

Department of Engineering Technology

Walter W. Boles, Chair
Voorhies Engineering Technology Complex 143

Boraiko, Brown, Carter, Chen, Foroudastan, Fulks, Gore, Hatfield, Knight, Litchy, Mathis, McBride, Morton, Nasab, Perry, Redditt, Salman, Shenaty, Sridhara, Vanhook, Yang, Zwycewicz

The purpose of Engineering Technology is to prepare students for a broad range of technical and industrial management positions. This is accomplished through nationally accredited programs, a project-based learning environment, and extensive collaboration with industry. The department faculty members have appropriate academic credentials in addition to significant industrial experience. Numerous opportunities are available for students to participate in nationally competitive projects related to topics as diverse as space robotics, solar-powered vehicles, and concrete canoes. Several programs require heavy interaction with the industrial sector, which allows students to work on projects with potential employers. Experiential learning opportunities exist through cooperative and internship classes. Highly motivated students may wish to obtain important industry-recognized certifications that exceed accreditation requirements. Students may study an array of the latest breakthroughs in topic areas such as concrete, construction and engineering systems, rapid prototyping of electrical and mechanical systems, safety, and environmental science. The combination of these programs and activities offers preparation for graduates entering the fast-paced technology sector.

The Robert E. and Georgianna West Russell Chair of Manufacturing Excellence is designed to promote quality interaction with local industry. Students are encouraged to benefit from the scheduled activities, seminars, and short courses sponsored by the Chair of Manufacturing Excellence.

The department offers Bachelor of Science degrees in Concrete Industry Management, Engineering Technology, Environmental Science and Technology, and Construction Management.

The Concrete Industry Management major includes two concentrations: Production, Sales, and Service and Concrete Contracting.

The Engineering Technology major includes four concentrations: Computer Engineering Technology, Electro-Mechanical Engineering Technology, Mechanical Engineering Technology, and Engineering Systems Technology. (Credit for work experience can be obtained in the Engineering Systems Technology concentration.)

The Environmental Science and Technology major is an interdisciplinary program including strong science components and environmental applications under four concentrations: Energy Technology, Environmental Health and Safety, Planning and Site Analysis, and Water and Waste Management. Information about this program can be found on page 80.

The Construction Management major has three concentrations: Electrical Construction Management, Land Development/Residential Building Construction Management, and Commercial Construction Management.

Pre-professional programs are offered in Pre-architecture and Pre-engineering. In each case the student will complete his/her program after transferring to the appropriate school.

Minors are offered in Construction Management, Electronics, Environmental Science and Technology, and Engineering Technology.

Courses are offered which apply toward Six Sigma certification, Lean Manufacturing certification, and Project Management Professional certification.

Cooperative Education work experiences are possible for most programs. Interested students should check with their advisors.

Curricular listings include General Education requirements in Communication, History, Humanities and/or Fine Arts, Mathematics, Natural Sciences, and Social/Behavioral Sciences categories as outlined on pages 64–67.

Major in Concrete Industry Management

The major in Concrete Industry Management is designed to produce broadly educated, articulate graduates, grounded in basic science and mathematics, who are knowledgeable about concrete technology and techniques and are able to manage people and systems and to promote products or services related to the concrete industry. Examples of opportunities in the field include technical sales of products used to manufacture concrete; operations management of a concrete production facility; sales and marketing of production, construction, and finishing equipment; product distribution, supply chain management, and logistics; project management for a concrete or general contractor; work as a concrete specialist in an architectural/engineering firm or government entity; and support positions such as writer or editor for a technical magazine or professional/trade association management.

All students in the Production, Sales, and Service concentration complete a minor in Business Administration. Core classes in the major include CIM 1010, 1050, 3000, 3050, 3060, 3100, 3300, 4030, 4150, 4200, and 4910.

Grading Policy

Students majoring in the Concrete Industry Management (CIM) program must receive grades of C (2.00) or better in all CIM courses in order for the courses to count toward graduation. A minimum grade of C (2.00) is required in all CIM classes that are prerequisites to other CIM classes.

