHIL2000 | Introduction to Philosophy | Lecture (3 Credits)
Introduction to the main areas of philosophy through the examination of classic and contemporary sources. General topics include knowledge, existence, and value. Develop the ability to critically examine fundamental beliefs and concepts, reason intelligently about pivotal questions, and express such thought clearly.
General Education: Humanities

PHIL2400 | Introduction to Ethics | Lecture (2 Credits)
The development of ethical standards as related to the individual, government, business, and society. Current legislation is examined from the perspective of its moral and ethical roots with considerations and standards influencing personal and business decisions.
General Education: Humanities

PHIL4000 | Ethical Decision-Making | Lecture (2 Credits)
Examine major moral theories of right and wrong, such as utilitarianism, deontology, egoism, virtue ethics, and feminism. Apply these theories in sound, ethical decision-making particularly in one's professional life. Through case studies, the consequences of a decision in terms of responsibilities to the company and the economy, to the people impacted by the decision, and to the environment at large are weighed. Explore the tension often created by the difference between what is morally right and what the company's code of ethics states or what the society's laws require.
General Education: Upper Humanities

Physics (PHYS)

PHYS1800 | Physics I with Lab | Lecture/Laboratory (4 Credits)
Introduction to mechanics using differential calculus as a foundation. Topics include kinematics and dynamics of linear motion, static equilibrium, the conservation of energy and momentum, mechanics of solids and fluids, and thermodynamics. The laboratory portion incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics and thermodynamics.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Physical Sciences with Lab

PHYS1801 | Physics I Lab | Laboratory (1 Credit)
This course is a physics laboratory completion intended for students requiring laboratory credit. The laboratory incorporates experimentation, instrumentation, and graphical tools to verify calculations in motion, mechanics, and thermodynamics.
General Education: Physical Sciences with Lab

PHYS1810 | Calculus-Based Physics | Lecture (3 Credits)
Introduction to mechanics using calculus, vectors and graphs to describe motion, and to analyze it in terms of forces and conservation laws. Applications include projectiles, orbits, oscillations and fluids.
Prerequisite(s): MATH1810, Or MATH1811, Or MATH1812
General Education: Natural Sciences

PHYS1820 | Physics II with Lab | Lecture/Laboratory (4 Credits)
An introductory calculus-based course in electromagnetic fields and their applications. Topics include: Coulomb's and Gauss' Law, electric fields and potentials, electrical and magnetic properties of matter, Ampere's and Faraday's laws, elementary DC and AC circuits, Maxwell's equations, and electromagnetic waves.
Prerequisite(s): MATH1821, Or MATH1820, And PHYS1800
General Education: Physical Sciences with Lab

Power Construction & Engineering Technology (PCET)

PCET3001 | Advanced Electrical Codes | Lecture (3 Credits)
Examine and research the different codes utilized in the building and power industries including the National Electrical Code, the National Electrical Safety Code, Energy Code, and the International Building Codes as they apply to electrical buildings, energy production and transmission systems.

PCET3002 | Energy Production | Lecture/Laboratory (3 Credits)
Investigate how electrical power is produced and distributed through the examination of conventional and renewable methods of energy production including energy storage, transmission, and distribution methods and techniques for design solutions.

PCET3003 | Safety Engineering | Lecture (3 Credits)
Examination of applicable safety codes to assure that engineered systems provide acceptable levels of safety through analysis of safety codes, case studies, and best practices that provides for the safe installation, operation, and maintenance of electric power and communication utility systems and electrical construction.

PCET3004 | Digital Design | Lecture/Laboratory (2 Credits)
Examine digital and electronic systems through the use of Boolean algebra, logic gates, combination and sequential logic through problem solving methods connection to real-world examples, and the design of sequential logic systems.

PCET3006 | Renewable Energy Systems | Lecture (3 Credits)
Investigate the expanding energy industry with an emphasis on existing and emerging renewable energy systems, including the economics of generation and transmission with an emphasis on future usage as a design principle.

PCET4001 | Electrical Utility Design and Estimating | Lecture/Laboratory (4 Credits)
Electrical design and estimate of a simulated utility project covering the generation, transmission and distribution of an electrical power system. This project will include materials, storage solutions, cost estimates with an emphasis on practical design implementations through the utilization of 2D, 3D, and other modeling and analysis software to produce a final portfolio.

PCET4002 | Advanced 3D Power System Design | Lecture/Laboratory (3 Credits)
Electrical design of a complex building project. This project covers the utility to outlets, with a focus on generation and distribution of high, medium, and low voltage interfacing and protection through utilization of building and electrical codes. Practical design implementation is emphasized. Detailed documentation of all aspects of the project through the utilization of 2D, 3D, and other modeling and analysis software to produce a final portfolio.

PCET4003 | Power Protection and Controls | Lecture/Laboratory (4 Credits)
Analyze the components and operation of protective devices and controls in electric utility generation stations, distribution substations, and building services and feeders. Examination of protective device functions, control systems, design perimeters, and coordination from generation to end user. Practical design implementation and coordination is emphasized with utilization of 2D and 3D modeling and analysis software.

PCET4004 | Power Limited Systems | Lecture/Laboratory (2 Credits)
Examine power limited systems including fire, security, controls and information technology utilized in power plants, utility distribution, and automated systems integrated in the built environment. Practical design implementation with application of codes and standards and the utilization of 2D and 3D modeling and analysis software.

PCET4005 | Integrated Field Systems | Lecture/Laboratory (2 Credits)
Application of the principles of geographic information systems for electrical utility and building electrical systems with data modeling, integration methods, and various geospatial analysis utilizing 2D and 3D mapping and modeling software.

PCET4006 | MEP Integration | Lecture/Laboratory (2 Credits)
Employing a holistic approach, integrate electrical design through coordination with mechanical and plumbing (MEP) systems into building information modeling (BIM) software for design decision-making, production of accurate documentation, predicting performance, cost-estimating and construction planning.

PCET4007 | Existing Buildings & Structures | Lecture/Laboratory (3 Credits)
Design medium, low-voltage, and power-limited systems that integrate with existing building electrical systems employing electrical codes and standards and energy appraisals. Practical design implementation is emphasized with utilization of 2D and 3D modeling and analysis.

PCET4100 | Capstone | Capstone (3 Credits)
Integration of all knowledge gained in previous coursework to create a real-world comprehensive electrical construction project. Working in teams, the capstone project is presented and reviewed by industry experts and leaders, providing valuable feedback from their own experiences.

Psychology (PSYC)

PSYC3000 | Organizational Behavior | Lecture (2 Credits)
Basic principles of human behavior that are used when managing individuals and groups in organizations. Includes theories relating to individual differences in abilities and attitudes, attribution, motivation, group dynamics, power and politics, leadership, conflict resolution, organizational culture, organizational structure and design as well as the process of ethical decision making for the employee, manager, and organization.
General Education: Upper Social Sciences

Radiologic Technology (RTEC)

RTEC1111 | Introduction to Radiography | Lecture (1 Credit)
Introduction to the profession of radiologic technology. An overview of the structure of the healthcare environment, imaging equipment, radiation protection, and surgery.

RTEC1121 | Patient Care | Lecture (1 Credit)
Examine the basic concepts of patient care. Routine and emergency patient care procedures are explained, as well as infection control procedures utilizing standard precautions.

RTEC1131 | Radiographic Procedures I | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, routine projections of the abdomen, upper and lower extremities, and the shoulder girdle.

RTEC1140 | Medical Terminology | Lecture (1 Credit)
Develop a medical vocabulary. Skills in spelling, pronunciation, and defining medical terms is emphasized.

RTEC1151 | Clinical I | Clinical (2 Credits)
Provides opportunities to apply basic theoretical principles of radiography and patient care to practical experience in an imaging department. Observe and participate in radiographic procedures in a hospital or clinical setting . Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC1200 | Radiographic Procedures | Lecture (1 Credit)
Develop the knowledge required to perform radiographic procedures.

RTEC1210 | Radiologic Exposure | Lecture (1 Credit)
Examine the factors that govern and influence the production of the radiographic image, includes exposure calculations.

RTEC1221 | Radiographic Procedures II | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, routine projections of the pelvis and femur, as well as fluoroscopic procedures.

RTEC1231 | Radiographic Procedures III | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, and routine projections of the spine and the bony thorax.

RTEC1241 | Clinical II | Clinical (2 Credits)
Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC1251 | Clinical III | Clinical (2 Credits)
Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC1311 | Radiographic Procedures IV | Lecture (2 Credits)
Develop the knowledge required to perform radiographic procedures. Topics include: anatomy, and routine projections of the cranium, facial bones, sinuses and the genitourinary. Venipuncture is introduced.

RTEC1321 | Clinical IV | Clinical (2 Credits)
Continue development of skills required to become a radiologic technologist. Participate in routine radiographic procedures and observe in many of the specialty areas of a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC2110 | Radiologic Science | Lecture (1 Credit)
Concepts of basic radiographic physics and the basics of x-ray generating equipment.
Prerequisite(s): RTEC1210

RTEC2121 | Advanced Imaging | Lecture (1 Credit)
Equipment routinely utilized to produce diagnostic images, as well as various recording media and techniques. Topics include: Venipuncture; Image production in CT, MRI, IR, and other imaging modalities; special imaging considerations for geriatric, pediatric, trauma, and mobile imaging procedures; and sectional anatomy of the head, thorax, and abdomen.
Prerequisite(s): RTEC1311

RTEC2130 | Clinical V | Clinical (6 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: common fluoroscopic, surgery, and portable radiography procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

RTEC2200 | Radiographic Clinicals | Clinical (1 Credit)
Apply the concepts learned in the classroom/lab in a radiology department. Execution of radiographic procedures is conducted under direct and indirect supervision of experienced registered technologists.

RTEC2221 | Radiologic Topics I | Lecture (3 Credits)
Prepare for the national certification examination with a review of basic knowledge from previous courses. Examine a variety of topics and practice for the registry exam with frequent testing.

RTEC2231 | Radiologic Topics II | Lecture (3 Credits)
Prepare for the national certification examination with a review of basic knowledge from previous courses. Examine a variety of topics and practice for the registry exam with frequent testing.

RTEC2250 | Clinical VI | Clinical (3 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional and specialty rotations including MRI and CT. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

RTEC2260 | Clinical VII | Clinical (3 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Topics include: advanced radiographic anatomy; equipment utilization; exposure techniques; sterile techniques; participation in and/or observation of angiographic, interventional and specialty rotations including MRI and CT. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

RTEC2320 | Clinical VIII | Clinical (3 Credits)
Continues student learning experiences in the clinic or hospital setting; build on skills learned and competencies achieved in the previous semester. Includes participation in and/or observation of routine and special radiographic procedures. Execution of radiographic procedures will be conducted under direct and indirect supervision of experienced registered technologists.

Research (RSCH)

RSCH4000 | Research Methods | Lecture (3 Credits)
Analyze paradigms, methodologies, and rigorous writing processes for academic and practitioner works. Focus is on the critical investigation of readings, claims, planning, and research ethics.
General Education: Upper Communications

Social Science (SOC)

SOC2400 | Sociology of Positive Thinking | Lecture (3 Credits)
Explore the concepts of positive social interactions in your personal environment and their impact on meaningful relationships, individually and within the collective community.
General Education: Social Sciences

SOC2500 | Essentials of Global Health | Lecture (3 Credits)
Explore a world of health systems with comparative analysis of regions. Topics include global well-being and the four blue zones of happiness, health challenges caused by geographical location and cultural influences, along with health systems' solutions for these problems.
General Education: Social Sciences

SOC3100 | Workforce Diversity Issues | Lecture (3 Credits)
Examine theories and practical ideas about diversity in organizations. Explore the historical basis of diversity in the United States, legislation related to diversity and current trends. Characterize the experiences of diverse groups in the areas of race, gender, nationality, age, disability, ethnicity and religion. Identify and practice strategies to overcome conflict in the workplace, as well as reducing discrimination and increasing equality.
General Education: Upper Social Sciences

Social Science (SSCI)

SSCI1000 | Psychology of Human Behavior | Lecture (3 Credits)
The course begins with the foundational concepts of psychology (cognitive, behavioral, and health) and underscores the importance of having an ethical framework from which to make behavioral choices. We'll identify the factors, behaviors, and personal traits that influence behavior and examine the personal, social, and professional contexts in which we solve problems and make decisions.
General Education: Social Sciences

SSCI2800 | Sustainable Communities | Lecture (3 Credits)
Prioritizing the preservation of natural resources, promoting environmentally friendly practices, and fostering social cohesion are some of the key tenets of sustainable communities. In this course, you'll discover how sustainable communities can be developed to meet the needs of the current population, while also ensuring resources are available for future generations. Learn how walkable neighborhoods, efficient transportation, and green spaces play a critical role in the development and resilience of communities. By analyzing varying theories you'll gain an understanding of how these key elements work together, and how they relate to our interconnected world, including: neighborhoods, schools, and industry. Through the lens of real-world examples, you'll complete a final project focused on your future profession.

SSCI2900 | Smart Cities | Lecture (3 Credits)
Technology often plays a big -- and negative -- role in dystopian movies, but the reality is actually much more positive. In this course, you will examine the "smart city" concept and its impact on our future. Course readings, videos, and podcasts will help you distinguish between the benefits and the risks of using technology to make cities smart. You will analyze real-life applications of the smart city concept. And through reflection and discussion, you will form a perspective on the best way to use technology to serve a population.

Software Engineering (SENG)

SENG1210 | Application Development I | Lecture/Laboratory (4 Credits)
Develop a base level of proficiency in Python and Java programming languages employing simple and moderately complex data structures and algorithms. A range of programming concepts will be covered, including classes, objects, primitives, inheritance, encapsulation, abstraction, polymorphism, and interfaces.
Prerequisite(s): ENGR1210

SENG1310 | Data Fundamentals | Lecture/Laboratory (3 Credits)
Beginning course in data usage and management including language syntax, document model, document types, schemas with a focus on creating structured data for business, IT, and IoT applications. Integration of relational database concepts and design of database management systems for enterprise information needs. Data modeling and Structured Query Language (SQL) used for data definition to construct physical databases, for data manipulation and for data computation. Student are required to have introductory programming experience.
Prerequisite(s): ENGR1210

SENG2200 | Business Requirements & Analysis | Lecture/Laboratory (3 Credits)
Software and related technologies must meet the requirements of the stakeholders and the domain for whom the solution is built or configured. Examine scope definition, business, stakeholder and solution requirement definition, select business analysis modeling techniques, the relationship of business requirements and analysis to software design and testing, and a range of methodologies, techniques and approaches.

SENG2210 | Software Design | Lecture/Laboratory (4 Credits)
Designing software with long-term software quality. Software quality attributes, domain-driven design, software design patterns, and documentation.

SENG2220 | Computer Organization | Lecture/Laboratory (3 Credits)
Develop basic knowledge of machine level architecture, microprocessors, instruction sets, the hardware/software interface, and machine representations of programs and data. Examine the influence of the underlying hardware system on the design of systems software such as operating systems, compilers, assemblers, and linkers and loaders using the Intel x86 and AtMEGA328P systems as examples.
Prerequisite(s): SENG1210

SENG2230 | Application Development II | Lecture/Laboratory (3 Credits)
Advanced concepts in enterprise application development in the areas of web application frameworks, data driven applications, and advanced development such as machine learning are examined and applied.
Prerequisite(s): SENG1210

SENG2240 | Connected Devices Development I | Lecture/Laboratory (3 Credits)
Explore and implement Internet connected devices. Internet of Things (IoT) device design and implementation. Use the Raspberry Pi and a variety of sensors, actuators, networking, and programming techniques to create IoT devices. A knowledge of Python is required and prior programming experience.
Prerequisite(s): SENG1210

SENG2310 | Data Architecture | Lecture/Laboratory (3 Credits)
Intensive course in data architecture and management. Advanced data modeling principles. Structured Query Language, database normalization, database management systems (DBMS), implementation-independent database design, and security. Database server technology for enterprise-class data services and complex business logic. Server architecture, data integrity, data types, indexing, constraints, stored procedures, database schemas, normalization, data warehouses, data mining, data cubes.
Prerequisite(s): SENG1310

SENG3110 | Software Testing | Lecture/Laboratory (3 Credits)
Investigate testing methodologies. Tools and techniques in automated testing. Creation of documentation at all stages of testing.

SENG3120 | Software Development Lifecycle | Lecture (3 Credits)
Explore and implement concepts related to software development pipelines, tooling, and lifecycle. Traditional and emerging software development life cycle models. Techniques for managing software projects. Techniques and tools related to each software development life cycle . Issues include those related to development and maintenance, quality, safety, security assurance, and project management.

SENG3210 | Distributed Systems Design | Lecture/Laboratory (3 Credits)
Design & Architecture of large-scale software and data systems. Architectural patterns, software quality, documentation of scenarios. Design for Cloud-based solutions. Presentation to management for project funding and go-no go decision making. Reusable component design and development. Explanation to design and development personnel.
Prerequisite(s): SENG2230

SENG3230 | Human-Computer Interaction | Lecture/Laboratory (3 Credits)
Design and evaluate interactive application interfaces, user- and task-centered approaches to design, guidelines for graphical design, interface evaluation techniques, current interface trends, including web interfaces and information visualization. Group projects that include designing, prototyping, and implementing an application interface.

SENG3240 | Connected Device Development II | Lecture/Laboratory (3 Credits)
Advanced study of Internet connected devices. Design and implement applications and services for mobile and smart devices such as smartphones, smart displays, smart speakers. The Android architecture and operating system will be primarily used. Design challenges and opportunities in the mobile/smart device market. Students must have a strong background in application development, the software lifecycle/tooling, and Operating Systems.
Prerequisite(s): SENG3400

SENG3250 | Distributed Systems Implementation | Lecture/Laboratory (3 Credits)
Implement a large scale software and data system on private and/or public cloud infrastructure. And end-to-end architecture will be implemented by student including software, data architecture, pipeline tooling, networking, etc. The student will implement the end-to-end project as a Junior year capstone, readying the student for their design project in the Senior year.
Prerequisite(s): SENG3210

SENG3300 | Data Introduction | Lecture/Laboratory (3 Credits)
Accelerated beginning course in data usage and management including language syntax, document model, document types, schemas and stylesheets from EXtensible Markup Language (XML) with a focus on creating structured content and data for business application. Integration of relational database concepts and design of database management systems for enterprise information needs. Data modeling with Unified Modeling Language (UML) and Structured Query Language (SQL) used for data definition to construct physical databases, for data manipulation and for data computation.

SENG3310 | Database Systems | Lecture/Laboratory (4 Credits)
Accelerated course in data management. Database server technology for enterprise-class data services and complex business logic. Server architecture, data integrity, data types, indexing, constraints, stored procedures, database schemas, normalization, data warehouses, data mining, data cubes. Structured Query Language, database normalization, database management systems (DBMS), implementation-independent database design, and security.
Prerequisite(s): SENG3300

SENG3320 | Database Server Administration | Lecture/Laboratory (3 Credits)
Provides a strong foundation to configure, manage, and maintain SQL server databases. Practice SQL server architecture, query design, performance tuning, troubleshooting, and SQL clustering through work on real-time projects.
Prerequisite(s): SENG3310

SENG3340 | Data Structures & Algorithm Development | Lecture/Laboratory (3 Credits)
Investigate fundamental and advanced data structures. Examine common algorithms used for searching, sorting, tree and graph traversal. Explain algorithms and the data structures used to solve problems efficiently, such as linked lists, stacks, queues, and recursion structures. Apply advanced Object Oriented concepts. Demonstrate the use of algorithms and data structures in the creation of Web and IoT applications.
Prerequisite(s): CWEB2010

SENG3400 | Operating Systems | Lecture/Laboratory (3 Credits)
Analyze the purpose of operating systems. Topics include: elements of operating systems, memory and process management, interactions among major components of a computer system, the effects of computer architecture on operating systems, and an examination of how different operating systems (desktop, server, mobile, real-time) impact Software Design.
Prerequisite(s): SENG2220

SENG3410 | Embedded Systems | Lecture/Laboratory (3 Credits)
Introduction to the various building blocks and underlying scientific and engineering principles behind embedded real-time systems. Topics include the integrated hardware and software aspects of embedded processor architectures, along with advanced topics such as real-time, resource/device and memory management.

SENG3420 | DevOps - Development Operations | Lecture/Laboratory (3 Credits)
Investigate DevOps concepts and processes. Perform project management duties in an Agile DevOps team. Design and implement build, automation, and deployment technologies. Create presentations for management.

SENG4110 | Software Engineering Senior Project I | Lecture/Laboratory (3 Credits)
End-to-end project exhibiting all skills related to the profession. Focus is on requirements elicitation, scheduling, planning, reviews and postmortem, configuration management, and implementation of the project.

SENG4111 | Senior Project I | Capstone (2 Credits)
End-to-end project exhibiting all skills related to the profession. Focus is on requirements elicitation, scheduling, planning, reviews and postmortem, configuration management, and implementation of the project.

SENG4210 | Senior Project II | Capstone (3 Credits)
End-to-end project exhibiting all skills related to the profession. Focus is on requirements elicitation, scheduling, planning, reviews and postmortem, configuration management, and implementation of the project.
Prerequisite(s): SENG4111 Or SENG4110

SENG4310 | Security I | Lecture/Laboratory (3 Credits)
Integration of data and users with an emphasis on security will be used in client/server, Internet, intranet/extranet, and other technologies. Review state-of-the-art technologies in each of the basic software and hardware arenas, while emphasizing management models and higher-level analysis using the computer.

SENG4320 | Security II | Lecture/Laboratory (3 Credits)
Explore fundamental and emerging concepts of computer security. Topics include: maintaining information confidentiality, protecting information integrity, assuring information availability, physical, technical, application, and Internet security, social engineering and associated attacks.

SENG4330 | Audit & Compliance | Lecture/Laboratory (3 Credits)
Perform compliance auditing of process safety management (PSM) and risk management program (RMP) systems in accordance with OSHA and EPA regulations. Demonstrate the fundamentals of compliance auditing and how to perform compliance auditing of PSM and RMP programs.

SENG4340 | Special Topics in Software Engineering | Lecture/Laboratory (3 Credits)
Explore selected industry trends in Software Engineering. Topics include natural language processing, microservices, architectures, and DevOps.
Prerequisite(s): SENG2210 And SENG3210

SENG4400 | Data Science & Machine Learning | Lecture/Laboratory (3 Credits)
Advanced topics in Data Analysis, Data Science, and Machine Learning. Analyze large datasets. Implement supervised and unsupervised learning.
Prerequisite(s): SENG2230

Speech (SPCH)

SPCH1000 | Speech | Lecture (3 Credits)
Introduction to public speech making; purpose and organization, audience analysis and response, verbal and non-verbal clues.
General Education: Communications

Surveying & Civil Engineering Technology (SCVL)

SCVL1002 | Civil Drafting | Lecture/Laboratory (3 Credits)
Introduction to the fundamental aspects and production of drawings through the use of industry software with an emphasis on geometry and problems common to civil disciplines.

SCVL1111 | Introduction to Topographic Surveying | Lecture/Laboratory (3 Credits)
Introduction to the technical equipment and industry processes used by surveying technicians to collect and interpret data.

SCVL1130 | Legal Descriptions & Boundary Law | Lecture (4 Credits)
Introduction to property descriptions and land survey systems with a focus on composing and interpreting legal descriptions used in surveys.

SCVL1210 | Control & Geodetic Surveying | Lecture/Laboratory (4 Credits)
Examine the fundamentals of Control Surveys, including Global Positioning Systems, focus and its' application to the geospatial industries, as well as an in-depth study of datums and projections.
Prerequisite(s): SCVL1111

SCVL1220 | Transportation & Municipal Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of transportation and municipal design.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL1230 | Land Use Planning | Lecture (4 Credits)
Introduction to the planning process used to develop land with an emphasis on land use for public and private needs in a community.

SCVL1240 | Professional Development | Seminar (1 Credit)
Design of the core competencies necessary to succeed in the workforce are implemented in an individualized professional development plan. Engagement in internships, occupational simulation, and other methods of experiential study are integrated and assessed through a 360 process. Emphasis is on career preparation.

SCVL2000 | Professional Development | Directed Study (2 Credits)
Develop and implement a customized plan which identifies areas of focus to be a successful graduate. Emphasis is on completion of an internship, professional seminar(s), certification(s), or alternative project.

SCVL2111 | Materials,Testing, Construction Methods | Lecture/ Laboratory (3 Credits)
Introduction to testing construction materials and methods, inspection and quality control. Examine construction documents to estimate quantities and costs for civil projects.

SCVL2120 | Utility & Construction Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of utility infrastructure and its' construction.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL2140 | SCVL Topics | Seminar (1 Credit)
Topics in land surveying and civil engineering presented and examined through lectures, speakers, and field trips to develop an awareness of current trends, issues, and the future of the surveying and civil design industries.

SCVL2141 | SCVL Topics - Competition | Seminar (1 Credit)
Examine topics in land surveying and civil engineering through preparation, participation, and completion of a national competition.

SCVL2142 | SCVL Topics - Service Learning | Seminar (1 Credit)
Examine topics in land surveying and civil engineering through preparation, participation, and completion of a service learning project.

SCVL2210 | Laser Scanning & Remote Sensing | Lecture/Laboratory (4 Credits)
Analyze Laser Scanning and Remote Sensing technology, including the integration of the data to surveying and civil engineering projects.
Prerequisite(s): SCVL1111

SCVL2240 | Exam Preparation | Seminar (1 Credit)
Review various categories relevant to certification and licensure exams. Emphasis will be on the topics listed to occur on the exams.

SCVL2250 | GIS | Lecture (4 Credits)
Examine the current state of the Geospatial Industry, including Geographic Information Systems(GIS) and Geospatial products.
Prerequisite(s): SCVL1111

SCVL2260 | Site & Subdivision Design | Lecture/Laboratory (4 Credits)
Utilize the principles of civil design with industry software to create elements of site design, including the design of subdivisions and study of the subdivision process.
Prerequisite(s): CSBT1002 Or SCVL1002

SCVL2300 | Adv Surveying & Construction Staking | Lecture/Laboratory (4 Credits)
Examine the fundamentals of advanced surveying methods in the field and office. Focus on field and office techniques for construction, data collection, and survey final products such as land title surveys, boundary and topographic surveys.

Toyota's Technician Trng & Educatn Ntwrk (TTEN)

TTEN1240 | Introduction to Toyota | Lecture/Laboratory (3 Credits)
Introduction to dealership systems: repair order writing, dealership management training, and Toyota/Lexus Interactive Networking systems. Emphasis is on vehicle inspection techniques, utilization of Toyota scan tools and Toyota manuals, and a Six Step Diagnostic process in troubleshooting advanced computer controlled vehicles.
Prerequisite(s): AUTO1111 And AUTO1121

TTEN1250 | Body Electrical I | Lecture/Laboratory (3 Credits)
Examine the theory of operation and diagnostic principles of Toyota/ Lexus chassis and body electrical systems. On-vehicle component testing utilizing the Toyota scan tool, Toyota manuals, Six Step Process, digital multimeters, lab scopes, and factory electrical schematics.
Prerequisite(s): TTEN1240

TTEN1260 | Body Electrical II | Lecture/Laboratory (4 Credits)
Explain the advanced theory of operation and diagnostic principles of Toyota/Lexus chassis and body electrical systems using CAN Body communications. On-vehicle component testing utilizing the Toyota scan tool, Toyota manuals, Six Step Process, digital multimeters, lab scopes, and factory electrical schematics.
Prerequisite(s): TTEN1250

TTEN1270 | HVAC | Lecture/Laboratory (3 Credits)
Examine the theory of operation and diagnostic principles of Toyota/ Lexus air conditioning and heating systems. Using the Toyota scan tool, Toyota manuals, and the Six Step Diagnostic process, perform refrigeration system service, control system repair, heater service, automatic heating/AC systems service, component testing, check for environmental issues, and troubleshoot the various systems.

TTEN1280 | Brakes | Lecture/Laboratory (3 Credits)
Examine the theory of operation and diagnostic principles of Toyota/ Lexus brake and suspension systems. Diagnose faults and principles of ABS (anti-lock braking system), traction control systems, advanced steering stability systems, pre-alignment inspections, 4-wheel alignment, suspension and steering systems, component repair and replacement, as well as troubleshooting vibration, noise, and harshness concerns using Toyota manuals and a Toyota scan tool.

TTEN2140 | Engines | Lecture/Laboratory (4 Credits)
Hands-on diagnosis and repair of the Toyota/Lexus engines using diagnostic tools, Toyota manuals, Toyota scan tool, and the Six Step Process. Service procedures include cooling system repair, lubrication system repair, intake systems repair, exhaust repair, engine testing, engine replacement, engine disassembly, cleaning and measurement, cylinder head diagnostics, and timing belt/chain replacement, 4cyl, 6cyl, 8cyl.
Prerequisite(s): TTEN1260

TTEN2150 | Engine Performance | Lecture/Laboratory (6 Credits)
Hands-on repair of the Toyota/Lexus fuel and computerized engine control systems. Service procedures include fuel pressure testing, fuel injector testing, exhaust gas analysis, advanced scan tool usage, and on-vehicle diagnostics using Toyota manuals, Toyota scan tool, and the Six Step Diagnostic Process. Advanced diagnostics, including hands-on repair of the Toyota/Lexus engine control systems. Service procedures include on-vehicle diagnostics of Toyota/Lexus including advanced computer control systems, networking communication, emission control systems, and test drive diagnostic techniques.
Prerequisite(s): TTEN1260

TTEN2160 | Hybrid | Lecture/Laboratory (2 Credits)
Introduction to electrified vehicles, hybrid safety system, HV batteries, hybrid drive systems, hybrid vehicle maintenance and diagnosis using Toyota manuals and scan tool.
Prerequisite(s): TTEN2150

TTEN2240 | Advanced Suspensions | Lecture/Laboratory (3 Credits)
Examine the advanced steering stability systems and pre-alignment inspection process of Toyota/Lexus vehicles. Perform 4-wheel alignment, investigate suspension and steering systems' issues, repair and replace components, as well as troubleshoot vibration, noise, and harshness concerns, using Toyota manuals and a Toyota scan tool.
Prerequisite(s): TTEN1260

TTEN2250 | Drivetrain Systems | Lecture/Laboratory (5 Credits)
Examine the theory of operation and diagnostic principles of Toyota/
Lexus drivetrain systems. Using Toyota manuals, perform diagnostics
on differentials, CV and universal joints, manual transmissions, transfer
cases, automatic and CVT transmissions; perform system maintenance,
periodic service and on-vehicle diagnosis; disassemble, inspect, and
reassemble system components.
Prerequisite(s): TTEN1260

TTEN2510 | TTEN Internship I | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus
dealership. Student must secure their own employment and must
maintain good standing with the dealership. Work under the supervision
of service management. Provides real life job skills and work habits in
a variety of automotive areas. The TTEN Coordinator will oversee the
internship.
Prerequisite(s): AUTO1111 And AUTO1121

TTEN2520 | TTEN Internship II | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus
dealership. Student must secure their own employment and must
maintain good standing with the dealership. Work under the supervision
of service management. Provides real life job skills and work habits in
a variety of automotive areas. The TTEN Coordinator will oversee the
internship.
Prerequisite(s): TTEN2510

TTEN2530 | TTEN Internship III | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus
dealership. Student must secure their own employment and must
maintain good standing with the dealership. Work under the supervision
of service management. Provides real life job skills and work habits in
a variety of automotive areas. The TTEN Coordinator will oversee the
internship.
Prerequisite(s): TTEN2520

TTEN2540 | TTEN Internship IV | Internship (2 Credits)
Cooperative, paid on-the-job training at a sponsoring Toyota or Lexus
dealership. Student must secure their own employment and must
maintain good standing with the dealership. Work under the supervision
of service management. Provides real life job skills and work habits in
a variety of automotive areas. The TTEN Coordinator will oversee the
internship.
Prerequisite(s): TTEN2530

Web Programming & Database Development (CWEB)

CWEB1010 | Introduction to Web Development | Lecture/Studio (3 Credits)
Hypertext Markup Language (HTML). Basic page structure, tags, link,
text formatting, forms, tables, and debugging with trouble-shooting
skills. Cascading Style Sheets (CSS), advanced formatting, and layout.
Integration of web scripting languages (like Javascript) into existing web
pages to increase user-friendliness and functionality. Creation of scripts
for new pages.

CWEB1114 | Introduction to Application Dev | Lecture/Laboratory (2 Credits)
Code responsive, secure web app using HTML, CSS, JavaScript and
server-side language while understanding the Software development life
cycle and modern development methodologies.

CWEB1115 | Programming Fundamentals | Lecture/Laboratory (3 Credits)
Examine programming principles like data types, variables, expressions,
operators, Boolean logic, algorithm creation, flowcharts. Topics include:
structured programming and programming logic constructs (sequence,
selection, and loops); abstraction, modularization, dynamic and static
data-structures, object-oriented and event driven programming.

CWEB1123 | Data Fundamentals | Lecture/Laboratory (2 Credits)
Examine the concepts of data and logical structures of data. Explore
database types including relational, hierarchical, and graph data
structures, and common search algorithms and query structures. Build
a relational database using MySQL workbench. Utilize Structured Query
Language (SQL) core skills (Queries, operators and keys).

CWEB1131 | Web Tooling | Lecture/Studio (3 Credits)
Use various tools to construct, manage, test, and maintain a web
application throughout the life of the application. Explore concepts such
as development environments, version control, continuous integration/
deployment, testing, hosted environments, and application frameworks.
Prerequisite(s): CWEB1114

CWEB2011 | Business Applications | Lecture/Studio (4 Credits)
Transition of static hypertext markup language (HTML) web sites to
complex data integrated applications. Server-side scripting. Differentiate
between coding a page and coding a site or full project. Customize and
integrate many complex pieces of code and parts of a web site into a
single cohesive web application.

CWEB2022 | Database Systems: Programming & Admin | Lecture/Studio (3 Credits)
Create, use and manage databases in relational and other data systems;
Structured Query Language (SQL) language (Data Control, Manipulation,
& Definition); create programmatic and other objects in SQL database
systems.

CWEB2101 | Business Architecture | Lecture/Studio (4 Credits)
Business concepts such as human resource development, marketing,
investing, security, legal, and entrepreneurship. Various development
approaches for software development from traditional systems analysis
to contemporary methods (like Agile) and beyond. Develop models and
prototypes to practice the processes and techniques needed to design
and build quality software systems.
Prerequisite(s): CWEB1010

CWEB2102 | UX/UI Design Fundamentals | Lecture/Laboratory (3 Credits)
Develop basic Adobe CC software skills. Explore design and user-
centered approaches to web development. Model UX/UI best practices in
planning, research, prototyping, and user testing.

CWEB2114 | Web Publishing | Lecture/Studio (4 Credits)
Design, develop, and deploy dynamic and responsive data-driven web
applications using a variety of server and client-side languages.
Prerequisite(s): CWEB1131
Corequisite(s): CWEB2115

CWEB2115 | Cloud Computing | Lecture/Studio (3 Credits)
Create data-driven applications infused with cloud-based services.
Analyze cloud strategy and various cloud delivery models such as
Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software
as a Service (SaaS), and Function as a Service (FaaS).
Prerequisite(s): CWEB1131
Corequisite(s): CWEB2114

CWEB2116 | Application Design I | Lecture/Laboratory (3 Credits)
Construct application using modern front-end, back-end frameworks with an emphasis on understanding secure authentication and authorization practices, design patterns, sorting and filtering algorithms and automated unit testing and deployment using a continuous integration tool.

CWEB2124 | Database Systems: Concept & Design | Lecture/Studio (3 Credits)
Develop databases to support specific applications; explain database design methodology; use graphical models to document databases (UML, ERD, Data flow, etc.); optimize relational and NoSQL databases using normalization, de-normalization, indexing and ACID principles.
Prerequisite(s): CWEB2022

CWEB2125 | Database Systems: Programming and Admin | Lecture/Laboratory (3 Credits)
Create use and manage industry standard Linux and Windows based SQL database servers in a virtualized environment. Utilize Structured Query Language (SQL) advanced skills (Joins, Views and Stored Procedures). Stand up and define database driven web front ends on both Linux and Windows.

CWEB2133 | Internship III | Internship (3 Credits)
Practice skills in an approved, professional, external, commercial entity for a minimum of 162 hours.

CWEB2135 | Advanced Topics | Capstone (3 Credits)
Emerging technologies advanced topics. Career preparation work. Perfecting job skills. Resumes, cover letters, interview skills. Portfolio or external project work to exhibit all skills gained throughout program. Seminar/independent study format.

CWEB2140 | Continuous Testing | Lecture/Laboratory (3 Credits)
Solidify a firm understanding of DevOps and DevSecOps. Evaluate automation tools that perform Unit, Integration, End-to-End, UI testing. Solidify an understanding of version, securing and feature enhancing code-based through the lens of the Software Development Life Cycle (SDLC) model.

CWEB2210 | Cloud Computing for Web | Lecture/Laboratory (3 Credits)
Analyze cloud strategy and various cloud delivery models such as Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS), and Function as a Service (FaaS). Course also covers the cost of adopting cloud resources and demonstrating use of cloud vendor resources via a group project.

CWEB2225 | Database Systems: Concept and Design | Lecture/Laboratory (3 Credits)
Develop databases to support specific applications; explain database design methodology; use graphical models to document databases (UML, ERD, Data flow, etc.); optimize relational and NoSQL databases using normalization, de-normalization, indexing and ACID principles.

CWEB2226 | Application Design II | Lecture/Laboratory (3 Credits)
Building on knowledge learned from Application Design I, you will create a secure comprehensive full-stack application that implements CRUD(Create, Retrieve, Update, Delete) operations and utilize RESTful Web Service all while ensuring standards are upheld as it relates to usability, accessibility, performance.

CWEB2230 | Advanced Topics | Lecture/Laboratory (3 Credits)
Portfolio or external project work to exhibit all skills gained throughout program.

Welding Technology (WELD)

WELD1110 | Introduction to Welding Lab | Laboratory (5 Credits)
Perform welding of standard joint designs on various thicknesses of steel plate. Practice oxyacetylene welding and cutting (OAW), stick welding (SMAW), and wire feed welding (GMAW). Introduction to tungsten inert gas (TIG) welding. Demonstrate shop safety, setup and troubleshooting of welding equipment and applications.
Corequisite(s): WELD1120 WELD1130

WELD1120 | Introduction to Welding Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with weld joint designs and weld materials. Examine various weld processes: oxyacetylene welding and cutting (OAW), stick welding (SMAW), wire feed welding (GMAW). Introduction to tungsten inert gas (TIG) welding. Examine shop safety, setup and troubleshooting of welding equipment and applications.
Corequisite(s): WELD1110 WELD1130

WELD1130 | Welding Math, Prints & Symbols | Lecture (4 Credits)
Principles of weld print reading, measuring systems, decimal/fraction conversions, dimensioning, layout, orthographic views, technical math, and section views.
Corequisite(s): WELD1110 WELD1120

WELD1210 | Advanced Welding Lab | Laboratory (5 Credits)
Practice welding of steel plate and aluminum alloys using stick welding (SMAW), wire feed welding (GMAW) and tungsten inert gas (TIG) welding. Demonstrate shop safety, grinding, finishing, and cutting practices in a final fabrication project.
Prerequisite(s): WELD1110

WELD1220 | Advanced Welding Theory | Lecture (4 Credits)
Identification, recognition and calculations associated with weld joint designs, weld gasses, and metallurgy. Examine various weld processes including oxyacetylene welding and cutting (OAW), stick welding (SMAW), wire feed welding (GMAW), and tungsten inert gas (TIG) welding. Examine shop safety, setup and troubleshooting of welding equipment and applications.
Prerequisite(s): WELD1120

WELD2210 | Welding & Metal Fabrication Lab | Laboratory (5 Credits)
The identification, maintenance and setup of welding and fabrication tools to perform layout, fixturing, forming, cutting and finishing of real-world weldments and assemblies. Utilize all aspects of prior coursework to design and build projects using multiple tools.
Prerequisite(s): WELD1210

WELD2220 | Weld/Metal Fab Thry | Lecture (4 Credits)
Identification, recognition and calculations associated with the layout, fixturing, forming, cutting and finishing of real-world weldments and assemblies. Utilize all aspects of prior coursework to design and build projects using multiple tools.

WELD2221 | Weld Fabrication & Production | Lecture (8 Credits)
Identification, recognition, and calculations associated with the layout, fixturing, forming, cutting, and finishing of real-world weldments and assemblies. Explore optimal production, project management techniques, and principles of lean manufacturing. Study the properties of metals and how these properties are affected by the heat of welding, brazing, and hard surfacing.

WELD2230 | Welding Production & Safety | Lecture (2 Credits)
Introduction to the best practices used in the welding industry to support optimal production and personnel safety. Explore industry-standard safety requirements, project management techniques, and principles of lean manufacturing.

WELD2240 | Metallurgy & Weldability | Lecture (2 Credits)
Identification, recognition and calculations associated with the study of the structure and properties of metals and how these properties are affected by the heat of welding, brazing, and hard surfacing.
Prerequisite(s): WELD1220

Writing (WRIT)

WRIT2010 | Technical Writing | Lecture (3 Credits)
Technical writing applications are studied for format, style, voice, and point of view; considered for purpose, audience, and subject. Critical thinking and developed expertise are employed to analyze, interpret, evaluate, summarize and generate various technical documents, individually and within teams.
General Education: Communications

WRIT4001 | Capstone Writing | Lecture (3 Credits)
Examine the essentials of writing clearly and efficiently within the framework of argumentative research writing. Formulate a coherent thesis and defend it logically with evidence drawn from research. Practice working through the stages of planning, research, organizing, and revising writing.
General Education: Upper Communications

WRIT4020 | Capstone Technical Writing | Lecture (2 Credits)
Research, plan, and organize professional documents for the capstone project. Topics include assessment techniques, special audience considerations, professional speaking skills, and presentation aids.
General Education: Upper Communications

ACADEMIC CALENDAR

Click here to find the 2022-2023 Academic Calendar (https://catalog.dunwoody.edu/pdf/Cat.pdf)

Fall Semester 2023

Date	Event
Monday, 8/28/2023	Start of Fall Semester
Friday, 9/1/2023	Last day to add/drop a class with a full refund
Monday, 9/4/2023	No classes - Labor Day (Campus Closed)
Monday, 10/30/23 - 11/10/23	Advising weeks
Monday, 11/13/23	Registration Begins
Friday, 11/17/23	Last day to withdraw from a class to receive a W grade
Thursday, 11/23/2023	No classes - Thanksgiving (Campus Closed)
Friday, 11/24/2023	No classes - Thanksgiving (Campus Closed)
Friday, 12/15/2023	End of Fall Semester
Wednesday, 12/20/2023	Final grades submitted to registrar's office
Monday, 12/25/2023 - 1/1/2023	Campus Closed - Holiday Break

J-Term 2024

Date	Event
Tuesday, 1/2/24	Start of J-Term
Thursday, 1/4/24	Last day to add/drop a class with full refund
Friday, 1/12/24	Last day to withdraw from a class to receive a W grade
Monday, 1/15/24	No classes - Martin Luther King, Jr. Day (Campus Closed)
Friday, 1/19/24	End of J-Term
Wednesday, 1/24/24	Final grades submitted to registrar's office

Spring Semester 2024

Date	Event
Monday, 1/22/24	Start of Spring Semester
Friday, 1/26/24	Last day to add/drop a class with full refund
Monday, 2/19/24	No classes - Presidents' Day (Campus Closed)
TBD	Countdown to Commencement for Fall 2023 and Spring/Summer 2024 graduates
Monday, 3/18/24 - Friday, 3/22/24	Spring Break
Friday, 3/29/24	No classes - Spring Holiday (Campus Closed)
Monday, 4/1/24 - 4/12/24	Advising weeks
Monday, 4/15/24	Registration Begins
Friday, 4/19/24	Last day to withdraw from a class to receive a W grade
Friday, 5/17/24	End of Spring Semester
Tuesday, 5/21/24	2023/2024 Commencement Ceremony
Wednesday, 5/22/24	Final grades submitted to registrar's office
Monday, 5/27/24	Campus Closed - Memorial Day

Summer Semester 2024

Date	Event
Monday, 6/3/24	Start of Summer Semester and Arts and Sciences Session I
Friday, 6/7/24	Last day to add/drop a class with a full refund
Wednesday, 6/19/24	No classes - Juneteenth (Campus Closed)
Friday, 6/21/24	Last day to withdraw form Summer Session I to receive a W grade
Friday, 6/28/24	Last day of Summer Session I
Thursday, 7/4/24	No classes - Independence Holiday (Campus Closed)
Friday, 7/5/24	No classes - Independence Holiday (Campus Closed)
Monday, 7/8/24	Start of Summer Session II
Friday, 7/12/24	Last day to add/drop a class in Summer Session II with a full refund
Friday, 7/19/24	Last day to withdraw from full semester course to receive a W grade
Friday, 7/26/24	Last day to withdraw from Summer Session II to receive a W grade
Friday, 8/2/24	End of Summer Semester
Wednesday, 8/7/24	Final grades submitted to registrar's office

ACADEMIC POLICIES

The pages in this section of the catalog will help you understand various policies that relate to your academic standing and experience at Dunwoody.

