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.