Concentration: Concrete Contracting

The Concrete Contracting concentration offers preparation for entry-level positions with general and concrete contractors, project management firms, masonry contractors, precast erection firms, or government agencies responsible for construction projects. Position opportunities include project management, estimating, field supervision, planning and scheduling, and various other management positions.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020 or 2030 or	
COMM 2200 (Comm)	3	HUM 2610 (Hum/FA)	3
GEOL 1030/1031		ET 1840	3
or 1040/1041 (Nat Sci)	4	Humanities and/or Fine Arts	3
CHEM 1010/1011		CIM 3000, 3050	7
or 1110/1111 (Nat Sci)	4	HIST 2010, 2020, or 2030	6
PSY 3020, QM 2610, or		ET 3910	3
MATH 1530	3	ECON 2410 rec. (Soc/Beh Sci)	3
CIM 1010, 1050	2	PSY 1410 rec. (Soc/Beh Sci)	3
CSCI 1150	3		31
MATH 1630 (Math)	3		
	28		

JUNIOR		SENIOR	
CIM 3060, 3080, 3100,		CIM 3200, 4010, 4070,	
4030	12	4100, 4150, 4200, 4910	20
MGMT 3610	3	ET 4420	3
MKT 3820	3	ENGL 3605 or 3620	3
BLAW 3400	3	Humanities/Fine Arts	3
FIN 3000 or 3010	3		29
ACTG 3000	3		
ET 4915	3		
	30		

NOTE: CIM 3300 will be taken sometime after the sophomore year for two credit hours.

Concentration: Production, Sales, and Service

The Production, Sales, and Service concentration is geared toward developing technical managers for ready mix, block, and precast concrete production facilities as well as their suppliers, such as admixture, aggregate, cement, and equipment companies. Position opportunities include operations management, sales and sales management, marketing management, human resource management, technical service and quality control, or environmental and safety management.

All students in the Production, Sales, and Service concentration are required to choose a business-related cognate from the list below in addition to the CIM major requirement of completing a Business Administration minor. Twelve (12) hours

must be successfully completed in a single chosen cognate area prior to graduation.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020 or 2030 or	
MATH 1630 or 1730 (Math)	3-4	HUM 2610 (Hum/FA)	3
GEOL 1030/1031 or		ET 1840	3
1040/1041 (Nat Sci)	4	Humanities and/or Fine Arts	3
COMM 2200 (Comm)	3	CIM 3000, 3050	7
CIM 1010, 1050	2	HIST 2010, 2020, or 2030	6
CHEM 1010/1011 or		ET 3910	3
1110/1111 (Nat Sci)	4	ECON 2410 rec. (Soc/Beh Sci)	3
PSY 3020, QM 2610, or		PSY 1410 rec. (Soc/Beh Sci)	3
MATH 1530	3		31
CSCI 1150	3		
	28-29		

JUNIOR		SENIOR	
ACTG 3000	3	ET 4420	3
MGMT 3610	3	Cognate	12
MKT 3820	3	Humanities and/or Fine Arts	3
CIM 3060, 3100, 4030,		CIM 4060, 4150,	
4050	12	4910, 4200	11
BLAW 3400	3		29
FIN 3000 or 3010	3		
ENGL 3605 or 3620	3		
	30		

NOTE: CIM 3300 will be taken sometime after the sophomore year for two credits.

Students should consult their advisors each semester to plan their schedules.

CIM Cognate Areas

Choose one area in which to complete 12 credits.