This includes information on subjects like expectations around attendance, adding/dropping/withdrawing from courses, how your grade point average is calculated, what academic honors are available, and how registration takes place.

Questions regarding these policies may be directed to the Registrar's Office by email at registrar@dunwoody.edu or by phone at 612-381-3360.

Attendance Policy

Regular class attendance is critical to student success in the learning process. Students are expected to attend and actively participate in lecture, laboratory, and shop activities as dictated in course syllabi. All instructors will take attendance. Please work with your instructor or faculty advisor to verify your class attendance. Absences are closely monitored by the Registrar, Student Affairs, and the Provost's Office. Dunwoody reserves the right to withdraw any student absent for five or more days in a row and/or, as noted above, as dictated in course syllabi.

Reporting missing students: an attempt will be made to establish that a student is missing school of their own accord. If school officials question the safety and well-being of an enrolled student, contact will be made to any known family or friends and contact could be made with the police if deemed appropriate.

Religious Observances

Students are permitted excused absences for observance of religious holidays under the following conditions and without discrimination.

- There is a scheduling conflict between the scheduled class, lab, or shop time and the religious holiday.
- Student must notify instructors of the upcoming religious holiday within the first 3 weeks of the semester.

Instructors may reschedule the missed academic time before or after the religious observance. Instructors shall accept, at face value, the sincerity of students' religious beliefs.

Military Deployment

Military students serving in the Reserve or National Guard and are called to active duty, may be able to withdraw from classes with a full refund of tuition. If you are a financial aid recipient, connect with the Financial Aid office to review the refund policies of the aid programs. Tuition requests will be reviewed by the Dean of Students, Kelli Sattler (ksattler@dunwoody.edu).

In some circumstances, you may want to ask your instructors about incompletes for coursework as an alternative to canceling. When appropriate, instructors may make arrangements for you to take an incomplete for the courses in question. When you are called to active military duty, and reach agreement with your instructor(s) to take an incomplete, you will have up to one calendar year following your discharge from active duty to complete any incompletes.

Procedure
Military students who will be deployed should meet with the Dean of Students, Kelli Sattler **ksattler@dunwoody.edu**, to fill out a **Student Request Form** as they know about their deployment. Information required for the Student Request form is a copy of the military orders or other appropriate documentation. After their request has been approved, students will need to notify their academic director or dean and current faculty, so academic arrangements can be made for their current courses.

Military students who will be out of class for an extended period of time, missing the end of the semester, will follow the institutional Tuition Refund (https://catalog.dunwoody.edu/catalog-student-handbook/financial-aid-student-accounts/refunds/) process as applied to all students based on the last date of attendance/academically related activity at the time of withdrawal.

- The student will be asked to pay any current balance before returning and will be allowed to retake the same classes they withdrew from (or equivalent with Program Dean/Director & Registrar's approval) and receive a tuition credit equal to what was paid towards any new tuition charges when retaking the courses.
- The student will need to reapply for admissions when they are ready to return.
- The student is responsible for all fees (associated with being a student & any course specific fees) and any difference in tuition (due to annual tuition increases) by the published due dates.

Exceptions
This policy does not apply to students called to Active Duty for training (annual training, AIT, or drill weekends). In these cases, work with your instructors as soon as possible to make appropriate accommodations.

Add/Drop/Withdrawal (By Class)

Add a Class
- A class may be added no later than the first five days of the semester.

Drop a Class
- A class may be dropped within the first five days of the semester. Students who have not attended the first five days of the semester will be dropped from the class.
- Dropped classes will not appear on a student's transcript and will not have an impact on the GPA if the class is dropped within the first five days of the semester.
- If a student does not attend past the first five days of classes and wishes to drop all of their classes, the student must following the Student-Initiated Withdrawal (https://catalog.dunwoody.edu/catalog-student-handbook/academic-policies/withdrawal/) process

Withdraw from a Class
- Students may withdraw from a class during the timeframe between the sixth day of the semester and the end of week 12. After week 12, students will receive the grade for the course that they earned. For non full-term courses, follow the information listed below.
  - Day 9 of the term for a 3 week course
  - Week 3 for a 4 week course
  - Week 6 for an 8 week course
- The class will remain on the student's transcript with grade of W and will not have an impact on the GPA.

- Students cannot withdraw from a class once a letter grade has been earned.

To add, drop, or withdraw from individual courses, students need to see their instructor, academic advisor, or academic director/dean to fill out an Add/Drop/Withdraw form. Please contact the Registrar's Office by email at registrar@dunwoody.edu or by phone at 612-381-3360 with questions.

Courses may be cancelled or modified at the discretion of Dunwoody College of Technology. Students will be notified if enrolled in a cancelled or modified section and a refund may be issued for the course. Students may work with their academic advisor, or academic program manager/dean for registering in another course section.

For information on refunds of dropped or withdrawn classes, please refer to the Refunds (https://catalog.dunwoody.edu/catalog-student-handbook/financial-aid-student-accounts/refunds/) page in the Financial Aid and Student Accounts – Refunds section of this handbook. Be advised that withdrawing from a course may affect a student's financial aid status and award.

Change of Program

Dunwoody College is committed to ensuring that all students are making informed decisions regarding their academic interests and their professional goals and objectives. If, in the course of your undergraduate study, you decide to change your program, there are a number of important things to keep in mind. Here are some things you can do and ask when considering changing your program or degree level:

1. Tell your current faculty advisor you'd like to change your program or degree level. They can advise you during the next steps.
2. Meet with a faculty advisor from the new program to learn about any new degree requirements needed to make this change and what happens to courses you've already taken that may or may not apply to your new degree.
3. Talk with the Financial Aid Office to understand how this change may affect your financial aid or veteran benefits.
4. The Registrar's Office can help you understand what happens to your previously approved transfer credits and/or credit for prior learning and how this change may affect your timely graduation.
5. Once you have all the information to make an informed decision to change your major or degree level, you and your current faculty advisor will complete the Change of Curriculum form (https://www.dunwoody.edu/pdfs/Registrar-Change-of-Curriculum-Form.pdf). The completed request is submitted by your faculty advisor to the Registrar's Office.

Changes to a program or degree level submitted before the add/drop deadline of the current semester reflect the change in the current semester. Requests received after the add/drop deadline for the semester will be processed at the end of the semester and the new program will be in effect the following semester. If the following semester is a new academic year, the student matriculates into the program for the next academic year. In programs with a shared curriculum, the student remains in the academic catalog year they matriculated into their original program.

Complete Withdrawal
Student-Initiated Withdrawal

Students who wish to no longer continue as a student must notify the Student Affairs representative who will then submit a Complete Withdrawal form.

Institution-Initiated Withdrawal

Dunwoody reserves the right to terminate the enrollment of students. Reasons for termination include, but are not limited to:

- Non-attendance/no contact
- Frequent absences or tardiness
- Academic dishonesty
- Unsatisfactory academic progress and pace (completion) rate
- Aggressive, harassing, or discriminatory acts against other students, faculty, or staff
- Failure to pay tuition by stated deadlines
- Failure to follow school procedures and policies
- Failure to comply with safety regulations
- Intentional damage to school property or theft
- Insubordinate acts against faculty or other Dunwoody employees

Date of Withdrawal Determination

The date of official withdrawal is determined through the most recent day of attendance (in-person and synchronous) recorded "present" or academic engagement (https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-600/) (https://catalog.dunwoody.edu/catalog-student-handbook/academic-policies/withdrawal/eCFR :: 34 CFR Part 600 -- Institutional Eligibility Under the Higher Education Act of 1965, as Amended/) (asynchronous) in the course. The Financial Aid office utilizes this date to process tuition reimbursements.

Additional Information Regarding Student Withdrawal

The following are additional regulations toward account balances and complete withdrawal.

- An institution receiving financial aid cannot suspend or withdraw a student from class attendance and resources during a period of instruction due to an unpaid student account balance unless the student is eligible for a full tuition and fee refund
- Period of instruction: academic term, including semesters, trimesters, quarters, interim terms, mini terms, or one or more modules that once a student begins attendance, the student incurs additional tuition and fee charges beyond any current outstanding student account balance
- Includes clock hour programs if the enrollment agreement has language to only charge tuition by payment period (does not apply to upfront charges for clock hour student)

New Institutional Prohibition in 136A.121

eCFR :: 34 CFR Part 600 -- Institutional Eligibility Under the Higher Education Act of 1965, as Amended (https://www.ecfr.gov/current/title-34/subtitle-B/chapter-VI/part-600/)

Enrollment Status

Enrollment status is defined as "enrolled" or "withdrawn" and is determined by the amount of credit hours for which a student is enrolled. Enrollment status is broken down into the following categories:

- Full-time: 12 or more credits
- Three-quarter time: 9-11 credits
- Part-time: 6-8 credits
- Less than part-time: 1-5 credits

The number of credits in which a student is enrolled in determines the amount of financial aid eligibility. Changes in a student's enrollment status may impact financial aid eligibility.

Students enrolled in a minimum of 6 credits may be eligible to participate in financial assistance programs. Students should always discuss changes in status with a financial aid advisor to determine changes in eligibility and possible consequences.

For more information, contact the Financial Aid Office to discuss financial aid eligibility at financialaid@dunwoody.edu or 612-374-3405.

Verification of Student Enrollment Status

Academic Plan & Degree Progress

Students can monitor their progress toward their declared certificate or degree path using the Degree Requirements feature in my.dunwoody (https://my.dunwoody.edu/). This plan is used by faculty advisors, academic deans, program directors, and student affairs in advising sessions. The academic plan shows courses a student has completed, has in progress, and which courses are remaining to satisfy academic requirements for graduation.

Enrollment & Degree Verification

Dunwoody College of Technology has authorized the National Student Clearinghouse to provide enrollment and degree verifications. The National Student Clearinghouse provides electronic verification of student enrollment and degree completion to employers, employment agencies, background search firms, and various other businesses.

Contact the National Student Clearinghouse via www.degreeverify.org (http://www.degreeverify.org/).

Registration and Schedules

Programs at Dunwoody College are designed around a cohort model so that students complete their degrees in a specific time frame. However, students can request less than part-time, part-time, three-quarter time, and full-time schedules based on their preference and extenuating circumstances. Students are encouraged to communicate these requests with the Registrar's Office, faculty advisor, or their dean/director. Learn more about how your Enrollment Status (https://catalog.dunwoody.edu/catalog-student-handbook/academic-policies/enrollment-status/) can impact Financial Aid eligibility and your graduation date.

I am a new student, how do I register for classes?

For your first semester at Dunwoody, registration is completed by the Registrar's Office. To be cleared for registration, students complete the year-appropriate FAFSA or the Financial Responsibility Form (https://dunwoody.edu/campus-life/campus-services/student-accounts/tuition-payment-policies/). Academic Plans (p. 9) follow a cohort model and are used to determine your first semester schedule.

Once you are registered, you can locate your textbooks through the Dunwoody Bookstore (https://dunwoody.bncollege.com/course-material/course-finder/) using the term, department, course number, and section listed on your schedule in my.dunwoody (http://my.dunwoody.edu/).

I am a transfer student, how do I register for classes?

For your first semester at Dunwoody, registration is completed by the Registrar's Office. To be cleared for registration, students complete the year-appropriate FAFSA or the Financial Responsibility Form (https://dunwoody.edu/campus-life/campus-services/student-accounts/tuition-payment-policies/) or add Dunwoody's school code to an existing FAFSA. The Registrar's Office reviews all your transfer credits via official transcript submission and determines an appropriate first semester schedule. If your schedule doesn't follow the prescribed cohort model due to your transfer credits, your dean or director assists in selecting the best schedule.

I am a PSEO student, how do I register for classes?

For all of your semesters at Dunwoody, registration is completed by the Registrar's Office. To be cleared for registration, students should submit all forms located under the Applications and Acceptance Process (https://dunwoody.edu/admission-aid/admissions/pseo/). The Registrar's Office reviews your remaining high school graduation requirements with your Academic Plan and determines an appropriate semester schedule. Once you complete your high school degree, the Registrar's Office will complete your first semester registration as a high school graduate. You will be introduced to your faculty advisor who will work with you to complete your academic planning for all remaining semesters at Dunwoody.

I am a current student, how do I register for classes?

Registration for courses after the first semester is coordinated by the student's faculty advisor and the academic director/dean. Students register for classes, can find their academic plans, and schedules at my.dunwoody (http://my.dunwoody.edu/). During Advising Weeks, returning students work with their faculty advisor to determine what courses to enroll in for the upcoming term.

To register for classes:

- Attend an Advising Weeks session with their Faculty Advisor or dean/director of their program
- Ensure all account balances are satisfied prior to registration
- Satisfy all pre-requisite(s) requirements for courses

Schedule Change Requests

New Students

New students who desire to change their schedule can do so through Day 5 of the term. Learn more about adding, dropping, and withdrawing from a course. New student requests to add or drop a course should be emailed

to registrar@dunwoody.edu - or come see us on campus in the Pinksa Center.

Current Students

Up to Day 5, current students can add or drop courses to their schedule for their faculty advisor to approve. After Day 5, students can withdraw from a course by talking with their faculty advisor who completes the Add/Drop/Withdraw Form (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUM0w0TE5MVVlBS0s2UTI0OVdOREtLNEk3UiQlQCN0PWcu) following a discussion of the implications of withdrawing from a course(s).

Academic Records/Family Educational Rights and Privacy Act (FERPA)

The Federal Family Educational Rights and Privacy Act (FERPA) affords eligible students certain rights with respect to their education records. Those rights are as follows:

- Students have the right to request to review their educational records. Students may ask the College to amend a record that they believe is inaccurate, misleading, or in violation of the privacy rights of the student.
  - Students should submit written requests that identify the record(s) they wish to inspect to the Registrar's Office. The Registrar's Office will make arrangements for access and notify the student of the time and place where the records may be inspected, no more than 45 days after the initial request is received.
  - If the College decides not to amend the record as requested by the student, the College will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

Some of the more common exceptions to FERPA rights are as follows:

- Disclosure to school officials with legitimate educational interests.
- A school official is a person employed by the College in an administrative, supervisory, academic, research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the College has contracted (such as attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official must have legitimate educational interest if the official needs to review an educational record to fulfill his or her professional responsibility.
- Disclosure for transfer purposes.
  - Upon request, the College may disclose educational records without consent to officials of another school in which a student intends to enroll.
- Disclosures to parents of dependent children.
  - A student is a minor dependent student if they can be claimed as a dependent on the tax return of a parent, guardian, or another individual. However, the College will check with the student before releasing information to parents or guardians.

- To comply with a judicial order or a lawfully issued subpoena.
- In connection with a health or safety emergency.

The right to file a complaint with the U.S. Department of Education concerning alleged failures by the College to comply with the requirements of FERPA. The name and address of the office that administers FERPA is:

Student Privacy Policy Office
U.S. Department of Education
400 Maryland Ave. S.W.
Washington, D.C. 20202-5920

Annual Notification of FERPA Rights

The College will annually notify eligible students of their rights under FERPA. The notification will include information regarding the right to inspect, review, and seek amendment of their academic records, the right to redact consent to disclose personally identifiable information, and share information regarding how to file grievances with the Student Privacy Policy Office.

Notification of Directory Information

The Family Educational Rights and Privacy Act (FERPA), a Federal law, requires that Dunwoody College of Technology, with certain exceptions, obtain written consent prior to the disclosure of personally identifiable information from education records. However, Dunwoody College of Technology may disclose appropriately designated "directory information" without written consent, unless you have advised the College to the contrary in accordance with the institution's procedures.

For ineligible students (under 18 and/or a dependent), directory information, which is information that is generally not considered harmful or an invasion of privacy if released, can also be disclosed to outside organizations without a parent's prior written consent.

If you do not want Dunwoody College of Technology to disclose any or all of the types of information designated below as directory information from your education records without your prior written consent, you may notify the Registrar's Office by completing a Consent to Release Education Records (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUNTZYTE1NWjhOSThC form (Dunwoody credentials are required to access the form).

Dunwoody has designated the following information as directory information:

- Student's name
- Address (local, permanent, and electronic mail)
- Telephone numbers
- Hometown
- Electronic mail address
- Dates of attendance
- Enrollment status (full-time, part-time, or not enrolled)
- Program of study
- Grade level
- Degrees and awards earned
- Participation in officially recognized activities

- Photographic, electronic, or video images, if the student has consented to release. These images include the student participating in Dunwoody College officially organized events.

Change of Name and Gender Identity
Legal Name and Gender Change

Dunwoody College recognizes and supports students to record a legal name and/or gender change.

Legal Name Change

Students who need to update their legal name in their official academic record submit a Student Information Change Form (http://www.dunwoody.edu/pdfs/Registrar-DCT-Student-Information-Change-Form.pdf) along with supporting legal documentation reflecting the change to the Registrar's Office. Legal documentation could include one or more of the following: a valid driver's license, court order, valid passport, or birth certificate. Upon receipt of the form and supporting documentation, the Registrar's Office updates the student's record in the student information system to reflect the new name.

Middle Name

Students may abbreviate their middle name(s) to the starting initial without documentation by emailing the Registrar's Office at registrar@dunwoody.edu. Documentation is required if a student is changing, adding, or deleting a middle name and follows the same process described in the Legal Name Change.

Legal Gender Change

Students who need to update their legal gender designation in their official academic record submit a Student Information Change Form (http://www.dunwoody.edu/pdfs/Registrar-DCT-Student-Information-Change-Form.pdf), along with legal documentation reflecting the new gender to the Registrar's Office. Acceptable legal documents are a valid driver's license, court order, valid passport, or amended birth certificate. Documents that are not considered acceptable legal documents include documents from a medical or mental health professional or a notarized statement. Upon receipt of the supporting documentation, the Registrar's Office will update the student's record in the student information system to reflect the new gender.

Preferred Name and Gender Change

Dunwoody College recognizes and supports students who wish to be identified by a chosen name and/or gender identity that is different from their legal name or gender assigned at birth.

Chosen Gender Identity

Dunwoody College acknowledges some students use gender identities that are different from their legal gender to identify themselves. As long as the use of this gender identity is not for the purpose of misrepresentation, Dunwoody College acknowledges that a chosen gender identity should be used whenever possible. Students may update their chosen gender in the student profile on My.Dunwoody (https://launchpad.classlink.com/dunwoody/).

Gender changes will be reviewed by the Registrar's Office, and once approved, will appear in the student's academic record and My.Dunwoody profile, which is only viewable by the student. Transcripts and diplomas do not indicate a student's gender identity. The College reserves the right to remove a gender identity if it is used inappropriately.

Students can also select and update pronouns in Canvas by editing their profile at any time.

Preferred Name Change

Students who wish to submit a preferred or used name change can update their information in my.dunwoody.edu (located in Launchpad (https://launchpad.classlink.com/dunwoody/)) in the profile settings. On July 15, 2023, the Registrar's office will provide an instructional sheet on the Registrar's webpage (https://dunwoody.edu/campus-life/campus-services/registrar/personal-information-privacy/). Preferred name changes will be reviewed by the Registrar's Office, and once approved, will be on the student's official academic record and used by a variety of Dunwoody's IT systems and lists. If a preferred name change is not approved, the Registrar's Office will contact the student.

Changing your preferred name does not change your legal name with Dunwoody College of Technology for records where legal names are required. Below is a listing of the areas where your preferred name will appear (once processed by the Registrar and IT offices) and areas in which your legal name will still appear.

Preferred First Name Will Appear

```
Canvas (gradebook, assignment and assessment submissions, and
discussion board display names)
```

```
My.Dunwoody (class rosters, attendance, advisee lists, and
grades)
```

```
Commencement Program
```

```
Dean's List
```

```
Diploma
```

```
Honors Lists to Phi Theta Kappa*
```

```
Phone/Text Communications from the College
```

```
Housing Rosters
```

```
Library Records
```

```
Microsoft 365 applications
```

Locations Requiring Additional Student Requests

```
Student ID Card
```

```
Student email
```

Students can submit a ticket to the ServiceNow Portal located in Launchpad *(*https://launchpad.classlink.com/dunwoody/*) requesting changes to either or both of these two items.*

Legal First Name will Appear

```
Admissions Decision Letters
```

```
Financial Aid and Billing Communication & Records
```

Official and Unofficial Transcripts

Registrar's Office Records (i.e. permanent student file records)

Study Abroad (including, but not limited to, travel documents and contracts)

Human Resources for Student Workers (including the time entry system, paychecks and paystubs, and new hire forms)

Housing Contracts

Other legal forms or official correspondence from the College

Processing Time

While the main student information system is updated immediately, not all systems that rely on the student information system update student record changes immediately. Some update nightly, some update weekly, and some update only once per semester.

Notes

Handshake, Dunwoody's Career Services platform, does not receive updates from Dunwoody's student information system. Students can change their name to a preferred name by logging into their Handshake account.

* Dunwoody provides Phi Theta Kappa (PTK) with a list of eligible students (cumulative GPA higher than 3.5) at the end of fall and spring semesters. Dunwoody provides PTK with a student's preferred name, primary address, primary phone, and Dunwoody email. See Directory Information (https://catalog.dunwoody.edu/catalog-student-handbook/academic-policies/academic-records-ferpa/) for more information about what Dunwoody shares.

Grading System and Satisfactory Academic Progress

Midterm and Final Grades

Midterm grades are used by faculty for advising purposes, but do not appear on transcripts. Midterm and final grades can be viewed at my.dunwoody (http://my.dunwoody.edu/).

Grading System

The College uses a traditional four point grading scale. Grade Point Average (GPA) is determined cumulatively and for each semester of enrollment. All GPA information is found on a student's transcript. Cumulative GPA must be 2.0 or above for students to remain in good standing.

Calculating Grade Point Average (GPA)

The GPA is computed by multiplying the grade value by the number of credits to determine "quality points" for each class and then dividing the total quality points by the total number of credits.

Here is an example of a GPA calculation:

3-credit course x 4 points (grade of "A") = 12.00 quality points
4-credit course x 3.33 points (grade of "B+") = 13.32 quality points

4-credit course x 2 points (grade of "C") = 8.00 quality points
Totals: 11 credits divided into 33.32 quality points = 3.03 GPA

The following shows the letter grade and corresponding quality point.

A = 4.00
A- = 3.67
B+ = 3.33
B = 3.00
B- = 2.67
C+ = 2.33
C = 2.00
C- = 1.67
D+ = 1.33
D = 1.00
D- = 0.67

INC = 0.00 Incomplete calculated as F in GPA
TR = Transfer – Not calculated in GPA yet will affect pace rate
CR = Credit Given – Not calculated in GPA
W = Withdrawn – Not calculated in GPA yet will affect pace rate
AU = Audit – Not calculated in GPA and will not affect pace rate
* = Grade value not calculated in GPA under current academic plan yet will affect pace rate
NCR = No Credit Given – Not calculated in GPA
[ ] = Bracketed grade indicates repeat
TO = Test Out – Not calculated in GPA and will not affect pace rate

The "F" Grade

A student who fails to meet course requirements receives an "F" grade. A student who fails a course can repeat the course or may request to complete alternate course requirements, as available. If a failed course is retaken and passed, the new grade will supersede the previous grade and be counted toward the GPA. Both the failed and retaken courses will count toward the pace rate calculation.

The "W" Grade

A "W" grade means a student has withdrawn from a course after the add/drop period. No credit is awarded for the course, but it does count as credits attempted and toward the pace rate calculation. Grades of W may impact financial aid eligibility.

The "[ ]" Grade

When a course is repeated, both grades will show on the transcript but only the highest grade will be used in computing (GPA). The repeated grades appear in brackets. Financial aid will apply to the courses repeated when the original grade was passing (D- or above). Repeat courses may be eligible for financial aid. Only those grades with quality points in the above list will be used in computing a student's GPA.

The "*" Grade

A grade followed by an asterisk (*) symbol denotes a grade earned for a course that is no longer relevant to the current academic plan in place. Grades of W will not be asterisked. Please note that these courses will count toward the pace rate calculation.

The "AU" Grade

Registration for a course without credit (AU grade) carries the same tuition and fees as courses taken for credit. You must consult with the course instructor concerning audit requirements and submit a Student Request form with the instructor's signature to the Registrar's Office during the first five days of the semester or the first three days of Summer Session. Once you have registered you cannot earn a letter grade. A

course you have previously audited may be re-taken later for credit and a letter grade.

The "INC" Grade

A grade of incomplete may be issued if a student encounters extenuating circumstances that prevent the student from completing course requirements by the end of the course duration. Extenuating circumstances may include illness, military orders, or other circumstances deemed appropriate by the instructor. The purpose of the incomplete is to grant an extended period of time that will be agreed upon by the academic program manager/dean. In order to be eligible for an incomplete grade, a minimum of 75 percent of the course's academic requirements must be successfully completed by the student at the time that the request is filed.

INC (Incomplete) Process

To request an incomplete, students should meet with their instructor to discuss whether an incomplete grade is appropriate for their situation. If the instructor approves the student's request for an incomplete, the instructor completes the Faculty Request Form to request an INC grade from the Registrar's office. The faculty should not record any final grade for the student. The form contains a date agreed upon by the student and faculty in which the work will be completed. Once the form is received by the Registrar's Office, the INC grade will be issued and monitored for completion and the form will be added to the student's record. After the agreed-upon deadline for work to be completed expires the instructor completes a Faculty Request Form with the final updated grade and submits it to the Registrar's Office for processing. The new grade will be recalculated into the GPA and will affect a student's Satisfactory Academic Progress.

Grade Appeals

A student who believes a final course grade is inaccurate or unfair should proceed as follows:

1. Consult with the instructor to fully understand the grounds and procedures for determining a final course grade. The goal of this conversation is to reach a mutual understanding of the criteria, assessment, and the final course grade assigned and, if necessary, to correct any errors.
2. If there is no resolution after the conversation with the instructor or the instructor is not available for the initial conversation, the student should contact the program manager or dean.
3. If a resolution is not reached through steps one and two, the student should submit a written petition to the Office of the Dean of Students. This appeal must be submitted no later than 45 calendar days after the beginning of the next semester following the term in which the final grade in dispute was recorded. The Dean of Students will provide a resolution in writing within 15 business days of the appeal.

Satisfactory Academic Progress
Satisfactory Academic Progress

Introduction and Purpose of the Policy

Dunwoody College of Technology, consistent with federal and state law, requires that a student, regardless of tuition payment source, enrollment status, or program of study, make satisfactory academic progress toward a degree or certificate in order to receive financial aid and attend classes. The definition of satisfactory academic progress is defined in federal and state law and includes a consideration of the student's grade point average and the pace with which the student is moving through the program. Dunwoody applies those definitions in this policy. A student is responsible for ensuring that they are progressing in their field of study and needs to access student support services, such as tutoring and the Writing Center, when they are feeling challenged.

Definition and Standards of Satisfactory Academic Progress

Grade Point Average

To maintain satisfactory academic progress standards, students are to meet or exceed a cumulative grade point average (GPA) of 2.0.

Pace/Completion Rate

The student must meet or exceed the minimum cumulative pace (completion) rate of 67%. This means that the student must successfully complete 67% of the courses that they have attempted. The Pace Rate is calculated using the following formula. Pace is calculated by the cumulative number of credit hours successfully completed (including accepted transfer credits and prior Dunwoody courses) divided by the cumulative number of attempted credit hours (including accepted transfer credits and prior Dunwoody courses).

Grades of NCR, W, F, and INC in a course will negatively impact pace rate, in that the course will be considered a course taken but not an earned credit. Credits attempted in other programs at Dunwoody will impact the pace rate, as well.

Maximum Timeframe to Receive Financial Aid

A student receiving financial aid must complete their program of study within 150% of the program's published total credits. Transfer credits are included in this calculation. Once the 150% plateau is reached the student no longer can receive financial aid. The student must also be aware that any time during a student's academic experience at Dunwoody, if it is determined that it will be mathematically impossible for the student to complete a program of study within the 150% timeframe, Dunwoody is required to make the student ineligible for financial aid and must inform the student of their ineligibility.

Frequency of Evaluation

Satisfactory Academic Progress is evaluated for every student by Student Affairs at the conclusion of each semester after all of the final grades have been submitted.

Course Completion Used in Calculating Academic Progress

The calculation of Grade Point Average and Pace is undertaken with the first class taken. All courses are cumulatively included in the calculation whether the student received financial aid or not.

Attempted Credits

Credits in which the student is enrolled at the end of the semester's drop period.

Cumulative Attempted Credits

Total number of credits for which the student has been registered at Dunwoody, regardless of the program and regardless of whether the student received financial aid.

Credits Successfully Completed

Credits counted toward the degree or certificate. The student has successfully completed the requirements of the course as defined by the program and course syllabus. Grades indicating passing and calculated into the GPA are; A, A-, B+, B, B-, C+, C, C-, D+, D, D-. A grade of CR (Credit

Given) will not be included in the GPA calculation but will positively affect pace.

Credits Not Successfully Completed

Credits attempted but not successfully completed and as such will not be counted toward the degree or certificate. The student has not successfully completed the requirements of the course as defined by the program and course syllabus. Grades indicating non-successful completion include F, W, INC. A grade of NCR (No Credit Given) will not be included in the GPA calculation but will negatively affect pace.

Repeating an F Course

A student who fails a course must repeat the course or may request to complete alternate course requirements, as available. If a failed course is retaken and passed, the new grade will supersede the previous grade and be counted toward the GPA. Both the failed and retaken course will count toward the pace rate calculation.

Other Course Types and Transcript Indications and Implications on GPA and or Pace

Audit Courses (AU)

Audit courses are not eligible for financial aid. The audited courses will not be calculated into the GPA and will not affect the pace rate.

Credit Given (CR)

A credit given classification is most often used for internships and clinical experiences. The CR grade will not be included in the calculation of the GPA but it will positively impact pace.

Incomplete (INC)

For courses where the student has not completed the course requirements and the instructor has provided the student with additional time to complete the course, the grade indication incomplete or INC is used. If the student does not complete the work in the time indicated by the instructor, the grade converts to an F. The F grade will impact the student's GPA and pace rate.

No Credit Given (NCR)

A no credit given classification is most often used for internships and clinical experiences. The NCR grade will not be included in the calculation of the GPA but it will negatively impact pace.

Transfer (TR)

Courses transferred into the program of study from another higher education institution. These courses are not calculated into the GPA but do affect the pace rate.

Withdrawn (W)

The student has withdrawn from a course after the add/drop period. There is no impact on the student's GPA. The course is counted as attempted credits and as such affects the pace rate. W grades may impact financial aid eligibility.

Change of Major

Students wishing to change their curriculum (major) must fill out a Change of Curriculum form, available in the Registrar's Office. The form must be approved by the appropriate program manager/ dean. A new academic plan will be assigned. Grade values earned in courses that no longer apply to the new major or award level in place will be removed from GPA calculations and noted on the transcript with an * following the grade. However, the actual letter grade earned for all courses taken will remain on the transcript. From the transferred grades a new cumulative GPA will be determined. Please note that all attempted Dunwoody courses will be included in the pace calculation, that means all credits

taken under all majors will be included in the maximum attempted credits and the calculation of credits attempted and earned.

Summer Courses

Students wishing to take courses in the summer term, the credits taken in the summer will be included in the maximum attempted credits and the calculation of credits attempted and earned.

Concurrent Programs of Study

Students wishing to pursue two avenues of study at the same time, the credits taken under all majors will be included in the calculation of the GPA as well as the maximum attempted credits and the calculation of the credits attempted and earned. The maximum timeframe rule for completion of 150% will still apply with the rule based upon the longer of the programs.

When Satisfactory Academic Progress Standards are Not Met

Academic Warning

Evaluation of satisfactory academic progress is conducted by Student Affairs at the end of each semester. If it is found that the student's cumulative GPA has fallen below 2.0 or pace rate below 67%, the student will be placed on academic warning.

Notification

- The Office of the Dean of Students will alert students by Dunwoody email to their academic warning once all final grades have been submitted for the previous semester.
- Included in this notification will be the information on the student's current status in regard to Satisfactory Academic Progress and the *Academic/Pace Warning Success Plan form*.

Financial Aid Under Warning Status

- A student placed on Academic Warning will have one semester of financial aid to bring their status into compliance with the definition of satisfactory academic progress, both GPA and pace.

Academic Warning Process

- A student placed on Academic Warning will be encouraged to complete an *Academic Warning Success Plan form* with their program director/dean. The Academic Warning Success Plan will be developed with the student's academic dean/director and outline the steps the student needs to take to successfully meet the satisfactory academic progress standards by the end of the warning semester. Forms will be sent with the notification but can also be obtained here (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUOUY1SzJJVlVFQll

Evaluation at the Conclusion of the Academic Warning Semester

- At the conclusion of the Academic Warning Semester if the student now meets both the GPA and pace standards, the warning status will end and the student will again be placed in good standing.
- If at the conclusion of the Academic Warning semester the student still does not meet the GPA and pace standards, the student will be on academic probation and will not be eligible for Title IV financial aid programs or State of Minnesota programs.
  - Consideration will also be given to the student's ability to meet the satisfactory academic progress standards within the maximum timeframe standard of 150%.

Financial Aid Suspended

As stated above, financial aid (Title IV and State) will be suspended if the student does not meet the GPA and pace standards.

Notification

- The Office of the Dean of Students will alert students by Dunwoody email to their financial aid suspension once all final grades have been submitted for the previous semester.
- Included in this notification will be the information on the student's current status, their right to appeal, the appeal process, and the Academic Probation Appeal form which includes the Academic Success Plan.

Student Appeal Process

A student who does not attain the satisfactory academic standard has the right to appeal the determination. In order to execute the appeal, the student needs to complete the following elements. A student will have two weeks (14 days) from receiving the notification to complete a SAP appeal.

1. Obtain and fill out an *Academic Probation Appeal form*. This was included in the notification but can also be obtained here (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUNzNaVkxWNVFXTTNQN0VVNUZNQVdRRVJXRjQlQCN0PWc=).
    a. On their form, they should include their success plan on how to improve their GPA or Pace Rate.
2. The student needs to make an appointment with the program manager/dean and Associate Dean of Students.
3. With the program manager/dean, the student will develop an Academic Success Plan including courses to be taken and resources to be accessed by the student to meet the Satisfactory Academic Progress standard. Consideration has to be given as to whether the student can meet the standards and also meet the maximum timeframe (150%) to receive financial aid.
4. The student needs to meet with the Associate Dean of Students, a Financial Aid Counselor, and the Dean of Students, the student will review the Academic Plan and identify any further resources that may benefit the student's success.

Appeal Determination

The Dean of Students will make a determination on accepting or denying the appeal within ten days. Elements taken into consideration regarding the appeal include:

- The student's GPA and pace rate
- The student's grades
- Compliance with the Academic Warning Success Plan
- Overall attendance in the previous semester
- Student rationale for lack of compliance and plan for future compliance
- Academic Plan and the ability to meet the plan along with the maximum time frame to receive financial aid (150%)
- Recommendations of the department

Appeal Approval/Denial

The Dean of Students can approve or deny the appeal. The Dean of Students' office will alert students by Dunwoody email of the Dean of Students determination.

- If the appeal is approved, the student's financial aid eligibility will be reinstated and the student will be placed on Academic Probation and expected to complete the Academic Plan.
- If the appeal is denied, the student's enrollment will be involuntarily terminated and all monies paid to the school for the new semester will be refunded.

Academic Probation

A student, who has successfully appealed their Satisfactory Academic Progress financial aid suspension, will move forward and execute the Academic Plan. The first semester of the plan is the probationary term. The student's performance at the end of the semester will be evaluated to determine the student's progress.

- If the student has met the Satisfactory Academic Progress standards, the student will return to good standing.
- If the student has not met the Satisfactory Academic Progress standards, but has met the standards established in their Academic Plan the Academic Probation status will continue and be evaluated at the end of the next semester.
- If the student has not met the Satisfactory Academic Progress standard and has not met the standards established in their Academic Plan, the student's financial aid will be suspended.

Reinstatement

A student, who has had their financial aid suspended/ terminated as defined in the processes outlined above and has not exceeded/or assured to exceed the 150% completion rate, can appeal for reinstatement of their financial aid and ability to enroll at Dunwoody College of Technology. The student will be counseled as to the reinstatement appeal process at the time that financial aid is suspended/terminated. **It must be understood that there is no guarantee that the student who undertakes an appeal will be reinstated into Dunwoody or to receiving financial aid.**

Conditions under which this appeal can be submitted include:

- All appeals must be made in writing and submitted to the Dean of Students. The Dean of Students will make a determination on accepting or denying the appeal within ten days. Conditions under which the student will be reinstated will be determined by the Dean of Students should the appeal be approved.
- Subsequent to financial aid suspension/termination at Dunwoody, the student has attended another institution of higher learning and demonstrated academic success in one or more courses which can be transferred back into the Dunwoody programmatic academic plan. A student who seeks to pursue the appeal process needs to work closely with Dunwoody to ensure that the courses they are going to enroll in at another institution will be transferrable to Dunwoody and to identify how the successful completion and transfer of the courses would affect their Satisfactory Academic Progress status at Dunwoody. Official transcripts for these courses must be submitted as part of the appeal documentation.
- Consideration will be made as to what has changed in the student's situation that now affords them the ability to succeed.
- Above all, the student will have to demonstrate that they meet Dunwoody's Satisfactory Academic Progress Policy and that they are eligible for federal financial aid.

It should be noted, that neither the student paying for their own classes at Dunwoody nor the student sitting out a term will affect the student's academic progress status, so neither is sufficient to establish eligibility.

Graduation

Graduation Requirements

In order to graduate with a certificate, associate, or bachelor's degree from Dunwoody College of Technology, students must meet all of the following graduation requirements:

- Complete all courses listed under the degree requirements on the academic plan that the student was assigned,
- Maintain a minimum cumulative grade point average of 2.0 in coursework applied to your academic plan, and
- Meet Dunwoody's residency requirement by earning a minimum 45% of your total technical credits (major requirements) in your field of study at Dunwoody.

Diplomas and Transcripts

Degrees are processed approximately four to six weeks following the end of the term. Diplomas are mailed to graduates who have fulfilled all financial obligations and returned all college property (laptops, library materials, etc.). Official transcripts can be requested on the Registrar's Office website (https://dunwoody.edu/campus-life/campus-services/registrar/transcripts/).

Graduation Activities

Dunwoody students do not need to apply for graduation. A student's academic progress toward degree completion is monitored by their expected graduation date.

Graduating Dunwoody students are asked to complete a graduation survey and are invited to Countdown to Commencement on campus to prepare for graduation. Dunwoody also celebrates our graduates at our Graduate Reception where you can invite your family and friends to campus.

Dunwoody's Commencement Ceremony occurs following the spring semester. Graduate participation in commencement is encouraged, but not required. Participating in Commencement is not an indication of official graduate status. Information regarding Dunwoody's annual commencement ceremony is posted on the Commencement webpage (https://dunwoody.edu/campus-life/campus-services/registrar/commencement/).

Contact the Registrar's Office at registrar@dunwoody.edu or 612-381-3360 with any graduation questions.

Awards and Honors

Dunwoody College of Technology recognizes student achievement in several ways:

Attendance Award

The Alumni Association Board recognizes graduating bachelor's degree, associate of applied science degree, and certificate students who have maintained excellent attendance with an Attendance Award. Students' attendance is tracked and tallied at the end of their academic program. Calculations are based on the total number of hours a student attends class. The award will be given to students for the following achievements:

- 100% Attendance
- Outstanding Attendance (98% attendance or higher)

Dean's List

The Dean's List, compiled after each term, lists bachelor's degree, associate of applied science degree, and certificate students whose grade point average for a term is 3.5 or better (term GPA). Students eligible for the Dean's List are enrolled full-time (a minimum of 12 credits), graded on a traditional grading system, and have earned no incompletes in courses offered for credit. Students on the Dean's List are given a letter of recognition and publicly recognized on the campus website — unless full FERPA restriction is in place. Dean's List achievement is not awarded retroactively, for instance, if a student completes an INC grade at a later date their updated GPA does not apply to past Dean's List awards.

Latin Honors

Dunwoody recognizes outstanding academic achievement by awarding Latin honors for students seeking a bachelor's degree, an associate of applied science degree, or a credit certificate at graduation. Honors are based on cumulative grade point average (GPA). The categories recognized are:

- Summa Cum Laude: a cumulative GPA of 3.90 or better
- Magna Cum Laude: a cumulative GPA of 3.70 to 3.89
- Cum Laude: a cumulative GPA of 3.50 to 3.69

Students, whose cumulative GPA qualifies for Latin honors the semester before graduation, receive the recognition noted by their name in the commencement program and wear honor cords at the commencement ceremony. Official validation of Latin honors is completed when all final grades are submitted and a final cumulative GPA is calculated. Latin honors are displayed on both official and unofficial transcripts.

Student Leadership Award

The Dunwoody Alumni Association Board gives its annual Student Leadership Award to a graduating student or students who exemplify leadership, scholastic excellence, community service, and school spirit.

Qualifications:

- Minimum GPA of 3.0
- Completed three years of a Dunwoody Baccalaureate program, one year of a two-year program, or one semester of a one-year program
- Recommended by faculty or staff
- Exemplary leadership ability, scholastic excellence, community service, and school spirit

Academic Excellence Award

Nominees for the Academic Excellence Award are selected by faculty members using the following criteria:

- Minimum GPA of 3.0
- Demonstrate a solid work ethic, extra-curricular participation, collegiate camaraderie, pursuit of excellence, self-awareness, and academic motivation
- Stand out as leaders who put forth outstanding effort to achieve his/her academic and career goals
- Present themselves in a professional manner by respecting peers, administration, faculty, and staff

Academic Deans will work with Program Directors to narrow down to final candidates, who will then be confirmed by the Dean's Council.

Diversity and Inclusion Award

The Diversity and Inclusion Award is presented to a student who has shown exemplary promotion of multicultural and diversity initiatives through their work at Dunwoody College of Technology and in the greater community. This award is based on the student's accomplishments and efforts over the course of their time at Dunwoody. Nominees' work should reflect a commitment to diversity, as well as demonstrate evidence of a positive impact on the College community. Anyone from the Dunwoody community can nominate a student by completing the online form (https://forms.office.com/r/ie3MS9sgg2/). Self-nominations are accepted.

Following the submission deadline, the Student Affairs office contacts all students who have been nominated. Nominees are asked to provide additional information including a résumé and documented evidence of applicable activities. A committee consisting of Dunwoody faculty and staff determines the finalists.

Community Service Award

The Community Service Award will be presented to the student who has made the greatest contribution of voluntary service to the Dunwoody community and the community at large. This award is based on the student's record of service during their time at Dunwoody. Nominees demonstrate a commitment to service as evidenced by documented activities that benefit the greater good. Submit nominations to studentaffairs@dunwoody.edu. Self-nominations are accepted.

