Department of Engineering Technology

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Nourredine Boubekri, Chair

Faculty

Professors Boubekri, Grubbs, Mirshams. *Associate Professors* Foster, Kozak, Nasrazadani, Plummer. *Assistant Professors* Arnold, Kougianos, Vaidyanathan, Wang, Yu. *Lecturers* Anaya, Bittle, Hayes, Nouri, Warren.

Introduction

Engineering technology is the profession in which a knowledge of mathematics and natural sciences gained by higher education, experience and practice is devoted primarily to the implementation and extension of existing technology for the benefit of humanity (Engineering Technology Council, 1994). Increasing technological aspects of all modern activities have led to the need for highly skilled persons to design, construct, install, maintain, manage, operate, produce and sell sophisticated technical systems and products.

Departmental programs emphasize integrated design and the application of theoretical concepts. Classes of carefully coordinated laboratory experiences and lectures are utilized. Courses emphasize theoretical concepts and principles for solutions applicable to modern technological problems. Students are prepared for rapidly changing life experiences with mathematics, science and general education. This preparation is designed to enable graduates to remain current, as well as advance, in their professional field.

Vision

The Department of Engineering Technology is committed to leadership — in education and research — in contemporary and innovative engineering and technology areas, locally, nationally and internationally.

Mission

The Department of Engineering Technology is committed to excellence in teaching, research, and preparing engineering and engineering technology professionals.

Programs of Study

The department offers undergraduate and graduate programs in the following areas:

- Bachelor of Science in Engineering Technology with majors in construction engineering technology, electronics engineering technology, manufacturing engineering technology, mechanical engineering technology and nuclear engineering technology, and
- Master of Science with a major in engineering systems.

Nuclear engineering technology is available at the TXU Comanche Peak Steam Electric Station.

Construction Engineering Technology (CNET)

The construction engineering technology major provides educational experiences for the development of technical knowledge and skills necessary in today's construction industry. The program provides education in both the management and technical aspects, thus providing optimum opportunities for employment. The program builds on a strong foundation in mathematics, science, engineering and general education. Knowledge and skills relative to the construction field such as surveying, cost estimating, construction materials, computer design, contracts and management, safety, and structures are acquired. Technical and management skills are enhanced through courses offered by other engineering technology programs and the College of Business Administration. The development of technical communication and presentation skills is a requirement throughout the curriculum.

Electronics Engineering Technology (ELET)

The electronics engineering technology major is designed to develop the technical and personal knowledge and skill necessary to compete successfully in today's electronics industry. The program builds on a strong foundation in mathematics and science and includes courses in network analysis, linear electronics, digital electronics, communication systems and control systems. Computer utilization is an integral part of all electronics courses and most courses include a laboratory to provide the necessary hands-on experience for an applied program of study. The student's technical background is further enhanced by taking selected courses from other engineering technology concentrations. The development of technical communication and

presentation skills is a requirement throughout the curriculum.

Electronics engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology [Accreditation Director for Engineering Technology, Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202; 410-347-7700].

Manufacturing Engineering Technology (MFET)

The manufacturing engineering technology major prepares students for professional careers in the manufacturing environment. Manufacturing engineering technologists apply scientific and engineering knowledge and methods in support of engineering activities. While manufacturing engineering technologists share much of the mathematics and science background of engineers, their academic preparation tends to emphasize technical skills and applications resulting in a practical orientation. The major thrust of the manufacturing engineering technology curriculum is that of factory automation. Graduates commonly take positions in research and development, process specification and design, reliability/quality assurance and tool design.

Manufacturing engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology [Accreditation Director for Engineering Technology, Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202; 410-347-7700].

Mechanical Engineering Technology (MEET)

The mechanical engineering technology major is built upon a strong foundation of science, mathematics and technical course work designed to meet the diverse needs of the mechanical designer. Mechanical engineering technology concepts are used in all types of industry and are applied directly to product and tool design and to assist in the manufacturing process. Courses in computer-aided design, product design and development, manufacturing processes and materials, strength of materials and quality assurance provide the student with a broad range of applications for the pursuit of a career in mechanical engineering technology.

Mechanical engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology [Accreditation Director for Engineering Technology, Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202; 410-347-7700].

Nuclear Engineering Technology (NUET)

The nuclear engineering technology major is designed to provide breadth of training for operators and related technical personnel at the TXU Comanche Peak Steam Electric Station. The program has a strong foundation in mathematics and science and adds nuclear engineering principles ranging from materials science to reactor design. Courses in fluid mechanics, thermodynamics, electrical circuit theory, electric power generation and automatic control systems augment the curriculum. The program enhances the reactor operator training provided by TXU by stressing the fundamentals of underlying physical and engineering principles behind many plant operating procedures.

