

CURRICULUM STANDARD

Effective Term
Fall 2006
*[2006*03]*

Curriculum Program Title

Industrial Engineering Technology

Code

A40240

Concentration

(not applicable)

Curriculum Description

The Industrial Engineering Technology curriculum prepares graduates to perform as technical leaders in manufacturing and service organizations. The curriculum incorporates the study and application of methods and techniques for developing, implementing, and improving integrated systems involving people, material, equipment, and information.

The course work emphasizes analytical and problem-solving techniques for process development and improvement. The curriculum includes systems analysis, quality and productivity improvement techniques, cost analysis, facilities planning, organizational management, effective communications, and computer usage as a problem-solving tool.

Graduates of the curriculum should qualify for positions in a wide range of manufacturing and service organizations. Employment opportunities include industrial engineering technology, quality assurance, supervision, team leadership, and facilities management. Certification is available through organizations such as ASQC, SME, and APICS.

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 Required Courses: ISC 132 Mfg Quality Control 3 SHC ISC 136 Productivity Analysis I 3 SHC ISC 243 Prod & Oper Management I 3 SHC Required Subject Areas: Safety. Select one: ISC 112 Industrial Safety 2 SHC ISC 121 Envir Health & Safety 3 SHC Industrial Management. Select one: BUS 137 Principles of Management 3 SHC ISC 128 Industrial Leadership 2 SHC ISC 135 Principles of Industrial Mgmt 3 SHC Manufacturing. Select one: BIO 280 Biotechnology 3 SHC BPM 110 Biomanufacturing Practice 3 SHC MEC 111 Machine Processes I 3 SHC MEC 145 Mfg Materials I 3 SHC MEC 161 Manufacturing Processes I 3 SHC MEC 242 Value/Supply Chain Mgmt 3 SHC Graphics. Select one: DFT 111 Technical Drafting I 2 SHC DFT 170 Engineering Graphics 3 SHC	18-21 SHC	NR	
CONCENTRATION (Not applicable)	NA	NA	NA

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<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i></p> <p>ACC, ATR, BIO, BPM, BTC, BUS, CIS, CIV, CHM, CMT, COE, CSC, CST, CTS, DBA, DFT, ECO, EGR, ELC, ISC, MAC, MAT, MEC, NOS, OMT, PHY, and PTC</p> <p><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></p>			
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