Following the submission deadline, the Student Affairs office contacts all students who have been nominated. Nominees are asked to provide additional information including a résumé and documented evidence of service activities. A committee consisting of Dunwoody faculty and staff determines the finalists.

Posthumous Degree Policy

In the event of the untimely death of a student, Dunwoody may be contacted about having a degree conferred posthumously. A deceased student who did not complete all requirements for their degree at the time of death may be awarded a degree posthumously provided the following conditions are met:

- The student has completed a minimum of 75% of all degree requirements, including but not limited to all coursework, labs, and internships as defined in the student's academic plan.
- The student was in good academic standing with the institution at the time of death. Good standing is defined as meeting academic GPA standards of 2.0 or higher. The student should not be under suspension or expulsion.
- The student was enrolled at the time of death or their continuous enrollment was interrupted by their injury, illness, deployment, or other circumstances that contributed to their death.

If the individual does not meet the above requirements, the decision to move forward with the nomination process is at the discretion of the provost.

Nomination and Review Process

- Candidates for posthumous degree consideration may be submitted by anyone inside or outside the Dunwoody community, including faculty, staff, administration, or relatives of the deceased.

Nominations should be submitted to the dean of the appropriate academic department to begin the formal process.
- The appropriate dean will work with the Registrar's Office to complete a degree audit to verify the criteria as outlined above has been met.
- The dean will recommend the candidate for a posthumous degree in the form of a formal written request to the provost. The provost may choose to present this to the Dean's Council for review/discussion.
- If supported by the Dean's Council and provost, the provost will submit the recommendation to the president for formal approval.
- The decision regarding the granting of a posthumous degree will be communicated back to the appropriate dean, who will then notify the nominator of the decision. If applicable, the department dean will also work with the Registrar's Office to print and deliver the degree as necessary.

Professional Licensure: General Disclosure

Many programs offered at Dunwoody College of Technology are designed to prepare students to apply for licensure examinations and/or certification necessary for employment in Minnesota and across the country. These professional licensing standards often vary from state to state, and completion of these programs may not meet the licensure or certification requirements in every state.

For students seeking employment, you are advised to know the specific licensure or certification requirements of that state **before** enrolling in a program. Contact the appropriate licensing agency in the state you plan to seek employment to determine requirements and ensure program compatibility.

As of July 1, 2020, the U.S. Department of Education implemented new regulations that professional programs which may lead to licensure/certification must adhere to - Regulation 34 CFR 668.43 (a) (5) (v). This regulation requires colleges and universities to communicate publicly and directly to prospective and current students if programs leading to a license or certification meet other states' requirements.

Disclaimer: Licensure determinations reflect accurate information about each program to the best of our knowledge, however the decision to grant a license or certification is ultimately the purview of the state. Only state licensing agencies or boards can determine whether an academic program meets or partially meets educational requirements for licensure. Dunwoody cannot guarantee an individual's attainment of any professional licensure or certification, in any field, in any jurisdiction.

Please click here (https://dunwoody.edu/about/accountability/student-right-to-know/professional-licensure-general-disclosure/) for the full general disclosure.

ADMISSIONS

The Admissions Office is here to help you explore if Dunwoody is the right fit for you. Feel free to reach out for information on:

- Campus tours and Open Houses
- Academic majors/programs
- How to apply
- Financial aid and scholarships
- Career exploration and alumni success (https://dunwoody.edu/campus-life/campus-services/career-services/)

For details, visit: dunwoody.edu/admission-aid/admissions.

Contact:
Dunwoody College Admissions
818 Dunwoody Blvd.
Minneapolis, MN 55403
admissions@dunwoody.edu
612-374-5800

Admission Requirements
Admissions Requirements

Students applying for admission to Dunwoody College of Technology must provide a final, official high school transcript (with graduation date) or a GED score from a recognized GED testing center. If the student has completed college credits, and intends to apply for federal financial aid, an official transcript from that institution of higher learning is required. Official college transcripts are also required if the student wishes to have the credits considered for transfer.

Admission decisions are based on a very careful, overall assessment of each student's academic preparation and performance, as well as the additional information provided in the application, based on the primary and secondary factors listed below. Although the strongest consideration in the decision is given to the primary factors, no single factor is the deciding factor in the decision.

Primary Factors:

- Coursework through high school graduation
- Performance in previous college-level coursework (if applicable)
- Grade Point Average
- ACT, SAT, or PSAT scores (if available)

Secondary Factors:

- Outstanding talent, achievement, or aptitude in a particular area
- Military service
- Evidence of having overcome social, economic, or physical barriers to educational achievement
- Significant responsibility in a family, community, job, or activity

*Additional requirements may be required for certain programs.

Diploma Verification Policy

All students accepted for admission into Dunwoody College of Technology are required to provide the Admissions Office with either:

- A final, official high school transcript (with a graduation date)
- A GED score from a recognized GED testing center

Acceptable Formats:

- Students may request that their school mail, directly to Dunwoody, an official transcript (Dunwoody must receive the transcript in a sealed envelope).
- Dunwoody will accept faxed transcripts if the fax is directly from the high school.
- Students may bring a transcript directly to Dunwoody; it is only acceptable if given to Dunwoody Admissions personnel in a sealed envelope.
- Electronic transcripts sent through a verified agency.

*Dunwoody checks each transcript for the school seal and/or signature to determine if the transcript is official.

Validating Suspicious Diplomas:

- A transcript received without a CEEB (College Entrance Examination Board) code will need to be reviewed by the Director of Admissions to determine if the school is recognized by the Department of Education.
- Dunwoody may also check the appropriate regional accrediting commissions in the United States.
- Dunwoody may contact the school in question to perform an education verification on the student to ensure the validity of the diploma granting school.
- If it is determined that a school is not recognized by the Department of Education or has no physical address, then that applicant will be required to submit a GED prior to evaluation of their application.

Home Schooled Students:

Homeschools issue their own transcripts and diplomas. The Minnesota Department of Education does not certify or validate these. For out of state homeschool transcripts, Dunwoody may require documentation demonstrating that the transcript was issued from their state-approved program. Homeschool transcripts issued by the educator must contain the following:

- Courses
- Graduation Date
- Cumulative GPA
- ACT or SAT scores are recommended (but not required)

International Students:

Generally, a certified translated transcript and a transcript in the original language is required. Students who, for any reason, are unable to present us with an official transcript from their home country are required to take the GED.

Ability to Benefit Policy

To be eligible for financial aid funds, a student must be qualified to study at the postsecondary level as required by the Higher Education Amendments of 1992 (Ability to Benefit-ATB criteria).

Dunwoody uses the following criteria to determine qualification and ability to benefit:

- A student with an official high school diploma/transcript or its equivalent.

- Recognized alternative equivalents are a General Education Development (GED) certificate, certificate of homeschool completion (through the high school level), or a postsecondary accredited academic transcript with at least 60 credit hours.

Admitted Students

Dunwoody College of Technology is committed to helping you succeed. From providing academic support and advising during the school year, to lifelong employment assistance when you are ready to enter the workforce, our faculty and staff are here to help. Our campus environment includes collaborative places for you to study and interact with peers; and amenities such as lockers and parking are provided to students at no charge.

Please take a minute to familiarize yourself with all of the campus services and support available to you as a Dunwoody student. Additional information is available online at dunwoody.edu/campus-life/campus-services (https://dunwoody.edu/campus-life/campus-services/).

Orientation

Orientation provides a quality transitional experience and maximizes the students' potential for personal and academic success. Orientation is an enrollment requirement for all new students.

Admitted students will be mailed additional information on Orientation sessions. During orientation, students:

- Receive their class schedule and copy of transfer credit evaluation form, if applicable
- Receive their Dunwoody student I.D. and parking permit
- Meet with their department dean and faculty
- Review Dunwoody expectations and policies
- Learn about student clubs and organizations

Registration for New Students

Registration is the process of enrolling in courses. The Registrar's Office registers all first-semester students at Dunwoody. Students are registered for the courses required by their major on their academic plan. Students will receive a paper copy of their schedule at Orientation and can view their schedule via **my.dunwoody**. For questions please contact the Registrar's Office by email at **registrar@dunwoody.edu** or by phone at 612-381-3360.

Academic Advising

Dunwoody's advising model uses Faculty Advisors to provide students with a single point of contact during their college experience. Once accepted, you are matched with a Faculty Advisor from your major. Your Faculty Advisor is your primary contact for routine questions about the academic processes at Dunwoody. Faculty Advisors provide a variety of academic guidance throughout the semester. In preparation for registration, your Faculty Advisor will discuss your academic performance and academic plan with you to ensure you understand and meet the requirements to graduate. Faculty Advisors also assist and guide you with future career advice, connecting you to networking opportunities, providing referrals to college support services or student organizations, and applying to scholarships directly related to your major. PSEO students and their high school guidance counselors coordinate with the Registrar's office to verify remaining high school requirements. You can find your Faculty Advisor's name and contact information at **my.dunwoody**.

The Student Affairs team also advises and supports students beyond the classroom. Often in collaboration with academic departments, Student Affairs staff meet with students who are facing internal and/or external challenges and equip them with the tools needed to continue navigating toward graduation. Examples of these holistic tools include help with time management, support with peer connections, guidance with student life engagement, financial resources and direction, mental and physical health resources, and academic success tips.

Lockers

Lockers are available to students at no cost, on a first-come, first-served basis. Locker assignments may be obtained throughout the year in the Multicultural Center. Be sure to bring your Dunwoody ID card.

International Students

Dunwoody College of Technology offers a project-based, technical education in a small-college setting. Located in Minneapolis, Minnesota, Dunwoody is a good fit for students who are looking to acquire technical skills and degrees that emphasize problem-solving and preparing for a career in a specific industry.

Dunwoody invites international students who are interested to apply to the College.

Admissions Requirements

To apply to Dunwoody, complete the online Application for Admission (https://dunwoody.edu/admission-aid/apply/) and pay the $50 application fee (payment instructions are included in the application).

As part of the application, you should also attach the following documents. So you should gather them before applying:

1. Official High School Transcript. Written in English and evaluated by an outside agency. Students who are unable to provide transcripts from their home country, for any reason, are required to take the GED exam and present a certified copy of their GED transcript.
2. Proof of English Proficiency. Dunwoody College requires all international applicants from a non-English speaking country to submit an English proficiency test score. English proficiency can be demonstrated by submitting ONE of the following official scores:
   - **TOEFL:** (Test of English as a Foreign Language)#score report of 65 on the Internet Based TOEFL (iBT) with a subscore of 20 on the written and 20 on the speaking sections. Dunwoody Code: 9915
   - **Duolingo** *(English Test)* score of 90 or above.
   - **IELTS:** (International English Language Testing System)#score report of 6.5.
   - **SAT** critical reading score of 450. Dunwoody Code: 2265
   - **ACT** English score of 19. Dunwoody Code: 6281
   - **IB**#(International Baccalaureate)#Higher Level English score of 4.
   - **AP**(College Entrance Examination Board Advanced Placement)#examination in English Literature/Composition score of 4.
3. Certification of Finances form (https://dunwoody.edu/pdfs/DCT-FinancialCertificationForm.docx) (DOCX file). On this form indicate the financial sources for the expense of attending the college.
4. Letter of Recommendation. Though **not required**, a letter of recommendation is strongly encouraged.

5. Copy of passport picture page showing a minimum of 6 months validity.

Post-Admissions Requirements

1. Complete the enrollment agreement form (https://dunwoody.edu/admission-aid/admissions/accept/).
2. Submit financial documentation.
   • Proof of financial capability requirements: U.S. Department of Homeland Security regulations require the university maintain records showing you have met its financial requirements. You are responsible for demonstrating you have sufficient funds to meet all education and personal expenses for the duration of your F-1 status at the college. This means you must provide proof you have at least the amount necessary to cover your tuition, fees, living and personal expenses for your first academic year (nine months). NOTE: If you attend a summer session and/or bring your spouse or other dependents with you to the United States, you must certify you have the additional funding necessary to cover the additional costs.
   • To submit bank statements/financial documentation: official proof of funding cannot be more than 3 months old at the time of application and funding needs to be in liquid assets only. Funds do not need to be in U.S. dollars. The documentation of funding (for applicant, family member & individual sponsor) must be on original bank letterhead stationery with a signature of a bank official in ink. A photocopy of a bank statement, savings account statement or certificate of deposit will also be accepted if it is stamped by the issuing bank in original stamp ink and has a signature of a bank official in ink. An English translation by an official translating agency may be necessary. If so, please provide this along with the documentation you submit. All financial documentation must be received before your immigration paperwork can be issued. Financial documentation should be emailed to international@dunwoody.edu.
3. Pay the $100.00 Tuition Deposit (you'll receive information from Admissions on this once you have been accepted to the College).
4. Submit the Transfer In Form (http://dunwoody.edu/pdfs/DCT-InternationalStudentTransferForm.pdf) (this is only for students already in the US on an F-1 visa.

Additional documents required for students with dependents

1. Copy of dependent passport photo page with a minimum of six month validity.
2. Proof of relationship: a marriage certificate for spouse; birth certificates for any children.

Re-Admittance

Any student wishing to withdraw from school should visit with the Student Affairs to determine if and when re-admittance to the College is feasible. Students who leave Dunwoody for personal, family, work, and similar reasons are encouraged to re-apply for a future term by connecting with the Admissions Department.

Students who wish to be re-admitted should submit a re-admit application (https://dunwoody.edu/admission-aid/apply/). A student being re-admitted would need to follow the academic plan currently in place which may be different from the academic plan in place at the time the student initially withdrew.

Previous Unpaid Balances

Students wishing to re-admit to Dunwoody who have a financial hold on their account from the time of withdrawing from school must resolve the outstanding balances before being re-admitted and registered for classes. The Student Account's Office should be consulted for assistance with resolving the debt.

Previous Academic/Pace Standing

Students wishing to re-admit to Dunwoody must meet with a program manager/dean and a representative from the Dean of Students Office prior to admittance to determine how their previous academic or pace standing may impact their registration. All re-admitted students will be subject to the current academic/pace requirements as defined in the satisfactory academic progress portion of this Catalog/Student Handbook.

Transfer Students & Transfer Credit

Dunwoody welcomes students who have completed prior coursework from an accredited institution. If you'd like to transfer into one of our certificate or degree programs, please note that a transfer evaluation is required and not all credits may transfer into the degree program.

Transfer Credit Policy

Dunwoody accepts course credits from other regionally or nationally accredited higher education institutions.

The Registrar's Office evaluates official transcripts for potential transfer credits. Only coursework earned at the institution issuing the official transcript will be evaluated. Courses will be considered for transfer if the course is comparable in nature, content, and level to a course offered by Dunwoody. A minimum letter grade of "C" or better or a "P" grade is required for transfer. Transfer evaluations done by other institutions are not accepted. Dunwoody evaluates courses based on the content and rigor of individual courses and not on the course number or course title. Students may be asked to provide a syllabus listing the course description and competencies of coursework. Experiential Learning such as study abroad, independent study, workshops, field experience, and internships may or may not transfer, depending on the level and the comparability of the learning experience.

Transfer courses are marked with a grade of TR. Transfer credits will not be computed into cumulative GPA; however, they will impact the student's Satisfactory Academic Progress pace for completion.

Dunwoody makes no promises regarding the acceptance of credit, except for courses articulated through transfer agreements. The Registrar's Office evaluates official transcripts for potential transfer credits and students may be asked to provide a syllabus listing a course's description and student learning outcomes.

Different Ways to Earn Credits

At Dunwoody, a student may satisfy program requirements through residency, transfer credit, or prior learning.

• **Residency**: Courses taken at Dunwoody for academic credit
• **Transfer Credit**: Courses taken at another institution of higher education for credit
• **Prior Learning**: Includes exams such as AP, IB, CLEP; Dunwoody's MATH1000 Test-Out; and through Dunwoody's Credit for Prior Learning program

Residency Policy

In order to be awarded a degree from Dunwoody College of Technology, a student must take at least 45% of the total technical credits (major requirements) for their major field of study at Dunwoody. Total technical credits transferred in a student's major field cannot exceed 55% of those required for the major. Courses transferred in should reflect the attainment of lower-level technical competencies while higher-level competencies should be attained at Dunwoody.

Transfer, Test-Out, and Prior Learning Assessment Policy

Dunwoody's residency policy establishes the maximum combination of credits earned using all forms of transfer, test-out, or prior learning, for technical courses. Dunwoody will not limit the total number of general education credits a student may receive through transfer, test-out, or prior learning.

Effective July 15, 2023, credits received for prior learning are marked with a grade of TO. Credit for prior learning is not computed into cumulative GPA; however, credits received will impact the student's Satisfactory Academic Progress pace for completion.

Enrolling at Another Institution while a Student at Dunwoody

Students may enroll in classes at another institution while enrolled in a program at Dunwoody. To transfer completed credits into Dunwoody, students should follow the procedure below.

1. Discuss your plans to take concurrent credits from another institution with your Academic Advisor and Financial Aid Representative so you understand any implications that may affect you, including full-time enrollment status and financial aid and scholarship packages.
2. Submit a Permission to Transfer Credit form (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUQVJVRkVaTk9EUV0VSk1aQVlRNFg2TzKTOCQlQCN0PWcu) to the Registrar's Office prior to registering for the course. This ensures that the course you plan to take meets the transfer requirements for the Dunwoody course.
3. The Registrar's Office will evaluate the proposed transfer course and students receive a response to their Dunwoody email.
4. Register for the course at the named institution on the Permission to Transfer Credit form.
5. Upon successful completion of the course, submit official transcripts to the Registrar's Office for evaluation and transfer any applicable credits.

Procedure

Send official transcripts from all previously attended colleges to:

Dunwoody College of Technology
ATTN: Admissions
818 Dunwoody Blvd.
Minneapolis, MN 55403

Dunwoody also accepts electronic official transcripts which are sent directly from the previous institutions to Dunwoody. The Registrar's Office evaluates all previous transcripts for potential transfer credits based on the policy above and specific program transfer requirements (https://catalog.dunwoody.edu/catalog-student-handbook/admissions/transfer-students-transfer-credit/#transfercredittext).

Students will be notified of their evaluation via their Dunwoody email address. Students can see their awarded transfer credits on their Academic Plan and unofficial Dunwoody transcript on My.Dunwoody through Launchpad (https://myapps.classlink.com/home/).

If students wish to appeal the evaluation, contact the Registrar's Office by email at registrar@dunwoody.edu or by phone at 612-381-3360.

Click here (https://catalog.dunwoody.edu/catalog-student-handbook/admissions/transfer-students-transfer-credit/dunwoody.edu/campus-life/campus-services/registrar/transfer-information/) for more information on transfers and transfer evaluations.

International Transcripts

International transcript evaluation follows all previous requirements as well as the below requirements:

- International students provide an official transcript evaluation (course-by-course report) completed by an international credential evaluator, such as World Education Services (WES) (https://www.wes.org/) and Educational Credential Evaluators Inc. (ECE) (https://www.ece.org/).
- The evaluation is completed at the student's expense.

Military Service Credit

Courses completed during military service may be eligible for transfer credit and are evaluated on American Council on Education (ACE) credit recommendations. Veteran and military students provide an official transcript for evaluation. Transcripts can be requested from the websites below:

- Army, Sailor/Marine and Coast Guard (https://jst.doded.mil/jst/)
- Air Force (https://www.airuniversity.af.mil/Barnes/CCAF/)
- Veterans (https://www.archives.gov/veterans/military-service-records/) (Army, Navy, Marine Corps, and/or Coast Guard served prior to 1976) and Air Force (served prior to 1972).

Transferring Credits to Another School

Final decisions concerning the acceptance of credits by other institutions are made at the discretion of the receiving institution.

Admission Requirements

Some of Dunwoody's bachelor's degree programs have specific admissions requirements for transfer students. These are:

Architecture (BARCH)

- Completion of an Associate of Applied Science (AAS) degree in architectural studies from an accredited institution
  - Dunwoody's Bachelor of Architecture has articulation agreements (https://dunwoody.edu/about/accountability/articulation-agreements/) with many institutions. See if your previous college is one of them. Students earning an Associate of Applied Science (AAS) degree in architectural studies (or equivalent) are eligible for a block transfer.

Business Management & Leadership (AMGT)

- Completion of an Associate in Applied Science (AAS) degree (or equivalent) from an accredited institution
- A resume and letter of recommendation

Construction Management (CMGT)

- Completion of an AAS degree or equivalent coursework from an accredited institution
- Interview with a principal instructor of academic program manager

Electrical Engineering (EENG)

- 3.0 or higher overall college GPA
- Completion of mathematics coursework through Pre-calculus

Industrial Engineering Technology (IENG)

- Completion of an AAS degree in Robotics or Manufacturing from an accredited institution
- 3.0 or higher overall college GPA
  - Note: Students with a GPA between 2.5 - 2.9 are eligible to start in Industrial Engineering Technology (IENG), but must achieve a GPA of 3.0 upon completion of the first 9 credits of IENG technical coursework (i.e., any courses that start with 'IENG').

Mechanical Engineering (MENG)

- 3.0 or higher overall college GPA
- Completion of mathematics coursework through Calculus II

Computer Engineering (CENG)

- 3.0 or higher overall college GPA

Power & Construction Engineering Technology (PCET)

- Completion of an AAS degree in an electrical-related field from an accredited institution

Automation & Controls Engineering Technology (AENT)

- Completion of an AAS degree in Robotics or Manufacturing from an accredited institution

Specific Program Transfer Details

Dunwoody cares about your academic success and in some of our programs, prerequisite courses are imperative to your learning and thus some programs have specific requirements for transfer credit.

Radiologic Technology (A.A.S.)

Technical course credits eligible for transfer are Medical Terminology. Students can transfer communication, social science, and arts or humanities courses.

The following science courses are not eligible for transfer to the program due to course learning outcome requirements: Anatomy, Physiology I, Physiology II. *effective 07.25.23*

Computer Technology Programs

Software-specific classes completed within the past 5 years will be reviewed for transfer credit.

Automotive Programs

Dunwoody's Automotive programs will not consider technical transfer credits from a non-Automotive Service Excellence Education Foundation (ASE) accredited post-secondary automotive program.

Technical transfer credits from an Automotive Service Excellence Education Foundation (ASE) accredited post-secondary automotive program will be reviewed on the following criteria:

- minimum grade for transfer coursework is a grade of B
- coursework must have been completed within the last 5 years
- experiential learning credits, such as field experience, or internships will not be accepted

Dunwoody's Automotive programs do not offer any test-outs for technical courses.

School of Engineering

For students to receive credit for Calculus Based Physics, only math and science components completed within the last 5 years will be reviewed for transfer credit.

Bachelor Completion Degrees

Architecture, Automation & Controls Engineering Technology, Business Management & Leadership, Construction Management, Cybersecurity, Industrial Engineering Technology, and Power & Construction Engineering Technology

General Requirements

- Technical requirements will be reviewed by Dunwoody faculty for the application of a block transfer of credits.
- A cumulative GPA of 2.0 or higher will be considered for a technical block transfer.
- The general education course(s) under consideration must be comparable in nature, content, and level to a course offered by Dunwoody or fulfill a general education elective.
- Specific technical or mathematic courses taken outside of the last 5 years may be reviewed for content relevancy.
- Experiential learning such as study abroad, independent study, workshops, field experience, and internships may or may not transfer, depending on the level and the comparability of the learning experience.
- Lower-division credits may transfer as upper-division if the course content and rigor is comparable and allows the student to meet the upper-division degree major requirements.

Block Transfers

Block transfers are found on a student's academic plan and credit counts vary depending on the completion degree. Students can earn up to the listed amount of block transfer credit. Additional transfer credits accepted beyond the block transfer amount are reviewed per course and must be comparable in content and rigor to a course listed on the degree program's academic plan.

Bachelor of Science in Construction Management

- A specific review for prerequisite credits allows for additional transfer credits in addition to the block technical transfer.

Bachelor of Science in Power & Construction Engineering Technology

- A specific review for prerequisite credits allows for additional transfer credits in addition to the block technical transfer.

Credit for Prior Learning
Prior Learning Assessment

Credit for prior learning (CPL) is a term for various methods that colleges, universities, and other education or training providers use to evaluate learning that has occurred outside of the traditional academic environment. It's also called prior learning assessment (PLA). It is used to grant college credit, certification, or advanced standing toward further education or training.

Dunwoody uses recommendations from the American Council on Education (ACE) and The Council for Adult and Experiential Learning (CAEL) to evaluate PLA. Prior Learning Credits are displayed on a student's transcript as TO and will not count in the calculation of a student's GPA but will impact a student's Satisfactory Academic Progress pace for completion.

Types of Prior Learning Assessments
Dunwoody categorizes Prior Learning Assessment into three categories.

- **Credit by Examination:** College-level credit is formally articulated and recommended by ACE or CAEL.
- **Faculty Administered Challenge Exams:** Faculty determine courses where students who have prior learning that is not equated to college credit can "test out" of the course.
- **Credit for Experiential Prior Learning:** A process by which a student provides a "portfolio" of evidence that demonstrates the course learning outcomes of a course to be awarded college credit. Faculty determine courses that are eligible for prior learning assessment.

Credit by Examination
Dunwoody may accept credits by examination based on pre-determined scores to fulfill course requirements. Students who have completed one or more exams from the list below can request their scores be sent to Dunwoody to be evaluated for prior learning credit. Students may also request the Registrar's Office consider evaluating other exams not listed.

- Advanced Placement Testing (AP)
  - Students can contact the Registrar's office or visit the Registrar's webpage for a listing of accepted minimum scores.
- International Baccalaureate (IB)
  - Students can contact the Registrar's office or visit the Registrar's webpage for a listing of accepted minimum scores.
- College Level Examination Program (CLEP)
  - CLEP testing is completed at an official test center. (https://clep.collegeboard.org/clep-test-center-search/) Students provide Dunwoody with score verification through the CLEP testing center. Credit for CLEP exams is awarded for a score of 50 or higher (scaled score value).
- DANTES Subject Standardized Test (DSST)
  - DSSTs are evaluated based on the minimum score from ACE/CAEL's annual guidance.

Credits may be accepted based on the following conditions:

- Credit will not be given in courses that are equivalent to credits already granted
- Students cannot use CLEP exams to substitute for a course taken at Dunwoody that resulted in a failed grade.

Faculty Administered Challenge Exams
Dunwoody may award credits through a Challenge Exam proctored by a faculty member with the approval of their program director or dean. The list of Challenge Exams below is available for students to be awarded credits. Students should speak with their faculty advisor to learn about any Challenge Exams available in their technical fields. Not all technical programs offer these types of exams.

- **MATH1000:** Students can test out of MATH1000, if the course MATH1000 is specifically included in their academic plan. Students whose academic plan includes a "Math/Natural Science 3 Credits" elective and/or "General Elective" may not apply for this test out.   Students are allowed one attempt to pass the test out exam with an 85% or better score. Students who are registered for MATH1000 and considering the challenge test-out option should note, must drop the math class within the add/drop period of the semester (https://catalog.dunwoody.edu/catalog-student-handbook/academic-policies/adddropwithdrawal-by-class/) or incur the full tuition for the class. Students are encouraged to work with their faculty advisor to determine their readiness and appropriate time to attempt the test out as math courses can be prerequisites for other courses on the academic plan. If the student, in consultation with their faculty advisor, assessed that they have the math exposure to test out, the student should e-mail Tom Finnegan tfinnegan@dunwoody.edu (tfinnegan@Dunwoody.edu) for guidance through the test out process.

Experiential Prior Learning Assessment
Experiential Prior Learning Assessment at Dunwoody is a joint endeavor led by the Registrar's Office in collaboration with an academic team. Students who have prior learning to document for college credit can choose to participate in Dunwoody's Credit for Experiential Prior Learning program where they are guided by the Registrar's office and an Academic Evaluator to document evidence that their prior learning that aligns with the course learning outcomes of one or more of Dunwoody's technical courses.

FINANCIAL AID AND STUDENT ACCOUNTS

The Financial Aid Office is here to help you navigate the world of financial aid, including the FAFSA. Contact Financial Aid at financialaid@dunwoody.edu or 612.381.3405.

The Student Accounts Office works with you to understand your billing statement and offer assistance on paying your tuition and fees. Contact Student Accounts at studentaccounts@dunwoody.edu or 612.381.3414.

More information on paying for college:

- Types of financial aid (https://dunwoody.edu/admission-aid/tuition-aid/types-of-financial-aid/)
- How to apply for financial aid (https://dunwoody.edu/admission-aid/tuition-aid/apply-financial-aid/)
- Scholarships (https://dunwoody.edu/admission-aid/scholarships/)
- Paying your bill (https://dunwoody.edu/admission-aid/tuition-aid/paying-your-bill/)
- Financial Aid Office website (https://dunwoody.edu/campus-life/campus-services/financial-aid/)
- Student Accounts Office website (https://dunwoody.edu/campus-life/campus-services/student-accounts/)

Financial Information

Outside Resource/Funds

The Financial Aid Office must be notified of any outside resources or funding that a student receives. This includes outside scholarships. Please contact Financial Aid with questions.

Scholarships

Dunwoody's Financial Aid Office has both donor-funded and internal scholarships that they award to students. To be considered for these scholarships, students must complete the Free Application for Federal Student Aid (FAFSA.) For some awards, a Thank You letter must be submitted to the Financial Aid Office by the appropriated deadline before the funds can be applied toward a student's balance. Failure to submit the required Thank You letter by the deadline may result in the scholarship funds being removed from the eligibility package and redistributed to someone else.

Veteran Benefits

Students who receive veterans benefits are responsible for any materials and/or textbooks they charge to their student account; as well as any charges that are not covered by VA benefits and/or Yellow Ribbon. Balances are due by the published due dates. For more information regarding veteran benefits and financial aid, visit the Veteran & Military Student website (https://dunwoody.edu/campus-life/campus-services/veteran-military/).

How Drug Convictions Affect Financial Aid Eligibility

A federal or state drug conviction (but not a local or municipal conviction) will not disqualify a student for FSA funds.

When you complete the FAFSA form, you will be asked whether you had a drug conviction for an offense that occurred while you were receiving federal student aid. If the answer is yes, you will be provided a worksheet. Please do answer the questions on the worksheet; however, your answers won't affect your federal student aid eligibility.

Please contact the Financial Aid Office with any questions regarding this information at financialaid@dunwoody.edu or 612.374.5800.

Financial Responsibility

Returned Payments/Failed Payments

If a payment made to a student account is returned by the bank for any reason, students agree to repay the original amount of the payment plus a returned payment fee of $30. Multiple returned payments and/or failure to comply with the terms of any payment plan or agreement signed with the College may result in a requirement of the entire balance being due prior to the semester starting, cancellation of classes, and/or suspension of eligibility to register for future classes at the College.

Financial Responsibility

All students enrolled at Dunwoody College of Technology are required to complete the Financial Responsibility Agreement annually.

This form states that students understand that when being registered for any class at the College or receiving any service from the College, he/she accepts full responsibility to pay all tuition, fees, and other associated costs assessed as a result of his/her registration and/or receipt of services. Students must also further understand and agree that registration and acceptance of these terms constitutes a promissory note agreement (i.e. a financial obligation in the form of an educational loan as defined by the U.S. Bankruptcy Code at 11 U.S.C. §523(a)(8) in which the College is providing educational services, deferring some or all of payment obligations for those services, and a promise to pay for all assessed tuition, fees, and other associated costs by the published or assigned due dates or enrollment in the institutional payment plans.).

Furthermore, understanding that failure to attend class or receive a Billing Statement (bill) does not absolve any student of financial responsibility as described above.

Balance Impact to Registration

All students with account balances will be placed on a financial hold. Financial holds will prevent release of any official diplomas or certificates until the financial obligation has been met. Enrolled students are allowed to carry a $200 or less balance forward when registering for a future semester. Students with a balance above $200, will be prevented from registering for the next semester until their balance is below the threshold.

Students who owe a balance for the spring or summer terms will not be allowed to register for the following fall semester until the balance is paid to $200 or less. If they were previously registered for the fall, the fall schedule will be put on hold until the past due balance is paid in full.

Communication

The College uses the assigned Dunwoody email as an official method of communication with students. Students are responsible for reading the emails sent from the College on a timely basis. Students authorize the College and its agents and contractors to contact them at the current and any future cellular phone number(s), email address(es), or

wireless device(s) on file with the College regarding delinquent student account(s)/loan(s), any other debt owed to the College, or to receive general information from the College. Students authorize the College and its agents and contractors to use automated telephone dialing equipment, artificial or pre-recorded voice or text messages, and personal calls and emails in their efforts to contact them. Students may withdraw consent to call cellular phone by submitting a request in writing to the Student Accounts Office or in writing to the applicable contractor or agent contacting the student on behalf of the College.

Once a Return to Title IV calculation is completed, students are notified by letter of any post withdrawal disbursements, balance due to school, and/or loan repayment requirements.

Updating contact information: Students understand and agree that they are responsible for keeping the College records up-to-date with current physical addresses, email addresses, and phone numbers by updating my.dunwoody (http://my.dunwoody.edu/). Upon leaving the College for any reason, it is the student's responsibility to provide the College and student loan provider(s) with updated contact information for purposes of continued communication regarding any amounts owed to the College or lenders.

Late Admittance

Students who wish to attend Dunwoody and are accepted or re-admitted within 14 calendar days prior to the start of the term, through the first week of the semester, are required to meet with the Financial Aid Office and the Student Accounts Office prior to attending any classes.

Additionally, these students are required to adhere to the the College payment policy as outlined in the Financial Responsibility Agreement. Late-admit students must also have a completed FAFSA (if eligible) on file with the Financial Aid Office or they must make a payment no less than 25% of the outstanding balance owed for the semester.

If returning students have no means to pay the tuition in full by the end of the fifth business day of the semester (new students have until end of week 2), the student will have the option to leave Dunwoody and have all tuition and fee charges reversed off his or her account. Students will still be responsible for non-returned IT equipment and books and supplies charged to the account.

All tuition and fees must be paid down to $200 or less to enroll in a future term or paid in full if graduating. All students with account balances will be placed on a financial hold. Financial holds will prevent release of any official diplomas/certifications or readmission into the College until the financial obligation has been met.

Past Due Balance

Financial hold: Failure to pay a bill or any money owed to the College by the scheduled due date, the College will place a financial hold on the student account, preventing registration for future classes or requesting official diplomas/certification until the account balance is satisfied in full.

Students who pay a past due balance with a personal check must wait seven business days for the payment to clear before being allowed to request diplomas/certifications or register for a new semester.

Delinquent Account/Collections

Balances remaining after exiting enrollment at the College must be paid in full immediately upon leaving or a payment plan agreement must be set up with the Student Accounts Office. The payment plan agreement is at the discretion of the Student Accounts Office and may have a maximum time period of 24 months from the last date of enrollment or the last day of the term, whichever is earlier. Payments must be a minimum of $50 per month and must begin within 90 days of leaving the College or incurring the charges. Balances not paid in full within the payment plan parameters or missed payments may result in the delinquent account being referred to a third party collection agency. The delinquency date reported to the agency will be the date the account became delinquent or last day of enrollment, whichever is later. Accounts with a balance of $600 or less will remain at the College and will result in a financial hold placed on the account preventing registration for future classes or receiving diplomas/certifications until the account is satisfied in full.

Collection agency fees: For any balance over $600 owed to the College by the scheduled due date(s), and failure to make acceptable payment arrangements to bring account current, the College may refer the delinquent account to a third party collection agency. The student is responsible for paying the collection agency fee, which may be based on the maximum amount permitted by applicable law, but not to exceed 34% of the delinquent account balance, together with all costs and expenses, including reasonable attorney's fees, necessary for the collection of the delinquent account. The third party agency will use the student's social security number for external credit reporting to one or more of the national credit bureaus and/or for collection purposes for all charges incurred against this account.

Returning After Previous Balance in Collections or Balance Discharged in Bankruptcy

Students who wish to return to Dunwoody after previously attending and having a tuition and fee balance sent to collections or a balance that was discharged in a Chapter 7 or 13 bankruptcy must:

- Satisfy balance owed with the school or collection agency (this includes any fees related to the account being placed with that agency, if applicable).
- Must meet with the Financial Aid Office and the Student Accounts Office prior to re-admittance.
- Must have all financial aid requirements met prior to attending, if applicable.
- Must show how they will cover 100% of their tuition and fees before being allowed to register. This could include, but is not limited to, a combination of eligible financial aid, non-Dunwoody scholarships, approved and certified private alternative loans, cash, check, credit card, third party payment, or enroll in the Dunwoody Payment Plan.

Failure to Return Laptop

Students who fail to return the College-issued laptop by the last day of each spring semester or the last day of attendance/academical-related activity, whichever comes first, will be placed on the Laptop Recovery List. Students will have a laptop-not-returned hold applied in addition to an $1,800 laptop non-returned fee. If a student returns the College laptop to the IT Helpdesk within the first 12 months of leaving the College, the $1,800 fee will be adjusted per the return fee schedule below:

Days	Refund Amount
0-30 days	$1,800
31-60 days	$1,750

61-90 days	$1,700
91-120 days	$1,650
121-150 days	$1,600
151-180 days	$1,550
181-211 days	$1,500
212-242 days	$1,450
243-273 days	$1,400
274-304 days	$1,350
305-335 days	$1,300
336-365 days	$1,250
366+ days	$1,200

If the College laptop is returned after the IT lease agreement with the vendor has expired, the student will be responsible for the entire $1,800 laptop non-returned fee. Dunwoody leases the laptops through a third party leasing company and does not have the right to transfer ownership of the machine to anyone. All machines must be returned regardless of paying the non-returned laptop fee.

In the event that Dunwoody receives possession of the laptop through means other than the student (i.e. returned by law enforcement due to negligence, strangers, pawn shops, etc), the school has the right to prohibit the student from being able to receive a replacement device. The student will be financially responsible for reimbursing Dunwoody for any fees related to regaining possession.

Refunds
Tuition Refund

Dunwoody participates in the U.S. Department of Education Student Aid programs and the Minnesota Financial Aid Program and complies with federal and state regulations which require the College to have a fair and equitable refund policy. Institutional refund calculations are based on one of the following policies:

Refunds for students who withdraw from a course or courses (but not complete withdrawal) during the first five school days of the semester will receive a 100% refund for the course. There is no refund for individual courses withdrawn after day five.

Minnesota State Grant

The amount of a MN State Grant that a student may be eligible for has a different value available for each number of credits enrolled. For example: the same student may qualify for $856 if enrolling in 15 credits but only $604 if enrolled for 14 credits. Students who are considering reducing their schedule during the drop/add period (first five school days of the semester) to less than 15 credits are strongly encouraged to visit the Financial Aid Office for information about how awards may be impacted.

Complete Withdrawal From All Courses

Under federal law, Dunwoody must calculate a Return of Title IV Funds for students receiving federal financial aid; which includes the Pell Grant, SEOG, Subsidized Direct Loan, Unsubsidized Direct Loan, and Parent Direct PLUS Loan. Although those funds, upon disbursement, are applied in full to a student's account, the student earns his or her Title IV funds by attending classes and Dunwoody may be required to return all or a portion of those funds upon withdrawing from all courses. The amount earned by a student has no relationship to the student's incurred institutional charges.

- Date of Withdrawal Determination
  The date of official withdrawal is determined through notification by the student of intent to withdraw, by the student's Program Manager/Dean, and/or attendance records showing the last date the student attended class or completed academically related activity. The financial aid date for processing the return of funds is the official notification date of withdrawal from the Registrar's Office.
  - Student Initiated Withdrawal: Students who want to withdraw from all classes must notify their academic program director/dean, or the Student Affairs Department, who will submit a Complete Withdrawal form on behalf of the student.
  - Institution Initiated Withdrawal: Dunwoody reserves the right to terminate the enrollment of students. Reasons for termination include, but are not limited to: non- attendance/no contact; frequent absences or tardiness; academic dishonesty; unsatisfactory academic progress and pace (completion) rate; aggressive, harassing, or discriminatory acts against other students or employees; failure to pay tuition by stated deadlines; failure to follow school procedures and policies; intentional damage to school property or theft, insubordinate acts against faculty or other Dunwoody employees. The withdrawal date used will be the last date of academic attendance or academically related activity. The date of determination (notification date) will be within 14 days of the withdrawal date.
  - Unofficial Withdrawal: If a student is absent for 14 days without contacting Dunwoody personnel, and they have not gone through the withdrawal process, Dunwoody personnel will begin the process to withdraw the student from the college. The withdrawal date used will be the last date of academic attendance or academically related activity.
- The Federal Pro Rate Refund Calculation
  If the student has attended less than 60% of a term, a pro rate schedule is used to determine the amount of Title IV funds the student has earned at the time of withdrawal based on the number of days attended. If the student has attended 60% or more of a term, the student is considered to have earned 100% of the Title IV funds.
  - Example: Student attends 44 days of a 124 day term, the student will have earned 35.5% of their Title IV aid. This would result in a return of approximately $1876 of a $2908 Pell grant disbursement. This same example would lead to all funds distributed from the Subsidized and Unsubsidized loans being returned.
- Refund calculation
  Dunwoody's Financial Aid Office will divide the number of calendar days attended by the total number of calendar days in the semester, less any scheduled break of 5 days or more. The resulting percentage will then be multiplied by the total federal funds that were disbursed. This calculation determines the amount of aid that the student is allowed to keep. The unearned amount of aid is returned to the federal government. If in this calculation the student is required to return funds due to funds already disbursed (overpayment), the student will be notified. The calculation is completed within 30 days of the notification date with all funds being returned within a 45 day maximum time period.
  - Total Federal Fund Calculation – In this calculation the total amount of Federal Pell Grant and SEOG will be included, the net for Direct Subsidized Loans, Direct Unsubsidized Loans and Direct Parent PLUS Loans. Federal Work Study will not be included in the return calculation.

- Late Arriving Funds – If a student withdrew during a subsequent payment period, and aid for a previous payment period is received, the funds are not included in the return calculation. Late disbursements may be made if the conditions for those disbursements are met.

- Post-Withdrawal Disbursements – If a student withdrew before all Title IV aid was disbursed, the student may be eligible for a post-withdrawal disbursement. The amount will be determined by following the requirements for calculating earned Title IV aid and has no relationship to the student's incurred institutional charges. Any post-withdrawal disbursements will be made from available grant funds before available loan funds. A school is permitted to credit a student's account with the post-withdrawal disbursements of grant funds without permission from the student up to the amount of outstanding charges. In the case of post-withdrawal disbursements from federal loans funds, confirmation will be obtained from the student before any funds are disbursed. The information provided in the notification will include the information necessary for the student, or parent for a Direct Parent PLUS Loan, to make an informed decision as to whether the student or parent would like to accept any disbursement of loan funds and will be provided within 30 days of the date of determination that the student withdrew.

- If the withdrawal calculation results in a credit balance on the student's account, it will be disbursed as soon as possible and no later than 14 days after the Return of Title IV calculation (R2T4).

- Based on this calculation, a withdrawing student may owe larger payback to Title IV fund sources than what is calculated as the institutional refund amount. Dunwoody is required by law to make these paybacks to the appropriate Title IV program, so the student may owe money to the College after all refunds and returns are calculated.

- In the case of prolonged illness or accident, death in the family, or other serious circumstances that make it impractical to complete the program, the student should contact the Office of the Dean of Students.

- The date of withdrawal determination is explained here (https://catalog.dunwoody.edu/catalog-student-handbook/academic-policies/withdrawal/).

