CURRICULUM STANDARD

Effective Term
Summer 2012
*[2012*02]*

Curriculum Program Title	**Applied Engineering Technology**	Code	**A40130**
Concentration	**(not applicable)**		

Curriculum Description

The Applied Engineering Technology curriculum prepares individuals to become engineering technicians who incorporate the principles and theories of science, engineering, and mathematics to solve technical problems in various types of industry.

The course work emphasizes analytical and problem-solving skills. The curriculum includes courses in safety, math, physics, electricity, engineering technology, and technology-specific specialty areas.

Graduates should qualify for employment in a wide range of positions in research and development, manufacturing, sales, design, inspection, or maintenance. Employment opportunities exist in automation, computer, electrical, industrial, or mechanical engineering fields, where graduates will function as engineering technicians.

*Curriculum Requirements**

[for associate degree, diploma, and certificate programs in accordance with 23 NCAC 02E.0204 (3)]

I. **General Education.** Degree programs must contain a minimum of 15 semester hours including at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural sciences/mathematics. Degree programs must contain a minimum of 6 semester hours of communications. Diploma programs must contain a minimum of 6 semester hours of general education; 3 semester hours must be in communications. General education is optional in certificate programs.

II. **Major Hours**. AAS, diploma, and certificate programs must include courses which offer specific job knowledge and skills. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit. *(See second page for additional information.)*

III. **Other Required Hours.** A college may include courses to meet graduation or local employer requirements in a certificate, diploma, or associate in applied science program. These curriculum courses shall be selected from the Combined Course Library and must be approved by the System Office prior to implementation. Restricted, unique, or free elective courses may not be included as other required hours.

	AAS	**Diploma**	**Certificate**
Minimum General Education Hours	15	6	0
Minimum Major Hours	49	30	12
Other Required Hours	0-7	0-4	0-1
Total Semester Hours Credit (SHC)	**64-76**	**36-48**	**12-18**

**Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic use of computers.*

Major Hours

[ref. 23 NCAC 02E.0204 (3)]

A. Core. The subject/course core is comprised of subject areas and/or specific courses which are required for each curriculum program. A diploma program offered under an approved AAS program standard or a certificate which is the highest credential level awarded under an approved AAS program standard must include a minimum of 12 semester hours credit derived from the subject/course core of the AAS program.

B. Concentration *(if applicable).* A concentration of study must include a minimum of 12 semester hours credit from required subjects and/or courses. The majority of the course credit hours are unique to the concentration. The required subjects and/or courses that make up the concentration of study are in addition to the required subject/course core.

C. Other Major Hours. Other major hours must be selected from prefixes listed on the curriculum standard. A maximum of 9 semester hours of credit may be selected from any prefix listed, with the exception of prefixes listed in the core or concentration. Work experience, including cooperative education, practicums, and internships, may be included in associate in applied science degrees up to a maximum of 8 semester hours of credit; in diploma programs up to a maximum of 4 semester hours of credit; and in certificate programs up to a maximum of 2 semester hours of credit.

Applied Engineering Technology A40130

			AAS	**Diploma**	**Certificate**
Minimum Major Hours Required			**49 SHC**	**30 SHC**	**12 SHC**
A. CORE *Courses required for the diploma are designated with **			16-23 SHC	16-23 SHC	
Required Courses:					
* EGR 111	Engineer Comp and Careers	3 SHC			
* ISC 112	Industrial Safety	2 SHC			
Required Subject Areas:					
***Computers. Select one:**					
DFT 119	Basic CAD	2 SHC			
ELC 127	Software for Technicians	2 SHC			
***Electricity. Select one:**					
ELC 131	DC/AC Circuit Analysis	5 SHC			
ELC 138	DC Circuit Analysis	3 SHC			
ELC 139	AC Circuit Analysis	3 SHC			
***Engineering. Select one:**					
HYD 110	Hydraulics/Pneumatics I	3 SHC			
HYD 112	Hydraulics-Med/Heavy Duty	3 SHC			
HYD 115	Industrial Hydraulics	3 SHC			
MNT 165	Mechanical Industrial Sys	2 SHC			
***Motors and Controls. Select one:**					
ELC 117	Motors and Controls	4 SHC			
ELC 128	Intro to PLC	3 SHC			
***Specialty. Select one:**					
ATR 112	Intro to Automation	3 SHC			
CET 110	Intro to CET	1 SHC			
ELN 131	Semiconductor Applications	4 SHC			
ISC 129	Qual Testing Lab Tech	3 SHC			
MEC 110	Intro to CAD/CAM	2 SHC			
PCI 150	Process Control Systems	4 SHC			
CONCENTRATION *(Not applicable)*					
C. OTHER MAJOR HOURS *To be selected from the following prefixes:* ATR, BPM, BPR, BTC, BUS, CET, CIS, CIV, CHM, COE, CSC, CTS, DDF, DFT, EGR, ELC, ELN, HYD, ISC, MAC, MAT, MEC, MNT, NOS, PCI, PHY, and WLD *Foreign language courses (including ASL) that are not designated as approved other major hours may be included in all programs up to a maximum of 3 semester hours of credit.*					