

CURRICULUM STANDARD

Effective Term
Spring 2005
[2005*01]

Curriculum Program Title

Manufacturing Technology

Code

A5032C

Concentration

Integrated Operations

Curriculum Description

Integrated Operations is a concentration under the curriculum title of Manufacturing Technology. This curriculum is designed to develop core machining skills combined with manufacturing processes.

Students will learn both theory and hands-on analysis of pneumatics, hydraulics, and trouble-shooting mechanical systems. They will learn to use precision measuring devices; set up and operate conventional and CNC equipment; construct and troubleshoot pneumatic and hydraulic component systems; and use vertical mill, surface grinder, heat treatment, and other shop machinery.

Graduates should qualify for employment in a variety of manufacturing environments, especially metals industries.

*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.*

Manufacturing Technology/Integrated Operations A5032C (continued)

B. CONCENTRATION <i>Courses unique to a concentration are designated with **</i>	31 SHC	NR	
<p>MAC 15 Grinding Operations 3 SHC</p> <p>** MEC 115 Mfg Tooling Maintenance 6 SHC</p> <p>** MEC 150 Intro Auto Mfg Contr Sys 2 SHC</p> <p>MEC 151 Mechanical Mfg Systems 2 SHC</p> <p>** MEC 287 Applied Mfg Operations 2 SHC</p> <p>MNT 263 Electro-Pneu Components 4 SHC</p>			
<p>C. OTHER MAJOR HOURS <i>To be selected from the following prefixes:</i></p> <p>ATR, BPR, CIS, COE, CSC, DFT, ELC, ELN, FUR, HYD, ISC, MAC, MEC, OMT, PLA, TEX, and WLD</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>			