Refund Calculation

Dunwoody provides tuition and fee refunds based on the following chart and process:

Definitions:
First semester student: a student attending their first semester at Dunwoody (does not include readmitting to the school)
Non-matriculated student: a student enrolled in courses but not actively working towards a degree
Returning student: a student who attended a previous semester at Dunwoody (either concurrently or returning after a lapse in enrollment)

Determine the tuition and fee refund percentage (Find the refund percentage from the following chart):

Fall and Spring Semesters (16 weeks)

Semesters	Refund Percentage
Week 1	All Students: 100%
Week 2	First semester & Non-matriculated Students: 100% \ Returning Students: 75%
Week 3	First semester & Non-matriculated Students: 50% \ Returning Students: 50%
Week 4	First semester & Non-matriculated Students: 50% \ Returning Students: 40%
Week 5	First semester & Non-matriculated Students: 50% \ Returning Students: 30%
Week 6-16	All Students: 0%

J Term

Semesters	Refund Percentage
Week 1	All Students: 100%
Week 2	All Students: 0%
Week 3	All Students: 0%

Summer Session (8 weeks)

Semesters	Refund Percentage
Week 1	All Students: 100%
Week 2	All Students: 75%
Week 3	All Students: 50%
Weeks 4-9	All Students: 0%

- Students who are new to Dunwoody and completely withdraw by the end of week two, will be eligible to receive a full tuition refund.
- To compute amount of refund, multiply the net tuition, device fee, learning technology fee and Student Life fee by the refund percent.
- Subtract an administrative fee (the lesser of $100 or 10% of tuition) from the calculated refund to get the net amount of refund.

The above percentages were derived by determining the amount of time spent attending classes.

Conditions & Understandings:

- Students are responsible for any Bookstore expenses charged to their student account. They should work directly with the Bookstore to determine if returning materials is an option.
- Students must return their Dunwoody issued laptop (if applicable) at the time of withdrawal (see Failure to Return Laptop policy (p. 150))
- Students are responsible for any outstanding balance owed to the school after tuition and fee adjustments are made.
- Students understand that this courtesy will only be extended one time per student and cannot be utilized when switching between programs or gaps in enrollment.
- Dunwoody reserves the right to rescind or not extend this courtesy at any time.

Timeline for Processing Refunds

Any monies due to an applicant or student will be refunded within 30 business days of cancellation, failure to appear on the first day of class, dropping classes within the first five days of the semester, complete

withdrawal, or termination. All financial aid must be fully refunded before any refund can be made to the student.

Distribution of Refunds and Repayments

For federal financial aid, the calculation multiplies the percentage by the total federal funds that were disbursed (either to the student's Dunwoody account or directly by check) for the semester. This calculation determines the amount of aid that the student is allowed to keep. The unearned amount of aid must be returned to the federal government.

Refunds on behalf of Student Financial Assistance (SFA) recipients are distributed in the following order:

1. Unsubsidized Direct Loan
2. Subsidized Direct Loan
3. PLUS Direct Loan
4. Federal Pell Grant
5. Federal SEOG
6. Other SFA Programs

After required financial aid adjustments are made to all financial aid sources, any money owed to Dunwoody, including unpaid tuition and fees and materials, will be billed to the student.

Federal Loan Default

Federal loan default will keep students from receiving any financial aid until the default has been resolved. Students who are in default on their federal student loans must clear any defaults on the federal loans and provide proof of such before being allowed to enroll/re-enroll at the College regardless of the intended payment method.

MN Office of Higher Education Refund Calculation

Introduction and Purpose of the Policy

Dunwoody College of Technology, consistent with federal and state law, will calculate refunds for all state financial aid programs when a student completely withdraws from school, or for the MN State Grant and SELF Loan programs, if the student drops below minimum enrollment level for those programs. This calculation is to be used by schools charging students by the term or payment period. (Note: Refunds are never required for the State Work-Study Program).

Determining Amount of Net Refund

1. Amount of financial aid and cash received to date for the term including any post-withdrawal disbursements of Title IV financial aid applied to institution charges. If funds exceed the original institutional charges[1] for the term, enter the amount of original institutional charges only.
2. Subtract amount of original institution charges for the term the school can retain per its institutional policy.
3. = GROSS REFUND
   If gross refund is less than or equal to zero, then no refund is due state financial aid programs.
4. Subtract amount of institutional share of any required refund for Title IV financial aid programs from Step 5, Box O of Return of Title IV Funds Refund Worksheet. Enter 0 if no Title IV refund is due.
5. = NET REFUND

If net refund is less than or equal to zero, then no refund is due state financial aid programs.

[1]

The state adopts the definition of institution charges used for federal Title IV aid programs under 484B of the Higher Education Act of 1965 as amended and 35 CFR 668.22.

Determining Proportional Share of Net Refund for Distribution to Non-Title IV Aid Programs

All non-Title IV financial aid that is received to date during the student's program, and for the current aid year, including any funds disbursed to the student for living expenses will be included in the refund calculation when a student totally withdraws from school. These funds can include state funds, institutional and private scholarships, or any other forms of non-Title IV aid. Work-Study awards are not included.

Return of Tuition Assistance

Military Tuition Assistance (TA) is awarded to a student under the assumption that the student will attend school for the entire period for which the assistance is awarded. When a student withdraws, the student may no longer be eligible for the full amount of TA funds originally awarded. To comply with the new Department of Defense policy, Dunwoody will return unearned TA funds on a prorated basis through at least 60% portion of the period for which the funds were provided. TA funds are earned proportionally during an enrollment period, with unearned funds returned based on when a student stops attending.

Fall and Spring Semesters (16 Weeks)

Semesters	Refund Percentage
Week 1-2	100%
Week 3-4	75%
Week 5-8	50%
Week 9-10 (60% of course is completed at 9.6 weeks)	40%
Week 11-16	0%

J Term

Semesters	Refund Percentage
Week 1	100%
Week 2	0%
Week 3	0%

Summer Session (8 Weeks)

Semesters	Refund Percentage
Week 1	100%
Week 2	75%
Week 3-4	50%
Week 5-6	40%
Week 7-9	0%

Third Party Funding and Reimbursement

Third Party Billing

Dunwoody provides the option for students to bill their tuition and fees directly to an outside party, such as an employer, agency, or outside scholarship provider.

Third Party Funding

Any student who receives third party funding that is not a reimbursement should work with the Accounting Department and provide the appropriate documentation so the third party can be billed for the approved expenses. Dunwoody requires students to provide consent to the College to release student account and billing information to third parties. Students are responsible for any expenses not covered by the third party (such as fees, course materials, or any bookstore charges applied to the student's account). Student Accounts will assist students with paying remaining balances. Balances not paid by the due dates are subject to late and default fees.

Third Party Reimbursement

Any student who receives third-party reimbursement is required to pay the balance by the published due dates (https://dunwoody.edu/admission-aid/tuition-aid/paying-your-bill/#:~:text=When%20to%20pay%20tuition%20and,2022%20Semester%3A%20January%2024%2C%202022). A student who receives reimbursement from a third party must pay their balance at Dunwoody with Student Accounts and request reimbursement from the third party to reimburse themselves, not the school. Balances not paid by the due dates are subject to late and default fees.

Contact Accounting Department

- ```
  accounting@dunwoody.edu
  ```

- ```
  Green 66
  ```

- ```
  Phone: 612.381.8228
  ```

Contact Student Accounts

- ```
  studentaccounts@dunwoody.edu
  ```

- ```
  Green 29L & 29Y
  ```

- ```
  Phone: 612.381.3414
  ```

- Information on paying your bill (https://dunwoody.edu/admission-aid/tuition-aid/paying-your-bill/)

STUDENT LIFE

Student Life is driven by the mission of Dunwoody College of Technology. "Dunwoody changes lives by building opportunities for graduates to have successful careers, to develop into leaders and entrepreneurs, and to engage in "the better performance of life's duties." The policies and procedures within this section lay the ground work for our Student Organizations that focus on the development of our students into leaders.

Student Organizations

The Department of Student Affairs encourages the development of student organizations. Participation in such activities can provide students with opportunities for personal growth in leadership, citizenship, interpersonal skills, communication skills, cultural competency, and cooperation. The goals and objectives of each organization and support group will differ depending upon the type of organization and its membership.

How to Start a Student ORganization

All Student Organizations should adhere to the following guidelines (LEAP) to help develop their leadership skills and in the spirit of Dunwoody's mission "to develop into leaders and entrepreneurs, and to engage in the "better performance of life's duties":

Link group interests in enhancing leadership, citizenship, interpersonal skills, communication skills, cultural competency, and education.

Encourage opportunities for social interaction among members.

Assist in the development of personal and organizational leadership skills by facilitating self-initiated and self-directed activities (must be led by students, not advisors).

Promote community/diversity awareness and responsibility.

Positively impact Dunwoody and the school's strategic objectives through appropriate planning and implementation of all projects and activities.

Requirements for Student Organizations:

Every student organization shall have at least one advisor who is a Dunwoody employee, faculty or staff, who attends all meetings and organization events.

All organizations must:

1. Student organizations shall not discriminate any membership on the basis of race/ethnicity, religion, gender, age, national origin, sexual orientation, or ability.
2. Establish effective and appropriate procedures and/or by-laws to facilitate meetings
3. Recruit and select members
4. Communicate between members, advisors, and Dunwoody
5. Manage Student Organization budget. Organizations must follow the fundraising and accounting guidelines as seen in the "Fundraising" section.
6. Observe student privacy regulations (FERPA)
7. Resolve issues and/or complaints in a timely manner consistent with existing Dunwoody College of Technology policies and procedures such as Sexual Assault and Harassment Policy and Student Code of Conduct.
8. Record attendance and student organization's advisor is responsible for collection.
9. As appropriate, all students shall have the opportunity to participate in the organization's activities.
10. The Dean of Students' office has the right to deny funds that may not have appropriate connection/benefit to Student Organization.
11. All events and guests hosted by a Student Organization must be approved by the Dean of Students' office.

If guidelines are not met, the Student Organization may be put on a one-semester probation period where they may be denied funds.

To start your Student Organization, please fill out this form **(**https://dunwoody.edu/campus-life/student-organizations/**).**

Advisor Duties

The staff or faculty advisor is the central to the success of our student clubs and organizations as she sets the tone, norms, and acts as a guide for our student clubs and organizations. The advisor fulfills a key piece of Dunwoody's Mission, ". . . (for our students) to develop into leaders and entrepreneurs, and to engage in "the better performance of life's duties". Our staff and faculty advisors are the role models that challenge our students to become leaders in their industry.

As an advisor, you are not responsible for initiating a club, organization, or association, however you are responsible for the following. Failure to comply with this agreement will make your club or organization ineligible for the allocated student activity fees which are managed through our Student Leadership Council.

As an advisor, you agree to carry out the following duties with my student organization

- Attend all organizational leadership meetings
- Approve or deny all organization expenditures
- Assist in managing the organizations budget
- Attend at least one club and association advisor meeting per academic year and read meeting minutes of missed meetings.
- Serve in this role for one academic year

- Supervise and help implement all advertising of the organization
- Assist as primary contact in resolving issues, complaints, and needs of the organization
- Follow the Development's department fundraising guidelines as found in the Student Handbook
- Provide any concerns to Dean of Students' Office, studentaffairs@dunwoody.edu

Student Responsibilities

As a student leader and a representative of Dunwoody, your actions and your student organization actions are a reflection of our community.
 As a student organization, your organization follows the policies and regulations of Dunwoody, such as the Code of Conduct (p. 170) and our

Sexual Assault and harassment policy (p. 174), and the policies within this section of Student Life.

Policy for Student Organization Fundraisers

Student Organization fundraising allows for our students to experience more opportunities through their organizations such as national and regional conferences. Please see the areas below on the policies and procedures for raising money as a student organization.

Student Leadership Council Funding Request

The Student Activity Fund is administered through the Dunwoody Student Leadership Council. This fund was established to support student initiated events and activities. It is intended to provide a secondary option after fundraising. This is for future spending and not a reimbursement for previous purchases.

The Budget Request Process

Please submit a Budget and Funding Request Form and a typed statement outlining the purpose of the funding and the impact it will have on your organization, department, and the College as a whole (if applicable) to Student Affairs, studentaffairs@dunwoody.edu.

- Up to $200 can be requested in writing.
- Fund requests over $200 will also require a brief presentation by the individual organization representatives.
- Organizations can request funding up to $1,000 total from Student Leadership Council for the year.
- Students are also encouraged to do pre-approved fundraising activities that will increase the balance of their individual organization budget.
- The deadline for submitting Funding Request form (http://www.dunwoody.edu/pdfs/SGA-Funding-Request.pdf) is April 15th.

Accounting Procedures for Fundraising

Student Organizations who want to hold fundraisers should complete a Fundraiser Request Form and turn it into Accounting at least 2 days prior to event.

Credit card payments are only to be taken via the Clover Flex credit card readers. The student organization will be assigned a PIN number for these machines which will correspond the four digit Fund Number in the G/L. The PIN's are set up through the Clover Online Portal. The Role for these users is Student Org and the Faculty advisor is the person who is entered for set up.

A cash box with $100 in change ($25 in 1's, $45 in 5's and $30 in 10's) will be kept on hand in the safe for student fundraisers. (This will be part of the Cash On Hand)

Food and Beverage

Taher Catering is our current food service provider. When ordering food catering for events, you must contact Taher (Taher@dunwoody.edu) at least two weeks in advance of event/meeting. Taher will need final count at least one week prior to event. Student Organizations should assign a spokesperson to communicate with Taher, to ensure clear communication and expectations.

As Taher is our on campus food service provider, student organizations must receive a quote from them when considering third party vendors for food when conducting larger events or fundraisers. Larger events are considered events that are serving food to people outside of your club. For example, anything larger than a student organization meeting.

Campus Room Reservations

Student Leaders: Please see your Advisor to reserve rooms on campus due to Dunwoody's intranet access limitations.

For Advisors: To reserve classrooms or meeting rooms for their student organization meetings or campus events, please access 25Live to reserve rooms. To access the site, log-in via Dunwoody Launchpad and click on the icon. If you have any questions, please contact Dean of Students' Office at studentaffairs@dunwoody.edu.

Communications

There are several ways to communicate news and information about your club or organization.

To have a calendar posting on The Hub (Canvas) and/or for the on campus calendars, please fill out this form (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGPxPzd5RqGVGvHqAUiJjYMdUQ0xIREFRS09DWjFaN or email studentaffairs@dunwoody.edu.

To create a poster for student bulletin boards, please contact Student Affairs at studentaffairs@dunwoody.edu as well as Marketing at marketing@dunwoody.edu.

To display an announcement on the campus plasma screens, please contact Marketing at marketing@dunwoody.edu.

To promote an event or activity in the College's weekly newsletter, the DC Weekly, (for students) and/or the Dunwoody Observer (for employees), please contact Marketing at marketing@dunwoody.edu.

Common communication needs include club recruitment, fundraisers, and school-wide events and activities. Please note these platforms should only be used when looking to promote your activity to the College as a whole. A different means of communication should be used when communicating directly to members of your club.

Off Campus, Hybrid, and Virtual Expectations

All Student Organization off campus and virtual events are held to the same standards as on campus events. The polices and procedures within the student handbook and catalog are applicable to all student organization events regardless of location or virtual space.

STUDENT RIGHTS AND RESPONSIBILITES

In order for Dunwoody to fulfill its mission of preparing students for their careers, developing into leaders, and engaging in "the better performance of life's duties", the College has a vested interest in maintaining an environment in which all students can pursue their academic responsibilities. As students, you, have rights and responsibilities while in attendance. Please review the following sections for more information.

Accommodation Requests

Dunwoody College of Technology is committed to creating equal access and opportunity to all campus and online programs and services for persons with disabilities. Means of equal access are provided to students with documented disabilities to provide them the opportunity to show their abilities and capabilities, not highlight their disabilities. Students are responsible for initiating the learning accommodation process. This is different than high school. Please see the chart below that explains the differences between high school and college learning accommodations and explore our process, below.

At any time throughout the process, please feel free to reach out to our Associate Dean of Students, John Richardson (jrichardson@dunwoody.edu).

Process for Learning Accommodations

1. Students can request an accommodation for a disability or a special need by completing a Student Request for Learning Accommodations or Special Need Form, which can be obtained from Student Affairs or here (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGPxPzd5RqGVGvHqAUiJjYMdURTZFRVM

2. A student must provide current documentation from an appropriate licensed professional or agency. Documentation should include educational, medical, psychological, and/or other diagnostic evaluations that define the nature of the disability. In addition, this information should outline how the condition(s) may affect the student academically, along with a recommendation for appropriate accommodations. Please note that IEP's and 504 plans are not used to define disabilities or accommodations, however they are helpful in the accommodations' process to see what has worked in an educational setting in the past.

3. Once all documentation is received and the request form is filled out, then the Associate Dean of Students will certify eligibility for disability services and determine reasonable accommodations. Some accommodation requests will be reviewed with the student's academic Dean, the Dean of Students, or the Provost depending on the request. If you would like to schedule a meeting regarding an accommodation, please check with the Associate Dean of Students (jrichardson@dunwoody.edu). Accommodations are determined on a case-by-case basis. The Associate Dean of Students may reach out to the student during this process.

4. If the accommodation request is complete and approved, then the student works with the instructor for each class to define the details of the request. The student and faculty will use the student's accommodation letter to clearly state what the accommodations look like for each class. For example, extra time for a lab class will look different than extra time for a lecture class. This avoids confusion for both parties. Every effort must be made to ensure the requested accommodations are in place. Faculty and/or students should consult with the Associate Dean of Students, if additional information or clarification of an accommodation is needed.

Learning Accommodations in High School Versus College

In High School	In College
The school identifies students with disabilities.	The school protects a student's right to privacy and confidentiality.
The school district is responsible for evaluating and documenting the student's learning disability.	The student is responsible for providing current documentation of the disability to the college.
The school automatically incorporates accommodations into the student's daily schedule once a disability is documented.	The student must request accommodations each time they are needed.
The school modifies the educational programs.	The college makes reasonable adjustments in instructional programs which do not alter the essential content or requirements of a course or program.
Parents are advocates for their children.	Students are their own advocates.
Special classes and placement must be available for students.	Colleges are not required to provide special classes or programs for students with disabilities.
Parents are notified and must give permission for any decisions regarding their son or daughter.	Parents are not notified of services their son or daughter requests unless the student grants permission for that information to be released.
An IEP meeting is held to determine placement and appropriate services.	Students work with college professionals and instructors to determine if and what services are appropriate.
The school provides assessment of disabilities.	The school provides access to testing services which are accessible to persons without disabilities.

Anthony L. Ferrara Career Services Center Policy

Student and Graduate Policies, Terms, and Conditions

The Anthony L. Ferrara Career Services Center is dedicated to providing lifelong employment assistance to Dunwoody students/graduates at no cost. We support the Dunwoody vision, mission, and goals of assisting "Graduates who are worth more" to build the foundation for a rewarding and lifelong career.

The Career Services Center is a part of Dunwoody College's division of Student Affairs and supports its mission to inspire and support students' academic and social engagement at the College through cultivation of programs and services that demonstrate inclusion, integrity, and innovation grounded in a career-focused framework.

Career Services Center Services

Career Services staff are available to meet with you concerning any and all of your career development needs. Meetings can be held either in person, over the phone, or virtually through Microsoft Teams. Appointments can be made through our online career management platform, Handshake, or by email careerservices@dunwoody.edu.

- One-on-One Career Advising
- Resume and Cover Letter Review
- Handshake Assistance and other Job Search Help
- Mock Interviews and Feedback
- Negotiating Job Offers
- LinkedIn Profile Review
- Career Fair and Networking Preparation
- Coordination of On-Campus Recruitment

Handshake

Dunwoody College of Technology partners with Handshake, a free web-based portal for publicizing all bona fide full-time, part-time, seasonal, and internship positions and other recruiting activities for small and large businesses, government agencies, and nonprofit organizations to current students and graduates.

Integrity in Representation

Students and alumni will be expected to submit truthful and accurate information on any and all application materials.

Professional Conduct

Students and alumni are expected to behave professionally during all aspects of the job search and throughout the course of their employment.

Students and alumni are expected to accept offers of employment in good faith and to notify employers of acceptance or non-acceptance of the offer; after accepting a position, students and alumni should withdraw their candidacy from all other opportunities.

Reneging on accepting a job can severely damage students' reputation, not only in the short-term, but also for the duration of your career. Reneging can also have negative implications on Dunwoody College's relationship with the employer and can adversely impact future opportunities for other Dunwoody College students.

Career Services is not in support of a renege situation on your part unless under extenuating circumstances. You can avoid a reneging situation by carefully planning and managing your job search and by seeking advice from Career Services and trusted professionals in your network.

Eligibility for Career Services Assistance

All currently enrolled Dunwoody College students and graduates are eligible to receive all Career Services assistance at no cost. Career Services assistance is available to students approximately 2 weeks before the beginning of their first semester. Career Services assistance is not available to students who terminate their student status without graduating, students barred or disqualified from student status, graduates who are not in good standing with Student Accounts, or students who have abused the services and are notified the service is no longer available.

Job Searching, Employers, and Fraudulent Job Postings

Dunwoody College does not endorse any employer and makes no guarantees about any position listed through Handshake. Dunwoody College is not responsible for the safety, wages, working conditions, or any other aspect of employment. While the Career Center makes every effort to screen employers and job postings received, it is the responsibility of the job seeker to research the integrity of the firm/organization to which he/she is applying. The student is advised to use caution and common sense when applying for a position with an organization or private party.

Students, please be aware of fraudulent job postings. We do our best in the Career Services Center to delete questionable postings before you ever see them, but we are not always successful. It is also a good practice to google the employer and/or visit the employer website before you provide them with any personal information. If you receive a suspicious email or phone message from an employer, or have suspicious contact with an employer during a phone or in-person interview, it is extremely important for you to use caution and alert the Career Services Center immediately.

How to Identify a Scam or Fraudulent Job Postings

- If you receive an unsolicited email message about a job opening.
- An upfront fee is required for materials or products prior to your work start date.
- The potential employer does not provides a physical address and phone number in the ad.
- The potential employer asks for your social security number, credit card or bank account numbers, or copies of personal documents.
- The potential employer requires you to send payment by wire services or courier and will reimbursed you via check by priority mail.
- The potential employer offers a "reward" in exchange for allowing the use of your bank account – often for depositing checks or transferring money.
- You receive an unexpectedly large check in the mail with instructions to deposit the check into your bank account and await further instructions.
- There are multiple spelling and/or grammatical errors in the job announcement.
- The potential employer uses the name of a legitimate employer but spells it slightly different.
- The job opportunity sounds too good to be true.

If you feel uncomfortable about an employer or job opportunity you receive or find on an electronic job board, please notify the Career Services by emailing CareerServices@Dunwoody.edu, calling (612) 381-3322 or stopping by Career Services. We would also like to assure students that all information you provide to Career Services about an issue is considered confidential. Your career advisor may consult with other professional staff members within the division to ensure that you receive the best assistance possible. Information, however, will not be released outside the division without your consent, except when required by law (i.e., reasonable suspicion of child or elder abuse, imminent danger to self or others, etc.).

Anthony L. Ferrara Career Services Center Staff

Amber McCollow, Career Services Coordinator

612-381-3322, amccollow@Dunwoody.edu or CareerServices@Dunwoody.edu

Drug, Alcohol and Tobacco Policies

Drug and alcohol abuse affects the health, safety, and well-being of all students and restricts Dunwoody's ability to carry out its mission. Dunwoody prohibits the possession, use, or distribution of illegal drugs, narcotics, medical marijuana, recreational marijuana, and alcohol on any campus property or as part of any Dunwoody sanctioned activity.

Health Risks of Alcohol and Drug Use

Short term health risks of alcohol include risky sexual behaviors, car accidents, violent or aggressive behavior, and/or miscarriages. Long term health risks of alcohol include high blood pressure, learning and memory problems, alcohol dependency, and/or depression. For more information on the health risks associated with alcohol please see the Center for Disease Control's website: https://www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm

The health risks as a result of drug use varies with each drug. The following links provide more information on drugs:

National Institute on Drug Abuse, "Commonly Abused Drugs": https://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs-charts (https://www.drugabuse.gov/drugs-abuse/commonly-abused-drugs-charts/)

List of Addictive Drugs A-Z—Prescription Abuse Drug List (drugabuse.com) (https://drugabuse.com/drugs/)

Sanctions for Drug and Alcohol Policy Violations

Students who violate Dunwoody's policy against illegal drugs, narcotics, recreational marijuana, and alcohol are subject to Dunwoody College of Technology's student code of conduct which can be found here: https://nextcatalog.dunwoody.edu/catalog-student-handbook/student-rights-responsibilities/student-code-conduct/ (p. 170)

Student Code of Conduct Sanctions

The following sanctions may be imposed on any student or student organization found to be in violation of the code of conduct or any other college policy. The sanction will be in relation to the violation as more severe or pervasive violations will result in more severe sanctions. The following list is not exclusive as other sanctions may be imposed that fit within the guiding principles of this policy. The following sanctions may include additional conditions such as a reflection activity, restitution of financial damages, mental health counseling, meeting with staff on a rotating basis, removal of college property, failing an academic course, or pursuing legal actions. Additionally, a student housing resident may be transferred to a different room or may be evicted from our student housing facility.

Warning: A written or verbal notification to a student that their behavior has violated the code of conduct.

Probation: The conditions of the probation are based on the intensity of the violation. While on probation, if the student violates another college policy or does not follow the stipulations of the probation, then they may be suspended from the College. The probation notification explains: the stipulations of the probation, the length of the suspension, assigned probation conditions, appeal options, and an explanation that any further violation of the code of conduct or failure to follow the stipulations of the probation may result in immediate suspension from the college.

Suspension: A suspension means that the violation was severe enough to involuntarily separate the student from the College for a certain length of time. The suspension notification explains: the stipulations of the suspension, the length of the suspension, assigned suspension conditions, appeal options, and college reentry conditions.

Expulsion: An expulsion means that the violation was severe enough to permanently and involuntarily separate the student from the College. The notification explains: the stipulations of the expulsion and the assigned expulsion conditions.

Federal Laws and Sanctions

Federal laws carry penalties for controlled substance convictions. These range from one year imprisonment and up to a lifetime of imprisonment. Along with imprisonment federal convictions carry fines ranging from $1,000 to $2,000,000 depending on the severity of the conviction. Please see the following for a detailed list of federal controlled substance convictions:

The Controlled Substances Act (dea.gov) (https://www.dea.gov/drug-information/csa/)

Federal Trafficking Penalties: https://www.dea.gov/sites/default/files/drug_of_abuse.pdf#page=30

Minnesota Laws and Sanctions

Minnesota laws carry penalties for controlled substance convictions. These range from underage drinking laws with a penalty of $100 to 40 years prison sentence and $1,000,000 fine. Please see the following for a detailed list of Minnesota controlled substance and alcohol statues:

Minnesota Controlled Substances Statues: https://www.revisor.mn.gov/statutes/?id=152

Minnesota Underage Alcohol Statues: https://www.revisor.mn.gov/statutes/?id=340A.503

Minnesota Driving while Impaired Statues: https://www.revisor.mn.gov/statutes/?id=169A

Drug and Alcohol Education and Treatment Programs

Dunwoody College of Technology recognizes drug and alcohol dependency/abuse as a major health problem, as well as a safety and security problem. If you have a drug or alcohol problem or know of another student with such a problem, please consult with anyone in Student Affairs for information and referral resources for a variety of public and private educational and treatment programs in the state and metropolitan area. Any student can call our counseling service, All One Health, twenty four hours a day, seven days a week. We also have a telephonic counseling office in the Pinska Center. For the number to call, please click on the link in Launchpad or see anyone in Student Affairs in the Pinska Center.

There are also local counseling centers such as the Walk In Counseling Centers that are located throughout the Twin Cities. They do not require an appointment and have a variety of office hours.

Walk In Counseling Center Locations:
Main Number: 612-870-0565
2421 Chicago Avenue S
Minneapolis, MN 55404

Tobacco-Free Environment

The use of all forms of tobacco, including chewing tobacco and smokeless cigarettes, is prohibited at Dunwoody except in designated areas. Dunwoody's designated areas are located near the north entrance of the main building as well as the west entrance of the lower level of the Warren Building. Smoking on the west side (main entrance) and east side of the Main Building is prohibited at all times. Students residing in our student housing facility have a designated tobacco area at the Delaware Street entrance. Violation of the tobacco regulation is a violation of our student's code of conduct and may result in conduct sanctions.

Electronic Cigarettes

The use of electronic cigarettes (also known as e-cigarettes) is prohibited at Dunwoody except in designated smoking areas. For more information please refer to the student handbook.

Housing Policy
Community Policies

The housing student agrees to observe and be bound by all the policies, rules, and regulations of Dunwoody College of Technology ("DCT"), including those stipulated in the Student Code of Conduct ("Code") within the Student Handbook ("Handbook"), Terms and Conditions within the agreement as well as any other publications by and available through DCT including all rules or modifications of rules that shall be subsequently made. Additionally, as members of a private student housing complex, there are concurrent policies that are enforced by the student housing complex, hereby known as UP Rules, University Partners ("UP") Resident Handbook. Student acknowledges that they have access to, and understand the existing rules and regulations referred to in this section.

HOusing payment agreement

Student is responsible for all payments owed (whether or not then due or to become due at any time during the Term) pursuant to the Housing Payment Agreement regardless of whether Student withdraws from DCT, Student's status as a DCT student is terminated, this Agreement is terminated for any reason, or Student otherwise leaves the housing prior to the end of the Term.

Payments owed pursuant to the Housing Payment Agreement include Student's liability for any damages to the Licensed Space, the apartment in which the Licensed Space is located, the Complex, or damage to personal property caused by the Student or arising out of Student's use or occupancy of the Licensed Space. Payment of the housing payments pursuant to the 2019-2020 Housing Payment Agreement shall not affect the Student's liability to pay any other charges, bills, or costs incurred during the occupancy or use of the Licensed Space or as a result of any early termination of this Agreement or revocation of the license of the Licensed Space granted to Student under this Agreement.

Authorized Room and/or Building Access

Student agrees that they will not allow another person(s) to occupy the Licensed Space (other than as expressly allowed under this Agreement), sublet the Licensed Space, or assign this Agreement to another person(s). This Agreement cannot be extended beyond the Term.

To request a room change, Student must (1) meet with the Residence Life and Retention Coordinator regarding the request and (2) fill out and submit a Student Request to the Associate Dean of Students. The Associate Dean of Students will notify Student of the result of the request. As a general rule, Licensed Space swaps and changes requested by Student will be considered in a timely manner. Changes can be made only under special circumstances, if alternative space desired is determined to be vacant, and if approved by the Associate Dean of Students or his or her designee. DCT will oversee the Licensed Space swap and change processes for all Students and Licensed Spaces. Unauthorized moves, unauthorized use, possession, duplication/transfer of room keys, or access devices may result in disciplinary action, a return to the original Licensed Space, and/or termination of this Agreement and eviction from the Complex. Inasmuch as possible, Student will be given 48 hours' notice prior to receiving a new roommate, expect in cases where immediate relocation is deemed necessary by DCT employees.

Student acknowledges and understands that DCT shall have the right at any time to transfer or administratively move Student to another space and that occupancy of the new Licensed Space shall be subject to all Terms and Conditions herein, with the exception that the financial charges assessed will be adjusted where appropriate.

Pursuant to the Administrative Interim Suspension provision of the Handbook, DCT shall have the right to place Student on an interim suspension when there appears to be an immediate threat to the physical or emotional safety of students, staff, faculty, college property, or another member of the larger civil community or when there appears to be an immediate threat to the free movement of any member of the college community. If Student is placed on an interim suspension, Student must immediately vacate the Licensed Space. Immediate or eventual return to the Complex is at the sole discretion of the Dean of Students or his or her designee.

If Student's behavior or actions disturb the peace of the Complex or Licensed Space, or requires excessive or continuing intervention from the Residence Life and Retention Coordinator, and/or DCT employees, and/or UP staff, Student may receive sanctions from the Dunwoody Policies. If found in violation of one or more Dunwoody Policies and/or UP Policies, Student may be removed from the Licensed Space and Complex, in addition to other appropriate sanctions.

The use of the Complex and the Licensed Space are limited to residential student housing use, and are not to be used for any business or commercial use. This includes conducting any online business. Student agrees to follow the "Information Technology Policies" as found in the Handbook. Student organization fundraising activities may be authorized following standard student organization fundraising guidelines, if permitted by the owners of the Complex. Non student organization fundraising is not allowed in Complex or Licensed Space

Visitation Policy

Visitors include non-residents of a specific room or unit, including, but not limited to, other DCT students as well as individuals not enrolled in DCT, including parents and siblings. Visitors must be over eighteen years of age. The student will be held responsible for the behavior of their visitors and for their visitors' adherence to DCT Code and Handbook and UP's Residential Handbook and federal and/or local law. Visitors are allowed from 7:00 am until 10:00 pm Sunday through Thursday and from 7:00 am until 11:59 pm on Friday and Saturday.

The student may not have overnight visitors for more than eight (8) nights per month. Overnight visitors may stay for no more than four (4) consecutive nights in any two week period. Visitation is limited to no more than two overnight visitors per licensed space and not per resident. Prior notification to DCT employees must be made in advance and in writing at least 48 hours before the overnight visitor arrives. The student must also have approval from all roommates present at the time of

overnight visitor and not violate their agreed upon Roommate Contract agreement on overnight visitors.

Room Care and Condition

Student is responsible for the care and condition of his/her Licensed Space and any common areas within the apartment/unit in which the Licensed Space is located. If a Licensed Space becomes excessively unsanitary so as to create health hazards, it will be ordered to be cleaned by Student or by professional cleaning personnel, if necessary, at Student's sole expense. In the event Student fails to adequately clean as ordered or fails to complete such cleaning within the timeframe established by DCT employees, then DCT reserves the right to complete the cleaning and charge Student for all associated costs. Student may be also subject to administrative/disciplinary action. As mentioned in above, 'Visitation Policy', Student is responsible for all of his/her visitors' behavior which includes cleanliness.

Student is responsible for damage beyond normal wear and tear to the Licensed Space or the Complex. Student is responsible for maintaining the condition of his/her Licensed Space and submitting maintenance requests to UP if there are maintenance concerns. If Student litters, defaces, or damages common areas, the Licensed Space, or any other area of the Complex, then Student will be charged for the cost associated with any repair, cleaning, or replacement and any administrative fees associated with the repair, cleaning, or replacement. Upon move-out from the Licensed Space or earlier termination of this Agreement and the right to use the Licensed Space, Student will deliver the Licensed Space in good and clean condition with all of Student's personal property removed.   Student may also be subject to administrative and /or disciplinary actions for damages caused. For damages in shared spaces within the Licensed Space, charges may be billed equally amongst all residents in that Licensed Space and/or apartment/unit unless a specific student claims responsibility. Student will not misuse any appliances. Student understands that Student is solely responsible for the timely payment of any and all utilities to the Licensed Space and/or the apartment/unit in which the Licensed Space is located whether paid directly to the utility or service provider or DCT. Student will immediately notify DCT employees or UP of any damage to the Licensed Space or Complex or interruption of utilities (beyond weather events) upon learning or discovering such damage or interruption.

Student acknowledges, by entering into this Agreement, that they have access to UP's Residential handbook and the following sections; 'Your apartment home', 'Your Community', 'Protecting Yourself', and Maintenance'. These sections highlight the Student's rights and responsibilities for keys, maintenance, trash, decorating walls, HVAC issues, and general room care and condition.

Personal Property of the Student

DCT will not in any event or at any time be responsible for any damage to personal property of the Student or of any other person by reason of fire or other casualty, or for any damage or theft or other loss of such personal property. DCT strongly recommends that the Student maintain fire, casualty, theft, and personal loss insurance (renters' insurance) covering his/her personal property which is located in or about the Licensed Space or Complex. DCT will not hold personal property left behind by the Student after they move out for any length of time and reserves the right to discard or donate such personal property to charity without notification if alternate arrangements have not been agreed upon in writing with DCT employees.

Prohibited Items

The following items are prohibited: water beds, television antennae placed outside of the Licensed Space, any chemical, liquid, or solid identified as hazardous, candles with or without a wick, incense, dart boards, halogen lamps, sun lamps, space heaters without a safety feature, weight lifting equipment, live holiday decorations, and inflatable pools. The student has access to bicycle racks and is not permitted to store or maintain bicycles in Licensed Space. See weapons "Explosives/ Weapons" and "Drugs and Alcohol", below for additional prohibited items. Pets, of any kind, are not allowed in the Licensed Space, see "Emotional Support Animals" for more details.

Explosives/Weapons

Weapons are not permitted. Objects with potential to cause bodily harm to a person are not allowed in the Licensed Space, Complex, or Complex parking lot. Such objects include, but are not limited to ammunition, fireworks, explosives, firearms, BB/Pellet guns, shotguns, stun guns or tasers, knives, bows and arrows, water guns, paintball guns, various martial arts weapons, decorative weapons, and objects deemed threatening in nature by DCT employees.

Drugs and Alcohol

DCT prohibits the possession, use, sale, manufacture, or distribution of illegal drugs, narcotics, and alcohol on school property or as part of any school activity, regardless of location or age of resident. This includes being under the influence of alcohol. The possession of drug and alcohol paraphernalia is also prohibited. This includes items that are used or could be used in connection with drinking games, or rapid, mass, or otherwise dangerous consumption of drugs and/or alcohol. This section also relates to medical and recreational marijuana. Marijuana is classified as an illegal drug under the Federal Controlled Substances Act. In addition, the possession, use, manufacture, sale, or distribution of prescription drugs by a student to whom the medication was not prescribed is prohibited. DCT reserves the right to confiscate, retain, and dispose or/destroy any and all drug and/or alcohol-related items regardless of value or ownership. DCT reserves the right to call local authorities such as the Minneapolis Police Department if DCT deems necessary to report illegal activity. The Complex is tobacco-free with designated tobacco use areas outside of the facility.

Subletting

The student may not assign, sublet, or transfer anyone, including but not limited to other DCT students, this Agreement or any of its rights and obligations. A Student who violates this section will be liable for all expenses incurred by DCT for removal of any third party and may be charged for the full length of the Agreement, even if Student has vacated the Licensed Space.

Cohabitation

Cohabitation is not allowed in the Complex. Cohabitation is defined as a person using the Licensed Space as if that person were living in the room but not actually being assigned as a resident of that Licensed Space or room.

Sexual Harassment and Sexual Assault

Sexual Harassment and sexual assault are not tolerated. Student acknowledges, by entering into this Agreement, that they have read and have access to DCT Code and Handbook which contains a comprehensive sexual harassment and sexual assault policy (p. 174);

and Student has completed mandatory online Title IX training prior to the start of the academic year.

Emotional Support Animals in the Complex

The student requesting an emotional support animal must notify the Associate Dean of Students (jrichardson@dunwoody.edu) for the approval process. As mentioned in "Prohibited Items", pets are not allowed.

Information Technology Policies

Authority

Dunwoody's Vice President for Administration or their designee is responsible for maintaining this policy and responding to questions regarding this policy. The College reserves the right to amend this policy and to limit or restrict the use of its electronic information resources at its sole discretion.

Scope

This policy applies to all individuals who access, use, or control College electronic resources. Those individuals include but are not limited to faculty, staff, students, those working on behalf of the College, and individuals authorized by affiliated institutions and organizations.

Non-compliance

It is the responsibility of every employee and student to comply with the Information Technology Policies of Dunwoody College of Technology. It is also the responsibility of every employee and student to report any Information Technology Policy Non-Compliance to the Information Technology Department for investigation and resolution. The Information Technology Department will document and process all non-compliance issues.

This policy applies to all employees and students. Non-compliance with this policy will result in appropriate disciplinary action up to and including termination.

Acceptable Use Policy

Under its mission and purpose, Dunwoody provides computing resources to Dunwoody students and employees. These resources are for instruction, study, academic research, and the official work of college organizations and offices. To maintain a safe and productive environment for all users of these computing resources, you must:

- Comply with all federal, state, and local laws
- Comply with all Dunwoody rules, policies, and applicable contracts and licenses
- Use only those resources and information that they are authorized to use in the manner and extent to which access was authorized
- Respect the intellectual property, work, and privacy of other users and accounts
- Respect the capacity of these resources by limiting use to reasonable levels
- Protect your username, password, and IDs from unauthorized use
- Cooperate with administrators if presented with information regarding an issue with their account or systems

The following types of activities, although not an exclusive list, are expressly prohibited and may result in appropriate disciplinary action:

- View, damage, transfer, edit or delete other users' files, or communications without authorization
- Use Dunwoody-owned or supplied account, credentials, computer, or network to gain unauthorized access into or compromise the security of any computer system in any location
- Unauthorized and illegal processing, distribution, storage, or sharing of intellectual property or copyrighted material (i.e., music, movies, and software), including the use of unauthorized peer-to-peer file-sharing applications or services, may also be subject to civil and criminal liabilities, including fines and imprisonment
- Engage in any activity that may be harmful to systems or data stored upon said systems, such as sharing your password or account with others, creating or propagating viruses, worms, and Trojans, or disabling or circumventing anti-malware protections or other protective systems
- Use Dunwoody-owned or supplied communications system, such as email or voicemail, to threaten, intimidate, or harass others
- Use Dunwoody-owned or supplied systems or content to distribute political campaign materials or for financial gain, whether personal or commercial, including spam, chain letters, solicitation of business or services, sales of property, etc.
- Abuse of email systems including spoofing sender addresses, forging the identity of a user or machine in an email message, or sending unauthorized all-campus email messages
- Create, store, process, browse, or display any racially offensive, gender-offensive, or likewise obscene material, including pornography
- Consume network or computer resources to the exclusion of another's use; for example, overloading the network with legitimate (i.e., file backup, videos, etc.) or illegitimate (i.e., denial of service attack) activities
- Attach any device or computer not owned or supplied by Dunwoody to the campus network without prior authorization
- Post or transmit Dunwoody's confidential materials, policies, or procedures on websites, electronic bulletin boards, chat rooms, or other publicly accessible digital media, which violate existing laws, regulations, or Dunwoody's policies or codes of conduct

Communication and Collaboration Systems Policy

It is the policy of Dunwoody College of Technology to establish uniform procedures and guidelines pertaining to the operation and utilization of the Communication and Collaboration Systems.

Email, Voice mail, Internet, and Other Electronic Communications

The email, computer, internet, telephone, facsimile, printer, College-owned/provided pagers and cell phones, and voice systems are College property. These systems are in place to facilitate our employee's ability to do their jobs efficiently and productively. To that end, Dunwoody provides these systems for business purposes and use. While occasional use of these systems for personal, non-business use is acceptable, College employees must demonstrate a sense of responsibility and may not abuse system privileges.

All employees should be aware that the College has software systems in place that are capable of monitoring and recording all network traffic to and from any computer employees may use. The College reserves the right to access, review, copy, and delete any information, data, or messages accessed through these systems with or without notice to the

employee or in the employee's absence. The information accessible to the College includes, but is not limited to:

- all email or voicemail messages sent or received,
- all internet or websites visited,
- all chat sessions or electronic bulletin boards participated in,
- all newsgroup activity (including groups visited, messages read, and employee postings), and
- all file transfers into and out of the College's internal networks.

The College further reserves the right to retrieve previously deleted messages from email or voice mail and monitor usage of the internet, including websites visited and any information employees have downloaded. In addition, the College may review Internet and technology systems activity and analyze usage patterns, and may choose to publicize this data to assure that technology systems are devoted to legitimate business purposes. Accordingly, employees should not have any expectation of privacy as to their Internet or technology systems usage and should not use these systems for information they wish to keep private.

Communications and use of email, computers, and Internet, telephone and voice mail systems will be held to the same standard as all other business communications, including compliance with our anti-discrimination and anti-harassment policies. This means that the College does not allow these systems to be used in creating, receiving, sending or storing data that may reasonably be considered to be offensive, defamatory, obscene, or harassing. This data includes, but is not limited to, sexual images and comments, racial and gender-based slurs, or anything that would reasonably be expected to offend someone based on their disability, age, religion, marital status, sexual orientation, political beliefs, national origin, culture or any other factor protected by law. Any such use would violate this policy and may violate other College policies. Additionally, email must not be used to solicit others for commercial ventures, religious or political causes, outside organizations, or other non-business matters. Employees must not use the email or voice mail systems in a way that causes congestion on the systems or that significantly interferes another employee's ability to use the systems. The College expects its employees to use good judgment in the use of our College's systems. Management should be notified of unsolicited, offensive materials received by an employee on any of these systems.

Employees must respect other people's electronic communications. Employees may not obtain unauthorized access to another's email or voice mail messages, except pursuant to direction from the College's executive management and Human Resources for the purposes specified above.

