

**Electrical Technology** 460302 ELT  
**Career Certificate**

Available: Shoals Campus  
 Advisors: J. Bonner (5244) [ndt1@nwsc.edu](mailto:ndt1@nwsc.edu)  
 J. Hackworth (5335) [joehackworth@nwsc.edu](mailto:joehackworth@nwsc.edu)

The increased use of electricity and society's dependence upon it has created a vast number of occupational opportunities for the trained electrical technician. Great strides have been made in every line of electrical development. The increased use of automation in industrial plants has increased the need for trained industrial electricians. The Electrical Technology Program is designed to fulfill the needs of a demanding industry. The course includes electrical fundamentals, equipment and machine installation, maintenance and troubleshooting of motors, transformers and industrial controls, wiring methods, modern control methods, hydraulic, pneumatic, and electro-mechanical systems. The future brings increased demand for electricians who possess the skills of the trade and a working knowledge of the principles of electricity. The length of the curriculum is 4 semesters full-time day, or full-time night.

**All entering students are required to complete ORT 100 unless transferred from another university or college.**

	Semester		
	Theory	Lab	Hours
COM 100 Introductory Technical English I	3	0	3
MAH 101 Introductory Mathematics I	2	6	3
ELT 111 Concepts of Direct Current	3	6	5
ELT 112 Concepts of Alter. Current	3	6	5
ELT 114 Residential Wiring Methods	2	3	3
ELT 115 Residential Wiring Mehtods II	2	3	3
ELT 117 AC/DC Machines	1	6	3
ELT 118 Commercial/Industrial Wiring I	1	6	3
ELT 119 Concepts of Solid State Electronics	3	6	5
ELT 121 Concepts of Digital Electronics	3	6	5
ELT 122 Advanced AC/DC Machines	2	3	3
ELT 132 Commercial/Industrial Wiring II	2	3	3
ELT 209 Motor Control I	1	6	3
ELT 212 Motor Control II	2	3	3
ELT 231 Programmable Controls I	2	3	3
ELT 232 Programmable Controls II	2	3	3
ELT 242 Journeyman Master Prep Exam	3	0	3
ELT 206 OSHA Safety Standards	3	0	3
<b>Total Semester Credit Hours</b>	<b>62</b>		

\*Transfer Credit: Students may receive up to one semester of Advanced Placement for Career Technical coursework completed at another institution.

**ELECTRICAL ELECTIVES**

- ELT 104 Distribution Systems
- ELT 200 Special Projects
- ELT 206 OSHA Safety Standards
- ELT 214 Hydraulics
- ELT 215 Pneumatics
- ELT 219 Fluid Power Systems
- ELT 223 Cable Splicing and Installation
- ELT 233 Applied Programmable Controls
- ELT 244 Conduit Bending and Installation

Contact hours are not shown for electives since they may vary and combine both theory and lab.

**Electronics Technology** 470105 ILT  
**Associate in Applied Science Degree**

Available: Shoals Campus  
 Advisors: S. McGouyrk (5246) [stevem@nwsc.edu](mailto:stevem@nwsc.edu)  
 R. Reaves (5201) [rgr@nwsc.edu](mailto:rgr@nwsc.edu)  
 S. Harrison (5250) [sam@nwsc.edu](mailto:sam@nwsc.edu)

This degree is designed to provide the student with proficiency in electronic devices and equipment. Theory and laboratory courses in basic electronics, electronic circuits, communications, computers, and industrial electronics, as well as general education courses in math, English, physics, psychology, and humanities provide the knowledge and skills necessary to gain employment in electronics with opportunities to advance to positions of greater responsibility.

The degree prepares the student to observe necessary safety precautions; assemble, install, operate, troubleshoot, repair, maintain, calibrate, and modify electronic circuitry, equipment and systems; construct breadboards, and mock-ups; set up test apparatus, conduct tests, and analyze test results; prepare reports, sketches, graphs, and schematic drawings; and perform necessary mathematical calculations.