General Management

MGMT 3630, 3650, 3810, 3890, 4490, 4500, 4510, 4620, 4640, 4650, 4660, 4680, 4690, 4710, 4730, 4830, 4920; MKT 3855, 3870, 3880, 3950, 3960, 4810; BCEN 2900

Sales and Marketing

MKT 3840, 3850, 3855, 3860, 3870, 3880, 3900, 3910, 3930, 3950, 3960, 4800, 4850, 4870, 4880

Operations, Environmental, and Safety Management

MGMT 3710, 3730, 3750, 3770, 4610, 4700; ET 4440, 4450; EST 2810, 4810, 4820, 4840, 4770, 4780; MKT 4810

Computer Networking and Controls

ET 3620, 3630, 3640, 3650, 4590, 4600, 4610, 4630, 4660; INFS 2720, 2730, 3100, 3200, 3700, 4200, 4500, 4740, 4760, 4790, 4830, 4900

Foreign Language (choose one language)

Elementary I and II or equivalent

Intermediate I and II or equivalent

M.B.A. Preparatory

INFS 3100; ECON 2420; QM 3620; ACTG 3020

Major in Construction Management

Construction Management is a broad-based program designed to prepare students for positions in the expanding industrial technical fields of the construction industry. Corporate and private construction industries seek graduates to fill job positions in middle management. Included are concentrations in Land Development/Residential Building Construction Management, Electrical Construction Management, and Commercial Construction Management. The merging of a strong

technical background with the ability to lead personnel and manage systems produces a graduate who is invaluable to the construction industry.

Concentration: Commercial Construction Management

The Commercial Construction Management concentration is designed to prepare students to assume positions of responsibility within the commercial construction industry worldwide. Students who graduate are able to secure positions as project estimators, drafters/designers, codes inspectors, assistant project engineers, assistant superintendents or superintendents, assistant or project managers, and/or ultimately owners of construction-related companies. Students will get many hands-on opportunities for learning within the project-based program and will also be able to obtain practical experience in the industry through the internship/cooperative education requirements with companies that construct a variety of commercial structures.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020, 2030 or	
Humanities/Fine Arts	6	HUM 2610 (Hum/FA)	3
HIST 2010, 2020, or 2030	6	COMM 2200	3
Social/Behavioral Sciences	6	PHYS 2010/2011 (Nat Sci)	4
ET 1840, 2310	6	CHEM 1010/1011 or	
CMT 1000	1	1110/1111 (Nat Sci)	4
	31	ET 3830	3
		CMT 3000	3
		MATH 1910	4
		ET 2920	1
		CIM 3000	4
			29
JUNIOR		SENIOR	
CMT 3320, 3500, 4100	9	CMT 4000, 4010, 4140	9
CIM 3050	3	CMT 4200, 4280	3
ET 3615, 4970	6	ET 3860, 4420, 4915	9
INFS 3100	3	ET 4710	1
MGMT 3610	3	MKT 3820	3
BLAW 3400	3	FIN 3000	3
ET 2920	2		28
ACTG 3000	3		
	32		

Concentration: Electrical Construction Management

The Electrical Construction Management concentration is a result of the collective efforts of the National Joint Apprenticeship Training Committee (NJATC), the National Electrical Contractors Association, the International Brotherhood of Electrical Workers, Pellissippi State Community College, and Middle Tennessee State University to establish this program nationwide. Typically, students transfer to MTSU to complete 30 hours of distance learning and receive advanced credit to finish their degrees. It is possible for a student who is a nonlicensed electrical worker to begin the program as a freshman in the sequence below. For the nonlicensed student, arrangements can be made to work through NJATC for an apprenticeship. An interview with an NJATC educational director and availability of space will be deciding factors as to when a student can start training. A four-year degree in this concentration will

provide a strong background in technical and management skills to help graduates obtain middle management positions in the electrical construction management field.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020, 2030 or	
MATH 1710 (Math), 1720	6	HUM 2610 (Hum/FA)	3
INFS 2200	3	PHYS 2010/2011 (Nat Sci)	4
HIST 2010, 2020, or 2030	6	COMM 2200 (Comm)	3
ET 2310	3	Humanities/Fine Arts	6
SPAN 1010	3	Social/Behavioral Sciences	6
GEOL 1040/1041 (Nat Sci)	4	MATH 1530	3
	31	Electives	6
			31
JUNIOR		SENIOR	
ET 3920, 3930	6	ET 3620	3
CMT 3210	3	ACTG 3000	3
ET 3610, 3630	7	ET 4420, 4610	6
ET 4600, 4640, 4710	6	ET 3910	3
ET 4970 or 4915	3	CMT 3155, 4010, 4120	9
Elective	3	CMT 4130, 4172	6
	28		30