Employees consent to and acknowledge that, compliance with email, computer, Internet, telephone, facsimile, printer, pager, cell phone and voice mail policies are a term and condition of employment. Failure to abide by these policies and rules, or failure to consent to any intercepting, monitoring, copying, reviewing or downloading of any communications or files is subject to disciplinary action up to and including termination of employment with the College. Employees should never, without an appropriate Dunwoody-owned license and permission from the College, copy or distribute, including the College email systems, copyrighted material. Copyrighted material includes, but is not limited to, College and third-party software, database files, and documentation.

Employees must not disseminate, forward, copy or send email correspondence or any other communication to anyone or any employee who has no reasonable need to receive such email. Further, email

and other communications containing misleading, inaccurate, or inappropriate information or references may constitute misconduct by an employee. Employees should always be mindful of the content of their email and other communications because such communications can be later construed against the employee and the College. Email and electronic communications regarding (i) College products, services, or price quotations, and (ii) vendor quotes for purchase by the College of outside parties' products or services are often later construed as binding contracts with the College. These situations may cause unintended and substantial damage and obligations for the College. It is very important to avoid these situations. It is College policy that all email and electronic communications regarding the sale of College products or services and the purchase by the College of goods and services must always contain a clear statement that such communications are "for discussion purposes only and not binding on the College." It is each employee's responsibility to adhere to the College's policies regarding purchasing and sales contracts.

Data Privacy Policy

Dunwoody makes reasonable efforts to maintain data privacy. As a rule, Dunwoody employees will not read your email or files; however, there is no guarantee of data privacy for files, chat, and email messages stored on or transmitted across the College systems or network. Furthermore, Dunwoody reserves the right for designated members of the College's staff to log and examine traffic on the College's network and to retrieve and examine files stored on the College's systems whenever necessary, particularly – but not exclusively – in the following situations:

- If the College receives a subpoena in relation to a court proceeding, Dunwoody will comply with electronic discovery laws requiring the disclosure of digital data, including deleted information that has been restored from backup systems.
- If an individual is suspected of or investigated for an infraction of Dunwoody policies or federal, state, or local laws, the Dunwoody IT Department will provide the appropriate data and assistance to the Office of the Dean of Students or Human Resources Department as part of an authorized investigation.
- If requested by a federal, state, or local law enforcement agency as part of an authorized investigation.

Data Storage

Dunwoody College of Technology has established uniform procedures and guidelines pertaining to the storage and backup of employee data/files on Dunwoody-owned or issued computers. As a benefit of a network account, every user has access to network storage for use, and no one else has the rights necessary to access this individual space. This space – not local hard drives – should be used to store any College data or files that contain confidential information.

Employees are responsible for the data backup of their Dunwoody-owned or issued computer. The IT Department provides each employee a limited amount of secure disk space on the network for storing work-related data. This secured area is included in the scheduled network backup process. Upon request, the IT Service Desk will provide you with a backup-process document and guidance. It is the responsibility of each employee to ensure that their data are stored in this secure disk space. The IT Department (at its discretion) will review requests for additional disk space should the minimum allowance be exceeded.

In addition to on-premise network storage, Dunwoody provides everyone with an Office 365 account, which allows 1TB of storage in OneDrive and can be used as a secure backup location to store data.

Should a Dunwoody issued computer encounter a hard drive issue, which makes the hard drive inoperable, the IT Department will make its best effort to access the hard drive whereby the employee may be provided the opportunity to back up their data to the network.

Confidential Information

Dunwoody's systems contain a large amount of confidential information. All Dunwoody employees have a responsibility to help keep that information private and restricted to only those people who need to know. Along with not sharing account credentials, employees should avoid storing files that contain confidential information on a laptop or in any Internet-accessible storage service such as Dropbox, OneDrive, or Google Drive. Employees should not send confidential information via email or use a rule to automatically forward messages from your Dunwoody email account to a personal email account.

Electronic Data Disposal Policy

All computer systems, electronic devices and electronic media must be properly cleaned of data and software before being transferred outside of Dunwoody College or if being repurposed or reused within DCT. When electronic storage devices cannot be sanitized, the media will be destroyed using IT Department's approved vendors and processes.

The large volume of electronic data stored on computer systems and electronic media throughout DCT includes confidential information as defined in the Data Classification Policy, such as student records, financial data, personnel records and research information. The College is subject to federal laws that set forth responsibilities for protecting this information, copyright laws and software license agreements that protect vendor rights regarding the use of software. Unauthorized disclosure of confidential information may subject the College to legal liability, negative publicity, monetary penalties and loss of funding. This policy outlines the responsibilities for carrying these protective measures.

This policy applies to all departments, faculty, employees, students and contracted personnel that use or maintain DCT information systems or media which contains confidential information. The primary responsibility for sanitizing and/or disposal of data that resides on computer systems or electronic media devices rests with the units that procured, purchased, or leased the electronic media.

Sanitation of a hard drive or other electronic medium means placing the medium in a condition so that the prior data stored on it cannot be read or recovered.

Electronic Media refers to any device that can store data and includes, but is not limited to, computers (servers, desktop, laptop and tablets), disk drives, portable disks, backup tapes, CD-ROMS, flash/thumb drives, portable drives, cell phones and PDAs.

Policy Procedures:

- Deans, directors and department heads are responsible for ensuring proper disposal of any computer related teaching and learning lab equipment in accordance with this policy.
- All College employees are responsible for the proper disposal of non-reusable electronic media, and the removal of sensitive data contained within.

- Software used by IT or vendors responsible for disposal of technology equipment to delete data from computer hard drives must be compliant with Department of Defense standards. Any medium that cannot have its data removed with such software must be physically destroyed.
- The DCT Facilities Department is responsible for the disposition of surplus computer systems and electronic devices that is contracted to a preferred vendor for proper deletion of data and destruction. The vendor must provide DCT Facilities with any destruction of equipment certificate upon removal of technology equipment that may contain sensitive data, such as but not limited to, hard drives, phones, printers, and electronice media.
- Any disposal of computer systems and media must comply with all environmental regulations.
- All confidential College information maintained on electronic media must be carefully removed before the media are made available for re-use within DCT.

Document Retention Policy

The College records of Dunwoody College of Technology are important assets. College records include essentially all records you produce as an employee, whether paper or electronic. A record may be as obvious as a memorandum, an email, a contract, or a case study, or something not as obvious, such as a computerized desk calendar, an appointment book, or an expense record.

The law requires the College to maintain certain types of school records, usually for a specified period. Failure to retain those records for those minimum periods could subject you and the College to penalties and fines, cause the loss of rights, obstruct justice, spoil potential evidence in a lawsuit, place the College in contempt of court, or seriously disadvantage the College in litigation.

The College expects all employees to fully comply with any published records retention or destruction policies and schedules, provided that all employees should note the following general exception to any stated destruction schedule: If you believe, or the College informs you, that College records are relevant to litigation, or potential litigation (i.e., a dispute that could result in litigation), then you must preserve those records until the Legal Counsel determines the records are no longer needed. That exception supersedes any previously or subsequently established destruction schedule for those records. If you believe that exception may apply or have any questions regarding the possible applicability of that exception, please contact Human Resources.

From time to time, the College establishes retention or destruction policies or schedules for specific categories of records to ensure legal compliance and to accomplish other objectives, such as preserving intellectual property and cost management. Several categories of documents that bear special consideration are identified below. While minimum retention periods are suggested, the retention of the documents identified below and of documents not included in the identified categories should be determined primarily by the application of the general guidelines affecting document retention identified above, as well as any other pertinent factors.

Tax Records. Tax records include, but may not be limited to, documents concerning payroll, expenses, proof of deductions, business costs, accounting procedures, and other documents concerning the College's revenues. Tax records should be retained for at least six years from the date of filing the applicable return.

Employment Records/Personnel Records. State and federal statutes require the College to keep certain recruitment, employment, and personnel information. The College should also keep personnel files that reflect performance reviews and any complaints brought against the College or individual employees under applicable state and federal statutes. The College should also keep all final memoranda and correspondence reflecting performance reviews and actions taken by or against personnel in the employee's personnel file. Employment and personnel records should be retained for six years.

College Board of Trustees and Board Committee Materials. Meeting minutes should be retained in perpetuity in the College's minute book. A clean copy of all Board and Board Committee materials should be kept for no less than three years by the College.

Press Releases/Public Filings. The College should retain permanent copies of all press releases and publicly filed documents under the theory that the College should have its own copy to test the accuracy of any document a member of the public can theoretically produce against that College.

Legal Files. Legal counsel & Human Resources should be consulted to determine the retention period of particular documents, but legal documents should generally be maintained for a period of ten years.

Marketing and Sales Documents. The College should keep final copies of marketing and sales documents for the same period of time it keeps other corporate files, generally three years. An exception to the three# year policy may be sales invoices, contracts, leases, licenses, and other legal documentation. These documents should be kept for at least three years beyond the life of the agreement.

Development/Intellectual Property. Development documents are often subject to intellectual property protection in their final form (e.g., patents and copyrights). The documents detailing the development process are often also of value to the College and are protected as a trade secret where the College:

- derives independent economic value from the secrecy of the information;
- and the College has taken affirmative steps to keep the information confidential.

The College should keep all documents designated as containing trade secret information for at least the life of the trade secret.

Contracts. Final executed copies of all contracts entered into by the College should be retained. The College should retain copies of the final contracts for at least three years beyond the life of the agreement and longer in the case of publicly filed contracts.

Electronic Mail. Email messages that are not college records are considered transitory correspondence. Transitory messages are created primarily for routine communication and should be deleted once they are no longer useful. For instance, an email message that notifies employees of an upcoming meeting would only have value until the meeting is held.

Email messages that are college records are to be kept by:

- printed in hard copy and kept in the appropriate file; or
- downloaded to a computer file and kept electronically or on disk as a separate file. Electronic emails will also be saved internally through backup servers (tapes) periodically for e#discovery purposes. The

retention period depends upon the subject matter of the email, as covered elsewhere in this policy.

- Backups are maintained solely for systems restoration and disaster recovery purposes, not for email retention purposes

Email

Email is the official communication method at Dunwoody. You should check your Dunwoody email account daily and make sure you are maintaining your mailbox. If you allow your mailbox to increase in size over the allocated storage limit, the mailbox will no longer send and receive email. Forwarding emails to a personal email account is against the policy at Dunwoody.

If you have any issues with or questions about their email account, such as receiving messages in error, not receiving expected messages, accessing email from off-campus, or inability to access your email account, contact the IT Service Desk.

Phishing and Other Forms of Social Engineering

Beware of phishing email messages, attachments, links, or phone calls. Phishing emails have dramatically increased in recent years, and many of them are legitimate looking – often with a spoofed sender address and embedded company logo in the email, attached document, or link. Phishing campaigns have evolved to incorporate installing malware and ransomware as the second stage of the attack - all with the intent to gain an initial foothold into a computer or network. Education and proper backups are key to fighting these threats. See links below, for example, and information on ransomware and phishing:

- Ransomware (https://www.microsoft.com/en-us/wdsi/threats/ransomware)
- Phishing (http://www.microsoft.com/security/online-privacy/phishing-symptoms.aspx)

Use caution when responding to emails, opening attachments, or clicking links. If you are unsure of the authenticity of an email, contact the IT Service Desk or report the email using the Phish Alert Button, or PAB, so IT can verify the email and respond to any security threats as needed. In addition, remember, never enter your username and password unless you have verified the authenticity of the email or website and never open an unsolicited attachment from your email.

Internet Filters and Blocked Websites

To comply with laws such as the Higher Education Opportunity Act (HEOA), secure, confidential information, and guard against issues such as harassment and malware, Dunwoody actively filters traffic to and from the internet. The leadership of Dunwoody approved these filters, and the filters exist to protect Dunwoody and its employees and students from individuals and organizations that intend to do harm. Employees and students should not attempt to circumvent these filters. If there is something on the internet that you cannot do, discuss your needs with the IT Help Desk or the Dean of Students.

Student Laptops

Everyone at Dunwoody receives a laptop, except for programs that offer Bring Your Own Device (BYOD). You must sign a legally binding contract and return the laptop when the relationship with Dunwoody ends or when directed by the IT Department for replacement. Anyone may bring a personal laptop or tablet to campus and connect that device to the guest Wi-Fi network; however, all work or school-related data must be saved securely on Dunwoody resources and not on personal laptops, tablets, or

storage devices. Dunwoody will not reimburse for the purchase or use of a personal laptop or tablet. If your laptop is stolen, you must file a police report, and provide a copy of the report to the IT Service Desk. Once the police report is verified by the IT Service Desk, they will prepare a new laptop for the user. Students are responsible for paying a stolen laptop fee up to $800, which is refundable only if the laptop is returned.

Passwords

The security of Dunwoody College of Technology user accounts has become critically important with the increasing growth of online information, services, and resources that rely on centrally issued accounts for authentication and authorization. It is the responsibility of both the institution and the individual user to safeguard the security and integrity of each person's identity and guard against unauthorized access and use of their account.

The password for an individual's account is the sole key for protecting that account and the Dunwoody resources that the account can access. It proves their identity, authorizes them to access and control important personal and institutional information, grants rights to licensed resources and allows others to trust the identity of the person linked to their assigned user account. Therefore, the strength and privacy of that password are of paramount importance.

Employees are responsible for safeguarding their passwords for access to the communication system. Individual passwords must not be printed, stored online, or given to others.

Identify and Verification Policy

Before distributing user credentials to a student or employee at Dunwoody College of Technology, the members of the Information Technology department shall verify said person's identity using one of three methods. If IT cannot positively identify the user, IT cannot distribute the user credentials.

Method 1: In-person

If the user is at the IT Service Desk in Green 70, members shall use the user's Dunwoody-issued ID or a government-issued ID (E.g., driver's license, state-issued identity card, passport, etc.) to verify the identity the user.

Method 2: Video

If the user is unable to appear in-person, IT will attempt to contact the user via video conferencing technology with cameras. Upon a successful connection, the user shall present an appropriate picture ID card, such as their Dunwoody or government issued ID, along with their face.

Method 3: Personally Identifiable Information

If the user contacts IT by telephone, IT must verify the identity of the user using three forms of personally identifiable information before proceeding with a telephone request. The answers from the user must match the information Dunwoody has on file. The following list includes (but is not exclusive to) permitted identifying information:

- Student ID Number
- Birthdate
- Last 4 digits of Social Security Number
- Home Address
- Home Phone Number

- Mobile Phone Number
- High School

Password Policy

All user accounts require a password that meets the following requirements:

- Length: The password must be at least 14 characters long
- Complexity: Must contain at least three of the following four categories:
  - English uppercase characters (A - Z)
  - English lowercase characters (a – z)
  - Digits (0-9)
  - Non-alphanumeric (e.g., !@#$^*)(_=<>&%+)
- Name: Passwords cannot contain three or more consecutive characters from the user's first name, last name, or username.
- Expiration: Passwords should be changed by Employees and IT Administrators at least every 12 months due to their access to sensitive information.
- Lockout: 30 or more unsuccessful logins must lock out the account for at least 25 hours.
- History: Passwords cannot be the same as the last 12 passwords used
- Inactivity Timeout: Sessions should be disabled after 60 minutes of inactivity

How to Create Strong Passwords:

A strong password can be memorable to you but is nearly impossible for someone else to guess. Learn what makes a good password, and then follow these tips to create your own:

- Make your password unique. Use a different password for each of your personal accounts.
- Make your password longer and more memorable. Spaces are allowed, so feel free to use a phrase such as a lyric from a song or quote from a movie or speech.
- Use letters, numbers, and symbols. Learn to incorporate letters, numbers, and symbols into your phrase so it is not so easily guessed.
- Bad example: "4s&7ya". Small number of characters along with no spacing.
- Good example: "four score and seven years". Large number of characters along with spacing.
- Avoid personal information and common words. Avoid creating passwords from info that others might know or could easily find out.

Employee Personal Hardware & Software Policy

It is the policy of Dunwoody College of Technology to establish uniform procedures and guidelines pertaining to personal hardware and software. No personal hardware, peripherals, or software is allowed on Dunwoody computers. All hardware, peripherals, and software of any kind, including in-house developed programs, are the sole property of Dunwoody College. Any hardware, peripheral, or software must be purchased and installed by the Information Technology Department per the Procurement of Hardware, Peripherals, and Software Policy. With respect to software and data files, personal digital images and music are considered non-compliance with this policy. This policy is enforced to reduce problems with equipment, software failure, damage to data files, and the

introduction of cybersecurity threats. To restrict access to Dunwoody College data and programs and to prevent virus transmission, disks, tapes, and emails belonging to Dunwoody College are not to be used in personal home computers.

Personal Hardware & Software Procedures

The Dunwoody College Information Technology department prohibits you from installing Dunwoody licensed software on personal devices, and likewise, installing personally licensed software on Dunwoody-owned hardware. Any personal hardware, peripherals, or software that are found will be removed. Human Resources will be notified of the non-compliance.

The Information Technology Department is not responsible for the backup or restoration of personal software before removal.

Peer to Peer (P2P) File Sharing Policy

Dunwoody College of Technology has established this policy to maintain student and employee compliance with the Higher Education Opportunity Act (HEOA) P2P File Sharing requirement.

Dunwoody College of Technology employs technical deterrents against P2P File Sharing within the Dunwoody network. The deterrents include blocking P2P network traffic, shaping bandwidth to some Internet sites, monitoring traffic to identify the largest users of Internet bandwidth, and the Dunwoody College Information Technology department will periodically scan each laptop for P2P File Sharing software.

If the scan finds P2P File Sharing software, the Dunwoody College Information Technology department will remove said software and notify the Office of the Dean of Students of its policy non-compliance.

Non-compliance with this policy will result in appropriate disciplinary action up to and including expulsion. Furthermore, Dunwoody reserves the right to initiate a legal investigation.

The College provides access to alternative legal sites for images and music but does not provide pay-for-use subscriptions. Sites made available include, but are not limited to, iTunes, YouTube, and Hulu. Images and music obtained through documented legal procurement on Dunwoody computers for the purpose of entertainment are permissible within the scope of this policy.

Copyright infringement is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act (Title 17 of the United States Code). These rights include the right to reproduce or distribute a copyrighted work. In the file-sharing context, downloading or uploading substantial parts of a copyrighted work without authority constitutes an infringement.

Penalties for copyright infringement include civil and criminal penalties. In general, anyone found liable for civil copyright infringement may be ordered to pay either actual damages or "statutory" damages affixed at not less than $750 and not more than $30,000 per work infringed. For "willful" infringement, a court may award up to $150,000 per work infringed. A court can, in its discretion, also assess costs and attorneys 'fees. For details, see Title 17, United States Code, Sections 504, 505.

Willful copyright infringement can also result in criminal penalties, including imprisonment of up to five years and fines of up to $250,000 per offense.

For more information, please see the website of the US Copyright Office at copyright.gov, especially their FAQs at https://www.copyright.gov/help/faq/.

Specialized Software

The IT Department acquires all software used in the organization, whether purchase or donation. This policy ensures that these assets are properly booked and licensed and that IT has sufficient resources available for the software to run properly in our environment. Any need for additional software should be discussed with the IT Service Desk since we may already have a license for the specific application. You will not be reimbursed for software purchased through other means.

Employee Social Media Policy

"Social Media" means any online tool through which people communicate, including but not limited to:

- Blogs (web-based journals) and micro-blogs (e.g., Twitter);
- Social networking sites (e.g., Facebook, LinkedIn, social gaming sites, chat rooms);
- Message boards and electronic mailing lists (e.g., LISTSERVs);
- Wikis (collaborative web sites, e.g., Wikipedia);
- Video sharing (e.g., YouTube), picture sharing (e.g., Instagram), and music sharing;
- Comments on web sites; and
- Podcasts (i.e., multimedia files distributed over the internet).

Dunwoody College of Technology recognizes the importance of online conversations and engagement and is committed to utilizing social media platforms in a responsible, positive, and productive way.

When utilizing social media, employees should demonstrate:

- transparency in every interaction by clearly identifying themselves and their position at the college when speaking about or on behalf of the College,
- respect for other people, institutions, and organizations as well as copyrights, trademarks, and other legal protections,
- protection of our students' and employees' data privacy, and
- responsibility for your actions and associations.

Employees must comply with all Dunwoody policies when using Social Media both in a professional capacity and in their personal postings, including, but not limited to, policies that address protecting Dunwoody's confidential information, misuse of Dunwoody resources, non-discrimination, and harassment.

Personal Use

When speaking about the College on social media, you must identify yourself honestly, accurately, and completely. You should make clear that you are expressing only personal views, not those of Dunwoody or its other employees. No employee may speak on behalf of Dunwoody without authorization. You assume full responsibility for the content of any personal postings. In addition, if you make online statements in support of Dunwoody, you are required, for legal reasons, to disclose that you work for Dunwoody. Online statements made in support of Dunwoody should be professional in tone and a positive representation of Dunwoody.

Professional Use

Only designated spokespeople may speak "on behalf of the College" on social media; this includes responding to any negative or disparaging comments. When using social media in a professional capacity, you must identify yourself honestly, accurately, and completely. No employee may speak on behalf of Dunwoody without authorization. If you make online statements in support of Dunwoody, you are required, for legal reasons, to disclose that you work for Dunwoody. Online statements made in support of Dunwoody should be professional in tone and a positive representation of Dunwoody.

In addition, Dunwoody encourages employees to keep their professional and personal lives separate on social media, especially when using platforms to connect and interact with students.

Non-Discrimination

In accordance with applicable federal and state laws, such as Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, the Age Discrimination in Employment Act, and the Americans with Disabilities Act and ADA Amendments, Dunwoody does not discriminate on the basis of sex, race, color, national origin, religion, age, disability, marital status, familial status, pregnancy, citizenship, creed, genetic information, veteran status, status with regard to public assistance, membership in a local human rights commission, or any other legally protected status in its education programs and activities, employment policies and practices, or any other areas of the College.

Sex discrimination is prohibited by Title IX of the Education Amendments of 1972, which provides that: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." The College is required by Title IX and its regulations not to engage in sex discrimination in its education program or activity, including admissions and employment.   Sex discrimination is conduct based upon an individual's sex that excludes an individual from participation in, denies the individual the benefits of, or treats the individual differently in, an education program or activity. Sexual Harassment is a form of sex discrimination.

Dunwoody strictly prohibits sexual discrimination and Sexual Misconduct in any form. The College will promptly and equitably respond to all reports of sexual discrimination and Sexual Misconduct.

Questions or concerns about the application of Title IX, sex discrimination, Sexual Harassment, or other forms of Sexual Misconduct may be directed to the College's Title IX Coordinator.

Kelli Sattler
Title IX Coordinator
Dean of Student Affairs
612-381-3437
Office: Pinska Center
ksattler@dunwoody.edu

Questions or concerns may also be directed to the U.S. Department of Education's Office for Civil Rights:

The Office of Civil Rights
U.S. Department of Education
Citigroup Center
500 W. Madison Street, Suite 1475
Chicago, IL 60661-4544

Telephone: (312) 730-1560
TDD: (877) 521-2172
Email: OCR.chicago@ed.gov
http://www.ed.gov/ocr

Concerns about employment discrimination should be addressed to Human Resources.

Special Requests and Complaints

Dunwoody College of Technology is committed to providing a high quality academic environment. As such any concerns or complaints that a student may have will be taken seriously and will be reviewed and followed to resolution. Below, Dunwoody outlined a process for various types of student complaints and special requests.

Student Complaints Disclaimer

Dunwoody College of Technology is licensed and registered through the Minnesota Office of Higher Education, to whom students may want to submit certain types of complaints. To contact the Minnesota Office of Higher Education, please find their process and procedure here (http://www.ohe.state.mn.us/mPg.cfm?pageID=1078).

Students may also contact Registration and Licensing at the address below:

Registration & Licensing
Office of Higher Education
1450 Energy Park Drive, Suite 350
St. Paul, MN 55108
651-256-3965 or 1-800-657-3866
secure fax 651-797-1664
betsy.talbot@state.mn.us

SPECIAL REQUESTS

Special requests of the College can be made by completing a Student Request Form (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUOTBUTlUxQjNGRVk5T which requires a Dunwoody log in account to complete. These requests can be made by the student independently or in consultation with their Program Director, Academic Dean, or Department of Student Affairs. All completed Student Request forms are to be submitted to the Dean of Student Affairs for consideration. Once the request is submitted, the Dean of Student Affairs will notify the student of the determination as promptly as possible. Most determinations will be made immediately with every effort made to respond within ten business days of submission.

Types of Complaints

Academic and Non-Academic

Requested by students regarding the facilitation of their learning and their student role. Please refer to the "Complaint Procedure for Academic and Non-Academic Complaints" below.

Grade Appeals

Please refer to the "Grade Appeal Policy" (p. 138)

Harassment

Please refer to the "Unlawful Harassment and Sexual Conduct Policy" (p. 174)

Sexual Misconduct

Please refer to the "Unlawful Harassment and Sexual Conduct Policy" (p. 174)

Complaint Procedure for Academic and Non-Academic Complaints

Most requests or concerns are best addressed as near as possible to the source of the concern with the individual involved, if appropriate. If the concern is not resolved to the complainant's satisfaction, if the complainant feels unsure of who to talk with or is uncomfortable, or if the complainant has additional concerns, the Office of the Dean of Student Affairs should be contacted, where the request or complaint policy will be executed.

- All requests and complaints received must be in writing using a Request form (https://forms.office.com/Pages/ResponsePage.aspx?id=8YW5M5kbQUe2nEa5mY2bGGVkeBaVxcRNtQk1xv8EqnRUOTBUTlUxQjNGRVk5TEJBMVlYVk8xRDgwTCQlQCN0PWcu) or a Complaint form. Forms are available from the Dean of Student (ksattler@dunwoody.edu) Affairs

- All requests and complaints are to be filed and discussed with the Dean of Student Affairs.

- Any complaint involving medical information will be protected by the College and confidentiality will be maintained. Release will not take place without the student's consent. After the complaint has been discussed, an investigation will occur.

- The length of the investigation will vary depending on the circumstances. Most investigations will be resolved rapidly– basic requests the same day; others where more investigation is required in less than 20 working days; only in the rare complex case will the investigation take more than 60 days. The student will be informed as to the progress in investigating the complaint.

- The student involved will be notified of the outcome of the investigation and resolution process either verbally or in writing dependent upon the complaint.

- It is understood that when the complaint involves two individuals at the College, retaliation is not tolerated and will be dealt with consistency and with College policies. Any retaliation is to be reported immediately to the Dean of Student Affairs' or Provost's Office.

- If the student is concerned with the final outcome, they may submit a written appeal to the Provost within five business days of receiving the outcome. An appeal is not considered a rehearing of the concern, but a review of the outcome based upon the results of the investigation that was undertaken. The student will be notified of the results of the Provost's review in writing within 10 business days of filing the appeal.

- All requests and appeals received by the Dean of Student Affairs will be logged and analyzed for continuous quality improvement purposes consistent with Federal Title IV requirements.

Student Code of Conduct

Guiding Principles

In order for Dunwoody to fulfill its mission of preparing students for their careers, developing into leaders, and engaging in "the better performance of life's duties", the College has a vested interest in maintaining an environment in which all students can pursue their academic responsibilities. Professional and career development is integral to our culture, and it is the expectation that students conduct themselves as they would in all employment situations.

The Student Code of Conduct provides guidance on conduct that is not in accordance with our mission. Conduct that is not in accordance with the pursuit of our mission is subject to sanction by the College. The Code of Conduct is designed to provide students due process, to ensure the protection of all students, and to provide outcomes to conduct violations. These procedures are not courts of law nor should be seen as a replacement for such activities, rather these are fair procedures that foster accountability and development of our students and allow the college to serve its mission.

Scope and Reach

The Code of Conduct applies to all students and student organizations at Dunwoody College of Technology. The code applies to all conduct that occurs at any college facility, online platform, college sponsored activity, or student organization activity. At the discretion of the Dean of Students (or delegate), the code shall apply to off campus conduct that adversely affects a college interest or potentially violates a college policy.

Dual Membership

Students are, simultaneously, members of our college community and civic citizens. Therefore, students are responsible for their actions within the College and to the larger civic community.

Filing a Report

- You may have witnessed a violation occur, or have been directly impacted by a code of conduct violation and need to report the incident. Additionally, you may have spoken to a faculty or staff member and they told you to fill out an incident report. You can access the incident report form at https://dunwoody.edu/campus-life/public-safety/incident-report-form/ .
- The Conduct Officer is an impartial staff member that facilitates the conduct process. This is Associate Dean of Students for our housing students and the Dean of Student Affairs for all other students.
- A written report should be turned into the Conduct Officer. The report should include the following:
  - Detailed and factual description of incident that led to the report
  - Date, time, and location of incident
  - Who was involved including any witnesses, contact information, if known, of all involved
  - Any evidence such as texts, social media posts, pictures, or videos
- In some cases a written report is not feasible due to the immediate nature of the event. In such cases, a report should be filled out immediately following the event.

There are two ways to file a report:

1. Fill out an Incident Report Form on our website: https://dunwoody.edu/campus-life/public-safety/incident-report-form/
2. Email a detailed description of the incident to
   a. For housing residents: John Richardson, Associate Dean of Students, **jrichardson@dunwoody.edu**.
   b. For all students: Kelli Sattler, Dean of Student Affairs, **ksattler@dunwoody.edu**

The Conduct Officer will examine the report to determine if an investigation of the report should be pursued based on four pieces of information:

1. The factual merit of the report
2. The current conduct standing of involved students
3. If any policy violations have occurred
4. If any sanctions could be imposed

Notification of a Report

Should an investigation be determined, then a notification will be sent to the complainant and the accused that a code of conduct violation report has been filed and the steps involved in the process. Additionally, a copy of the code of conduct will be provided as a reference. If no action is determined necessary, then the report will stay on file for future reference should the need arise. The notification will occur in no less than 10 college days from the day the report is filled with the Office of the Dean of Student Affairs.

Acceptance of Incident

Students accused of a code of conduct violation have the right to the conduct process. However, should the accused student accept responsibility for the alleged code of conduct violation, they can waive their right to a hearing and all associated procedures and accept their sanction(s) from the Conduct Officer. A written notification will be sent to the accused detailing the outcome of the meeting, sanctions imposed, and the appeal process.

Notification of a Conduct Meeting

The accused student will receive a notification of a conduct meeting. The notice will include:

• Date
• Time
• Location of the meeting
• A copy of the code of conduct with the specific violation highlighted

If the student fails to appear for the meeting, then the conduct process continues and a decision will be made with all available evidence.

During the meeting, the accused has the ability to explain the events as they remember or turn in any additional evidence. The meeting is between the accused and the Conduct Officer. Other attendees, either at the same meeting or at different times may include; faculty, staff, the complainant, or other students with pertinent information. With consent from the student, all meetings may be audio recorded and recordings become property of the College.

After the Conduct Meeting is held and all evidence is collected and reviewed, the Conduct Officer will determine if it is more likely than not that a violation of the code of conduct occurred. The College uses the preponderance of evidence for determining the outcome of all conduct report investigations. In other words: is it more likely than not that a violation occurred? A written notification will be sent to the accused detailing the outcome of the meeting, sanctions imposed, and the appeal process.

Notification of a Conduct Hearing and Hearing Guidelines

In some circumstances and/or due to the severity or complexity of the incident, the Conduct Officer may determine that the violations require a disciplinary hearing. The hearing allows for the accused to state the events as they remember or bring any additional evidence.

The Conduct Officer may assemble a conduct panel to complement the adjudication process. The Conduct Panel recommends an outcome to the Conduct Officer. With the student's consent, all hearings may be audio recorded with recordings become property of the College.

Conduct Panel: A conduct panel may include members of the following groups:

• College staff
• College faculty
• Members of the President's cabinet
• Members of the Academic Deans Council
• The student body
  • When students are permitted on the panel, the accused should sign a consent to release educational records to the student(s) serving on the panel. Failure to sign the consent creates an agreement that no student shall be on the panel.

The accused student will receive a notification of a conduct hearing from the Conduct Officer. The notice will include:

• Date of the hearing
• Time of the hearing
• Location of the hearing
• Whether there will be a conduct panel present
• A copy of the code of conduct for reference.

Hearing Guidelines

• The accused will receive advanced notice of the allegations and the reason for the hearing. The accused may choose to not attend the hearing, in such cases the conduct panel will continue to make their decision based on all evidence available.
• This is a college conduct hearing that is held in private and is not a legal hearing.
• Student(s) may bring someone (family member, friend, etc.) to accompany them to the hearing for support. The Conduct Officer has the right to decide who has entry to the hearing. Any disruptions to the hearing by any person may result in immediate removal from the hearing.
• The Conduct Panel has the ability to listen to any person associated with the event, and/or has pertinent information about the event, or people involved in the event. Additionally, the panel has access to all evidence such as videos, captured social media posts, incident reports, and academic history. The Conduct Panel may ask for more evidence or information regarding the event.
• As in all conduct violation allegations, the Conduct Panel will use the preponderance of evidence for determining the outcome of all conduct investigations. This decision will be communicated to the Conduct Officer in writing.
• After the hearing, a written notification will be sent to the accused detailing the outcome of the hearing, sanctions imposed, and the appeal process, if any.

Administrative Interim Suspension

In some conduct investigations, students may be placed on an interim suspension. An interim suspension is not considered a conduct decision

but, rather, a measure to ensure the normal operation of the College. An interim suspension may occur:

- When there appears to be an immediate threat to the physical or emotional safety of students, staff, faculty, college property, or another member of the larger civil community
- When there appears to be an immediate threat to the free movement of any member of the college community
- For no longer than 2 weeks

Non-Retaliation Clause

Throughout the conduct process retaliation is strictly prohibited. This includes, but is not limited to, behavior that is perceived as or is threatening, abusive, hateful, or otherwise intended to seek harm on another individual involved in the conduct process with the intention to reduce their representation in such process. A separate conduct case will be initiated to investigate any accusation of retaliation with compounding sanctions.

Conduct Offensives

The following is given only as a list of examples that my constitute a conduct offense while on campus or in the online learning environment. The College may also sanction other behavior not listed below:

- **Abuse of the code of conduct**: Behavior that is intended to use the code of conduct for another purpose with the intent to manipulate or disrupt the college policy or cause harm on another person.
- **Academic dishonesty**: Behavior such as cheating, plagiarism, falsifying data, or deception within the learning environment. Please see syllabi for Academic Program specific information.
- **Classroom disruptions**: Behavior in the classroom, lab, or during off site learning engagements that is considered inappropriate, disrupts the normal operation of the learning environment, and/or non-compliant with professional standards.
- **Destruction of college property, vandalism**: Damage, destruction, or altering college property. Defacing college property with offensive graffiti, slogans or any other altercation of college property meant to disparage or intimidate others.
- **Disorderly conduct**: Behavior that is considered obstructive or disruptive that interferes with normal college operations or inappropriate acts of disobedience towards college staff or faculty such as failure to comply with emergency procedures.
- **Falsification**: Deliberately providing incorrect, false, or misleading information to the college with the intention to harm, mislead, defraud, or gain an advantage.
- **Hazing**: Any behavior that is perceived as threatening or endangers a student or physical property for initiation into or affiliation with any student club, group, or professional organization.
- **Illegal or unauthorized possession or use of drugs or alcohol**: The College prohibits the possession, use, or distribution of illegal drugs, narcotics, recreational marijuana, medical marijuana, and alcohol on school property or as part of any school activity, regardless of location.
- **Rioting**: The assembly of three or more people with the intention to disrupt the normal operation of the College. This includes, but is not limited to, behavior that is perceived as or is threatening, property damage, chanting offensive slogans or any other action meant to disparage or intimidate others, blocking of emergency exits or other emergency services, or insubordination of an official college direction.

- **Sexual assault (reference Title IX section)**: Behavior that is in violation of our "Sexual Misconduct" policy. Please see, "Sexual Misconduct" policy. (https://catalog.dunwoody.edu/catalog-student-handbook/student-rights-responsibilities/unlawful-harassment-sexual-conduct-policy/)
- **Student appearance**: Clothing should be appropriate for the work being performed. Students are expected to maintain a neat, clean appearance. Students should not wear any clothing that may be deemed offensive, i.e. wearing or displaying, while on campus or presenting themselves online, any symbols that are designed to, or have the effect of, harassing, demeaning, intimidating, or disparaging any legally protected minority.
  - **Safety wear**: Students in clinical, internship, shop and laboratory classes should wear clothing typical of the field of work. Shop coats, aprons, coveralls or other protective garments are recommended for many courses. Students are responsible for providing personal safety wear required in some courses, such as protective goggles, earplugs, gloves, and hard hats. Items purchased elsewhere must meet applicable state and federal requirements. Caps or hairnets, which fully restrain long hair, may also be required in certain work environments. Faculty will provide students with a list of safety items necessary for the learning environment.
- **Technology**: Any violation to the College's Technology Policies, please see the full Information Technology Policies, (p. 163) including, but not limited to the following:
  - Use Dunwoody-owned/supplied communications system, such as e-mail or voicemail, to threaten, intimidate, or harass others. Use Dunwoody-owned/supplied systems or content for the distribution of political campaign materials or for financial gain, whether personal or commercial, including spam, chain letters, solicitation of business or services, sales of property, etc.
  - Abuse of email systems including spoofing sender addresses, forging the identity of a user or machine in an e-mail message, and/or sending unauthorized all-campus email messages.
  - Create, store, process, browse, or display any racially- offensive, gender-offensive or likewise obscene material including pornography.
  - Consume network or computer resources to the exclusion of another's use. or example: overloading the network with legitimate (i.e., file backup, videos, etc.) or illegitimate (i.e., denial of service attack) activities.
  - Attach any device or computer not owned or supplied by Dunwoody to the campus network without prior authorization.
  - Post or transmit Dunwoody's confidential materials, policies, or procedures on websites, electronic bulletin boards, chat rooms, and/or other publicly accessible digital media, which violate existing laws, regulations, or Dunwoody's policies or codes of conduct.
- **Theft**: The act of taking property or goods from another person, college facility, or student organization without consent.
- **Threatening, violent, or aggressive behavior**: Any physical, mental, or verbal behavior that is perceived as threatening or endangers the health, safety, and wellness of another individual; the normal operation of the college or college facilities; or that is perceived as promoting or promotes hatred, violence or prejudice within our community or towards another individual or group. Chanting offensive slogans or any other action meant to disparage or intimidate others.

- **Unauthorized use or misuse of college facilities**: Inappropriate use of college facilities such as labs, property, or technology. Unauthorized entry into college facilities including databases, college property, or storage locations.
- **Violation of college rules / guest behavior**: Behavior that would constitute a violation of any college policies, procedures, or rules. Students are responsible for the behavior and actions of their guests.
- **Violation of laws**: Any behavior that violates city, state, county, local, or federal laws.
- **Weapons and fireworks**: Weapons, objects perceived as weapons, or dangerous articles are not allowed on college property or at a college sponsored activity. This is includes, but not limited to, swords, guns, pellet guns, incendiary devices, explosives or dangerous chemical/biological agents. Fireworks are not allowed on college property.

Sanctions

The following sanctions may be imposed on any student or student organization found to be in violation of the code of conduct or any other college policy. The sanction will be in relation to the violation as more severe or pervasive violations will result in more severe sanctions. The following list is not exclusive as other sanctions may be imposed that fit within the guiding principles of this policy.

The following sanctions may include additional conditions such as a reflection activity, restitution of financial damages, mental health counseling, meeting with staff on a rotating basis, removal of college property, failing an academic course, or pursuing legal actions.

- **Warning**: A written or verbal notification to a student that their behavior has violated the code of conduct.
- **Probation**: The conditions of the probation are based on the intensity of the violation. While on probation, if the student violates another college policy or does not follow the stipulations of the probation, then they may be suspended from the College. The probation notification explains: the stipulations of the probation, the length of the suspension, assigned probation conditions, appeal options, and an explanation that any further violation of the code of conduct or failure to follow the stipulations of the probation may result in immediate suspension from the college.
- **Suspension**: A suspension means that the violation was severe enough to involuntarily separate the student from the College for a certain length of time. The suspension notification explains the stipulations of the suspension, the length of the suspension, assigned suspension conditions, appeal options, and college reentry conditions.
- **Expulsion**: An expulsion means that the violation was severe enough to permanently and involuntarily separate the student from the College. The notification explains the stipulations of the expulsion and the assigned expulsion conditions.

Appeal Procedure

A sanction imposed by the Conduct Officer may be appealed by the complainant or accused student. For housing students, the appeal must be delivered to the Dean of Student Affairs, Kelli Sattler, **ksattler@dunwoody.edu**, within 10 days of receipt of the sanction notification. For all other students, the appeal must be delivered to the Provost office, Scott Stallman, **sstallman@dunwoody.edu**, within 10 days of receipt of the sanction notification. Appeals are only based on the following:

- Concerns over due process during the conduct process
- Inappropriate or arbitrary sanctions
- New evidence has become available that was not available during the conduct process

The Dean of Student Affairs may form an Appeals' Committee consisting of the Provost, the appropriate Academic Dean and/or Program Director, and the Dean of Student Affairs being the chair of the committee for a minimum of three members. The Appeals' Committee may conduct a new hearing or review any materials including recordings from the initial conduct process. Additionally, they may start a brand new conduct investigation. The decision of the Appeals' Committee is final and cannot be overturned, altered, or dismissed.

Housing

The code of conduct applies to all residents living in our housing facility. Please see our Housing Policy section (p. 161) for more detailed information. Any questions can be directed to John Richardson, Associate Dean of Students, jrichardson@dunwoody.edu.

Peaceful assembly and expression

Dunwoody College of Technology acknowledges the importance of providing members of the College community with the rights of freedom of expression, petition, and peaceful assembly. This policy informs students of the manner in which they may engage in expression at the College, while ensuring continuity of educational operations.

Dunwoody College of Technology retains the right to establish reasonable time, place, and manner restrictions concerning acts of expression in order to preserve the educational and business functions of the College. This policy does not apply to expression that falls outside Constitutional protection, such as libel, slander, obscenity, "true threats," or speech that incites imminent violence or law-breaking.

Time

Events may occur only between the hours of 8 a.m. and 5:00 p.m. Events outside of these hours are permitted on campus only by registered student groups, with prior approval and in accordance with applicable rules.

Place

The College has designated the following area for students to engage in expression and assembly outside of the classroom: **outside the East entrance of the main building (in-between main and Warren).**

Students or student organizations who want to use this designated area are required to register (ksattler@dunwoody.edu) with the Dean of Student's Office at least two days prior to using the space. Requests will not be denied based on the subject matter of the expression. Where expression or assembly is threatening, inciting of violence, or harassing such that it disrupts college activities, students will be directed to cease activities and disperse or leave the premises.

Student Right To Know

Student Achievement

Dunwoody College of Technology, in an effort to provide institutional transparency to our stakeholders, Dunwoody provides institutional statistics (https://dunwoody.edu/about/accountability/student-achievement/) outlining retention rates, graduation rates, placement

rates, student to faculty ratio, and other data which demonstrates the characteristics of the stakeholders we serve and the quality of service Dunwoody provides.

Federal law requires colleges and universities to provide certain information to current and prospective students and their parents. In order to facilitate that disclosure, Dunwoody provides a comprehensive list of Student Right to Know information (https://dunwoody.edu/about/accountability/student-right-to-know/).

Unlawful Harassment and Sexual Conduct Policy

I. Introduction

Dunwoody (also referred to as "the College") is committed to maintaining a learning and working environment free from discrimination and intimidation, including harassment and Sexual Misconduct. The College's mission is best accomplished in an atmosphere of professionalism which, in turn, is supported by mutual respect and trust. Dunwoody expects all students and employees and others doing business with Dunwoody to work toward this goal.

This Policy outlines Dunwoody's community expectations to ensure a campus free from Sexual Misconduct, the steps for recourse for those individuals who have been subject to Sexual Misconduct, and the procedures for determining whether a violation of College Policy has occurred. The Policy applies to the following forms of sex discrimination, which are referred to collectively as "Sexual Misconduct": Title IX Sexual Harassment, Non-Title IX Sexual Harassment, Sexual Assault, Domestic Violence, Dating Violence, Stalking, and Sexual Exploitation.

