

# CURRICULUM STANDARD

Effective Term  
Fall 2003  
[2003\*03]

Curriculum Program Title

**Manufacturing Technology**

Code

**A5032D**

Concentration

**Composites**

## *Curriculum Description*

Composites is a concentration under the curriculum title of Manufacturing Technology. This curriculum provides training in various composite (reinforcing fiber in a polymer matrix) processing and testing methods. It will prepare individuals for employment by utilizing the latest technologies in composites processing and testing.

Course work includes the processing and design of composite structures and composite materials testing. Processes include compression molding, vacuum assisted transfer molding and resin transfer molding. Testing includes impact, shear, compression, flexure and tension tests based on anisotropic theory and stress analysis.

Graduates should qualify for employment as lab technicians or lab testing specialist in the composites, plastics, and fiberglass 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.

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

*\*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/Composites A5032D (Cont)**

**C. OTHER MAJOR HOURS**

*To be selected from the following prefixes:*

ATR, BPR, CIS, COE, CSC, DFT, ELC, ELN, FUR, HYD, ISC, MAC,  
MEC, OMT, PLA, TEX, 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.*