Concentration: Land Development/Residential Building Construction Management

The Land Development/Residential Building Construction Management concentration prepares students for a variety of construction-related positions. The concentration is accredited by the National Association of Industrial Technology. As students progress, they are expected to develop creativity and the communication skills necessary to meet the challenges of industry. Students engage in a variety of activities to build a strong background in the field, including lectures by industry members, field trips, and hands-on activities in the classroom and in the field. The program is designed to prepare graduates for supervisory or staff positions in a variety of construction-related businesses (land development, construction firms, wholesalers of construction materials, construction material manufacturing, lumberyards, etc.) Employment opportunities for graduates include general supervision, project management, human relations, sales and marketing, production and inventory control, quality control, estimating, scheduling, and land development.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020, 2030 or	
MATH 1710 (Math), 1720	6	HUM 2610 (Hum/FA)	3
INFS 2200	3	PHYS 2010/2011 (Nat Sci)	4
HIST 2010, 2020, or 2030	6	CMT 3150, 3160, 3190	9
ET 2310	3	GEOL 1040/1041 (Nat Sci)	4
Social/Behavioral Sciences	3	ET 3615	3
COMM 2200 (Comm)	3	FIN 2450	3
	30	Humanities and/or Fine Arts (two prefixes)	6
			32

JUNIOR		SENIOR	
ACTG 3000	3	CMT 3500, 4110	6
CMT 3180, 3210, 3320	9	CMT 4170	3
MKT 3820	3	ET 3910, 4710	4
CMT 4010, 4100, 4120, 4130	12	SPAN 1010	3
ET 4420	3	Social/Behavioral Sciences	3
	30	ET 4915, 4970	6
		Electives	3
			28

Pre-architecture Program

The following program is recommended as the first year of a five-year program leading to the Bachelor of Architecture degree. After successful completion of the courses listed, students are eligible to apply for admission to the school of architecture of their choice. It should be understood that students who complete this year of work will not automatically be assured of admission to the remaining four years of work in a school of architecture. Those who wish to apply to a school of architecture should see their advisors no later than February 1 in order to have time to follow the proper procedure to be considered for admission for the fall term of the following year. The recommended program for the first year follows.

FRESHMAN	
ENGL 1010, 1020	6
MATH 1910, 1920	8
Science*	8
ET 1310	2
ET 1840	3
Social Science Electives	6
	33

*To be selected based on the transfer school requirements and the approval of the advisor. The student should have the catalog of the transfer school at the time of registration, if possible.

Students should consult their advisors each semester to plan their schedules.

Major in Engineering Technology

Engineering Technology is a technologically advanced program at the Bachelor of Science level utilizing theoretical concepts and hands-on instruction. Program selection is from the following concentrations: Computer Engineering Technology, Electro-Mechanical Engineering Technology, Engineering Systems Technology, and Mechanical Engineering Technology.

In addition to the General Education courses, the basic requirements for all Engineering Technology concentrations are

1. completion of a core of 19 hours of Engineering Technology courses
 - ET 1840 Engineering Fundamentals, 3 hours
 - ET 3601 Electrical Circuit Analysis I, 3 hours
 - ET 3602 Electrical Circuit Analysis II, 3 hours
 - ET 4420 Industrial Safety, 3 hours
 - ET 4710 Professional Development Seminar, 1 hour
 - ET 4801-4804 Senior Problem in Engineering Technology, 3 hours
 - ET 4970 Engineering Economy, 3 hours
2. completion of the minimum number of Engineering Technology total credit hours required in the applicable concentration as follows:

Computer Engineering Technology, 51 hours
 Electro-Mechanical Engineering Technology, 63 hours
 Mechanical Engineering Technology, 67 hours

3. completion of other specific courses as shown under the appropriate concentration.