Notice of Non-Discrimination

In accordance with applicable federal and state laws, such as Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, the Age Discrimination in Employment Act, and the Americans with Disabilities Act and ADA Amendments, Dunwoody does not discriminate on the basis of sex, race, color, national origin, religion, age, disability, marital status, familial status, pregnancy, citizenship, creed, genetic information, veteran status, status with regard to public assistance, membership in a local human rights commission, or any other legally protected status in its education programs and activities, employment policies and practices, or any other areas of the College.

Sex discrimination is prohibited by Title IX of the Education Amendments of 1972, which provides that: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance." The College is required by Title IX and its regulations not to engage in sex discrimination in its education program or activity, including admissions and employment.
  Sex discrimination is conduct based upon an individual's sex that excludes an individual from participation in, denies the individual the benefits of, or treats the individual differently in, an education program or activity. Sexual Harassment is a form of sex discrimination.

Dunwoody strictly prohibits sexual discrimination and Sexual Misconduct in any form. The College will promptly and equitably respond to all reports of sexual discrimination and Sexual Misconduct.

Questions or concerns about the application of Title IX, sex discrimination, Sexual Harassment, or other forms of Sexual Misconduct may be directed to the College's Title IX Coordinator.

Kelli Sattler, Ed.D.
Title IX Coordinator
Dean of Student Affairs
612-381-3437
Office: Pinska Center
ksattler@dunwoody.edu

Questions or concerns may also be directed to the U.S. Department of Education's Office for Civil Rights:

The Office for Civil Rights
400 Maryland Avenue, SW
Washington, DC 20202-1100
Telephone: (800) 421-3481
TDD: (800) 877-8339
Email: OCR.chicago@ed.gov
http://www.ed.gov/ocr (http://www.ed.gov/ocr/)

II. Scope of Policy

This Policy applies to all Dunwoody community members, including students, employees, faculty, administrators, staff, applicants for admission or employment, and third parties such as trustees, volunteers, vendors, independent contractors, visitors, and any individuals and entities that do business with Dunwoody regularly or temporarily employed, studying, living, visiting, conducting business or having any official capacity with Dunwoody or on Dunwoody property. This Policy may also apply to individuals who interact with College community members under certain circumstances. All Dunwoody community members are required to follow Dunwoody policies and local, state, and federal law.

This Policy applies to Sexual Misconduct committed by or against a Dunwoody community member, including conduct occurring on campus or Dunwoody property, conduct that occurs at Dunwoody-sanctioned events or programs that take place off campus, such as study abroad and internships, and off campus conduct that may (1) have continuing adverse effects on campus, Dunwoody property, or in a Dunwoody program or activity, (2) substantially and unreasonably interfere with a community member's employment, education or environment on campus, Dunwoody property, or in a Dunwoody program or activity, or (3) create a hostile environment for community members on campus, Dunwoody property, or in a Dunwoody program or activity.

This Policy applies to Sexual Misconduct within the scope of Title IX, as well as Sexual Misconduct committed by or against a College community member that does not fall within the scope of Title IX. More information about what Sexual Misconduct falls within the scope of Title IX is provided in the section V. Prohibited Conduct below and more information about the process applicable to different types of Sexual Misconduct is provided in the section X. General Provisions for Complaint Resolution Process below.

This Policy applies regardless of the sexual orientation or gender identity of any of the parties.

III. Definitions

Complainant refers to an individual who is alleged to be the victim of conduct that could violate this Policy.

Respondent refers to an individual who has been reported to be the perpetrator of conduct that could constitute a violation of this Policy.

A **report** is an account of the Sexual Misconduct that has allegedly occurred that has been provided to the College by the complainant, a third party, or an anonymous source.

A **formal complaint** is a document filed by a complainant or signed by the Title IX Coordinator alleging a violation of this Policy and requesting that the College investigate the allegation of the Policy violation. A formal complaint begins the complaint resolution process as set forth in section X. General Provisions for Complaint Resolution Process below.

Sexual Misconduct as used in this Policy means the following forms of sex discrimination and other misconduct: Title IX Sexual Harassment, Non-Title IX Sexual Harassment, Sexual Assault, Stalking, Domestic Violence, Dating Violence[1],and Sexual Exploitation.

> [1]Some instances of Stalking, Domestic Violence, and Dating Violence may not be sexual in nature. For purposes of this Policy, the term "Sexual Misconduct" encompasses all instances of Stalking, Domestic Violence, and Dating Violence (as those terms are defined in this Policy), regardless of whether there is a sexual component to the behavior.

IV. Prohibited Conduct

The College prohibits the following forms of Sexual Misconduct: Title IX Sexual Harassment, Non-Title IX Sexual Harassment, Sexual Exploitation, Sexual Assault, Domestic Violence, Dating Violence, and Stalking, as each term is defined below. Aiding others in acts of Sexual Misconduct also violates this Policy.

A. Title IX Sexual Harassment

As used in this Policy, Title IX Sexual Harassment includes conduct on the basis of sex that satisfies one or more of the following definitions, when the conduct occurs (1) in the College's education program or activity and (2) against a person in the United States.

1. **Title IX Quid Pro Quo Harassment:** Title IX Quid Pro Quo Harassment occurs when an employee of the College, including a student-employee, conditions the provision of an aid, benefit, or service of the College on an individual's participation in unwelcome sexual conduct. Such unwelcome sexual conduct could include, but is not limited to, sexual advances, requests for sexual favors, sexually motivated physical contact or other verbal, nonverbal, or physical conduct or communication of a sexual nature.

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[1]Some instances of Stalking, Domestic Violence, and Dating Violence may not be sexual in nature. For purposes of this Policy, the term "Sexual Misconduct" encompasses all instances of Stalking, Domestic Violence, and Dating Violence (as those terms are defined in this Policy), regardless of whether there is a sexual component to the behavior.

1. **Title IX Hostile Environment Harassment:** Title IX Hostile Environment Harassment is unwelcome conduct on the basis of sex determined by a reasonable person to be so severe, pervasive, and objectively offensive that it effectively denies a person equal access to the College's education program or activity.

Multiple instances of the following conduct, or other unwelcome conduct on the basis of sex, may constitute Title IX Hostile Environment Harassment:

- Unwelcome sexual flirtations, advances, or propositions;
- Requests for sexual favors;
- Punishing or threatening to punish a refusal to comply with a sexual-based request;
- Offering a benefit (such as a grade, promotion, or athletic participation) in exchange for sexual favors or other verbal or physical conduct of a sexual nature;
- Verbal abuse of a sexual nature, obscene language, gender- or sexually-oriented jokes, verbal commentary about an individual's body, sexual innuendo, and gossip about sexual relations;
- The display of derogatory or sexually suggestive posters, cartoons, drawings, or objects, or suggestive notes or letters or e-mails or text messages or in a public space;
- Visual conduct such as leering or making gestures;
- Sexually suggestive comments about an individual's body or body parts, or sexual degrading words to describe an individual;
- Unwanted kissing;
- Unwelcome touching of a sexual nature such as patting, pinching or brushing against another's body;
- Unwelcome verbal or physical conduct against an individual related to the individual's gender identity or the individual's conformity or failure to conform to gender stereotypes;
- Cyber or electronic harassment of a sexual nature.

The circumstances that may be considered when determining whether conduct was so severe, pervasive, and objectively offensive that it effectively denies a person equal access to the College's education program or activity include, but are not limited to:

- The frequency of the conduct;
- The nature and severity of the conduct;
- Whether the conduct was physically threatening;
- The effect of the conduct on the victim's mental or emotional state;
- Whether the conduct was directed at more than one person;
- Whether the conduct arose in the context of other discriminatory conduct;
- Whether the conduct was merely a discourteous, rude, or insensitive statement;
- Whether the speech or conduct deserves the protection of academic freedom.

3. **Sexual Assault, Domestic Violence, Dating Violence, and Stalking** as those terms are defined below (when such conduct occurs (1) in the College's education program or activity and (2) against a person in the United States).

For the purposes of the Title IX Sexual Harassment and Non-Title IX Sexual Harassment (see below) definitions, conduct is **unwelcome** when the individual did not request or invite and regarded it as undesirable or offensive. The fact that an individual may have accepted the conduct

does not mean that they welcomed it. On the other hand, if an individual actively participates in conduct and gives no indication that they object, then the evidence generally will not support a conclusion that the conduct was unwelcome. That a person welcomes some conduct does not necessarily mean that person welcomes other conduct. Similarly, that a person willingly participates in conduct on one occasion does not necessarily mean that the same conduct is welcome on a subsequent occasion. Whether conduct was unwelcome may be determined based on the context and circumstances of the encounter or incident.

One the Basics of Sex

For the purposes of the Title IX Sexual Harassment and Non-Title IX Sexual Harassment (see below) definitions, conduct is **on the basis of sex** when it is sexual in nature or is referencing or aimed at a particular sex.

Reasonable Person

For the purposes of the definition of Title IX Hostile Environment Harassment and Non-Title IX Hostile Environment Harassment, **reasonable person** means a reasonable person in the shoes of the complainant, considering the ages, abilities, and relative positions of authority of the individuals involved in an incident.

Education Program or Activity

At a minimum, the College's **education program or activity** includes all of the operations of the College, including (1) locations on campus or otherwise owned or controlled by the College, such as residence halls and learning spaces, (2) locations, events, or circumstances over which the College exercised substantial control over both the respondent and the context in which the alleged Sexual Misconduct occurred, such as College-sponsored off-campus activities, and (3) any building owned or controlled by a student organization that is officially recognized by the College. Whether alleged conduct occurred in the College's education program or activity is a fact specific analysis.

B. Non-Title IX Sexual Harassment

While Title IX requires that the alleged conduct meet a certain threshold before it is considered Title IX Sexual Harassment, the College also prohibits unwelcome conduct on the basis of sex (1) that may not rise to the level of Title IX Sexual Harassment (as defined above), (2) that did not occur in the College's education program or activity, but may nevertheless cause or threaten to cause an unacceptable disruption at the College or interfere with an individual's right to a non-discriminatory educational or work environment, or (3) that did not occur against a person in the United States.[2]

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[2]*Conduct cannot constitute both Title IX Sexual Harassment and Non-Title IX Sexual Harassment.*

Accordingly, if conduct is determined to be part of a finding of Title IX Sexual Harassment, then that conduct will not be separately analyzed as Non-Title IX Sexual Harassment.

As used in this Policy, Non-Title IX Sexual Harassment is

1. Non-Title IX Quid Pro Quo Harassment: Non-Title IX Quid Pro Quo Harassment occurs when an employee of the College, including a student-employee, conditions the provision of an aid, benefit, or service of the College on an individual's participation in unwelcome sexual conduct. Such unwelcome sexual conduct could include, but is not limited to, sexual advances, requests for sexual favors, sexually

motivated physical contact or other verbal, nonverbal, or physical conduct or communication of a sexual nature.

2. Non-Title IX Hostile Environment Harassment: Non-Title IX Hostile Environment Harassment is unwelcome conduct on the basis of sex determined by a reasonable person to be so severe or pervasive that it substantially and unreasonably interferes with an individual's employment or education, or creates an intimidating, hostile, or offensive employment or educational environment.

Examples of Non-Title IX Hostile Environment Harassment may include the same type of conduct listed above for Title IX Hostile Environment Harassment, when such conduct (1) does not rise to the level of being so severe, pervasive, and objectively offensive that it effectively denies a person equal access to the College's education program or activity; (2) does not occur in the College's education program or activity; or (3) does not occur against a person in the United States. The terms "on the basis of sex" and "unwelcome conduct" have the same meanings provided above under the definition of Title IX Sexual Harassment.

Accordingly, if conduct is determined to be part of a finding of Title IX Sexual Harassment, then that conduct will not be separately analyzed as Non-Title IX Sexual Harassment.

C. Sexual Exploitation
Sexual Exploitation occurs when a person takes non-consensual or abusive sexual advantage of another person for anyone's advantage or benefit other than the person being exploited. Examples of Sexual Exploitation may include, but are not limited to:

- Intentional and repeated invasion of sexual privacy without consent (e.g., walking into the other person's room or private space without conecent);
- Prostituting another person;
- Taking of or distribution of photographs/images, video or audio recording, or electronically broadcasting (e.g., with a web cam) a sexual activity without consent;
- Intentional removal or attempted removal of clothing covering an individual intimate parts without consent;
- Ejaculating on another person without consent;
- Intentionally allowing others to view/hear a sexual encounter (such as letting individuals hide in the closet or watch consensual sex) without consent;
- Viewing or permitting someone else to view another's sexual activity or intimate body parts, in a place where that person would have a reasonable expectation of privacy, without consent;
- Engaging in voyeurism without consent;
- Exposing one's genitals or breasts in non-consensual circumstances;
- Inducing another to expose his or her genitals or breasts in non-consensual circumstances;
- Knowingly transmitting a sexually transmitted disease or sexually transmitted infection to another person without that person' knowledge and consent;
- Distributing or displaying pornography to another in non-consensual or unwelcomed circumstances.

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[3]*Conduct cannot constitute both (1) Sexual Exploitation and (2) Title IX Sexual Harassment or Non-Title IX Sexual Harassment. Accordingly, if conduct is determined to be part of a finding of hostile environment harassment pursuant to either the Title IX Sexual Harassment or Non-Title*

IX Sexual Harassment definition, then that conduct will not separately be analyzed as Sexual Exploitation.

D. Sexual Assault

While Title IX requires that the alleged conduct occurs in a College program or activity against a person in the United States, the College also prohibits Sexual Assault that did not occur in the College's education program or activity or against a person in the United States, but may nevertheless (1) have continuing adverse effects on campus, College property, or in a College program or activity, (2) substantially and unreasonably interfere with a community member's employment, education or environment on campus, College property, or in a College program or activity, or (3) create a hostile environment for community members on campus, College property, or in a College program or activity.

Sexual Assault is any actual or attempted sexual contact, including contact with any object, with another person without that person's consent.As used in this Policy, sexual contact includes intentional contact by the accused with the victim's intimate parts (genital area, groin, inner thigh, buttocks, or breasts), whether clothed or unclothed; touching another with any of these body parts, whether clothed or unclothed; coerced touching by the victim of another's genital area, groin, inner thigh, buttocks, or breasts, whether clothed or unclothed; or forcing another to touch oneself with or on any of these body parts.Sexual Assault includes but is not limited to an offense that meets any of the following definitions:

- Rape: the penetration, no matter how slight, of the vagina or anus with any body part or object, oral penetration by a sex organ of another person, or oral contact with the sex organ of another person, without the consent of the victim.
- Fondling: the touching of the intimate parts (genital area, groin, inner thigh, buttocks, or breast) of another person for the purpose of sexual gratification, without the consent of the victim.
- Incest: sexual intercourse between persons who are related to each other within the degrees wherein marriage is prohibited by law.
- Statutory rape: sexual intercourse with a person who is under the statutory age of consent; in Minnesota, the age of consent is 16.

Sexual Assault also is prohibited by Minnesota law. See Minnesota Statutes Section 609.341 et seq. or the State Law Definitions section below for applicable criminal law definitions of criminal sexual conduct.

Consent is words or overt actions by a person in advance clearly communicating a freely given present agreement to participate in a particular sexual contact or activity. Words or overt actions clearly communicate consent when a reasonable person in the circumstances would believe those words or actions indicate a willingness to participate in a mutually agreed-upon sexual contact or activity. Although consent does not need to be verbal, verbal communication is the most reliable form of asking for and obtaining consent. It is the responsibility of the person initiating the specific sexual contact or activity to obtain consent for that contact or activity.

In cases of alleged Sexual Assault or other Sexual Misconduct, Dunwoody applies the legal definition of consent as well as the principles listed below in determining whether an actor consented to a particular act:

- The use or threatened use of force or other forms of coercion take away a person's ability to give consent to sexual contact.

Coercion is conduct or intimidation that would compel an individual to do something against their will by: (1) the use of physical force, (2) threats of severely damaging consequences, or (3) pressure that would reasonably place an individual in fear of severely damaging consequences. Coercion is more than an effort to persuade or attract another person to engage in sexual activity. Coercive behavior differs from seductive behavior based on the degree and type of pressure someone uses to obtain consent from another.

- Consent is not present simply because a party was silent or failed to resist a particular sexual act. Consent is active, not passive. Silence or the absence of resistance or saying "no," in and of themselves, cannot be interpreted as consent.
- An individual known to be—or who should be known to be—**incapacitated**, as defined by this Policy, cannot consent to sexual activity initiated by another individual. This is true regardless of whether the person voluntarily or involuntarily consumed the drugs or alcohol.

Incapacitation means the physical and/or mental inability to understand the fact, nature, or extent of the sexual situation. Incapacitation may result from mental or physical disability, sleep, unconsciousness, involuntary physical restraint, or from the influence of drugs or alcohol. With respect to incapacitation due to the influence of drugs or alcohol, incapacitation requires more than being under the influence of drugs or alcohol; a person is not incapacitated just because they have been drinking or using drugs. Where drugs and/or alcohol are involved, incapacitation is determined based on the facts and circumstances of the particular situation looking at whether the individual was able to understand the fact, nature, or extent of the sexual situation, whether the individual was able to communicate decisions regarding consent, non-consent, or the withdrawal of consent, and whether such condition was known or reasonably known to the respondent or a reasonable sober person in respondent's position. Use of drugs or alcohol by the accused is not a defense against allegations of Sexual Misconduct.

- Consent to one sexual act does not, by itself, constitute consent to another. Consent has to be specific to the act.
- Consent to engage in sexual activity with one person does not imply consent to engage in sexual activity with another.
- An existing sexual, romantic, or martial relationship does not, by itself, constitute consent.
- Previous relationships or previous consent do not, by themselves, constitute consent to future sexual acts. In cases of prior relationships, the manner and nature of prior communications between the parties and the context of the relationship may be factors in determining whether there was consent.
- Whether an individual actively and willingly participates in conduct may be a factor in determining whether there was consent.
- Consent can be withdrawn at any time. When consent is withdrawn, the sexual activity for which consent was initially provided must stop.
- A person who is not of legal age (16 in Minnesota) cannot consent to sexual activity.

E. Dating Violence

While Title IX requires that the alleged conduct occurs in a College program or activity against a person in the United States, the College also prohibits Dating Violence that did not occur in the College's education program or activity or against a person in the United States, but may nevertheless (1) have continuing adverse effects on campus, College property, or in a College program or activity, (2) substantially and unreasonably interfere with a community member's employment,

education or environment on campus, College property, or in a College program or activity, or (3) create a hostile environment for community members on campus, College property, or in a College program or activity.

Dating Violence is violence committed by a person who is or has been in a social relationship of a romantic or intimate nature with the victim. The existence of such a relationship shall be determined with consideration of the following factors: (i) the length of the relationship; (ii) the type of relationship; and (iii) the frequency of interaction between the persons involved in the relationship. Dating Violence includes, but is not limited to, sexual or physical abuse, such as physical harm, bodily injury, criminal assault, or sexual assault, or the threat of such abuse. For purposes of this Dating Violence definition, consent will not be a defense to a complaint of physical abuse. Dating Violence does not include acts covered under the definition of Domestic Violence.

Dating Violence also is prohibited by Minnesota law. Minnesota law prohibiting domestic abuse includes physical harm, bodily injury, or assault committed between persons involved in a significant romantic or sexual relationship. See Minnesota Statutes Section 518B.01; 609.2242 or the State Law Definitions section below for applicable criminal law definitions of Dating Violence.

F. Domestic Violence

While Title IX requires that the alleged conduct occurs in a College program or activity against a person in the United States, the College also prohibits Domestic Violence that did not occur in the College's education program or activity or against a person in the United States, but may nevertheless (1) have continuing adverse effects on campus, College property, or in a College program or activity, (2) substantially and unreasonably interfere with a community member's employment, education or environment on campus, College property, or in a College program or activity, or (3) create a hostile environment for community members on campus, College property, or in a College program or activity.

Domestic Violence is a felony or misdemeanor crime committed by a current or former spouse or intimate partner of the victim under Minnesota family or domestic violence laws (or if the crime occurred outside of Minnesota, the jurisdiction in which the crime occurred).

Domestic Violence also is prohibited by Minnesota law. See Minnesota Statutes Section 518B.01; 609.2242 or the State Law Definitions section below for applicable criminal law definitions relating to Domestic Violence. While not exhaustive, the following are examples of conduct that can constitute Domestic Violence: (1) physical harm, bodily injury or assault; (2) the infliction of fear of imminent physical harm, bodily injury, or assault; or (3) terroristic threats, criminal sexual conduct, or interference with an emergency call.

For purposes of this Domestic Violence definition, consent will not be a defense to a complaint of physical abuse.

G. Stalking

While Title IX requires that the alleged conduct occurs in a College program or activity against a person in the United States, the College also prohibits Stalking that did not occur in the College's education program or activity or against a person in the United States, but may nevertheless (1) have continuing adverse effects on campus, College property, or in a College program or activity, (2) substantially and unreasonably interfere with a community member's employment, education or environment on campus, College property, or in a College program or activity, or (3) create a hostile environment for community members on campus, College property, or in a College program or activity.

Stalking is engaging in a course of conduct directed at a specific person that would cause a reasonable person to fear for her, his or other people's safety, or to suffer substantial emotional distress.

- **Course of conduct** means two or more acts, including, but not limited to, acts in which the stalker directly, indirectly, or through others (by any action, method, device, or means), follows, monitors, observes, surveils, threatens, or communicates to or about a person or interferes with a person's property.
  - For purposes of this definition, not all communication about a person will be considered to be directed at that person.
- **Reasonable person** means a reasonable person under similar circumstances and with similar identities to the victim.
- **Substantial emotional distress** means significant mental suffering or anguish that may, but does not necessarily, require medical or professional treatment or counseling.

Stalking behavior may include, but is not limited to:

- Repeated, unwanted and intrusive communications by phone, mail, text message, and/or email or other electronic communications, including social media;
- Repeatedly leaving or sending the victim unwanted items, presents, or flowers;
- Following or lying in wait for the victim at places such as home, school, work, or recreational facilities;
- Making direct or indirect threats to harm the victim, or the victim's children, relatives, friends, or pets;
- Damaging or threatening to damage the victim's property;
- Repeatedly posting information or spreading rumors about the victim on the internet, in a public place, or by word of mouth, that would cause a person to feel threatened or intimidated;
- Unreasonably obtaining personal information about the victim.

Stalking is also prohibited by Minnesota law. See Minnesota Statutes Section 609.749 or the State Law Definitions section below for applicable definitions of criminal Stalking.

H. Retaliation and Interference with Process

Retaliation and Interference with Process is any act of intimidation, threat, coercion, or discrimination or any other adverse action or threat thereof against any individual for the purpose of interfering with any right or privilege secured by Title IX, its regulations, or this Policy or because the individual has made a report or complaint, testified, assisted, or participated or refused to participate in any manner in an investigation, proceeding, or hearing under this Policy. Encouraging or assisting others to engage in retaliation or to interfere with the process are also considered Retaliation/Interference with Process and violate this Policy. While the College does not prohibit the parties from discussing the allegations in a formal complaint, acts that could constitute Retaliation and Interference with Process may include, but are not limited to: acts or comments that are intended to discourage a person from engaging in activity protected under this Policy or that would discourage a reasonable person from engaging in activity protected under this Policy; acts or comments that are intended to influence whether someone participates in the complaint resolution process, including the live hearing; acts or comments intended to embarrass the individual; adverse changes in employment status or opportunities; adverse academic action; and adverse changes to academic, educational, and extra-curricular opportunities. Retaliation and Interference with Process may be in person, through social media, email, text, and other forms of communication, representatives, or any other person. Retaliation and

Interference with Process may be present against a person even when the person's allegations of Sexual Misconduct are unsubstantiated.

The College is committed to protecting the rights of the complainant, the respondent, and anyone else involved in the complaint resolution process. Any conduct constituting Retaliation or Interference with Process is a violation of this Policy, which is subject to disciplinary action up to and including termination of employment or expulsion. Concerned individuals should report acts of retaliation to the Title IX Coordinator. For more information, see section XII. Complaints of Related Misconduct below.

V. Responsibilities of Title IX Coordinator and Title IX Team

Dunwoody's Title IX Coordinator is:

Kelli Sattler, Ed.D.
Title IX Coordinator
Dean of Student Affairs
612-381-3437
Office: Pinska Center
ksattler@dunwoody.edu

The Title IX Coordinator is the designated representative of the College with primary responsibility for coordinating Dunwoody's Title IX compliance efforts, including Dunwoody's efforts to end Sexual Misconduct, prevent its recurrence, and address its effects. The Title IX Coordinator oversees and monitors Dunwoody's overall compliance with Title IX-related policies and developments; the implementation and oversight of complaint resolution processes, including investigation and adjudication of formal complaints of Sexual Misconduct; the provision of educational materials and training for the campus community; and monitoring all other aspects of the College's Title IX compliance. These responsibilities include, but are not limited to:

- Ensuring Dunwoody policies and procedures and relevant state and federal laws are followed;
- Informing any individual, including a complainant, a respondent or another individual, about the procedural options and processes used by Dunwoody and about resources available at Dunwoody and in the community;
- Training and assisting Dunwoody employees regarding how to respond appropriately to a report of sex discrimination or Sexual Misconduct;
- Monitoring full compliance with all procedural requirements and time frames outlined in this Policy;
- Evaluating allegations of bias or conflict of interest relating to this Policy;
- Determining whether grounds for appeal under this Policy have been stated;
- Ensuring that appropriate training, prevention and education efforts, and periodic reviews of the College's climate and culture take place;
- Coordinating Dunwoody's efforts to identify and address any patterns or systemic problems revealed by reports and formal complaints;
- Recordkeeping of all incidents reported to the Title IX Coordinator;
- Complying with written notice requirements of the Violence Against Women Act; and
- Assisting in answering any other questions related to this Policy.

Dunwoody's Title IX Team includes: Kelli Sattler, Dean of Student Affairs and Title IX Coordinator, Patricia Edman, Vice President of Human Resources. These team members have a shared responsibility for consulting with and supporting the Title IX Coordinator. Members of the team may also be called upon to investigate or adjudicate formal complaints of Sexual Misconduct, review appeals, and/or facilitate informal/voluntary resolutions to formal complaints. The College reserves the right to outsource actions under this Policy to third parties, including actions of the Title IX Coordinator, investigator, Title IX Hearing Panel members/adjudicators, and appeal panel members.

The Title IX Coordinator may appoint a designee to fulfill the functions of the Coordinator under this Policy. When this Policy refers to actions of the Title IX Coordinator, these actions may be fulfilled by the Title IX Coordinator or the Title IX Coordinator's designee.

VI. Confidentiality

Dunwoody encourages individuals who have experienced Sexual Misconduct to talk to someone about what happened. Privacy and confidentiality have distinct meanings under this Policy. Different people on campus have different legal reporting responsibilities, and different abilities to maintain privacy or confidentiality, depending on their roles at Dunwoody.

In making a decision about whom to contact for support and information, it is important to understand that most Dunwoody employees are not confidential resources, and are therefore obligated to report to Dunwoody any information they receive about Sexual Misconduct. Persons who have experienced Sexual Misconduct are encouraged to consider the following information in choosing whom to contact for information and support, and are encouraged to ask about a person's ability to maintain confidentiality before offering any information about alleged incidents.

A. Confidential Resources
Dunwoody recognizes that some individuals may wish to keep their concerns confidential. Confidential communications are those communications which cannot be disclosed to another person, without the reporter's consent, except under very limited circumstances such as allegations involving the physical abuse, sexual abuse, or neglect of a child (under the age of 18) or vulnerable adult or an imminent threat to the life of any person. Individuals who desire the details of Sexual Misconduct to be kept confidential should speak with a medical professional, professional counselor, minister or other pastoral counselor, or trained victims' advocate. These resources can be found in the Resource section of this Policy.

A person who speaks to a confidential resource should understand that if the person does not report the concern to Dunwoody, Dunwoody will be unable to provide certain supportive/interim measures that would require involvement from Dunwoody (such as issuing a no-contact order), conduct an investigation into the particular incident, or pursue disciplinary action. Individuals who first speak with a confidential resource may later decide to file a formal complaint with Dunwoody or report the incident to local law enforcement.

B. Non-Confidential Communications
Non-confidential communications are those communications with any Dunwoody employee who is not a confidential resource. Only confidential resources can promise confidentiality. All other Dunwoody employees who become aware of incidents or allegations of Sexual Misconduct have a responsibility to report the matter to the Title IX Coordinator. College employees who are not confidential resources will strive to remind an individual of their reporting obligations before the individual has

disclosed a situation that requires reporting to the Title IX Coordinator. If the employee is uncertain whether the information should be reported to the Title IX Coordinator, the employee should seek guidance from the Title IX Coordinator before providing the Title IX Coordinator with any identifiable information regarding the report. Failure of a Dunwoody employee who is not a confidential resource to report allegations of Sexual Misconduct to the Title IX Coordinator may result in disciplinary action.

Although most College employees cannot promise confidentiality, the College is committed to protecting the privacy of individuals involved in a report of Sexual Misconduct. Allegations of Policy violations will be considered private and will only be shared with other Dunwoody employees on a need to know basis, as permitted by law, even if the individuals involved do not specifically request confidentiality. The College will keep confidential the identity of any individual who has made a report or filed a formal complaint alleging a violation of this Policy, as well as any complainant, respondent, and witness, except as permitted by law or to carry out the complaint resolution process pursuant to this Policy. Allegations of Sexual Misconduct will not be shared with law enforcement without the consent of the individual who has alleged the Sexual Misconduct, unless the allegations relate to physical abuse, sexual abuse, or neglect of a child under the age of 18 (see section IX(C) Mandatory Reporting Concerning Minors below for more information) or unless Dunwoody is compelled to do so pursuant to a subpoena or court order.

In addition, although the College will strive to protect the privacy of all individuals involved to the extent possible consistent with the College's legal obligations, the College may be required to share information with individuals or organizations outside the College under reporting or other obligations under federal and state law, such as reporting of Clery Act crime statistics and mandatory reporting of child abuse and neglect. In addition, if there is a criminal investigation or civil lawsuit related to the alleged misconduct, the College may be subject to a subpoena or court order requiring the College to disclose information to law enforcement and/or the parties to a lawsuit. In these cases, personally identifying information will not be reported to the extent allowed by law and, if reported, affected students will be notified consistent with the College's responsibilities under FERPA, as allowed by law.

C. Requests for Confidentiality or Non-Action

When Dunwoody receives a report of Sexual Misconduct, it has a legal obligation to respond in a timely and appropriate manner. Making a report to Dunwoody does not require an individual to begin or participate in a complaint resolution process or to report to local law enforcement. However, based on the information gathered, Dunwoody may determine that it has a responsibility to move forward with the complaint resolution process (even without the participation of the complainant). In a situation in which the complainant requests that their name or other identifiable information not be shared with the respondent, or that no action be taken against the respondent, Dunwoody will evaluate the request considering the following factors: the seriousness of the alleged misconduct, the respective ages and roles of the complainant and respondent, whether there have been other Sexual Misconduct complaints about the same respondent, whether the respondent has a history of arrests or records from a prior school indicating a history of Sexual Misconduct, whether the respondent threatened further Sexual Misconduct or other violence against the complainant or others, or whether the Sexual Misconduct was committed by multiple respondents, whether the Sexual Misconduct was perpetrated with a weapon, whether Dunwoody possesses other means to obtain relevant evidence of the Sexual Misconduct (e.g., security footage, eyewitness, physical evidence),

whether the report reveals a pattern of perpetration (e.g., via illicit use of drugs or alcohol) at a given location or by a particular group, and the extent of any threat to the Dunwoody community.

Dunwoody will take all reasonable steps to respond to the report consistent with the request for confidentiality or request not to pursue an investigation made by the complainant, however, the scope of the response by Dunwoody may be impacted or limited based on the nature of the complainant's request. The College will likely be unable to conduct an investigation into the particular incident or to pursue disciplinary action against the respondent and also maintain confidentiality. Action while honoring the complainant's request could include steps to limit the effects of the alleged Sexual Misconduct and prevent its recurrence that do not involve an investigation or disciplinary action against the respondent or reveal the identity of complainant.

The College will strive to accommodate the complainant's requests for confidentiality or non-action in most cases, to the extent possible consistent with the College's legal obligations. There may be times when, in order to provide a safe, non-discriminatory environment for all students and employees, the College may not be able to honor a complainant's request for confidentiality or non-action. The presence of one or more of the factors above could lead Dunwoody to move forward with a complaint resolution process (even without the participation of the complainant). In this instance, the Title IX Coordinator will inform the complainant and may, at the complainant's request, communicate to the respondent that the complainant asked Dunwoody not to investigate and that Dunwoody determined it needed to do so. A complainant can choose not to participate in any complaint resolution process.

In instances where the College moves forward with a complaint resolution process without the participation of the complainant, the complainant will have the same rights as provided to a complainant under this Policy even if the complainant did not sign the formal complaint.

Clery Act Reporting and Timely Warning

Pursuant to the Clery Act, Dunwoody includes statistics about certain offenses in its annual security report and provides those statistics to the United States Department of Education and Minnesota Office of Higher Education in a manner that does not include any personally identifying information about individuals involved in an incident. In addition, the Clery Act requires Dunwoody to issue a crime alert (timely warning) to the campus community about certain reported offenses which may represent a serious or continuing threat to students and employees. The timely warning may include that an incident has been reported, general information surrounding the incident, and how incidents of a similar nature might be prevented in the future. The timely warning will not include any identifying information about the complainant. In addition, publicly available recordkeeping, including Clery Act reporting and disclosures such as the annual security report and daily crime log, will not include names or other information that may personally identify either party, to the extent permitted by law. To ensure that a complainant's and respondent's personally identifying information will not be included in publicly available recordkeeping, the Title IX Coordinator describes the alleged incidents by removing the complainant's and respondent's names and any other identifiers that would enable the public to identify either party in the context of the incident report.

All Dunwoody complaint resolution processes are conducted in compliance with the requirements of FERPA, the Clery Act, Title

IX, and state and federal law. No information shall be released from such processes except as required or permitted by law and Dunwoody Policy.

Minnesota law requires institutions to collect statistics, without inclusion of any personally identifying information, regarding the number of reports of Sexual Assault received by an institution and the number of types of resolutions. See Minnesota Statute Section 135A.15. Data collected for purposes of submitting annual reports containing those statistics to the Minnesota Office of Higher Education under Minn. Stat. 135A.15 shall only be disclosed to the complainant, persons whose work assignments reasonably require access, and, at the complainant's request, police conducting a criminal investigation. Nothing in this paragraph is intended to conflict with or limits the authority of Dunwoody to comply with other applicable state or federal laws.

VII. Immediate and Ongoing Assistance Following an Incident of Sexual Misconduct

Dunwoody will support any person adversely impacted by Sexual Misconduct. Both Dunwoody and the Minneapolis community provide a variety of resources to assist and support individuals who have experienced Sexual Misconduct or are affected by allegations of Sexual Misconduct. These resources, both immediate and ongoing, are available to all persons irrespective of their decision to report to the College or to law enforcement.

Support services that may be available include, but are not limited to, connecting the individual with appropriate, fair and respectful on-campus and off-campus counseling, health, mental health, victim advocacy, legal assistance, visa and immigration assistance, student financial aid, and support services; making changes to academic, living, transportation, and/or working arrangements; assistance in filing a criminal complaint; and providing information about restraining orders and other available protections and services. Additional information about ongoing assistance is in the section X(G) Supportive/Interim Measures below. To receive information about obtaining support services, individuals should contact the Title IX Coordinator or a confidential resource.

Dunwoody will provide written notification to affected individuals about existing counseling, health, mental health, victim advocacy, legal assistance, visa and immigration assistance, student financial aid, and other services available for victims, both within the College and in the community.

A complete description of Dunwoody and community resources, both confidential and non-confidential, and additional information regarding what to do if you experience Sexual Misconduct is provided in the section XIV Resources at the end of this Policy and on the College's website. Individuals who believe they have been subjected to any form of Sexual Misconduct are encouraged to seek support from these resources.

VIII. Reporting Sexual Misconduct

A. Reporting to the College
The College encourages anyone who has experienced or knows of Sexual Misconduct to report the incident to the College. An individual may report Sexual Misconduct to the College by contacting the following:

Kelli Sattler, Ed.D.
Title IX Coordinator

Dean of Student Affairs
612-381-3437
Office: Pinska Center
ksattler@dunwoody.edu

Students: Dean of Student Affairs, Kelli Sattler (612) 381-3437, Office: Pinska Center, ksattler@dunwoody.edu

Employees: Vice President of Human Resources, Patricia Edman (612) 381-3308, Office: Blue 54, pedman@dunwoody.edu

Reports can be made by telephone, via email, via mail, or in person. Reports may be made at any time, including non-business hours by phone, email, mail, or the College's website.

Reports to the College should include as much information as possible, including the names of the complainant, the respondent, and any other involved individuals, and the date, time, place, and circumstances of the incident, to enable the College to respond appropriately.

When the College receives a report of Sexual Misconduct, the Title IX Coordinator will promptly contact the complainant to discuss the availability of supportive measures with or without the filing of a formal complaint and to explain the process of filing a formal complaint. When a student or employee reports to the College that they have been a victim of Sexual Misconduct, whether the offense occurred on or off campus, the College will provide the student or employee with a written explanation of the student's or employee's rights and options and procedures victims should follow.

The individuals listed above—the Dean of Student Affairs and Title IX Coordinator, and Vice President of Human Resources—along with the President and the Provost are considered officials with authority to institute corrective measures on behalf of the College.

B. Employee Reporting Obligations
In order to enable Dunwoody to respond effectively and to prevent future instances of Sexual Misconduct, all Dunwoody employees who are not confidential resources, who obtain or receive information regarding a possible violation of this Policy must report that information to the Title IX Coordinator. Student employees who receive such information in the course of their work position or duties also must report the information to the Title IX Coordinator. Such report should be made as soon as possible and should include all relevant details needed to assess the situation.   This includes, to the extent known, the names of the complainant, respondent, and other individuals involved in the incident, as well as relevant facts, including the date, time, and location.

Employees who receive such reports should not attempt to "investigate" the allegation or require the reporting individual to provide all of the details surrounding the alleged Sexual Misconduct. To the extent the reporting individual provides detail, that information should be provided to the Title IX Coordinator. Upon receiving a report of alleged or possible Sexual Misconduct, the Title IX Coordinator will evaluate the information received and determine what further actions should be taken consistent with the complaint resolution process and this Policy.

College employees who are not confidential resources and receive a report of Sexual Misconduct should bring the report directly to the Title IX Coordinator and should not share information about the report with any other individual. If the employee is uncertain whether the information should be reported to the Title IX Coordinator, the employee should seek guidance from the Title IX Coordinator before providing the Title IX Coordinator with any identifiable information regarding the report.

Failure of a College employee who is not a confidential resource to report allegations of Sexual Misconduct to the Title IX Coordinator may result in disciplinary action.

C. Mandatory Reporting Concerning Minors

Any Dunwoody employee who becomes aware of the abuse (physical or sexual) or neglect of a child under the age of 18 on campus or in connection with any Dunwoody event, program, or activity must report it immediately to Campus Security and the Title IX Coordinator. In addition, as a mandatory reporter under Minnesota law, such individual must also immediately report the abuse or neglect to the local welfare agency, agency responsible for assessing or investigating the report, police department, or county sheriff.

D. Anonymous Reports

The College will accept anonymous reports of Sexual Misconduct. Reports may be filed anonymously using the College's anonymous online reporting form - https://dunwoody.edu/campus-life/public-safety/title-ix/ The individual making the report is encouraged to provide as much detailed information as possible to allow the College to investigate the report and respond as appropriate. The College will likely be limited in its ability to investigate an anonymous report unless sufficient information is furnished to enable the College to conduct a meaningful investigation.

E. Reporting to Law Enforcement

Some types of Sexual Misconduct prohibited by this Policy, such as Sexual Assault, also constitute criminal conduct. <u>If you are the victim of Sexual Assault or another crime, Dunwoody encourages you to contact law enforcement immediately.</u> Law enforcement can help you obtain medical treatment, can immediately begin an investigation, and can take steps to ensure that evidence is preserved so that the crime may be prosecuted. Dunwoody will, at the direction of law enforcement, provide complete and prompt assistance in obtaining, securing, and maintaining evidence in connection with criminal conduct that violates this Policy.

Reporting potentially criminal conduct to Dunwoody does not require an individual to make a report to law enforcement. However, at the victim's request, Dunwoody will provide assistance in reporting criminal conduct to law enforcement.

Additionally, a decision not to file a criminal complaint does not preclude a complainant from making a formal complaint under this Policy. An individual can bring a complaint under Dunwoody's Policy, even if the individual chooses not to report to law enforcement.

If you would like to report sexual violence to law enforcement, the Minneapolis Police Department can be contacted by calling 911 or (612) 673-5701/ This phone number is a call directly to the Police Department. You will be asked the nature of your call and be connected with specific law enforcement office.

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If you would like to report sexual violence to law enforcement, the Minneapolis Police Department can be contacted by calling 911 or (612) 673-5701. This phone number is a call directly to the Police Department. You will be asked the nature of your call and be connected with specific law enforcement officers who are trained to interact with Sexual Assault victims.

Minnesota law provides individuals who report crimes to law enforcement with certain rights. For further information, consult Crime Victim Rights, a publication of the Minnesota Department of Safety, or Minnesota Statutes Chapter 611A.

F. Harassment Orders, Protective Orders and No-Contact Orders

Individuals who would like to avoid contact with another individual have several options available to them, including seeking a harassment restraining order or protective order from a civil court or requesting a no-contact order from the College.

Harassment restraining orders and orders for protection are legal orders issued by a state court which forbid someone from harassing and/or making contact with another. A harassment restraining order is a court order issued against an alleged harasser, regardless of the relationship between the alleged harasser and the alleged victim, which orders the harasser to stop harassing the victim and/or to have no contact with the victim. An order for protection is a civil court order that protects one family or household member from domestic abuse by another family or household member. The College does not issue harassment restraining orders or orders for protection, but one can be obtained through making an application to the Hennepin County District Court. Petition forms to apply for Harassment Restraining Orders or to seek an Order for Protection are available at the Hennepin County Government Center in downtown Minneapolis, 300 S. 6th Street, Minneapolis, MN 55847. Forms are also available on-line from the Minnesota Judicial Branch website at www.mncourts.gov, but forms must be submitted to the Court Administrator at the Hennepin County Government Center during business hours. Individuals seeking an order for protection may obtain assistance from the Hennepin Domestic Abuse Service Center at the Hennepin County Government Center, 300 S. 6th Street, Room #A-0650 (lower level), Minneapolis, MN 55487. Individuals may schedule an appointment at the Domestic Abuse Service Center by calling (612) 348-5073, or walk-in assistance is available on a limited basis. Individuals seeking a harassment restraining order may seek assistance on a walk-in basis from the Hennepin County Court Self-Help Center at the Hennepin County Government Center, 300 S. 6th Street, 2nd Floor, PSL, Minneapolis, MN 55487.

A no-contact order is a College-issued directive that prohibits one or both parties from communication or contact with another. No-contact orders may be mutual or one-sided. Generally, no-contact orders issued prior to the conclusion of the complaint resolution process will be mutual and serve as notice to both parties that they must not have verbal, electronic, written, or third party communication with one another. To request a no-contact order from the College, individuals should contact Kelli Sattler, Ed.D., Title IX Coordinator and Dean of Student Affairs, 612-381-3437, Office: Pinska Center, ksattler@dunwoody.edu.

The College is responsible for honoring requests for information about available options for orders for protection, restraining orders, and no-contact orders and has a responsibility to comply with and enforce such orders. To request additional information about available options for orders for protection, restraining orders, and no-contact orders, contact the Title IX Coordinator. An order of protection and/or harassment restraining order can be enforced by contacting local law enforcement. A College-issued no-contact order may be enforced by contacting Dunwoody Campus Security or the Title IX Coordinator. The College will fully cooperate with any harassment restraining order and/or order for protection issued by a criminal, civil, or tribal court.

