

of undergraduate, graduate and post-doctoral candidate students, and our collaborations with government, industry and other educational institutions are consistent with the mission of the College of Technology and the mission of the University.

CRI is dedicated to providing solutions to some of the tough problems facing the coatings industry such as reducing VOCs in paint and coatings. The institute's competencies include the following:

- Synthesize new types of polymers and emulsions of potential value to coatings research,
- Improve and advance polymer and coatings characterization, analysis and test methods,
- Expand the knowledge base of coatings and technology through research on chemical and physical phenomena involved in paints and coatings,
- Provide and increased pool of well-trained coatings professionals to the coatings industry and provide continuing education opportunities to coatings industry personnel through relevant polymer and coatings technology short courses.

The Textile Research and Training Institute

The Textiles Research and Training Institute (TRTI) mission is to be a leading research and academic organization that provides relevant and creative research in the area of and “applied textiles” that match across multi-disciplines and industries. The TRTI will provide a variety of educational training programs for industries that use textiles for various applications.

Laboratories

Our computer labs are housed in Roosevelt Hall on the main campus of Eastern Michigan University in Ypsilanti, Mich. All software is state-of-the-art and currently being utilized in the active furniture and apparel industries.

Software includes: 2-D pattern design software, pattern grading, marking and nesting systems for optimal fabric utilization, CNC industrial cutter, CutWorks Software, product data management software for costing and manufacturing specialty sheets, merchandising, and CAD package.

The Dyeing and Weaving lab is located in Sherzer Hall on the main campus of Eastern Michigan University.

The lab includes:

- Looms, dyeing and finishing, physical testing laboratory, tensile testing of yarns and fabrics, abrasion test, wrinkle recovery, fabric flammability, color fastness to crocking and near infrared analysis.

Typical Research and Training Projects

Some of our recent projects include the following:

- Anti-bacterial/Protective fabrics, “Smart Fabric” involving sensors within the fabric
- Environmentally friendly polymer textiles “Green Textiles”
- Protective garments for security purposes i.e. bullet-proof vests, contract digitizing
- 2-D digitizing via the Gerber AcuuMark system for over work or pattern development
- Industrial cutting services, high speed, single-ply cutting on a DCS2500 Cutter with CutWorks software

Pattern development, prototyping services are offered, training on Gerber platform software is also offered.

SCHOOL OF ENGINEERING TECHNOLOGY

Campus Address: 118 Sill Hall

Internet: it.emich.edu

Telephone: 734.487.2040

E-mail: blahidji@emich.edu

See pages 255, 257, 262, 280, 286, 288, 303, 319, 320 and 343 for course descriptions.

The School of Engineering Technology offers the following majors: applied technology, computer aided design, computer engineering technology, construction management, electronics engineering technology, interior design, mechanical engineering technology, manufacturing engineering technology, manufacturing technology, and polymers and coatings. In addition, a pre-architectural program is offered.

The construction management program has been accredited by the American Council for Construction Education, the Interior Design Program is accredited by the Foundation for Interior Design Education Research (FIDER), and the Computer-Aided Design and Manufacturing Technology programs are accredited by the National Association of Industrial Technology.

The advising procedure is posted in the school offices in Roosevelt and Sill halls. Majors are responsible for meeting the requirements for graduation. It is strongly recommended that students see their adviser each semester to review their program of study. Students not assigned to an adviser should call the office for an appointment with an advisor.

APPLIED TECHNOLOGY MAJOR — TRANSFER (ATTF)

The applied technology major is designed to serve those individuals who wish to continue their technology-related community college education. The program offers the flexibility of accepting a block of up to 34 credits of technical courses as transfer credit. Articulation agreements have been established with several community colleges to ensure the maximum transfer of credits. Students transferring from other four-year higher education institutions with a technical major may also find this major suitable.

An active articulation agreement exists between this program and a community college. For further details, see the Articulation Agreements section, page 13.

General Education Requirements48 hours

Area I Symbolics and Communication

1. See page 23
2. See page 23
3. ENGL324 Principles of Technical Communication (3 hrs)
4. MATH170 Elementary Statistics (3 hrs)
5. CADM105 Computer Applications for Industry (3 hrs)

Area II Science and Technology

1. CHEM117/118 Fundamentals of Chemistry with lab (4 hrs)
2. PSY101 General Psychology (3 hrs)
3. PHY221 Mechanics, Sound and Heat (4 hrs)

Area III Social Sciences

1. See page 24
2. See page 24
3. ECON201 Principles of Macroeconomics (3 hrs)
4. ECON202 Principles of Microeconomics (3 hrs)

Area IV Arts and Humanities

1. See page 25
2. See page 25
3. See page 25
4. See page 25

Physical Education/Graduation Requirement	2 hours
Additional Requirements	9 hours
MATH105 College Algebra (3 hrs)	
MATH107 Plane Trigonometry (2 hrs)	
PHY222 Electricity and Light (4 hrs)	
Major Requirements	55 hours
Restricted Elective Courses	6 hours
<i>Select six hours of restricted electives in consultation with an adviser.</i>	
Restricted MFG Elective Courses	15 hours
<i>Select 15 hours at the 300- and 400-level in consultation with an adviser.</i>	
Technical Courses	34 hours
<i>Up to 34 hours of transferred technical courses may be applied to this major.</i>	
Minor Requirements	0 hours
<i>No minor is required.</i>	
University Elective Courses	10 hours
Program Total	124 hours

COMPUTER-AIDED DESIGN MAJOR (CAD)

Students majoring in CAD are prepared for a wide range of CAD-related job opportunities. The applications of CAD are becoming more diverse, and are found in many areas, such as architecture, medicine, geographic information systems, facilities management, product presentation and computer animation.