NOTE: A grade of C or better is required on transfer credits accepted as part of a major in Engineering Technology.

Concentration: Computer Engineering Technology

The Computer Engineering Technology concentration, accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21201, (410) 347-7700, provides the student with a sound technical base in electric and electronic circuits, digital systems, and computer hardware and software. Microcontroller, microprocessor, FPGA, and microcomputer applications in the area of control and automation as well as programming, data acquisition, transfer, and analysis are also emphasized.

Employment opportunities exist in various industrial fields that require the design and applications of digital computers such as manufacturing, medical, aerospace, control, instrumentation and measurements, and networking, installations, and maintenance of computers.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	MATH 1920	4
MATH 1730 (Math)	4	PHYS 2020/2021	4
MATH 1910	4	ENGL 2020 or 2030 or	
ET 1840, 3601	6	HUM 2610 (Hum/FA)	3
COMM 2200 (Comm)	3	ET 3602, 3620, 3630	9
HIST 2010, 2020, or 2030	6	Humanities and/or Fine Arts	3
PHYS 2010/2011 (Nat Sci)	4	CSCI 1170, 2170	8
	33		31

JUNIOR		SENIOR	
ENGL 3620	3	Social/Behavioral Sciences	3
ET 3640, 3650, 3670,		CSCI 3180	3
4640, 4660	14	ET 4915	3
Humanities and/or Fine Arts	3	ET 4610, 4670, 4420,	
Social/Behavioral Sciences	3	4801, 4970, 4630	18
CSCI 3160	3	ET 4710	1
CHEM 1110/1111 (Nat Sci)	4	ET 4600	2
	30		30

Students must take three three- or five-course sequences and the capstone course as follows:

Digital Electronics (ET 3601, 3620, 3640)
 Microprocessor (ET 3620, 3640/3650, 4660, 4670)
 Instrumentation and Control (ET 3601, 3602/3620, 3630, 4610)
 Capstone course (ET 4801)

Optional Computer Science Minor

The minor will include CSCI 1170, 2170, 3160, 3180 (14 hours) and at least 3 additional hours in upper-division computer science courses as approved by the minor and major advisors.

Students should consult their advisors each semester to plan their schedules.

Minor in Electronics

The minor in Electronics consists of at least 16 semester hours including ET 3610, 3620, and 3630 plus two courses from ET 3640, 3650, 3660, 3670, 4600, 4610, 4640, 4660, 4670, or 4790. All are three credit hours except ET 4600 and 3670 which are two and 3610 which is four. Only non-majors may minor in Electronics.

Concentration: Electro-Mechanical Engineering Technology

The Electro-Mechanical Engineering Technology concentration, accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21201, (410) 347-7700, is structured to prepare the student for positions in industry requiring the integration of electricity (for power and control) and mechanical devices (for force and motion) to perform tasks associated with manufacturing and the performance of services.

Employment opportunities exist in fields such as robotics, fluid power, industrial electricity, heating and air conditioning, and industrial automation.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020 or 2030 or	
MATH 1730	4	HUM 2610 (Hum/FA)	3
MATH 1910	4	Social/Behavioral Sciences	3
ET 1210, 1840, 2310	9	MATH 1530 (Math)	3
CHEM 1110/1111 (Nat Sci)	4	HIST 2010, 2020, or 2030	6
COMM 2200 (Comm)	3	PHYS 2010/2011 (Nat Sci)	4
	30	ET 3210, 3601, 3602, 3360	12
			31
JUNIOR		SENIOR	
Humanities and/or Fine Arts	3	Humanities and/or Fine Arts	3
MATH 2110	1	Social/Behavioral Sciences	3
CSCI 1170	4	ET 4915	3
ET 3620, 3630, 3810, 3830, 3860, 4420	18	ET 3650, 4600, 4610, 4640, 4710, 4802, 4850, 4860, 4970	24
PHYS 2020/2021	4		24
	30		33

Students must take four three- or four-course sequences and the capstone course as follows:

Robotics (ET 3810, 4850, 4860)
Control Systems (ET 3601, 3602, 3630, 4610)
Digital Circuits (ET 3601, 3602, 3620, 3650)
Engineering Mechanics (ET 1840, 3830, 3860)
Capstone course (ET 4802)

Students should consult their advisors each semester to plan their schedules.