G. Crime Victims Bill of Rights
Pursuant to state law, victims of crime must be informed of their rights under the Crime Victims Bill of Rights. The following is a summary of crime victims' rights under Minnesota law.

When a crime is reported to law enforcement, victims have the right to:

- Request that their identity be kept private in reports available to the public;
- Be notified of crime victim rights and information on the nearest crime victim assistance program or resource;
- Apply for financial assistance for non-property losses related to a crime;
- Participate in prosecution of the case, including the right to be informed of a prosecutor's decision to decline prosecution or dismiss their case;
- Protection from harm, including information about seeking a protective or harassment order at no cost;
- Protection against employer retaliation for taking time off to attend protection or harassment restraining order proceedings; and
- Assistance from the Crime Victims Reparations Board and the Commissioner of Public Safety.

Victims of domestic abuse also have the right to terminate a lease without penalty. Victims of Sexual Assault have the right to undergo a confidential Sexual Assault examination at no cost, make a confidential request for HIV testing of a convicted felon, and are not required to undergo a polygraph examination in order for an investigation or prosecution to proceed. In cases of domestic abuse and violent crime where an arrest has been made, victims also have the right to be provided notice of the release of the offender, including information on the release conditions and supervising agency.

Complete information about crime victims' rights can be found at: https://dps.mn.gov/divisions/ojp/help-for-crime-victims/Pages/crime-victims-rights.aspx

Information about victims' rights is also available from the Title IX Coordinator or from the Minnesota Department of Public Safety, Office of Justice Programs, and in Minnesota Statutes Chapter 611A.

H. Waiver of Drug/Alcohol Violations
Dunwoody strongly encourages reporting instances of Sexual Misconduct. Consequently, individuals who make a good faith report of such information, and individuals who participate in a Sexual Misconduct complaint resolution process, will not be disciplined by Dunwoody for any violation of its drug and alcohol policies in which they might have engaged in connection with the reported incident, except as outlined in this section. Dunwoody, however, reserves the right to require individuals to participate in training or educational programming designed to reduce risk and promote health and wellbeing. The participation in

such training or educational programming will not be reflected on a community member's official records. In addition, Dunwoody may still pursue disciplinary action for the alleged violation of Dunwoody drug and alcohol policies in instances where any other individual is harmed by the conduct constituting a violation of the Dunwoody drug and alcohol policies, where an employee who engaged in a violation of College policy holds a leadership role on campus, including a leadership role over students or employees, or where an employee is engaged in a violation of College policy with a student. In those cases the College may still pursue disciplinary action for the alleged violation of other College policies.

I. Emergency Removal
The College reserves the right to remove a student respondent, in whole or in part, from the College's education program or activity on an emergency basis. Prior to removing the student respondent on an emergency basis, the College will undertake an individualized safety and risk analysis and will determine that an immediate threat to the physical health or safety of any student or other individual arising from the allegations of Sexual Misconduct justifies removal. If a student respondent is removed on an emergency basis, the College will provide the student respondent with notice and an opportunity to challenge the decision immediately following the removal.

J. Administrative Leave
The College reserves the right to place a non-student employee respondent on administrative leave during the pendency of the complaint resolution process.

IX. General Provisions for Complaint Resolution Process

When Dunwoody receives a formal complaint of a potential Policy violation, Dunwoody will promptly and equitably respond to the formal complaint pursuant to the guidelines and procedures set forth below. The College will provide a fair and impartial complaint resolution process. A fair process is one that treats the parties equitably, provides complainant an opportunity to file a formal complaint alleging a violation of this Policy and an opportunity to present evidence of the allegations prior to a decision on responsibility, and provides respondent notice of the allegations and an opportunity to respond to and present evidence related to those allegations prior to a decision on responsibility, and provides both parties an opportunity to challenge the credibility of the other party and any witnesses prior to a decision on responsibility. In cases involving allegations of Sexual Misconduct that is not Title IX Sexual Harassment, the ability to challenge credibility is accomplished through the parties' ability to suggest questions to be asked of the other party and witnesses during the investigation, through the Written Response Statements in response to the investigation report, and through the Written Rebuttal Statements in response to the other party's Written Response Statement as discussed in section XI. Procedures for Sexual Misconduct Complaint Resolution below.

Each complaint resolution process will require an objective evaluation of all relevant evidence, including both inculpatory and exculpatory evidence. Credibility determinations will not be based on a person's status as a complainant, respondent, or witness. The burden of proof and the burden of gathering evidence sufficient to reach a determination regarding responsibility rest on the College and not on the parties. The College will not require, allow, rely upon, or otherwise use questions or evidence that constitute, or seek disclosure of, information protected under a legally recognized privilege, unless the person holding such privilege has waived the privilege. The College will not access,

consider, disclose, or otherwise use a party's records that are made or maintained by a physician, psychiatrist, psychologist, or other recognized professional or paraprofessional acting in the professional's or paraprofessional's capacity or assisting in that capacity, and which are made and maintained in connection with the provision of treatment to the party, unless the recipient obtains that party's voluntary, written consent to do so for a complaint resolution process.

This Policy provides different procedures depending on the particular circumstances of a case, including the type of Sexual Misconduct that is alleged. Upon receiving a formal complaint, the Title IX Coordinator will make a preliminary determination of the procedures that will apply to the complaint resolution process. The procedures in the formal process for all cases of Sexual Misconduct are the same through the investigation phase. Prior to providing access to information at the end of the investigation phase, the Title IX Coordinator will make a final determination as to the procedures that will apply to the access to information phase and the adjudication phase.

If a formal complaint includes both an allegation of Title IX Sexual Harassment and an allegation of Sexual Misconduct that does not meet the definition of Title IX Sexual Harassment, the College reserves the right to process the allegations in the same complaint resolution process or to separate the allegations into separate complaint resolution processes.

A. Trained Officials

Each complaint resolution process will be conducted by individuals, including coordinators, investigators, Title IX Hearing Panel members/adjudicators, and any person who facilitates an informal/voluntary resolution process, who do not have a conflict of interest or bias for or against complainants or respondents generally or for or against the individual complainant or respondent. In addition, those individuals will receive annual training on the definition of Title IX Sexual Harassment; the scope of the College's education program or activity; how to conduct an investigation and grievance process, including hearings, appeals, and informal/voluntary resolution processes, as applicable; how to serve impartially, including by avoiding prejudgment of the facts at interest, conflicts of interest, and bias; issues related to sexual harassment, Sexual Assault, Domestic Violence, Dating Violence, Stalking; and how to conduct an investigation and decision-making process that protects the safety of all and promotes accountability. Investigators will receive training on issues of relevance to create an investigator report that fairly summarizes relevant evidence. Title IX Hearing Panel members will receive training on any technology to be used at a live hearing and issues of relevance of questions and evidence, including when questions and evidence about the complainant's sexual predisposition or prior sexual behavior are not relevant. The training is free of bias such as sex stereotypes or generalizations, promotes impartial investigations and adjudications, and includes the following topics, as applicable: relevant evidence and how it should be used, proper techniques for questioning witnesses, basic rules for conducting proceedings, avoiding actual or perceived conflicts of interest, and the College's policies and procedures.

B. Equal Rights of the Complainant and Respondent

In all Sexual Misconduct complaint resolution processes under this Policy, the complainant and respondent are entitled to:

- be treated with respect, sensitivity, and dignity;
- appropriate support from the College;
- privacy to the extent possible based on applicable law and College Policy;
- information on the Policy and procedures;

- written explanation of available resources;
- the right to participate or decline to participate in the complaint resolution process, with the acknowledgement that not participating, either totally or in part, may not prevent the process from proceeding with the information available;
- be free from retaliation as defined in this Policy;
- equitable procedures that provide both parties with a prompt and equitable complaint resolution procedure conducted by officials who receive annual training on conduct prohibited by the Policy;
- notice of the allegations and defenses and an opportunity to respond;
- an equal opportunity to identify relevant witnesses and other evidence and to suggest possible topics to be covered with witnesses during the formal complaint resolution process;
- written notice of the date, time, location, participants, and purpose of all hearings, investigative interviews, or other meetings at which the party's participation is invited or expected, with sufficient time for the party to prepare to participate;
- timely notice of meetings that are part of the complaint resolution process at which the complainant or respondent may be present;
- the right to appeal the decision and/or the dismissal of a formal complaint in certain circumstances as discussed in the Appeal section below;
- the right to notification, in writing, of the resolution, including the outcome of any appeal;
- the right to the assistance of campus personnel (during and after the complaint process), in cooperation with the appropriate law enforcement authorities, in shielding the complainant or respondent, at their request, from unwanted contact with the complainant or respondent, including but not limited to a College issued no-contact order, transfer to alternative classes or to alternative College-owned housing (if alternative classes or housing are available and feasible), change in work location or schedule, or reassignment (if available and feasible); and to receive assistance with academic issues;
- the complainant has the right to decide when to repeat a description of an incident of Sexual Assault, Dating Violence, Domestic Violence, or Stalking, and the respondent has the right to decide when to repeat a description of a defense to such allegations;
- the right to the complete and prompt assistance of campus authorities, at the direction of law enforcement authorities, in obtaining, securing, and maintaining evidence in connection with a Sexual Assault incident;
- the right to the assistance of campus authorities in preserving materials relevant to a campus complaint proceeding;
- the right to be provided access to their description of the incident, as it was reported to the College, including if the individual transfers to another post-secondary institution, subject to compliance with FERPA, the Clery Act, Title IX, and other federal or state law. Requests for an individual's description of the incident should be made to the Title IX Coordinator.

C. Additional Rights in Cases Involving Allegations of Title IX Sexual Harassment

In cases involving allegations of Title IX Sexual Harassment the following additional rights will be afforded to the complainant and the respondent:

- The parties have the right to be accompanied to any complaint resolution process meeting or proceeding by the advisor of their choice, who may be, but is not required to be, an attorney. The College will not limit the choice or presence of advisor for either the complainant or respondent in any meeting related to the

complaint resolution process. See the section X(F) Advisors below for additional information and requirements regarding the conduct of advisors.

- The parties will be provided an equal opportunity to inspect and review a copy of any evidence obtained as part of the investigation that is directly related to the allegations raised in a formal complaint, as set forth in the section XI(F)(2) Access to Information below.
- The parties will be provided a copy of the investigation report for their review and written response, as set forth in the section XI(F)(2) Access to Information below.
- The complaint resolution process will include a live hearing, at which each party's advisor may ask the other party and any witnesses all relevant questions and follow-up questions, as set forth in the section XI(F)(3)(a) Live Hearing below.

In addition, a complainant who alleges Title IX Sexual Harassment, has the following rights:

- To be informed by the College of options to notify proper law enforcement authorities of a Sexual Assault, Dating Violence, Domestic Violence, or Stalking incident, and the right to report to law enforcement at any time or to decline to notify such authorities;
- Not to be questioned or have evidence considered regarding the complainant's prior sexual conduct with anyone other than the respondent, unless such questions or evidence are to prove that someone other than the respondent committed the alleged Sexual Misconduct;
- Not to be treated by campus authorities in a manner that suggests that they are at fault for the Sexual Misconduct or that they should have acted in a different manner to avoid the Sexual Misconduct;
- To the complete and prompt assistance of campus authorities, at the complainant's request, in notifying the appropriate law enforcement officials and College officials of a Sexual Assault Dating Violence, Domestic Violence, or Stalking incident and filing criminal charges with local law enforcement officials in Sexual Assault, Dating Violence, Domestic Violence, or Stalking cases;
- To be offered fair and respectful health care, counseling services, or referrals to such services and notice of the availability of campus or local programs providing Sexual Assault advocacy, Dating Violence, Domestic Violence, or Stalking services;
- To be offered assistance from the Crime Victim Reparations Board and the Commissioner of Public Safety.
- For students who choose to transfer to another post-secondary institution, at the student's request, the right to receive information about resources for victims of Sexual Assault, Dating Violence, Domestic Violence, or Stalking at the institution to which the victim is transferring.

D. Additional Rights in Cases Involving Allegations of Sexual Assault, Dating Violence, Domestic Violence, or Stalking *Occurring Outside* of the Education Program or Activity or Against a Person *Outside of* the United States

In cases involving allegations of Sexual Assault, Dating Violence, Domestic Violence, or Stalking *occurring outside* of the education program or activity or against a person *outside* of the United States, the following additional rights will be afforded to the complainant and the respondent:

- The parties have the right to be accompanied to any complaint resolution process meeting or proceeding by the advisor of their choice, who may be, but is not required to be, an attorney. The College will not limit the choice or presence of advisor for either

the complainant or respondent in any meeting related to the complaint resolution process. See the section X(F) Advisors below for additional information and requirements regarding the conduct of advisors.

- The complainant and respondent have the right to timely and equal access to information that will be used during informal and formal disciplinary meetings during the adjudication phase of the complaint resolution process, as set forth in the section XI(F)(2) Access to Information below.

In addition, a complainant who alleges Sexual Assault, Dating Violence, Domestic Violence, or Stalking *occurring outside* of the education program or activity or against a person *outside* of the United States, has the following rights:

- To be informed by the College of options to notify proper law enforcement authorities of a Sexual Assault, Dating Violence, Domestic Violence, or Stalking incident, and the right to report to law enforcement at any time or to decline to notify such authorities;
- Not to be questioned or have evidence considered regarding the complainant's prior sexual conduct with anyone other than the respondent, unless such questions or evidence are to prove that someone other than the respondent committed the alleged Sexual Misconduct;
- Not to be treated by campus authorities in a manner that suggests that they are at fault for the Sexual Misconduct or that they should have acted in a different manner to avoid the Sexual Misconduct;
- To the complete and prompt assistance of campus authorities, at the complainant's request, in notifying the appropriate law enforcement officials and College officials of a Sexual Assault Dating Violence, Domestic Violence, or Stalking incident and filing criminal charges with local law enforcement officials in Sexual Assault, Dating Violence, Domestic Violence, or Stalking cases;
- To be offered fair and respectful health care, counseling services, or referrals to such services and notice of the availability of campus or local programs providing Sexual Assault advocacy, Dating Violence, Domestic Violence, or Stalking services;
- To be offered assistance from the Crime Victim Reparations Board and the Commissioner of Public Safety.
- For students who choose to transfer to another post-secondary institution, at the student's request, the right to receive information about resources for victims of Sexual Assault, Dating Violence, Domestic Violence, or Stalking at the institution to which the victim is transferring.

E. Advisors

The complainant and the respondent in the complaint resolution process involving allegations of (1) Title IX Sexual Harassment or (2) Sexual Assault, Dating Violence, Domestic Violence, and Stalking *occurring outside* of the College's education program or activity or against a person *outside* of the United States, have the right to be accompanied to meetings by an advisor of their choice, who may be, but is not required to be, an attorney. Generally, the advisor selected by the complainant or respondent should be free of conflicts of interest in the resolution process and, if a member of the Dunwoody community, the advisor should be free of conflicts in his or her position in the community. An individual has the right to decline a request to serve as an advisor in Dunwoody's complaint resolution process.

Guidelines for advisors are:

- The purpose of the advisor is to support an individual during the complaint resolution process. An advisor is permitted to accompany the individual to interviews or other meetings or proceedings during the complaint resolution process. In selecting an advisor, each party should consider the potential advisor's availability to attend interviews and meetings which may occur in person. As a general matter, the College will not delay its proceedings to accommodate the schedules of advisors.

- Advisors may confer with their advisee, but, with the exception of live hearings for cases involving allegations of Title IX Sexual Harassment (discussed below), advisors may not actively participate in the complaint resolution process. The advisor may accompany the complainant or respondent to all meetings relating to the complaint resolution process. The advisor may not appear in lieu of the complainant or respondent or speak on their behalf in either in-person or written communications to the College. The advisor may not communicate directly with the investigator, Title IX Hearing Panel/adjudicators, appeal panel, Title IX Coordinator or any other school official involved in the complaint resolution process and may not interrupt or otherwise delay the complaint resolution process.

- In complaint resolution processes involving allegations of Title IX Sexual Harassment:
  - At the live hearing, advisors will be permitted to ask the other parties and any witnesses all relevant questions and follow-up questions. Additional information about an advisor's role at the live hearing is included in the section XI(F)(3)(a) Live Hearing below.
  - Advisors will receive a copy of all directly-related evidence and the investigation report, as set forth in the section XI(F)(2) Access to Information below.

- In complaint resolution processes involving allegations of Sexual Assault, Dating Violence, Domestic Violence, or Stalking *occurring outside* of the College's education program or activity or against a person *outside* of the United States:
  - Advisors may have access to information as is described further below in the section XI(F)(2) Access to Information.

- If a party selects an attorney as an advisor, the advisor's participation in the complaint process is in the role of an advisor and not as an attorney representing a party. The advisor will have access to highly confidential information and is prohibited from sharing information obtained as an advisor during the complaint process with anyone, including other individuals who may be part of an attorney-client relationship with the party.

- Parties must notify the Title IX Coordinator who they have selected as their advisor. The College will notify a party to a complaint resolution process if another party involved in the complaint resolution process has obtained an advisor. The notice shall indicate if the other party's advisor is an attorney.

- Advisors will be required to sign an Advisor Agreement acknowledging receipt and understanding of these requirements. Failure to comply with these requirements, including violations of confidentiality, or other forms of interference with the complaint resolution process by the advisor may result in disqualification of an advisor. The College reserves the right to dismiss an advisor.

F. Requests for Reasonable Accommodations

Individuals who need a reasonable accommodation should contact the Title IX Coordinator. The College will consider requests for reasonable accommodations submitted to the Title IX Coordinator on a case-by-case basis. Accommodations the College may provide include:

- Providing reasonable accommodations as required by law to an individual with a disability who requests an accommodation necessary to participate in the complaint resolution process.
- Providing an interpreter for individuals who are limited English-language proficient.

G. Supportive/Interim Measures

After receiving a report of alleged Sexual Misconduct, the Title IX Coordinator will consider whether supportive/interim actions, accommodations, or protective measures are reasonably necessary or appropriate to protect the parties and the broader College community. Such supportive/interim measures will be available without fee or charge to the complainant, respondent, and others adversely impacted by the complaint resolution process, if requested and reasonably available.   Such measures will be designed to restore or preserve equal access to the College's education program or activity without unreasonably burdening the other party, including measures designed to protect the safety of all parties or the College's educational environment, or to deter sexual harassment.

The College will provide written notification about options for, available assistance in, and how to request changes to academic, living, transportation, and working situations or protective measures. The College is obligated to comply with a student's reasonable request for a living and/or academic situation change following an alleged incident of Sexual Misconduct. The College will make appropriate accommodations and provide appropriate supportive/interim measures with or without a formal complaint, even when an individual asks to keep a reported violation of this Policy confidential, when a request is made to not investigate the matter, and regardless of whether an individual chooses to report to law enforcement.

Examples of supportive/interim measures include, without limitation:

- Establishing a no-contact order prohibiting the parties involved from communicating with each other.
- Changing an individual's dining arrangements.
- Assistance in finding alternative housing.
- Special parking arrangements.
- Changing an individual's student or employee status or job responsibilities.
- Changing an individual's work or class schedule.
- Providing academic accommodations or providing assistance with academic issues.
- Providing security escorts.
- Providing a temporary cellphone.
- Access to counseling and medical services.
- Making information about orders for protection and harassment restraining orders available to a complainant.
- Assistance identifying an advocate to help secure additional resources or assistance, including off-campus and community advocacy, support, and services.
- For students who choose to transfer to another institution: At the student's request, providing information about resources for victims of Sexual Assault at the institution to which the student is transferring.

The College determines which measures are appropriate for a particular individual on a case-by-case basis. Such measures will vary based on the particular facts and circumstances, including but not limited to the specific need expressed by the individual, the age of the individuals

involved, the severity or pervasiveness of the allegations, any continuing effects on the individual, whether the complainant and respondent share the same dining hall, class, transportation, or job location, and whether other judicial measures have been taken to protect the complainant. The Title IX Coordinator will be responsible for determining what measures will be put in place.

To request supportive/interim measures, individuals should contact the Title IX Coordinator.

The College will maintain as confidential any supportive/interim measures provided to an individual, to the extent that maintaining such confidentiality would not impair the ability of the College to provide the accommodations or protective measures. The College will only disclose information necessary to provide the accommodations or protective measures in a timely manner to individuals who need to know the information in order to effectively provide the accommodations or protective measures. The Title IX Coordinator will determine what information about an individual should be disclosed and to whom this information will be disclosed based on the facts and circumstances of the specific situation and the accommodation to be provided. The College will inform the individual before sharing personally identifying information that the College believes is necessary to provide an accommodation or protective measure. The College will tell the individual which information will be shared, with whom it will be shared, and why it will be shared.

Any concern about a violation of a supportive/interim measure should be reported to the Title IX Coordinator promptly. Complaints of a violation of a supportive/interim measure will be handled as discussed in the section XII. Complaints of Related Misconduct below.

H. Obligation to Act in Good Faith

Reports and formal complaints of alleged Sexual Misconduct should be made only in good faith. Reports and formal complaints that are not made in good faith may be a form of retaliation under this Policy and/or may violate other Dunwoody policies.

In addition, all parties and witnesses have an obligation to be truthful in the process. Engaging in dishonesty may be considered retaliation or interference with process under this Policy and/or violate other Dunwoody policies.

An allegation that a person has violated the obligation to act in good faith or be truthful will be handled through the procedures identified below in section XIV. Complaints of Related Misconduct.

I. Conflicts

If a complainant or respondent has any concern that any individual acting for the College under this Policy has a conflict of interest or bias, for or against complainants or respondents generally or for or against the individual complainant or respondent, such concern should be reported in writing to the Title IX Coordinator. Any concern regarding a conflict of interest or bias must be submitted in writing within two (2) calendar days after receiving notice of the person's involvement in the process. The Title IX Coordinator will review the concerns and take appropriate steps to ensure that no conflicts of interest or bias exist on the part of anyone investigating or adjudicating a complaint under this Policy.

If complainant or respondent has any concern that the Title IX Coordinator has a conflict of interest or bias, such concern should be reported in writing to Scott Stallman, Provost at sstallman@dunwoody.edu. If the Title IX Coordinator has a conflict of interest with respect to a complaint, the College's Vice President

of Human Resources shall appoint an alternate person to oversee adherence to the Sexual Misconduct Policy with respect to the formal complaint at issue. If the Title IX Coordinator and Vice President of Human Resources have a conflict of interest with respect to a formal complaint, the Dean of Student Affairs shall ensure that the College puts in place appropriate safeguards under the circumstances to ensure that the institution promptly and equitably responds to the formal complaint, including, but not limited to, appointment of alternate individuals to oversee adherence to the Sexual Misconduct Policy.

The parties should be mindful that the College has a small and close-knit campus community. That a party simply knows an individual acting for the College under this Policy or has had some limited interaction with such individual generally will not be deemed a disqualifying conflict of interest or bias in most instances. However, the College encourages the parties to bring any concern of conflict of interest or bias to the Title IX Coordinator's attention for consideration.

J. Non-Participation and Silence

Either party may decline, at any time, to provide information or participate further in the complaint resolution process. If at any time the complainant declines to participate in the process, the College's ability to meaningfully investigate and adjudicate a formal complaint may be limited. In such cases, the College will proceed with the complaint resolution process, if possible to do so without the complainant's participation, and will make a determination based upon the information available. The respondent also has the right to decline to participate in the complaint resolution process. In such cases, the College will proceed with the complaint resolution process and will make a determination based upon the information available. A respondent's silence in response to a complainant's allegation will not necessarily be viewed as an admission of the allegation, but may leave the complainant's allegations undisputed. Similarly, a complainant's silence in response to a respondent's denials or defenses will not necessarily be viewed as an admission of the denials or defenses, but may leave the respondent's denials or defenses undisputed.

Even if a party decides not to participate or chooses to stop participating at a phase of the process, the party will still be given the option to participate during additional phases of the process.

In cases involving allegations of Title IX Sexual Harassment, the Title IX Hearing Panel will not draw an inference about the determination regarding responsibility based solely on a party's absence from the live hearing or refusal to answer cross-examination or other questions. However, the Title IX Hearing Panel may consider a party's or witness's refusal to answer one or more questions at the hearing when determining how much weight to give the party's or witness's statements.

K. Time Frames for Resolution

Dunwoody is committed to the prompt and equitable resolution of allegations of Sexual Misconduct. As is discussed in more detail above and below, different procedures apply to cases involving allegations of Title IX Sexual Harassment than to other cases of alleged Sexual Misconduct. The time frames for each phase of the different procedures are as follows:

1. Cases Involving Allegations of Title IX Sexual Harassment

Specific time frames for each phase of the complaint resolution process for formal complaints involving allegations of Title IX Sexual Harassment are set forth in the section XI. Complaint

Resolution Process below. Each phase of the process will generally be as follows:

- Review of formal complaint and notice of allegations to the parties: ten (10) calendar days
- Investigation: forty-five (45) calendar days
- Review of directly-related evidence and investigator consideration of evidence response statements: seventeen (17) calendar days
- Review of investigation report and written response: five (5) calendar days
- Live Hearing and Determination: twenty-five (25) calendar days
- Appeal: twenty (20) calendar days

2. Cases Involving Allegations of Other Forms of Sexual Misconduct

Specific time frames for each phase of the complaint resolution process for formal complaints involving allegations of any other form of Sexual Misconduct are set forth in the section XI. Complaint Resolution Process below. Each phase of the process will generally be as follows:

- Review of formal complaint and notice of allegations to the parties: ten (10) calendar days
- Investigation: forty-five (45) calendar days
- Review of investigation report and written response/rebuttal, if applicable: ten (10) calendar days
- Adjudication: twenty-five (25) calendar days
- Appeal: twenty (20) calendar days

In any Sexual Misconduct complaint resolution process, the process may include additional days between these phases as the College transitions from one phase to another. The parties will be notified when each listed phase begins and when it ends. If any transition period will last longer than five (5) calendar days, the parties will be notified of the delay and the reason for it.

Circumstances may arise that require the extension of time frames based on the complexity of the allegations, the number of witnesses involved, the availability of the parties and witnesses involved, the addition of new parties or new allegations to an amended notice of allegations, the effect of a concurrent criminal investigation, unsuccessful attempts at informal/voluntary resolution, any intervening school break, the need for language or assistance or accommodation of disabilities, or other unforeseen circumstance.

In cases where conduct that violates this Policy has also been reported to the police, Dunwoody will not delay its complaint resolution process in order to wait for the conclusion of a criminal investigation or proceeding. The College will, however, comply with valid requests by law enforcement for cooperation in a criminal investigation. As such, the College may need to delay temporarily an investigation under this Policy while law enforcement is in the process of gathering evidence. This process typically takes 7-10 days. Once law enforcement has completed its gathering of evidence, the College will promptly resume and complete its investigation and resolution procedures.

To the extent additional time is needed during any of the phases of the process discussed above or below, the College will notify all parties of the delay and the reasons for it. When a time frame for a specific phase of the process, as set forth below, is less than five (5) calendar days, Dunwoody may, in its discretion, use business days to calculate the time frame deadline. Efforts will be made to complete the process in a timely manner balancing principles of thoroughness, fundamental fairness, and promptness.

Complainants are encouraged to begin the complaint resolution process as soon as possible following an alleged incident of Sexual Misconduct. There is no statute of limitation for reporting prohibited conduct to the College under this Policy; however, the College's ability to respond may diminish over time, as evidence may erode, memories may fade, and respondents may no longer be affiliated with the College. If a complaint is brought forward more than three (3) calendar years after an alleged incident, the College, in its discretion, may decline to process a complaint under these procedures, but reserves the right to take other administrative action as appropriate depending on the specific circumstances of the complaint, and will provide reasonably appropriate supportive/interim measures, assist the complainant in identifying external reporting options, and take reasonable steps to eliminate prohibited conduct, prevent its recurrence, and remedy its effects. If respondent is still a member of the College community as a student or employee, the complaint generally will be processed under these procedures.

L. Presumption of Non-Responsibility

The presumption is that the respondent is not responsible for a policy violation. The respondent is presumed not responsible until a determination regarding responsibility is made at the conclusion of the complaint resolution process. The respondent will be deemed responsible for a policy violation only if the appointed Title IX Hearing Panel/adjudicators conclude that there is sufficient evidence, by a "preponderance of evidence," to support a finding that the respondent more likely than not engaged in Sexual Misconduct.

M. Application of Policy

When the College receives a report or formal complaint of a violation of this Policy, the College will apply the complaint resolution procedures from the Policy that is in effect at the time that the report or formal complaint is made and generally will apply the Sexual Misconduct definitions from the Policy that was in effect at the time the alleged misconduct occurred. For cases involving allegations of Title IX Sexual Harassment, the College will apply the definitions from the policy that is in effect at the time the formal complaint is made to determine what procedures apply and the definitions from the policy that was in effect at the time the alleged misconduct occurred to determine whether a policy violation occurred.

N. Reservation of Flexibility

The procedures set forth in this Policy reflect the College's desire to respond to formal complaints in good faith and in compliance with legal requirements. The College recognizes that each case is unique and that circumstances may arise which require that it reserve some flexibility in responding to the particular circumstances of the matter. The College reserves the right to modify the procedures or to take other administrative action as appropriate under the circumstances.

In instances where a formal complaint is made against an individual who is not a student or employee of the College, and in instances when the conduct alleged, if true, would not meet the definition of Title IX Sexual Harassment, Sexual Assault, Domestic Violence, Dating Violence, or Stalking. The College reserves discretion to use a process or procedures other than those outlined below, as appropriate under the circumstances.

X. Procedures for Sexual Misconduct Complaint Resolution

When the College receives a formal complaint of a potential Sexual Misconduct policy violation, the College will promptly and equitably respond, investigating and adjudicating the formal complaint pursuant to the guidelines and procedures set forth below.

As discussed above in the section X. General Provisions for Complaint Resolution Process above, different procedures apply to the complaint resolution process depending on the particular circumstances of a case, including the type of Sexual Misconduct that is alleged. Further information about the different procedures is provided below.

A. Initial Meeting Between Complainant and Title IX Coordinator

In most cases, the first step of the complaint resolution process is a preliminary meeting between the complainant and the Title IX Coordinator. The purpose of the preliminary meeting is to allow the Title IX Coordinator to gain a basic understanding of the nature and circumstances of the report or formal complaint; it is not intended to be a full investigation interview.

As part of the initial meeting with the complainant, the Title IX Coordinator will:

- assess the nature and circumstances of the allegation;
- address immediate physical safety and emotional well-being of the complainant;
- notify the complainant of the right to contact law enforcement and seek medical treatment;
- notify the complainant of the importance of preservation of evidence;
- provide the complainant with information about on- and off-campus resources;
- notify the complainant of the range of supportive/interim measures with or without filing a formal complaint;
- provide the complainant with an explanation of the procedural options, including how to file a formal complaint, if not already filed, and the complaint resolution process;
- advise the complainant of the right to have an advisor of choice, as applicable under this Policy;
- discuss the complainant's expressed preference for the manner of resolution and any barriers to proceeding; and
- explain the College's policy prohibiting retaliation.

All reports and formal complaints of Sexual Misconduct will be reviewed by the Title IX Coordinator to determine the risk of harm to individuals or to the campus community. Steps will be taken to address these risks in consultation with the members of the Title IX Team.

If the Title IX Coordinator determines that the report or formal complaint, even if substantiated, would not be a violation of this Policy, they may dismiss the matter or refer it to another applicable disciplinary procedure. The parties will be notified of that determination and the complainant will be informed of other procedures for resolving the complaint and of other resources that may be available to the complainant.

B. Formal Complaint and Notice of Allegations

The filing of a formal complaint begins the complaint resolution process under this procedure. In most cases, formal complaints are made by the complainant. However, the College reserves the right to move forward with the complaint resolution process to protect the safety and welfare of the community, even if a complainant chooses not to make or move

forward with a formal complaint. Generally, the Title IX Coordinator will make a determination of whether the College will move forward with a complaint resolution process when the complainant has not filed a formal complaint. If the College decides that it has an obligation to move forward with the complaint resolution process, the Title IX Coordinator will sign the formal complaint and the College will notify the complainant before proceeding. See section VII(C) Requests for Confidentiality or Non-Action above for more information. The Title IX Coordinator signing the formal complaint does not make the Title IX Coordinator a party to the complaint resolution process or adverse to the respondent.

Formal complaints of Sexual Misconduct should be made to the Dean of Student Affairs and Title IX Coordinator (for students), or the Vice President of Human Resources (for employees).

When the Title IX Coordinator has received a formal complaint, the Title IX Coordinator will assess the formal complaint to determine if it states any allegations of Sexual Misconduct. If the formal complaint alleges Sexual Misconduct, the Title IX Coordinator will provide a written notice of allegations to the parties who are known. The written notice will include:

- Notice of the College's complaint resolution process, including the informal/voluntary resolution process;
- Notice of the allegations, including the identities of the parties involved in the incident(s), if known, the conduct allegedly constituting Sexual Misconduct, and the date and location of the alleged incident, if known;
- A statement that the respondent is presumed not responsible for the alleged conduct and a determination regarding responsibility is made at the conclusion of the complaint resolution process;
- Notice that the parties have the right to an advisor of choice, as applicable under this Policy, who may be, but is not required to be, an attorney;
- Notice that the parties have the right to inspect and review evidence, as applicable under this Policy; and
- Notice of policy provisions that prohibit knowingly making false statements or knowingly submitting false information during the complaint resolution process, including the section X(H) Obligation to Act in Good Faith above.

If the College decides to investigate allegations about the complainant or respondent that are not included in the notice provided, the notice will be updated to provide notice of the additional allegations to the parties whose identities are known.

In addition, upon receiving a formal complaint, the Title IX Coordinator will make a preliminary determination of the procedures that will apply to the complaint resolution process.

When the Title IX Coordinator has received a formal complaint of Sexual Misconduct, the Title IX Coordinator will also meet with the respondent and will:

- notify the respondent of the complaint and alleged Policy violation(s);
- provide the respondent an explanation of the complaint resolution process;
- notify the respondent of the importance of preservation of evidence;
- notify the respondent of any supportive/interim measures that have been put in place that directly relate to the respondent (i.e., no-contact order);
- notify the respondent of available supportive/interim measures;

- provide the respondent with information about on- and off-campus resources;
- advise the respondent of the right to have an advisor of choice, as applicable under this Policy; and
- explain the College's Policy prohibiting retaliation.

This stage of initial review of the formal complaint by the Title IX Coordinator and initial notice of the allegations to the parties generally will take no more than ten (10) calendar days. In some cases, more time may be required.

C. Investigation of Other College Policy Violations

If a formal complaint of Sexual Misconduct also implicates alleged violations of other Dunwoody policies, the Title IX Coordinator, in coordination with other appropriate school officials, will evaluate the allegations to determine whether the investigation of the alleged Sexual Misconduct and the other alleged policy violations may be appropriately investigated together without unduly delaying the resolution of the Sexual Misconduct formal complaint. Where the Title IX Coordinator, in coordination with other appropriate school officials, determines that a single investigation is appropriate, the determination of responsibility for each of the alleged policy violations will be evaluated under the applicable policy. The adjudication may be conducted in accordance with this Policy or the adjudication of the other policy violation may be conducted separately from the adjudication of the alleged Sexual Misconduct.

Note that individuals who make a good faith report of Sexual Misconduct, and individuals who participate in a Sexual Misconduct complaint resolution process, will not be disciplined by the College for any violation of its drug and alcohol policies in which they might have engaged in connection with the reported incident, except in the limited circumstances discussed in section VIII(H) Amnesty above.

D. Consolidation of Formal Complaints

The College reserves the right to consolidate formal complaints into one complaint resolution process as to allegations of Sexual Misconduct against more than one respondent, by more than one complainant against one or more respondents, or by one party against the other party, where the allegations of Sexual Misconduct arise out of the same facts or circumstances.

E. Informal/Voluntary Resolution Process

Following a formal complaint, at any time prior to reaching a determination regarding responsibility, the College may facilitate an informal/voluntary resolution process. In cases involving allegations of Sexual Assault or more serious Sexual Misconduct, informal/voluntary resolutions may not be appropriate. In addition, in cases involving allegations that an employee engaged in Title IX Sexual Harassment against a student, informal/voluntary resolution is not appropriate.

If the complainant, the respondent, and the College all agree to pursue an informal/voluntary resolution, the Dean of Student Affairs (for cases involving a student respondent)[2] or the Vice President of Human Resources (for cases involving an non-student employee respondent)[3] will attempt to facilitate a resolution that is agreeable to all parties. The Dean of Student Affairs or Vice President of Human Resources will not be an advocate for either the complainant or the respondent in the informal/voluntary resolution process, but rather will aid in the resolution of formal complaints in a non-adversarial manner. Under the informal process, the College will only conduct such fact-gathering as is useful to resolve the formal complaint and as is necessary to protect the interests of the parties, the College, and the College community.

The College will not compel a complainant or respondent to engage in mediation, to directly confront the other party, or to participate in any particular form of informal/voluntary resolution. Participation in informal/voluntary resolution is voluntary, and the complainant and respondent have the option to discontinue the informal/voluntary process and request a formal complaint resolution process at any time prior to reaching an agreed upon resolution. In addition, the College also always has the discretion to discontinue the informal/voluntary process and move forward with a formal complaint resolution process. If at any point during the informal/voluntary resolution process prior to reaching an agreed upon resolution, the complainant or respondent or the College wishes to cease the informal/voluntary resolution process and to proceed through the formal resolution process, the informal/voluntary resolution process will stop and the formal resolution process outlined below will be invoked.

> [2]The Dean of Student Affairs may appoint a designee to facilitate the informal/voluntary resolution.
>
> [3]The Vice President of Human Resources may appoint a designee to facilitate the informal/voluntary resolution.

Prior to engaging in an informal/voluntary resolution process, the College will provide the parties with a written notice disclosing: the allegations, the requirements of the informal/voluntary resolution process, including the circumstances under which the informal/voluntary resolution process precludes the parties from resuming a formal complaint arising from the same allegations, and any consequences resulting from participating in the informal/voluntary resolution process, including the records that will be maintained or could be shared. In addition, the College will obtain the parties' voluntary, written consent to the informal/voluntary resolution process.

Any informal/voluntary resolution must adequately address the concerns of the complainant, as well as the rights of the respondent and the overall intent of the College to stop, remedy, and prevent Policy violations. In its effort to stop, remedy, and prevent Policy violations, the College will take prompt and corrective action which may involve the imposition of individual and community remedies designed to maximize the complainant's access to the educational and extracurricular activities of the College. Examples of potential remedies are provided in the section X(G) Supportive/Interim Measures above. The proposed resolution may also include other institutional responses, requirements, or sanctions imposed on the respondent.

The informal/voluntary resolution process ends when a resolution has been reached or when the complainant, the respondent, or the College terminates the process. A successful informal/voluntary resolution results in a binding agreement between the parties. If the parties to the formal complaint and the College agree in writing to the terms and conditions of a proposed resolution within five (5) calendar days of the Dean of Student Affairs or Vice President of Human Resources presenting the proposed resolution to the parties, the case will be resolved without further process under this procedure. If all parties to the formal complaint and the College do not agree in writing to the terms and conditions of the proposed resolution within five (5) calendar days of the Dean of Student Affairs or Vice President of Human Resources presenting the proposed resolution to the parties, the formal complaint will be referred to the formal complaint resolution process.

Appeals are not allowed in cases where the parties have agreed to a voluntary alternative resolution of the matter.

The informal/voluntary resolution process generally will take no more than fifteen (15) calendar days. In some cases, more time may be required.

F. Formal Resolution Process

If the formal complaint is not processed or resolved through the informal/voluntary resolution process discussed above, the formal complaint will be processed according to the formal resolution process outlined below.

1. Investigation

Dunwoody will appoint one or more trained and impartial investigators to conduct a prompt and equitable investigation. In most cases, the investigation will be conducted by the Dean of Student Affairs, but Dunwoody may, in its discretion, appoint any other trained investigator who is free of conflict of interest and bias. The parties will receive written notice of the investigator appointed. If a party has a concern that the investigator has a conflict of interest or bias, the party should report the concern in writing as set forth in section X(I) Conflicts of Interest above.

The investigator(s) will conduct the investigation in a manner appropriate to the circumstances of the case. The investigation will typically involve interviews of the complainant and respondent and may also involve questioning of other witnesses and/or review of other information. The parties will have the opportunity to advise the investigator(s) of any witnesses they believe should be interviewed, other evidence they believed should be reviewed by the investigator(s), and questions they believe the investigator(s) should ask the other party or witnesses, including questions challenging credibility. The investigator(s), in consultation with the Title IX Coordinator, has discretion to assess the relevancy of any proposed witnesses, evidence, and questions, and, in their discretion, may decline to interview witnesses suggested by the parties and may interview witnesses who were not suggested by either party. The investigator(s) may also decline to ask a question suggested by the parties. The complainant and respondent will be given an equal opportunity to present witnesses they believe should be interviewed, and other inculpatory and exculpatory evidence, as part of the investigation. In cases involving allegations of Title IX Sexual Harassment, any witness that a party wishes to call at a hearing must be suggested as part of the investigation process, prior to the issuing of the investigation report, unless extraordinary circumstances exist as determined by the Title IX Hearing Panel, in consultation with the Title IX Coordinator.

The parties will be informed of a close of evidence date. The parties must submit any and all information and evidence they would like considered as part of the investigation by the close of evidence date. After the close of evidence date, the parties will not be permitted to submit new or additional evidence that existed prior to the close of evidence date, unless the investigator, in consultation with the Title IX Coordinator, determines otherwise. In cases involving allegations of Title IX Sexual Harassment, all evidence a party wishes to offer or refer to at the hearing must have been provided as part of the investigation process, prior to the close of evidence, unless extraordinary circumstances exist as determined by the Title IX Hearing Panel, in consultation with the Title IX Coordinator.

At the conclusion of the investigation, the investigator(s) will prepare a report that fairly summarizes the relevant evidence. The investigation report may consist of any information, documents, or other evidence that will be provided to the Title IX Hearing Panel/adjudicators. At the investigator's discretion, such information may include, as applicable: the formal complaint, the notice of allegations, any other evidence obtained during the investigation, and the investigator's report of the investigation. The investigation report shall be forwarded to the Title IX Coordinator who will review the investigation report and has the discretion to ask the investigator(s) for clarification, additional investigation, and/or to have information added, removed, or redacted from the investigation report.

The College will strive to complete the investigation within (i) forty-five (45) calendar days from the date the investigator is appointed or (ii) if, after the date the investigator is appointed, the parties receive an amended notice of allegations that includes new allegations or new parties, forty-five (45) calendar days from the date of the amended notice of allegations. This time frame may be extended depending on the circumstances of each case. In cases involving allegations of Title IX Sexual Harassment, the College will strive to complete the initial investigation in this 45-day time frame, but the final investigation report will not be completed until after the review of directly related evidence. See the section XI(F)(2) Access to Information below for more information.

2. Access to Information

The procedures in the formal process for all cases of Sexual Misconduct are the same through the investigation phase. Prior to providing access to information, the Title IX Coordinator will make a final determination as to the procedures that will apply to the access to information phase and the adjudication phase.

a. Cases Involving Allegations of Title IX Sexual Harassment

Review of Directly Related Evidence

For formal complaints involving allegations of Title IX Sexual Harassment, the parties will have an equal opportunity to inspect and review any evidence obtained as part of the investigation that is directly related to the allegations raised in the formal complaint, including evidence upon which the College does not intend to rely in reaching a determination regarding responsibility and inculpatory and exculpatory evidence whether obtained from a party or other source. The Title IX Coordinator will send such evidence to each party and each party's advisor in electronic format or hard copy. The parties will have a ten (10) calendar day period to review the evidence and prepare a written response to the evidence (the "Evidence Response Statement"). Each party's Evidence Response Statement may not exceed 2,000 words in length. The Evidence Response Statement must be submitted to the Title IX Coordinator within the ten (10) calendar day period described above. The Evidence Response Statement may be used as an opportunity to clarify information contained in the directly related evidence, to present the party's viewpoint about whether the evidence directly related to the allegations is relevant and therefore whether it should be included in the investigation report, and to identify evidence previously provided to the investigator that was not included in the directly related evidence which the party believes is directly related and relevant. While the parties may be assisted by their advisors in preparation of the Evidence Response Statement, the

Evidence Response Statement must be submitted by the party, must be the party's own statement, and may not be used to submit the statements of others on the party's behalf. The parties may not address each other in the Evidence Response Statement.

