General Education Associate in Science Degree

240102 GEN

Available: Phil Campbell and Shoals Campuses
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This program is designed for students seeking a general education core for transfer to four-year institutions. It allows flexibility in the selection of general electives or courses preparatory for a major. Students should consult the catalog of the college to which they intend to transfer and consult their advisor.

Entering students are required to complete ORI 101. Transfer students are exempt from this requirement.

		Semester Hours
Area I:	Written Composition **ENG 101 and 102	6
Area II:	Humanities and Fine Arts *Literature: ENG 271 and 272, ENG 251 and 252 or ENG 261 and 262 SPH 107 Elective: Choose one course from among ART 100, MUS 101, PHL 206*, THR 120, Foreign Language*	12 6 3 3
Area III:	Natural Sciences and Mathematics Science: Choose two core courses from among BIO 103, 104; CHM 104, 105, 111, 112; PHS 111, 112; PHY 201, 202, 213, 214 Math: Choose one course from MTH 110 or MTH 112 (or above) MTH 113, 120, 125, 126, 227, 237, 238	11 8 3
Area IV:	History, Social and Behavioral Science *History: HIS 101 and 102 or HIS 201 and 202 Social and Behavioral Sciences: Choose two courses from among ECO 231, 232; GEO 100; POL 211, PSY 200, 210; SOC 200, 210	12 6 6
Area V:	Pre-Professional, Pre-Major, and Elective Courses: CIS 146 or demonstrated equivalent computer competency skills. Elective courses appropriate to individual student and transfer institution. PED can be used as a general elective.	19-23
Total Semester Transfer Hours		**60-64**

*See note 2 on page 44.

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

Electrical Technology AOT Degree

309999

Available: Shoals Campus
Advisors: J. Bonner (5244) ndt1@nwscc.edu
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J. Thigpen jthigpen@nwscc.edu

Students desiring to receive the AOT Award must complete all major certificate courses, one minor certificate course of study, and the required credit hours of general education courses in Areas I, II, III, and IV. Upon completion of all the courses listed, students are eligible to receive the Associate in Occupational Technology Degree. Students desiring to take general education courses for transfer to another institution should consult an advisor for proper general eucation course selection.

Core Degree Requirements for the Associate in Occupational Technology Degree

Entering students are required to complete ORT 100. Transfer students are exempt from this requirement.

		Semester Hours
Area I:	Written Composition English Composition I and/or Technical Writing	3
Area II:	Humanities and Fine Arts	3
Area III:	Natural Science and Mathematics A minimum of 3 hours in degree creditable mathematics is required. The additional 6 hours of degree creditable coursework may be taken from disciplines of math, biology, chemistry, physical science, physics, environmental technology and computer science.	9
Area IV:	History, Social and Behavioral Sciences Courses may be taken from the disciplines of history, economics, geography, political science, psychology, and sociology.	3
Minimum General Requirements		**18**

Major Requirements		**Semester Hours**
ELT 114	Residential Wiring Methods	3
ELT 115	Residential Wiring Methods II	3
ELT 117	AC/DC Machines	3
ELT 118	Commercial/Industrial Wiring I	3
ELT 121	Concepts of Digital Electronics	5
ELT 122	Advanced AC/DC Machines	3
ELT 132	Commercial/Industrial Wiring II	3
ELT 209	Motor Control I	3
ELT 212	Motor Control II	3
ELT 219	Fluid Power Systems	3
ELT 231	Programmable Controls I	3
ELT 232	Programmable Controls II	3
ELT 242	Journeyman Master Prep Exam	3
Elective		3
Total Major Requirements		**44**

Minor Requirements **309999 EAC**

Air Conditioning/Refrigeration Technology

ACR 111	Refrigeration Principles	3
ACR 121	Principles of Electricity for HVACR	3
ACR 122	HVACR Electrical Circuits	3
ACR 126	Commercial Heating Systems	3
Total Minor Requirements		**12**

General Requirements	**18**
Total Requirements for AOT Degree	**74**

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

Electrical Technology Career Certificate 460302 ELT

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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.

	Theory	Lab	Semester 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 Elective	X	X	1
Total Semester Credit Hours			**60**

*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 Associate in Applied Science Degree 470105 ILT

Available: Shoals Campus
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This program 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 program 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.

General Education Requirements	Theory	Lab	Semester Hours
***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
Total General Education Requirements			**22**
Major Requirements			
ILT 106 Concepts of Direct Circuit	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
Total Major Requirements			**53**
Total Semester Credit Hours			**75**

Electronics Electives
ILT 129 Personal Computer Hardware
ILT 130 Personal Computer Software Installation and Maint.
ILT 131 Personal Computer Problem Determination

ILT 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 216 Industrial Robotics
ILT 228 FCC General Radiotelephone License Prep
ILT 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

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

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.

	Theory	Lab	Semester 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
Total Semester Credit Hours			**22**

Emergency Medical Services 510904 EMP Associate in Applied Science Degree

Available: Shoals Campus
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NOTICE: The EMS admission criteria, the progression guidelines, and the curriculum are currently being revised. Please see an EMS advisor.

The Emergency Medical Services Program is designed to prepare qualified applicants in basic and advanced emergency care in clinical and in field environments. Graduates qualify for employment with fire and rescue departments, ambulance services, industries and emergency departments within medical facilities. EMS education spans three levels of competency: First Responder, EMT-Basic and EMT-Paramedic. Each level of competency meets or exceeds standards set forth by the Department of Transportation (DOT), National Standard Training Curriculum, and by the State of Alabama Department of Public Health. The Emergency Medical Services Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs in the association with the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (COAEMSP). Students may enroll in the EMS program with the intention of completing only the courses required for each level of EMS education: EMT-Basic or EMT-Paramedic. Upon successful completion of any of the two levels, the student will be eligible to take the EMT National Registry examination for state licensure. To receive an Associate of Applied Science Degree in Emergency Medical Services, the student must complete the EMT certificate levels and all academic core curriculum course requirements.

All EMS students must take all parts of the ASSET or COMPASS placement test. Students completing the tests should see the Program Director for placement into the English and math classes. Because EMS programs contain a clinical component, students are required to meet additional health requirements as well as the "Essential Functions of the EMT." Questions regarding the EMS program should be directed to the Program Director at (256) 331-5435.

ADMISSION REQUIREMENTS for the EMT-BASIC
To be eligible to enroll in the BASIC EMT course, a student must complete the following:

1. Meet all admission requirements of the College and Alabama Department of Public Health;
2. Be a high school graduate or have a GED;
3. Attain the prescribed scores on the ASSET or COMPASS placement tests;
4. Be at least 18 years old (younger students who meet certain conditions may be able to enroll with the permission of the Program Director);
5. Possess a valid driver's license;