Concentration: Engineering Systems Technology

This program is designed to prepare students for positions and careers in both the industrial and service sectors. Certifications can be earned in lean manufacturing, Six Sigma (Green Belt level), and safety. Typical positions include junior industrial engineer, first-level management, Quality/Six Sigma analyst/leader, lean manufacturing leader, safety/ergonomics coordinator, production/project scheduler, inventory analyst, work team leader, and other related positions.

Work-based (Experiential) Learning: Maximum 30 semester hours. Up to 18 semester hours may be granted for approved work experience. Up to 18 semester hours may be granted for approved work-based learning. The total hours for both work experience and work-based learning may not exceed 30 semester hours. Students who do not have any applicable work experience may take internship courses (ET 2920, 3920, and 3930) or co-op courses (ET 2930, 2940, 3970, and 3980) and may apply these courses as part of this experiential learning. Students will be required to participate in a formal assessment process to qualify for experiential learning credit.

Students should consult their advisors each semester to plan their schedules.

Curriculum Requirements and Recommended Sequence*

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020 or 2030 or	
CHEM 1010/1011 (Nat Sci)	4	HUM 2610 (Hum/FA)	3
MATH 1730 (Math)	4	PHYS 2010/2011 (Nat Sci)	4
MATH 1910	4	ENGL 3620	3
Humanities and/or Fine Arts	3	Social/Behavioral Sciences	3
CSCI 1170	4	MATH 1530, PSY 3020, or QM 2610	3
ET 2310	3	Humanities and/or Fine Arts	3
ET 1840	3	ET 3210, 3260, 3601, 3830	12
	31		31
JUNIOR		SENIOR	
HIST 2010, 2020, or 2030	6	ET 4420, 4600, 4710, 4900	9
COMM 2200 (Comm)	3	ET 4915, 4920, 4970, 4990	12
Social/Behavioral Sciences	3	Directed electives*	6
ACTG 3000	3	ET 2920	2
ET 3602, 3810, 3910	9	ET 4803	3
ET 3960, 4590	6		32
	30		

Students should choose six credits of electives from the following courses: PSY 3320; ET 1210, 3360, 3860, 3950, 4280, 4370, 4850.

Students should consult their advisors each semester to plan their schedules.

Concentration: Mechanical Engineering Technology

The Mechanical Engineering Technology concentration at MTSU enables students to obtain the skills necessary for placement in highly competitive jobs in machine design, manufacturing, engineering, field service engineering, technical sales, thermal analysis, product design, utilities operations, air conditioning design, plant operations, and a variety of other professions. Through design projects and laboratory training, students examine how to relate such skills to a variety of fields in mechanical engineering technology including product and machine design, power generation, utilities, and manufacturing. The educational quality of this program is especially high in that it provides students with the opportunity to mesh their in-class experiences with project-oriented assignments and real-world experience in national competitions such as the Great Moonbuggy Race, the Solar BikeRayce, SAE Formula One Collegiate Competition, Space Elevator, USLI Rocket Launch, and the Mini Baja Race.

The prospects for a graduate in mechanical engineering technology are as broad as the major concentration itself. Graduates can expect opportunities to work on a variety of projects from developing and producing engines and transportation equipment in the automobile, ship, rail, and aviation industries to working as a member on an engineering technologist design team to improve high-performance automobiles and air-conditioned environments. Students graduating from mechanical engineering technology programs often find themselves in highly responsible, challenging, and extremely rewarding positions.

