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. This course must be taken at Dunwoody for the Industrial Engineering Technology Degree.

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, Or ENGR1220, 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, queuing models, control charts for variables, acceptance criteria, and acceptance sampling.
Prerequisite(s): MATH2260