ELECTRICAL CONSTRUCTION DESIGN & MANAGEMENT

**Program Description**

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 to think like a designer, learning 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 an electrical engineering construction capstone that integrates and documents aspects of drafting, designing, specifying, analyzing, estimating, and managing the project.

Note: Students who hold a two-year electrical construction degree or diploma from a regionally accredited institution may be eligible to apply for advanced standing and may be able to complete the degree in two semesters. Students who hold a current journeyman or master’s electrician license may be eligible to apply for prior learning credit and may be able to complete the degree in two semesters.

Dunwoody College of Technology: a non-profit, private technical college since 1914.

<table>
<thead>
<tr>
<th>Credential Earned</th>
<th>AAS Degree</th>
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<tbody>
<tr>
<td>Classes Offered</td>
<td>Day</td>
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<tr>
<td>Length of Program</td>
<td>2 years (4 semesters)</td>
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<tr>
<td>Available Starts</td>
<td>Fall Semester, Spring Semester</td>
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<tr>
<td>Further Study</td>
<td>Bachelor’s Completion Degree in Construction Management</td>
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**Common Job Titles**

- Electrical Project Manager
- Electrical Designer
- Electrical Estimator
- Electrical Drafter
- BIM Specialist

**Recent Employers**

- Hunt Electric Corporation
- Black & Veatch
- Egan Companies
- Gausman & Moore
- Steen Engineering

**Salary Data**

- $54,300*
- Annual Average Salary

**Placement Rate**

- 100%**

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**Degree Requirements**

- ELEC1111 AC & DC Electrical Lab
- ELEC1112 AC & DC Electrical Principles
- ELEC1211 AC & DC Machines & Controls Lab
- ELEC1212 AC & DC Machines Principles
- ECDM2110 Electrical Commercial Design Project
- ECDM2120 Electrical Commercial Design Theory
- ECDM2130 Electrical Commercial Design Calculation
- ECDM2140 Electrical Residential Design Project
- ECDM2150 Electrical Residential Design Application
- ECDM2210 Electrical Industrial Design Project
- ECDM2220 Electrical Industrial Design Theory
- ECDM2230 Electrical Industrial Design Calculation
- ECDM2240 Electrical Estimating & Management Lab
- ECDM2250 Electrical Estimating & Management Applications
- MATH1500 Algebra, Trigonometry & Boolean Algebra
- Humanities Elective
- Communications Elective
- Social Sciences Elective
- Diversity Elective
- Arts & Sciences Electives

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**How to Apply**

- dunwoody.edu
- 612.374.5800
- info@dunwoody.edu
Course Descriptions

ELEC1111 AC & DC Electrical Lab, 5 cr.
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.

ELEC1112 AC & DC Electrical Principles, 8 cr.
Examination of 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.

ELEC1211 AC & DC Machines & Controls Lab, 5 cr.
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.

ELEC1212 AC & DC Machines Principles, 8 cr.
Examination of DC and AC machine principles and theories with an emphasis on industrial manufacturing system calculations and analysis including use of the National Electrical Code regulations for installations.

ECDM2110 Electrical Commercial Design Project, 3 cr.
Electrical design and project management of a simulated commercial building project. The project involves lighting, power and low voltage systems. Detailed documentation of all aspects of the project for external review. CAD (Computer Aided Drafting) and Revit stations are utilized to simulate a design environment.

ECDM2120 Electrical Commercial Design Theory, 3 cr.
Various principles, practices and required codes as utilized in commercial electrical construction; involves lighting systems solutions, selection of power systems, and low voltage systems. Scheduling and project management practices are emphasized.

MATH1500 Algebra, Trigonometry & Boolean Algebra, 5 cr.
Polynomials, proportions and linear equations. Trig functions, graphs, and vectors. Binary, octal and hexadecimal number systems. Boolean Algebra and mapping.