Curriculum Requirements and Recommended Sequence

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020 (Comm)	6	ENGL 2020 or 2030 (Hum/FA)	3
MATH 1730 (Math)	4	ENGL 3620	3
MATH 1910	4	PHYS 2010/2011 (Nat Sci)	4
CHEM 1110/1111 (Nat Sci)	4	Humanities and/or Fine Arts	
ET 1210, 1840, 2310	9	(2 prefixes)	6
CSCI 1170	4	MATH 1920	4
	31	ET 3210, 3360, 3601, 3830	12
			32
JUNIOR		SENIOR	
HIST 2010, 2020, or 2030	6	ET 4340, 4420, 4710	7
COMM 2200 (Comm)	3	ET 4850, 4970, 4815	9
Social/Behavioral Sciences		ET 4860, 4803, 4830	9
(2 prefixes)	6	ET 4915	3
ET 3260, 3602, 3840	9	ET 2920	1
ET 3810, 3860, 4330	8		29
	32		

*Approved list of senior electives: ET 4230, 4600, 4640, 4990

Students must take four three-course sequences and the capstone course as follows:

Materials/Processing (ET 1210, 3260, 4340)
 CADD (ET 2310, 3360, 4330)
 Thermal Systems (ET 3810, 4815, 4850)
 Engineering Mechanics (ET 3830, 3840, 3860)
 Capstone course (ET 4803)

Students should consult their advisors each semester to plan their schedules.

Pre-engineering

The pre-engineering program that exists at MTSU requires additional study at an engineering school such as Tennessee State University, Tennessee Technological University, the University of Memphis, the University of Tennessee, or Vanderbilt University in order to obtain an engineering degree. Depending upon the program chosen, the student will complete two or three* years of the curricula shown below at MTSU. Students should consult their advisors and an advisor at the school to which they want to transfer concerning specific information on acceptance/transfer of the courses listed below to the engineering school of their choice. Information on the pre-engineering program in agricultural engineering can be found under the School of Agribusiness and Agriscience.

FRESHMAN		SOPHOMORE	
ENGL 1010, 1020	6	PHYS 2110/2111, 2120/2121	8
CHEM 1110/1111, 1120/1121	8	MATH 3110, 3120;	
MATH 1910, 1920	8	STAT 3150	10
ET 1840, 2310	6	ET 3830, 3840, 3860	9
CSCI 1170	4	ET 3360, 4970	6
	32	COMM 2200	3
			36

*Additional classes are available to juniors based on which school they are planning to attend. For example, MTSU offers a wide variety of engineering courses that may be available to third-year pre-engineering students. Students wanting to stay for a third year and take these courses may do so, but they must consult their advisors in advance.

Students should consult their advisors each semester to plan their schedules.

Standard Four-Year Engineering Program

This program will require four years to complete. The student is required to take the freshman and sophomore years indicated above and then transfer to an engineering school. The engineering school would then require two years of additional study to complete requirements toward the degree.



The pre-engineering program at MTSU has been closely coordinated with several engineering schools. A student who elects to transfer should confer with his or her faculty advisor two semesters prior to transfer.

Minor in Engineering Technology

The minor in Engineering Technology consists of 18 semester hours of courses as approved by the minor advisor. A minimum of 9 hours must be upper-division courses. The minor must include 8 semester hours in one of the following areas: drafting, electronics, engineering, industrial facilities and management, metals, or safety.

Minor in Construction Management

The minor in Construction Management consists of 18 semester hours in Construction Management and Engineering Technology courses including CMT 3150 and 3160 plus 12 semester hours as approved by the minor advisor.

Interdisciplinary Major in Environmental Science and Technology

The Department of Engineering Technology participates in an interdisciplinary major in Environmental Science and Technology in conjunction with Agribusiness and Agriscience, Biology, Chemistry, and Geosciences. A complete description of this program is found on page 80.

Courses in Concrete Industry Management [CIM]

See back of catalog for course descriptions.

Courses in Construction Management Technology [CMT]

See back of catalog for course descriptions.

Courses in Engineering Technology [ET]

See back of catalog for course descriptions.

Courses in Environmental Science and Technology [EST]

See back of catalog for course descriptions.

Graduate Study

The Engineering Technology Department offers the Master of Science with thesis and non-thesis options. Requirements and a list of graduate courses offered may be found in the graduate catalog.