Electrical Technology

Electrical Construction

Contact Information
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701-671-2662
Barnard Hall 118

Delivery Methods
Face-to-Face: Wahpeton

The Electrical Construction option of the Electrical Technology program is designed to give students the skills necessary for successful employment in the electrical construction industry. The core curriculum of the Electrical Technology program includes an in-depth study of electrical theory, applied math, code study and residential wiring. A substantial amount of hands-on experience is provided in our seven dedicated laboratories, which contain AutoCAD drawing, advanced electrical test equipment, electric motors, magnetic motor starters, programmable controllers, electronic devices and instrumentation. Green technology is applied in areas of lighting and design class, efficiency of motors, controlling of loads (lighting, AC, etc.) in building operation through programmable controllers (PLCs).

Graduates of this option are also exempt from the mandatory classroom training required by North Dakota law (ND Century Code 43-09-11). While students are fully employable upon completion of this associate-granting program, some elect to return for another year of training, earning the Electrical Master Technician degree (please refer to the Electrical Technology, Electrical Master Technician). Other students may wish to continue their education by returning for an additional year, combining Electrical Technology with Robotics, Automation and Mechatronics, HVAC/R, Plumbing, or business classes. Students may transfer to four-year colleges and universities for a bachelor’s degree in programs such as Construction Management or Engineering Technology.

Admission Requirements*
The applicants must be high school graduates or equivalent. Students considered for acceptance must complete all admission requirements.

Required minimum placement scores:

<table>
<thead>
<tr>
<th>ACT</th>
<th>ACCUPLACER</th>
<th>ACCUPLACER</th>
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</thead>
<tbody>
<tr>
<td>Reading – 15</td>
<td>Reading Comp – 61</td>
<td>NEXT GENERATION</td>
</tr>
<tr>
<td>English – 15</td>
<td>WritePlace – 3-4</td>
<td>Reading – 240</td>
</tr>
<tr>
<td>Math – 17</td>
<td>Arithmetic – 51</td>
<td>Writing – 237</td>
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<tr>
<td></td>
<td>Elementary Algebra – 25</td>
<td>QAS – 232</td>
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Or transfer equivalencies will apply as appropriate

Applicants not meeting the above requirements are encouraged to visit with the academic counselor at 701-671-2257 or the Electrical Technology department chair at 701-671-2662 for strategies to meet the admission requirements.

*Program Admission Requirements are subject to revision. Please check the department or program website under Program Admission Requirements for current information.

Course Code | Course Title                        | Credits |
-----------|------------------------------------|---------|
ECAL 101   | Direct Current (DC) Fundamentals   | 5       |
ECAL 102   | Alternating Current (AC) Fundamentals | 5     |
ECAL 103   | Electrical Code Study             | 4       |
ECAL 111   | Electric Meters and Motors Lab     | 3       |
ECAL 133   | Basic Wiring Lab                   | 3       |
ECAL 137   | Electrical Drafting                | 2       |
ECAL 201   | Three-Phase Electrical Systems     | 5       |
ECAL 205   | Electrical Design and Lighting     | 3       |
ECAL 211   | AC Measurements                    | 4       |
ECAL 223   | Electronic Devices/Lab             | 4       |
ECAL 241   | Basic Motor Controls Lab           | 3       |
ECAL 243   | Programmable Logic Controllers Lab | 3       |

Electrical Construction Courses
ECAL 203   | Advanced Electrical Code Study     | 3       |
ECAL 204   | Electrical Planning and Estimating | 4       |
ECAL 233   | Commercial Wiring Laboratory       | 3       |

Related/General Education Courses
FYE 101    | Science of Success                | 1       |
ENGL 110   | College Composition I             | 3       |
English/Communication Elective (choose one) | 3 |
ENGL 105   | Technical Communications           |         |
ENGL 120   | College Composition II            |         |
ENGL 125   | Introduction to Professional Writing |       |
COMM 110   | Fundamentals of Public Speaking   |         |
MATH 132   | Technical Algebra I               | 2       |
MATH 134   | Technical Algebra II              | 2       |
MATH 136   | Technical Trigonometry            | 2       |
HPER       | Wellness Elective(s)              | 2       |
Social and Behavioral Sciences, Humanities, History and/or Computer Electives | 4 |
Recommended:  
  • CIS 101 – Computer Literacy – 2 cr 
  • PSYC 100 – Human Relations in Organizations – 2 cr

Total Required Credits 73

NOTE: This program requires an HP ProBook 650 laptop or equivalent. Please refer to the NDSCS website for specifications. The cost will be approximately $900 if purchased from NDSCS. Contact the NDSCS ITS Department for more information and to reserve/purchase a laptop at 701-671-3333 option 5.

For further information regarding the Electrical Department, contact Ivan Maas, department chair at 701-671-2662.

Award
Upon successful completion of the required courses, students will be awarded an Associate in Applied Science degree in Electrical Technology, Electrical Construction. This is the only program/degree in the ND University System which also qualifies most graduates for the 2,000 hours of apprenticeship credit for North Dakota, South Dakota and Minnesota.

Revised: May 2020