In the CAD courses, you will gain knowledge and hands-on experience in the following four technical areas:

1. CAD applications involving an extensive knowledge of all major CAD applications;
2. Interactive 2-D and 3-D wire frame drawing, geometric dimensioning and tolerancing, solid modeling and surfacing;
3. Interactive 2-D graphics programming for business graphics, animation and CAD drawings involving menu and icon development along with software customization;
4. Applied mechanics, kinematics and design and finite element analysis;
5. Product data management.

Graduates from our CAD program are employed in industry as CAD engineers, product designers, application programmers, technical support engineers, CAD/CAM systems managers, training consultants and entry-level designers, as well as in equipment sales and support.

General Education Requirements	48 hours
<i>Area I Symbolics and Communication</i>	
1. See page 23	
2. CTAS121 Fundamentals of Speech (2 hrs)	
3. ENGL324 Principles of Technical Communication (3 hrs)	
4. MATH170 Elementary Statistics (3 hrs)	
5. CADM105 Computer Applications for Industry (3 hrs)	
<i>Area II Science and Technology</i>	
1. CHEM117/118 Fundamentals of Chemistry with lab (4 hrs)	
2. PSY101 General Psychology (3 hrs)	
3. PHY221 Mechanics, Sound, and Heat (4 hrs)	
<i>Area III Social Sciences</i>	
1. See page 24	
2. See page 24	
3. ECON201 Principles of Macroeconomics (3 hrs)	
4. ECON202 Principles of Microeconomics (3 hrs)	

<i>Area IV Arts and Humanities</i>
1. See page 25
2. See page 25
3. See page 25
4. See page 25

Additional Requirements	9 hours
MATH105 College Algebra (3 hrs)	
MATH107 Plane Trigonometry (2 hrs)	
PHY222 Electricity and Light (4 hrs)	

Physical Education/Graduation Requirement	2 hours
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Major Requirements	65 hours
Required Courses	57 hours
CADM122 Engineering Graphics I (3 hrs)	
CADM223 Engineering Graphics II (3 hrs)	
CADM231 Computer Graphic Programming for Industry (3 hrs)	
CADM324 3-D Solid Modeling (3 hrs)	
CADM325 Applied Mechanics, Kinematics, and Design (3 hrs)	
CADM331 Product Design Data Management I (3 hrs)	
CADM387 Cooperative Education in CAD/CAM Technology (3 hrs)	
CADM432 3-D Feature-Based Modeling and Surfacing Techniques (3 hrs)	
CADM433 Advanced Computer-Aided Design (3 hrs)	
CADM435 Finite Element Analysis (3 hrs)	
CADM491 Design Capstone (3 hrs)	
COS205 Computer Hardware and Software Systems (3 hrs)	
COS246 Programming in C++ (3 hrs)	
MFG111 Materials (3 hrs)	
MFG123 Manufacturing Processes and Methods I (3 hrs)	
MFG124 Manufacturing Processes and Methods II (3 hrs)	
MFG203 Industrial Operation (3 hrs)	
MFG290 GDNT Metrology (3 hrs)	
MFG316 Design for Manufacturing and Tooling (3 hrs)	
Restricted Elective Courses	6 hours
<i>Eight hours selected in consultation with a CAD adviser.</i>	

Minor Requirements	0 hours
<i>No minor is required.</i>	

Program Total	124 hours
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CONSTRUCTION MANAGEMENT MAJOR (CNST)

The construction major includes course work in general education with specified science and mathematics courses, recommended business courses electives (a list of recommended course electives that require the prior approval of a construction or facility management adviser) and technical courses. A minor is not required. A C- or better is required for all major courses.

The construction management major is designed to prepare men and women for middle- and upper-level management in construction contracting. The major has been developed in cooperation with experts from the construction industry, guidelines established by major construction associations and feedback from employers and graduates. The construction management major reflects the current needs and trends in the construction industry.

An active articulation agreement exists between this program and a community college. For further details, see the Articulation Agreements section, page 13.

General Education Requirements	49 hours
<i>Area I Symbolics and Communication</i>	
1. See page 23	
2. CTAS124 Fundamentals of Speech (3 hrs)	
3. ENGL324 Principles of Technical Communication (3 hrs)	
4. MATH170 Elementary Statistics (3 hrs)	
5. CADM105 Computer Applications for Industry (3 hrs)	