The parties and parties' advisors may use the evidence reviewed at this step only for purposes of participating in the complaint resolution process and are prohibited from disseminating or otherwise sharing the evidence with any other individual. Prior to being provided the evidence obtained as part of the investigation that is directly related to the allegations, the parties and parties' advisors will be required to sign a non-disclosure agreement agreeing to such terms.

The Title IX Coordinator will review the parties' Evidence Response Statements and may remove or redact any portions of the parties' Evidence Response Statements that exceed the word limit of the statements as set forth above or that otherwise exceed the permitted scope of information that may be considered in the complaint resolution process (such as treatment records without consent or information subject to a legal privilege without a waiver).

The investigator will consider the parties' Evidence Response Statements prior to completion of the investigation report.

All the evidence made available for the parties' review will be available during the hearing.

Review of Investigation Report

For complaints involving allegations of Title IX Sexual Harassment, the Title IX Coordinator will send the investigation report to each party and each party's advisor in electronic format or hard copy at least ten (10) days prior to the live hearing. The parties will have a five (5) calendar day period to review the investigation report and prepare a written response to the report (the "Written Response Statement"). Each party's Written Response Statement may not exceed 2,000 words in length. The Written Response Statement must be submitted to the Title IX Coordinator within the five (5) calendar day period described above. The Written Response Statement may be used as an opportunity to clarify points in the investigation report, identify information previously given to the investigator(s) that is not included in the investigation report which the party believes should have been included , or raise other concerns regarding the evidence. While the parties may be assisted by their advisors in preparation of the Written Response Statement, the Written Response Statement must be submitted by the party, must be the party's own statement, and may not be used to submit the statements of others on the party's behalf. The parties may not address each other in the Written Response Statement.

The parties and parties' advisors may use the investigation report only for purposes of participating in the complaint resolution process and are prohibited from disseminating or otherwise sharing the investigation report with any other individual. Prior to being provided the investigation report, the parties and parties' advisors will be required to sign a non-disclosure agreement agreeing to such terms.

The Title IX Coordinator will review the parties' Written Response Statements. Based on the statements, the Title IX Coordinator has the discretion to ask the investigator(s) for clarification, additional investigation, and/or to have information removed or redacted from the investigation report. In addition, the Title IX Coordinator may remove or redact any portions of the parties' Written Response Statements that exceed the word limits of the statements as set forth above or that otherwise exceed the permitted scope of information that may be considered in the complaint resolution process (such as treatment records without consent, information subject to a legal privilege without a waiver, or evidence relating to the complainant's prior sexual history if an exception does not apply).

b. Cases Involving Allegations of Other Forms of Sexual Misconduct

For complaints involving allegations of Sexual Assault, Dating Violence, Domestic Violence or Stalking *occurring outside* of the education program or activity or against a person *outside* of the United States, the investigation report will be made available for review by the complainant and respondent. The Title IX Coordinator will provide a five (5) calendar day period for the complainant and respondent to have access to review the investigation report and prepare a response to the investigation report, as discussed below.

Both parties will have the opportunity to provide a written response to the report (the "Written Response Statement"). To do so, the party must submit Written Response Statement, which shall not exceed 4,500words in length, to the Title IX Coordinator. The Written Response Statement must be submitted by the conclusion of the 5-day period described above. The Written Response Statement may be used as an opportunity to clarify points in the investigation report, identify information previously given to the investigator that is not included in the investigation report which the party believes should have been included, identify questions a party believes the other party has not yet answered or evidence the other party has not explained, raise other concerns regarding the evidence, and to challenge the credibility of the other party and witnesses.. While the parties may be assisted by their advisors in preparation of the Written Response Statement, the Written Response Statement must be submitted by the party, must be the party's own statement, and may not be used to submit the statements of others on the party's behalf. The parties may not address each other in the Written Response Statement.

The parties shall have an opportunity to review the Written Response Statement submitted by the other party and, if desired, may submit a rebuttal statement (the "Written Rebuttal Statement"), not to exceed 2,500 words. The Title IX Coordinator will provide a two (2) calendar day period for the complainant and respondent to have access to review the other party's Written Response Statement and submit a Written Rebuttal Statement. The Written Rebuttal Statement may only be used to respond to arguments made or concerns raised in the other party's Written Response Statement and to challenge the credibility of the other party and any witnesses. While the parties may be assisted by their advisors in preparation of the Written Rebuttal Statement, the Written Rebuttal Statement must be submitted by the party, must be the party's own statement, and may not be used to submit the statements of others on the party's behalf. The parties may not address each other in the Written Rebuttal Statement.

The parties shall have an opportunity to review the Written Rebuttal Statement submitted by the other party. The Title IX Coordinator will provide a two (2) calendar day period for the complainant and respondent to have access to review the other party's Written Rebuttal Statement. While the parties have the opportunity

to review the rebuttal statement of the other party, no further responses are permitted by either party.

The parties and parties' advisors may use the investigation report and written statements of the other party reviewed at this step only for purposes of participating in the complaint resolution process and are prohibited from disseminating or otherwise sharing the report and written statements with any other individual. Prior to being provided the report and written statements, the parties and parties' advisors will be required to sign a non-disclosure agreement agreeing to such terms.

The Title IX Coordinator shall review the Written Response Statement and Written Rebuttal Statements. Based on the statements, the Title IX Coordinator has the discretion to ask the investigator(s) for clarification, additional investigation, and/or to have information added, removed, or redacted from the investigation report. In addition, the Title IX Coordinator may remove or redact any portions of the parties' written statements that exceed the word limit of the statements as set forth above or that otherwise exceed the scope of information that may be considered in the complaint resolution process (e.g., treatment records without consent, information subject to a legal privilege without a waiver, or evidence relating to the complainant's prior sexual history if an exception does not apply).

3. Adjudication

Upon completion of the investigation, the Title IX Coordinator will compile the adjudication file which will be shared with the Title IX Hearing Panel/adjudicators. In cases involving allegations of (1) Title IX Sexual Harassment or (2) Sexual Assault, Domestic Violence, Dating Violence, or Stalking *occurring outside* of the College's education program or activity or against a person *outside* of the United States, the parties will be given access to any information that is included in the adjudication file to the extent that it includes additional information that the parties did not review as part of the Access to Information step discussed above in section XI(F)(2) Access to Information.

a. Cases Involving Allegations of Title IX Sexual Harassment

Upon completion of the investigation in cases involving allegations of Title IX Sexual Harassment, the matter will be submitted to a Title IX Hearing Panel to hold a live hearing and to make a determination regarding responsibility and, if appropriate, sanctions.

The Title IX Hearing Panel will conduct a prompt and equitable live hearing and adjudication.

Appointment of the Title IX Hearing Panel

The Title IX Coordinator will designate a panel of three adjudicators to serve as the Title IX Hearing Panel. Generally, the Title IX Hearing Panel shall be chosen from a pool of Title IX Hearing Panel members. The College reserves the right to appoint any trained individuals who are without conflict or bias to the Title IX Hearing Panel. The Title IX Hearing Panel will not include the Title IX Coordinator or the investigator from the same matter. If any party has a concern that a member of the Title IX Hearing Panel has a conflict of interest or bias, the party should report the concern in writing as indicated in section X(I) Conflicts of Interest above.

Live Hearings

At the live hearing, each party's advisor will be permitted to ask the other party and any witnesses all relevant questions and follow-up questions, including those challenging credibility. Such questions will be conducted directly, orally, and in real time by the party's advisor and will never be conducted by a party personally. Only relevant cross-examination and other questions may be asked of a party or witness. Before a complainant, respondent, or witness answers a question at the hearing, the Title IX Hearing Panel must first determine whether the question is relevant and explain any decision to exclude a question as not relevant. Questions and evidence about the complainant's sexual predisposition or prior sexual behavior are not relevant, unless such questions and evidence about the complainant's prior sexual behavior are offered to prove that someone other than the respondent committed the conduct alleged by the complainant in the formal complaint, or if the questions and evidence concern specific incidents of the complainant's prior sexual behavior with respect to the respondent and are offered to prove consent.

All evidence obtained as part of the investigation that is directly related to the allegations raised in the formal complaint will be made available at the hearing.

The hearing will generally be held by video-conference with the parties, witnesses, and Title IX Hearing Panel located in separate locations and technology enabling the Title IX Hearing Panel and parties to simultaneously see and hear the party or the witness answering questions. The College reserves the right to determine that a hearing will instead be conducted with all participants, including the parties, witnesses, and the Title IX Hearing Panel physically present in the same location. In the event that the live hearing is held with the participants in the same location, at the request of either party, the College will provide for the parties to be located in separate rooms with technology enabling the Title IX Hearing Panel and parties to simultaneously see and hear the party or witness answering questions.

The College will create an audio or audiovisual recording, or transcript, of any live hearing and, upon request, will make it available to the parties for inspection and review.

College Appointed Advisors

If a party does not have an advisor present at the live hearing, the College will provide an advisor to the party, without fee or charge to that party, to conduct cross-examination on behalf of that party. If a party will not have an advisor present at the hearing, the party must inform the Title IX Coordinator at least three (3) calendar days prior to the live hearing so that the College may appoint an advisor for the hearing. The appointed advisor's role will be limited to relaying the party's questions to be asked of other parties and witnesses. The appointed advisor shall not perform any function beyond relaying the party's desired questions. The College reserves the right to appoint any individual as the College deems appropriate to act as an advisor at a live hearing. The College's appointment of an advisor is final and a party who refuses to work with an appointed advisor at the live hearing will forfeit his or her right to conduct cross-examination or other questioning at the hearing.

Live Hearing Procedures

Additional information about live hearings can be found at https://dunwoody.edu/campus-life/public-safety/title-ix/

Decision-Making Process

The presumption is that the respondent is not responsible for a policy violation. The respondent will be deemed responsible for a policy violation only if the Title IX Hearing Panel concludes that there is sufficient evidence, by a "preponderance of evidence," to support a finding that the respondent engaged in Sexual Misconduct. If the Title IX Hearing Panel determines that the respondent is responsible for a policy violation, the Title IX Hearing Panel will then determine what sanctions and remedies are warranted.

 The Title IX Hearing Panel will not draw an inference about the determination regarding responsibility based solely on a party's or witness's absence from the live hearing or refusal to answer cross-examination or other questions. However, the Title IX Hearing Panel may consider a party's or witness's refusal to answer one or more questions at the hearing when determining how much weight to give the party's or witness's statements.

Lie detector test results will not be considered credible by the Title IX Hearing Panel in the decision-making process. Character evidence and allegations of prior bad acts by a party without a finding of responsibility by the College or a court of law will generally be given little weight, if any, by the Title IX Hearing Panel in the decision-making process.

When a respondent is found not responsible for a policy violation, but nevertheless is found to have engaged in inappropriate conduct—for example, inappropriate remarks that do not rise to the level of a violation of this Policy—the College may, in its discretion, require the respondent to receive appropriate education and/or training.   The College may also recommend counseling or other support services for the respondent.

b. Cases Involving Allegations of Other Forms of Sexual Misconduct

Upon completion of the investigation in matters involving allegations of Sexual Misconduct that are not Title IX Sexual Harassment, the Title IX Coordinator will appoint appropriate adjudicator(s). Typically, the individuals identified below will be appointed. However, the College reserves the right to appoint any trained adjudicator(s) who are free from conflict of interest or bias.   If any party has a concern that the adjudicator(s) have a conflict of interest or bias, the party should report the concern in writing as indicated in section X(I) Conflicts of Interest above.

- In cases where the complaint is made against a student, the Provost will be the adjudicator of the case.
- In cases where the complaint is made against a non-student employee, the Vice President of Human Resources and any other appropriate member of College leadership ("responsible individual") will be the adjudicators of the case.
- If a complaint is made against the President of the College, the chair of the Board of Trustees or other designated member of the Board shall serve as the responsible individual.
- In cases where the complaint is made against a party who is not a student and not an employee, the Title IX Coordinator will make a determination regarding the appropriate adjudicator at that time.

The adjudicator(s) will review the adjudication file. The adjudicator(s) may, in their discretion, seek additional information from the investigator(s), the parties, or another individual, or request additional investigation by the investigator(s). In cases involving allegations of Sexual Assault, Domestic Violence, Dating Violence, and Stalking (that *occurred outside* of the education program or activity or against a person *outside* of the United States), if such information is shared with the adjudicators, the parties will be notified and provided access to that information.

The respondent is presumed to be not responsible for violating this Policy. The adjudicator(s) will use a preponderance of the evidence standard to determine whether there is sufficient evidence to conclude it is more likely than not that the respondent violated the Policy. If the adjudicator(s) determine that the respondent is responsible for a policy violation, the adjudicator(s) will impose remedies and/or sanctions as necessary to end the misconduct, prevent its recurrence, and address its effects.

Lie detector test results will not be considered credible by the adjudicators in the decision-making process. Character evidence and allegations of prior bad acts by a party without a finding of responsibility by the College or a court of law will generally be given little weight, if any, by the adjudicators in the decision-making process.

As part of that determination of sanctions and remedies, the Title IX Coordinator may, in their discretion, provide the adjudicators with information regarding previous violations of the Sexual Misconduct Policy or other College policies by the respondent, if any. In cases involving allegations of Sexual Assault, Domestic Violence, Dating Violence, and Stalking (that *occurred outside* of the education program or activity or against a person *outside* of the United States), if such information is shared with the adjudicators, the parties will be notified and provided access to that information.

When a respondent is found not responsible for a Policy violation, but nevertheless is found to have engaged in inappropriate conduct—for example, inappropriate remarks that do not rise to the level of a violation of this Policy—the College may, in its discretion, require the respondent to receive appropriate education and/or training.   The College may also recommend counseling or other support services for the respondent.

4. Sanctions and Remedies

The Title IX Hearing Panel/adjudicator(s) will impose remedies and/or sanctions as necessary to end the misconduct, prevent its recurrence, and address its effects. The College reserves the right to take whatever measures deemed necessary in response to an allegation of Sexual Misconduct in order to protect the rights and personal safety of the complainant and Dunwoody community members. Not all forms of Sexual Misconduct are deemed equally serious offenses and, as a result, different remedies or sanctions may be imposed depending on the severity of the offense and any previous conduct violations.

Individuals who are found responsible under this Policy may face sanctions as appropriate for students, employees, visitors, or others, including, but not limited to the following sanctions. Each of these sanctions and other sanctions may be imposed alone or in combination for a respondent found responsible for Sexual Misconduct, as defined by this Policy:

- verbal warning;
- written warning;

- probation;
- suspension, ranging from 1 semester to 5 with reinstatement requirements that could include behavioral contracts, required attendance at educational programs, required assessment or counseling, and other potential conditions on reinstatement;
- expulsion;
- withholding of diploma or degree for a defined period of time or until the completion of assigned sanctions;
- temporary or permanent revocation of degree;
- revocation of admission to Dunwoody;
- temporary or permanent restricted access to areas of campus, and campus events, activities, organizations or courses;
- temporary or permanent removal from class or living or housing assignment;
- conditions upon presence on campus or at College events;
- no trespass or no-contact orders;
- required attendance at an educational training or meetings;
- writing a reflection paper;
- behavioral contracts;
- required assessment or counseling;
- community service hours;
- loss of salary or benefit such as travel funding;
- suspension of promotion and salary increments ranging from 1 semester to 5 years, with reinstatement requirements that could include behavioral contracts, required attendance at educational programs, required assessment or counseling, and other potential conditions on reinstatement;
- removal or non-renewal of scholarships or honors;
- transfer or change of job or responsibilities;
- demotion;
- termination of employment;
- payment of restitution or costs incurred.

Any concern about a violation of an imposed sanction should be reported to the Title IX Coordinator promptly.

When an investigation reveals that a campus organization (such as a student club, athletic team, campus academic department, staff/faculty committee) has committed or promoted behavior involving Sexual Misconduct, the organization may be sanctioned. Sanctions to the organization may include, but are not limited to, loss of College privileges (including, but not limited to, prohibition on the organization's participation in certain activities and the use of College facilities), educational requirements for organization members, required additional oversight of organization activities, temporary loss of organization recognition and/or funding, and permanent loss of organization recognition, in addition to individual members of the organization who are determined responsible for a Policy violation being subject to the sanctions listed above. All campus organizations/departments are responsible for the actions of its members when they are operating on behalf of the organization/department.

Remedies for the complainant are designed to restore or preserve equal access to the College's education program or activity. Remedies need not be non-disciplinary or non-punitive and need not avoid burdening the respondent. Remedies, accommodations, and protective measures for the complainant include implementing or extending remedial or protective measures, including, without limitation, the following examples:

- A mutual or one-sided no-contact order.
- Prohibiting an individual involved from being on Dunwoody property.
- Prohibiting an individual involved from participating in Dunwoody-sponsored events.
- Changing an individual's living or housing, or dining arrangements.
- Special parking arrangements.
- Changing an individual's student or employee status or job responsibilities.
- Changing an individual's work or class schedule.
- Providing academic accommodations or providing assistance with academic issues.
- Providing security escorts.
- Providing a temporary cell phone.
- Access to counseling.
- Making information about orders for protection and harassment restraining orders available to a complainant.
- Assistance identifying an advocate to help secure additional resources or assistance, including off-campus and community advocacy, support, and services.

Remedies designed to address the Dunwoody community include increased monitoring, supervision, and/or security at locations or in connection with activities where the prohibited conduct occurred or is likely to reoccur and targeted or broad-based educational programming or training for relevant persons or groups.

The Title IX Coordinator is responsible for effective implementation of any remedies.

5. Notice of Outcome

The complainant and respondent will simultaneously receive a written notice of the outcome.

For complaints involving (1) Title IX Sexual Harassment or (2) Sexual Assault, Dating Violence, Domestic Violence, or Stalking occurring outside of an education program or activity or against a person outside the United States, the written notice shall include the allegations potentially constituting Sexual Misconduct, a description of the procedural steps taken from the receipt of the formal complaint through the determination (including any notifications to the parties, interviews with the parties and witnesses, site visits, methods used to gather other evidence, and hearings held), findings of fact supporting the determination, conclusions regarding the application of the College's policy to the facts, the determination regarding responsibility as to each allegation, any imposition of sanctions, whether remedies designed to restore or preserve equal access to the education program or activity will be provided to the complainant, and the rationales for the determination and sanctions (including how the evidence was weighed, how the information supports the result, and the standard of evidence applied). The written notice will also include information about the procedures and permissible bases for appeal, as set forth below, and when the result becomes final. In addition, the

written notice shall include any other steps the College has taken to eliminate the conduct and prevent its recurrence.

For all other complaints of Sexual Misconduct, the written notice shall include the determination of the adjudicator(s).

In cases involving allegations of Title IX Sexual Harassment, the written notice of determination will generally be received within twenty-five (25) calendar days from the date the live hearing concluded. In cases involving allegations of other forms of Sexual Misconduct, the written notice of determination will generally be received within twenty-five (25) calendar days from the date the adjudicators receive the adjudication file. In some cases, more time may be required.

The determination of the adjudicator(s) may be appealed as provided below. In the event that no appeal is filed within the time periods prescribed below, the decision will be final and the sanctions, if any, will be effective.

6. Dismissal of Formal Complaint Prior to Adjudication

If the allegations in a formal complaint are initially included in the notice of allegations as allegations of Title IX Sexual Harassment, but facts are gathered during the course of the complaint resolution process that indicate that the alleged conduct does not meet the definition of Title IX Sexual Harassment, the College will dismiss the formal complaint as to those allegations. Even if a formal complaint or any allegations of Title IX Sexual Harassment are dismissed, the College reserves the right to move forward with a complaint resolution process using the other Sexual Misconduct definitions and the other procedures in this Policy, as applicable.

In cases involving allegations of any Sexual Misconduct, the College may, at its discretion, dismiss the case prior to adjudication in certain circumstances. Circumstances that may lead to dismissal prior to adjudication, include, but are not limited to: the complainant notifies the Title IX Coordinator in writing that the complainant would like to withdraw the formal complaint or any allegations therein, the respondent is no longer enrolled or employed by the College, or specific circumstances prevent the College from gathering evidence sufficient to reach a determination as to the formal complaint or allegations therein.

If the College dismisses a formal complaint, the College will promptly send written notice of the dismissal and the reasons for the dismissal simultaneously to the parties. A dismissal of a formal complaint may be appealed as provided below.

7. Appeal

Either the complainant or the respondent may appeal a decision to dismiss a formal complaint or any allegations therein, as discuss above in the section XI(F)(6) Dismissal of Formal Complaint Prior to Adjudication. The parties may also appeal the Title IX Hearing Panel's/adjudicator(s)' decision regarding responsibility.

Grounds for appeals are as follows:

- Procedural irregularity that affected the outcome of the matter;
- New evidence that was not reasonably available at the time of the determination regarding responsibility or dismissal was made, that could affect the outcome of the matter; and

- The Title IX Coordinator, investigator(s), or Title IX Hearing Panel/adjudicator(s) had a conflict of interest or bias for or against complainants or respondents generally or the individual complainant or respondent that affected the outcome of the matter.

a. Submitting an Appeal

Either party may request an appeal by submitting a written appeal statement, which may not exceed 2,000 words, challenging the outcome of the complaint resolution process. The written appeal statement must be submitted to the Title IX Coordinator within two (2) calendar days of receiving the notice of outcome and must explain which of the above grounds the party is invoking for the appeal. While the parties may be assisted by their advisors in preparation of the appeal, the appeal statement must be submitted by the party, must be the party's own statement, and may not be used to submit the statements of others on the party's behalf. Failure to file a timely appeal constitutes a waiver of any right to an appeal.

The Title IX Coordinator will review the appeal statement to determine whether the appeal states a permissible ground for appeal (as set forth above), such that the appeal will be considered. The Title IX Coordinator may remove or redact any portions of the appeal statement that exceed the word limit or that otherwise exceed the scope of information that may be considered in the complaint resolution proceeding (such as treatment records without consent, information subject to a legal privilege without a waiver, or evidence relating to the complainant's prior sexual history if an exception does not apply).

If the Title IX Coordinator determines that the appeal states a permissible ground for appeal, the non-appealing party will be notified of the appeal and provided an opportunity to review the appeal statement and submit a written response in support of the outcome. Any written response from the non-appealing party in support of the outcome must not exceed 2,000 words and must be submitted to the Title IX Coordinator within two (2) calendar days of receiving notice of the appeal. While the party may be assisted by their advisors in preparation of the responsive appeal statement, the responsive appeal statement must be submitted by the party, must be the party's own statement, and may not be used to submit the statements of others on the party's behalf. The Title IX Coordinator will review any responsive appeal statement and may remove or redact any portions of the statement that exceed the word limit or that otherwise exceed the scope of information that may be considered in the complaint resolution process (such as treatment records without consent, information subject to a legal privilege without a waiver, or evidence relating to the complainant's prior sexual history if an exception does not apply).

The Title IX Coordinator generally will compile an appeal file, which may consist of any information, documents, or other evidence that is provided to the appeal panel. Such information may include, the written appeal statement, the responsive appeal statement, the notice of outcome, the adjudication file in its entirety or in part, any previously undiscovered evidence (if discovery of new evidence is a ground for the appeal), and any other information determined to be necessary for the appeal panel's decision, at the Title IX Coordinator's discretion.

For complaints involving allegations of (1) Title IX Sexual Harassment or (2) Sexual Assault, Dating Violence, Domestic

Violence, or Stalking *occurring outside* of the education program or activity or against a person *outside* of the United States, the appeal file will be made available for review by the complainant and respondent. The Title IX Coordinator will provide a two (2) calendar day period for the complainant and respondent to have access to review the appeal file.

In cases where the appeal file is made available for review as discussed above, the parties and parties' advisors may use the appeal file reviewed at this step and any additional information reviewed during the consideration of the appeal (see below), only for purposes of participating in the complaint resolution process and are prohibited from disseminating or otherwise sharing the appeal file or additional information with any other individual. Prior to being provided access to the appeal file or any additional information, the parties and parties' advisors will be required to sign a non-disclosure agreement agreeing to such terms.

Appeals will be considered by an appeal panel appointed by the Title IX Coordinator. Generally, appeal panels will consist of three trained individuals, including those assigned to the Title IX pool panel.   The College reserves the right to appoint any trained individual who is free of conflict of interest or bias to the appeal panel. The appeal panel members will not be one of the Title IX Hearing Panel members/adjudicators, the investigator, or the Title IX Coordinator on the same matter. The parties shall receive written notice of the appeal panel appointed. If any party has a concern that a member of the appeal panel has a conflict of interest, the party should report the concern in writing as indicated in the section X(I) Conflicts of Interest above.

b. Consideration of Appeal

The appeal panel will not rehear the case, but will review the appeal file and consider whether it is more likely than not that the above-listed grounds for appeal have been satisfied. The appeal panel may choose to meet with the parties and consider other additional information, in the appeal panel's sole discretion. For cases of (1) Title IX Sexual Harassment or (2) Sexual Assault, Dating Violence, Domestic Violence, or Stalking *occurring outside* of the education program or activity or against a person *outside* of the United States, if the appeal panel receives any additional information, the parties shall have an opportunity to review the additional information.

If the appeal panel determines that there is sufficient evidence to conclude that it is more likely than not that one of the above grounds for appeal is satisfied, generally, the matter will be remanded for further investigation and/or deliberations by the Title IX Hearing Panel/adjudicators and/or an additional live hearing, as determined by the appeal panel.

When the matter is remanded, the appeal panel, in consultation with the Title IX Coordinator, will determine whether the matter should be remanded to the original Title IX Hearing Panel/adjudicator(s) or whether new Title IX Hearing Panel/adjudicator(s) should review the matter. The appeal panel may not change Title IX Hearing Panel/adjudicator(s)' determination of whether the respondent was responsible or not responsible for a Policy violation. Only the Title IX Hearing Panel/adjudicators reviewing the matter on remand from an appeal may change the determination of the original Title IX Hearing Panel/adjudicators of whether the respondent was responsible or not responsible for a Policy violation. If the reasons for remand relate to the investigation or warrant additional

investigation, the appeal panel, in consultation with the Title IX Coordinator, will determine whether the matter should be remanded to the previous investigator or whether a new investigator should be appointed. Upon remand, the investigator and Title IX Hearing Panel/adjudicators shall utilize the same process as required for all complaint processes under this Policy. If the matter is remanded, the determination made on remand will be appealable under the procedures discussed in this Section.

If the appeal panel determines that there is insufficient evidence to conclude that it is more likely than not that one or more grounds for appeal have been satisfied, the appeal panel will dismiss the appeal. This decision is final and is not appealable. If the appeal panel dismisses the appeal, the sanctions will be effective on the date the appeal panel's decision is provided to the parties.

The appeal panel will simultaneously issue to the parties a written decision describing the result of the appeal and the appeal panel's rationale for the result. The College will strive to complete the appeal within twenty (20) calendar days following the appeal panel's receipt of the appeal file from the Title IX Coordinator; however, in some cases, more time may be required.

Appeals arising out of alleged violations of this Policy must be made under this appeal process and are not eligible for consideration under faculty, staff or student grievance policies or processes.

XI. Complaints of Related Misconduct

Any complaint relating to retaliation or interference with process in violation of this policy or violations of supportive/interim measures, sanctions, the obligation to action in good faith, or a nondisclosure agreement should be reported promptly to the Title IX Coordinator. The College will provide a prompt and equitable process for the resolution of complaints alleging retaliation or interference with process or a violation of supportive/interim measures, sanctions, the obligation to action in good faith, or a nondisclosure agreement.

When the College receives a complaint of retaliation or interference with process or of violations of supportive/interim measures, sanctions, the obligation to be truthful, the obligation to action in good faith, or a nondisclosure agreement, the Title IX Coordinator may exercise discretion to determine an appropriate responsive process based on the facts and circumstances. At the Title IX Coordinator's discretion, options for resolution include, but are not limited to: informal discussions and resolution facilitated by the Title IX Coordinator, investigation and/or determination by the Title IX Coordinator, or assignment of a designated individual to investigate the complaint and/or determine an appropriate response. This process will be separate and distinct from the Complaint Resolution Process outlined above for addressing Sexual Misconduct complaints. The Title IX Coordinator will document the complaint received, the process used, and the outcome. In instances where the outcome of the process results in a suspension longer than one year, expulsion, or termination of employment, the impacted individual may appeal the decision in accordance with the appeal rights as set forth in this Policy. The College will notify the parties of the outcome of the complaint.

XIII. Recordkeeping

The Title IX Coordinator is responsible for maintaining the official College records of Sexual Misconduct reports and formal complaints. When a formal complaint is pending, each official having a role in the response

and resolution process is responsible for handling records appropriate to their role. When the process is complete, the official records relating to the formal complaint will be provided to the Title IX Coordinator, who will maintain such records in accordance with the College's record retention requirements and applicable law. Records related to Sexual Misconduct reports and formal complaints will be treated as confidential and shared only on a need-to-know basis, as required by law, or to conduct a complaint resolution process.

XIV. Alternative Procedures

Nothing in this Policy is intended to interfere with the right of any individual to pursue other avenues of recourse which may include, but are not limited to, filing a complaint with the United States Department of Education's Office for Civil Rights (OCR).

The OCR office for institutions located in Minnesota is:

The Office for Civil Rights
400 Maryland Avenue, SW
Washington, DC 20202-1100
Telephone: (800) 421-3481
TDD: (800) 877-8339
Email: OCR.chicago@ed.gov
http://www.ed.gov/ocr (http://www.ed.gov/ocr/)

XIV. RESOURCES

What To Do If You Are Sexually Assaulted

- Get to a safe place.
- Call 911 if in immediate danger, if you are injured, or the community is in possible danger.
- Consider securing immediate professional support on or off campus to assist you in the crisis.
- Seek a medical evaluation for personal wellness/testing and possible evidence collection, even if you are uncertain you want to press charges or pursue legal action.   For your safety and well-being, immediate medical attention is encouraged. Further, being examined as soon as possible, ideally within 24 hours, is important in the case of Sexual Assault. The hospital will arrange for a specific medical examination at no charge.
- Take steps to preserve evidence, which may be necessary to the proof of criminal sexual violence or in obtaining a protection order. It is very important to preserve evidence. You may not know right now whether you will contact the police. But in case you later decide to, the evidence available immediately after the assault is crucial. To preserve evidence follow these recommendations: Prior to seeking medical attention, do not shower, bathe, wash your hands, brush your teeth, use the toilet or clean up in any way. Bring another set of clothes to the hospital since clothes will be collected as part of the evidence. If you have changed clothes, bring your soiled clothing with you for evidence collection. Additionally, you are encouraged to gather bedding, linens or any other pertinent articles that may be used for evidence. Secure them in a clean paper bag or clean sheet.   Evidence found in phone records (texting), e-mails, and/or social media (Facebook, Snapchat, etc.) should also be preserved.
- Even after the immediate crisis has passed, contact confidential on-campus and/or off-campus resources—for emotional support, information, and/or advocacy.
- Report the conduct to the Title IX Coordinator at 612-381-8236.   The Title IX Coordinator can arrange for interim measures and

accommodations, including no-contact orders. The College will also assist in any needed advocacy for students who wish to obtain protective or restraining orders with local authorities. Alternatively, you can contact the Minneapolis Police Department or Hennepin County District Court to obtain protective or restraining orders.
- File criminal charges with the local Police Department, if desired. Designated staff members will help the employee or student in reporting the assault to the police and/or in filing a criminal charge.

Emergency Contacts

24-Hour Emergency – Local law enforcement: 911

On Campus Resources:

Kelli Sattler, Ed.D.
Title IX Coordinator
Dean of Student Affairs
612-381-3437
Office: Pinska Center
ksattler@dunwoody.edu

Patricia Edman
Vice President of Human Resources
(612) 381-3308
pedman@dunwoody.edu

Dunwoody Student Affairs Office
(612) 374-5800
allstaffstudentaffairs@dunwoody.edu
(allstaffstudentaffairs@dunwoody.edu%20)

Dunwoody's Employee Assistance Program:
Mutual of Omaha EAP
1-800-316-2796
https://www.mutualofomaha.com/eap/

Off Campus Resources

RAINN (Rape, Assault, and Incest National Network)
https://www.rainn.org/
(800) 656-HOPE
24-hour hotline; free and confidential

Sexual Offense Services
St. Paul, Minnesota
http://www.co.ramsey.mn.us/ph/hs/sos.htm
(651) 643-3006
24-hour hotline; free and confidential

Sexual Violence Center
Minneapolis, Minnesota
www.sexualviolencecenter.org (http://www.sexualviolencecenter.org/)
(612) 871-5111
24-hour hotline; free and confidential

Domestic Abuse Service Center*
http://www.mncourts.gov/district/4/?page=369
Hennepin County Government Center
Rm. #A-0650 (lower level)
300 S. 6th Street
Minneapolis, MN 55487
(612)348-5073

* The Domestic Abuse Service Center is available to help victims of domestic abuse (abuse by a family or household member) obtain orders for protection. In addition, harassment restraining orders are available for other types of harassment and assault. http://www.mncourts.gov/district/4/?page=763 Victims do not have to report conduct to police to obtain a harassment restraining order. Dunwoody requires all students and employees whose conduct is subject to an order for protection or harassment restraining order to comply with such orders.

Minnesota Office of Justice, Crime Victims Programs
https://dps.mn.gov/divisions/ojp/help-for-crime-victims/Pages/default.aspx
(Monday - Friday, 8:00 AM – 4:30 PM)
651-201-7300 or 888-622-8799, ext. 1 for financial help
800-247-0390, ext. 3 for information and referral
651-205-4827 TTY

Resource list for victims: https://dps.mn.gov/divisions/ojp/help-for-crime-victims/Pages/resource-list-victims.aspx

Hennepin County Victim Services
Hennepin County Attorney's Office
http://www.hennepinattorney.org/get-help/crime/victim-services (http://www.hennepinattorney.org/get-help/crime/victim-services/)
(612) 348-4003

Lawhelpmn.org (Legal information on a variety of Sexual Assault issues)
http://www.lawhelpmn.org/issues/abuse-violence-crime-victims-rights/sexual-assault-and-other-crime-victims (http://www.lawhelpmn.org/issues/abuse-violence-crime-victims-rights/sexual-assault-and-other-crime-victims/)

Walk-In Counseling Center
(Free Mental health Counseling)
http://www.walkin.org/(check website for hours)
2421 Chicago Avenue S
Minneapolis, MN 55404
612-870-0565 x 100

Health Care Options

Hennepin County Medical Center
Sexual Assault Resources Service
612-873-5832
701 Park Avenue
Orange Building, 2.220
Minneapolis, MN 55415

Hennepin County Medical Center Sexual Assault Resources Service (SARS) provides assistance to victims of rape and Sexual Assault through area hospital emergency departments 24 hours a day. SARS counselors meet with victims and their families at HCMC and other participating hospitals to complete the evidentiary exam and to help them cope with the trauma and consequences of the assault.

Sexual Assault Nurse Examiners (SANEs) perform a special exam and collect evidence in a "rape kit." There is no charge for the SANE exam.

You can have a SANE exam within 120 hours after the rape or Sexual Assault. The purpose of the SANE exam is to collect forensic evidence, receive preventative health care, and see if you have any physical injuries that need tending. The exam will take place at the Sexual Assault exam site, in a confidential room with trained staff and volunteers. During

the exam, the SANE will collect evidence such as your clothing, DNA swabs, etc. Prior to the exam, preserve all evidence and do not shower, bathe, change clothes, douche, brush teeth, drink or eat, or throw away any clothing until police or medical personnel say it is okay. If you have done any of the above, it is still possible to do an exam, but it is not as effective. So if possible, please try to avoid any of these actions. Completing a SANE exam does not require you to file a police report. But, it does help preserve evidence in case you decide to file a police report at a later date.

Visa and Immigration Assistance

US Citizenship and Immigration Services
2901 Metro Drive
Suite 100
Bloomington, MN 55425

Student Financial Aid

Financial Aid Office: 612-381-3347

CAMPUS SAFETY & SCHOOL CLOSING INFORMATION

Campus Safety

Access to the Dunwoody campus is restricted to normal business hours, which are listed on the College website at www.dunwoody.edu. Dunwoody is closed on Sunday and Holidays.

Public Safety Officers are on duty during business hours. To request an escort to your vehicle, visit the Public Safety desk.

In compliance with the Federal Campus Security Act, the College publishes an annual Campus Safety and Security Compliance Report (https://dunwoody.edu/pdfs/DunwoodyCollege-Safety-Security-Compliance-Report-Final-2019-2021-Annual-Fire-Safety-Report-2021.pdf).

This report includes campus crime statistics for the most recent three-year period and a broad range of institutional policies concerning campus security. These policies pertain to alcohol and drug use, crime prevention, the reporting of crimes, sexual assault, and other important topics. A physical copy of this report can be obtained by contacting:

Dunwoody College of Technology
ATTN: Finance & Administrative Services Coordinator
818 Dunwoody Blvd.
Minneapolis, MN 55403
612-374-5800

If students have questions or concerns about this information, they should contact the Finance & Administrative Services Coordinator. Anyone wishing to view the daily crime log should also contact the Finance & Administrative Services Coordinator.

The Federal Sex Crimes Prevention Act, enacted on October 28, 2000, requires institutions of higher education to issue a statement advising the campus community where to obtain law enforcement agency information provided by a state concerning registered sex offenders. It also requires sex offenders already required to register in a state to provide notice, as required under state law, of each institution of higher education in that state at which the person is employed, carries on a vocation, or is a student.

Information regarding individuals on the registered sex offenders list can be obtained at the following:

Minneapolis Police Department
5th Precinct, 3101 Nicollet Ave. S.
Minneapolis, MN 55408
612-673-5705
doc.state.mn.us (http://doc.state.mn.us/)

Emergency Procedures

Students will receive evacuation route information in the classroom, and maps with evacuation routes are located next to all stairway entrances.

Students should take notice of the location of stairways and exits in order to be properly oriented in the event of an emergency. If an evacuation is needed, an emergency message or signal will be used to evacuate the building.

Emergency Messages for Students

Dunwoody College is committed to keeping students, faculty, and staff informed about critical campus safety issues. During an emergency situation, the College will utilize a strategic protocol to relay important information, and will use one or more of the following communication channels:

- RAVE Notification System – This is an emergency notification system that allows the College to communicate quickly via text, phone, and email to students, faculty, staff, and pre-designated individuals. All students and employees are automatically enrolled in this system.
- Public Address (PA) System – The campus is equipped with a PA system that is used to broadcast important information to the campus community.
- Digital Signage – Digital displays are located around campus and can be used to communicate safety information.
- Social Media – The College utilizes its Facebook and Twitter accounts to relay emergency/school closing messages to its followers.

School Closing Information

When Dunwoody College of Technology determines the campus will be closed due to inclement weather or other emergency situations, that decision will be announced in the following locations:

- RAVE Notification System
- TV channels: 4 (WCCO), 5 (KSTP), 45 (KSTC), and 11 (KARE)
- Dunwoody's Twitter account: http://twitter.com/dunwoodycollege (https://twitter.com/dunwoodycollege/)
- Dunwoody's Facebook account: www.facebook.com/dunwoodycollege (https://www.facebook.com/dunwoodycollege/)
- Dunwoody's Special Announcement Line at (612) 381-3420
- Dunwoody website: www.dunwoody.edu (http://www.dunwoody.edu/)

INFORMATION TECHNOLOGY SYSTEMS

LaunchPad

LaunchPad (http://launchpad.dunwoody.edu) is your starting point to access all of Dunwoody's systems. Your constituency (e.g., student, faculty, staff) determines which icons get displayed on your LaunchPad page. LaunchPad is accessible on and off-campus and from any device. There is a mobile application called Classlink available in the iOS App Store and the Google Play Store.

IT Resources in LaunchPad for Staff, Faculty, and Students

For information about technology resources at Dunwoody, including training and documentation, visit LaunchPad and click on the Student, Staff, or Faculty IT Resources link. This page has guides and resources regarding common technology access and protocols, such as setting up a Microsoft Team, setting up email on your phone, printing at Dunwoody, and VPN access to college systems.

ServiceNow Ticketing System

The IT Department uses ServiceNow, available through Launchpad, to manage and track incident and requests incoming to IT. This system tracks all work orders to IT with associated levels of priority and service level agreements tied to each priority level. The system is also used by IT to document knowledge, and to share knowledgebase articles with customers for self-help and faster service resolution.

This system is also used to track performance, and report key indicators aligned to ITIL (Information Technology Infrastructure Library, a set of common workflows and standards for IT support) and IT Service Management.

KnowBe4 Security Awareness Training

Dunwoody College requires that each employee go through FERPA and Security Awareness training at Dunwoody, per compliance with the Department of Education and GLBA. Dunwoody IT runs separate training campaigns in both security awareness and phishing on an annual basis. You are automatically enrolled in this training, and will be randomly tested for phishing as part of the campaign year round.

If you receive phishing emails that could be a threat to the college information security or systems, you are required to report that to the IT Department using the KnowBe4 "Phish Alert Button" or PAB within Outlook.

Canvas & My.Dunwoody

Dunwoody's official learning management system (LMS) is Canvas, and you can access it through LaunchPad. Canvas is your primary classroom tool for your instructor to publish course curriculum and required electronic documents.

My.Dunwoody is an online portal of student information and resources. Available through LaunchPad, the portal provides links to check grades, schedule/registration, financial aid and account balance information, enrollment verifications to a variety of resources, opportunities, and notifications.

Students use My.Dunwoody to register for classes, pay their bill, and view information such as grades, attendance, academic plans, and unofficial transcripts.

Microsoft 365

Through our campus agreement with Microsoft, Dunwoody provides Microsoft 365 licenses for all students and employees, available through LaunchPad. This automatically updatable, subscription-based software ensures students and employees always have the latest version of Word, Excel, PowerPoint, OneNote, and more for as long as you are a student or employee and the program continues. At no additional cost, benefits of the software include:

- Install on up to five compatible PCs and Macs, plus five tablets
- 1TB of storage with OneDrive for automatic device syncing
- Create, organize, and collaborate anytime, on your computer, tablet, or phone
- Enjoy access to the latest versions of Office applications, features, and services
- Use the same programs across all of your personal devices to ensure full file fidelity

On-Campus Printing

Dunwoody provides a secure and convenient way to print called Dunwoody Pharos. This printing system allows you to use your ID badge to authenticate to print devices and release jobs for printing. You will be able to print to any device that is available for general use, and at this time, there is no direct charge for printing.

IT is responsible for maintaining this system and monitors the printers for errors. Contact the IT Service Desk if you have problems retrieving print jobs. If a printer is malfunctioning, you should notify the IT Service Desk and use another printer on campus.

Staff.Dunwoody SharePoint Online

Dunwoody's employee SharePoint site, Staff.Dunwoody, is where you will find information about the College and where you go to share documents. You can access it through Launchpad. Staff.Dunwoody assistance is available at the IT Service Desk.

SharePoint Online, available through Launchpad and Microsoft 365, is a cloud-based resource that can be used to setup sites to share documents, collaborate over a project, or share content across the organization.

Business Systems Reporting

Centralized reporting for key business systems is available in SharePoint through access granted by the office of Institutional Research and Effectiveness. If you require data reporting of any kind, you can contact the office of Institutional Research and Effectiveness, and they will be able to provide it for one-time, or on an ongoing basis.

The IT Department maintains a system for reporting known as IIS Reporting that is available through Launchpad. This system will be phased out by central reporting through the office of Institution Research and Effectiveness.

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