

CURRICULUM STANDARD

Effective Term
Fall 2011
[2011*03]

Curriculum Program Title

Industrial Systems Technology

Code

A50240

Concentration

(not applicable)

Curriculum Description

The Industrial Systems Technology curriculum is designed to prepare or upgrade individuals to safely service, maintain, repair, or install equipment. Instruction includes theory and skill training needed for inspecting, testing, troubleshooting, and diagnosing industrial systems.

Students will learn multi-craft technical skills in blueprint reading, mechanical systems maintenance, electricity, hydraulics/pneumatics, welding, machining or fabrication, and includes various diagnostic and repair procedures. Practical application in these industrial systems will be emphasized and additional advanced course work may be offered.

Upon completion of this curriculum, graduates should be able to individually, or with a team, safely install, inspect, diagnose, repair, and maintain industrial process and support equipment. Students will also be encouraged to develop their skills as life-long learners.

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.

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	AAS	Diploma	Certificate
Minimum Major Hours Required	49 SHC	30 SHC	12 SHC
A. CORE <i>Courses required for the diploma are designated with *</i>	15-23 SHC	15-23 SHC	
<p>Required Courses:</p> <p>* MNT 110 Introduction to Maintenance Procedures 2 SHC</p> <p>* WLD 112 Basic Welding Processes 2 SHC</p> <p>Required Subject Areas:</p> <p>* Electricity. Select one:</p> <p>ELC 111 Introduction to Electricity 3 SHC</p> <p>ELC 112 DC/AC Electricity 5 SHC</p> <p>ELC 131 DC/AC Circuit Analysis 5 SHC</p> <p>* Hydraulics. Select one:</p> <p>HYD 110 Hydraulics/Pneumatics 3 SHC</p> <p>HYD 115 Industrial Hydraulics 3 SHC</p> <p>* Blueprints and Diagrams. Select one:</p> <p>BPR 111 Blueprint Reading 2 SHC</p> <p>BPR 115 Elc/Fluid Power Diagrams 2 SHC</p> <p>BPR 130 Blueprint Reading/Const 2 SHC</p> <p>BPR 135 Schematics & Diagrams 2 SHC</p> <p>ELC 125 Diagrams and Schematics 2 SHC</p> <p>* Metalworking and Fabrication. Select one:</p> <p>MAC 111 Machining Technology I 6 SHC</p> <p>MAC 141 Machining Applications I 4 SHC</p> <p>MEC 111 Machine Processes I 3 SHC</p> <p>MNT 131 Metalworking Processes 3 SHC</p> <p>MNT 160 Industrial Fabrication 2 SHC</p> <p>* Safety. Select one:</p> <p>ISC 110 Workplace Safety 1 SHC</p> <p>ISC 112 Industrial Safety 2 SHC</p> <p>ISC 115 Construction Safety 2 SHC</p> <p>ISC 121 Envir Health & Safety 3 SHC</p> <p style="text-align: right;"><i>Continued on next page</i></p>			

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B. CONCENTRATION <i>(Not applicable)</i>			
C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i> ALT AHR, ATR, BPM, BPR, CIS, CMT, COE, CSC, DFT, EGR, ELC, ELN, EPP, HET, HYD, ISC, MAC, MEC, MNT, NET, OMT, PCI, PFT, PHS, PKG, PLU, PPT, PTC, SST, WAT, WLD, and WOL <i>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.</i>			