**All entering students are required to complete ORI 101 unless transferred from another university or college.**

	Semester		
	Theory	Lab	Hours
<b>General Education Requirements</b>			
***ENG 101 English Composition I	3	0	3
*ENG 130 Technical Report Writing	3	0	3
MTH 103 Introduction to Technical Mathematics	3	0	3
MTH 118 Technical Mathematics	3	0	3
PHY 115 Technical Physics	3	2	4
PSY 200 General Psychology	3	0	3
Humanities or Fine Arts Elective	3	0	3
<b>Total General Education Requirements</b>	<b>22</b>		

**Major Requirements**

ILT 106 Concepts of Direct Current	3	6	5
ILT 107 Concepts of Alternating Current	3	6	5
ILT 112 Concepts of Digital Circuits	3	6	5
ILT 113 Concepts of Electronic Circuits	3	6	5
ILT 125 Digital Communications	3	0	3
ILT 126 Digital Communications Lab	0	6	2
ILT 133 Electronic Drafting	0	3	1
ILT 164 Circuit Fabrication I	0	3	1
ILT 194 Programmable Logic Controllers I	2	3	3
ILT 201 Industrial Electronics	3	0	3
ILT 202 Industrial Electronics Lab	0	6	2
ILT 205 Microprocessors	3	0	3
ILT 206 Microprocessors Lab	0	6	2
ILT 234 Microprocessor Systems Troubleshooting	1	3	2
ILT 267 RF Communications	3	0	3
ILT 268 RF Communications Lab	0	6	2
Electronics Electives	X	X	6
<b>Total Major Requirements</b>	<b>53</b>		
<b>Total Semester Credit Hours</b>	<b>75</b>		

**Electronics Electives**

- ILT 129 Personal Computer Hardware
- ILT 130 Personal Computer Software Installation and Maint.
- ILT 131 Personal Computer Problem Determination I L T  
132 Programming Survey for Technicians
- ILT 135 Local Area Networks
- ILT 169 Hydraulics/Pneumatics
- ILT 175 Computer Fundamentals for Technology Students
- ILT 180 Special Topics
- ILT 196 Programmable Logic Controllers II
- ILT 203 Biomedical Electronics I
- ILT 204 Biomedical Electronics II
- ILT 216 Industrial Robotics
- ILT 228 FCC General Radiotelephone License Prep I L T  
232 PC Repair Clinical
- ILT 239 Certification Preparation
- ILT 271 Independent Study
- ILT 272 Independent Study
- ILT 273 Independent Study
- ILT 274 Independent Study
- ILT 280 Special Topics
- ILT 280A A+ Certification Preparation
- ILT 280B Network+ Certification Preparation
- ILT 280E EEI Test Preparation
- ILT 294 Biomedical Electronics Clinical I
- ILT 295 Biomedical Electronics Clinical II

NOTE: Two Electronics Electives totaling 6 sem. hours are required.

Student should consult advisor concerning possible electives from other program areas.

\*Students who have completed ENG 130 prior to Spring 2000, and students substituting ENG 102 must take Speech.

\*\*Computer competency skills are embedded within one or more courses required in this curriculum.

\*\*\*Keyboarding skills are essential for the successful completion of English 101.

**Biomedical Equipment Technology 470105 BET  
Advanced Option for AAS Degree or  
Short-Term Certificate**

Available: Shoals Campus  
Advisor: R. Reaves (5201) [rgr@nwscc.edu](mailto:rgr@nwscc.edu)

This advanced option, in addition to the Electronics Technology Associate in Applied Science Degree, will prepare the student for employment in both the medical and industrial settings as biomedical equipment technicians. The increasing complexity of biomedical equipment demands the availability of highly skilled technicians, knowledgeable in the theory of application, underlying physiological principles, and safe application of biomedical equipment. To enter this certificate program, the student must have program advisor approval and have satisfactorily completed the requirements for the Electronics Technology AAS Degree at the College.

	Semester		
	Theory	Lab	Hours
BIO 103 Principles of Biology I	3	2	4
ILT 169 Hydraulics/Pneumatics	3	0	3
ILT 203 Biomedical Electronics I	3	0	3
ILT 204 Biomedical Electronics II	3	0	3
ILT 226 BMET Certification Preparation or Certification Preparation Elect.	3	0	3
ILT 294 Biomedical Electronics Clinical I	0	10	3
ILT 295 Biomedical Electronics Clinical II	0	10	3
<b>Total Semester Credit Hours</b>			<b>22</b>