Nuclear engineering technology is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology [Accreditation Director for Engineering Technology, Accreditation Board for Engineering and Technology, 111 Market Place, Suite 1050, Baltimore, MD 21202; 410-347-7700].

Bachelor of Science in Engineering Technology

Degree Requirements

1. **Hours Required and General/College Requirements:** A minimum of 124 semester hours, of which 42 must be advanced, and fulfillment of degree requirements for the Bachelor of Science degree as specified in the "General University Requirements" in the Academics section of this catalog and the College of Engineering requirements.

2. **Major Requirements:** 70–73 hours from one of five majors listed below, chosen with the advice of an academic advisor within the department.

Major in Construction Engineering Technology (73 hours): BUSI 1340; CNET 1160, 2180, 2300, 3150, 3160, 3190, 3410, 3430, 3440, 3460, 3480, 4170, 4180, 4620, 4780 and 4790; CSCE 1020; ENGR 2301 and 2332; ACCT 2010; BLAW 3430, 4770; ECON 1100.

Major in Electronics Engineering Technology (70 Hours): ELET 3700, 3720, 3740, 3750, 3760, 4710, 4720, 4730, 4770, 4780 and 4790; ENGR 2405, 2720 and 2750; MFET 4190; plus 12 hours of technical electives and 3 advanced hours of technical options.

Major in Manufacturing Engineering Technology (70 Hours): MFET 2100, 3110, 3250, 3520, 4190, 4200, 4210, 4230, 4780 and 4790; ENGR 1304, 2301, 2332, 2405, 3450/3451; MEET 3650, 3660, 4360; ELET 3970; MGMT 3830; CSCE 1020; plus 5 hours of technical electives.

Major in Mechanical Engineering Technology (70 Hours): MEET 3650, 3940, 3990, 4050, 4350, 4360, 4780 and 4790; ENGR 1304, 2301, 2302, 2332, 2405, 3450/3451; MFET 2100, 3110, 4190, 4200 and 4210; ELET 3970; CSCE 1020; plus 3 hours of technical electives and 3 hours of advanced technical options.

Major in Nuclear Engineering Technology (70 Hours): NUET 3910, 3920, 3930, 4050, 4780, 4790, 4930 and 4940; ENGR 2301, 2405; ELET 3970; MEET 3940 and 3990; MFET 4190; MATH 1680; CSCE 1020; plus 3 hours of technical elective and 17 hours (6 advanced) of technical options approved by advisor.

3. **Other Course Requirements:** MATH 1710 and 1720. Students registering for fall or spring term/semester must register for mathematics until the requirement has been satisfied, unless approved by the department chair. A minimum of 12 semester hours of mathematics is required.

4. **Minor:** Optional.

5. **Electives:** See four-year plan.

6. **Other Requirements:**

   a. ENGR 1030 (may be used to satisfy the Social and Behavioral Sciences requirement of the University Core Curriculum).

   b. ENGR 2060 (may be used to satisfy the Understanding the Human Community requirement of the University Core and College of Engineering Core).

   c. CSCE 4010, Engineering Ethics.

   d. PHYS 1710/1730 and 2220/2240 and CHEM 1410/1430 (may be used to satisfy the Natural Sciences requirement of the University Core Curriculum).

   e. ENGL 2700 is required instead of ENGL 1320 (satisfies College of Engineering Core requirement).

   f. A 2.5 GPA is required for engineering technology courses in the area of concentration.

   g. Courses taken to satisfy the technical options in each concentration must be approved by the academic advisor.

BS in Engineering Technology Major in Construction Engineering Technology

Following is one suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment. Students are responsible for meeting all course prerequisites.

FRESHMAN YEAR

FALL	HOURS
CHEM 1410, General Chemistry for Science Majors**	3
CHEM 1430, General Chemistry Laboratory**	1
CNET 1160, Construction Methods and Materials	3
ENGL 1310, College Writing I*	3
ENGR 1030, Technological Systems (may be used to satisfy Social and Behavioral Science requirement*)	3
MATH 1710, Calculus I	4
Total	17

SPRING	HOURS
CNET 2180, Construction Methods and Surveying	4
ECON 1100, Microeconomics	3
MATH 1720, Calculus II**	3
PHYS 1710, Mechanics**	3
PHYS 1730, Laboratory in Mechanics**	1
Total	14

SOPHOMORE YEAR

FALL	HOURS
ACCT 2010, Accounting Principles I	3
CSCE 1020, Program Development	4
CNET 2300, Architectural Drawing	2
ENGL 2700, Technical Writing*	3
ENGR 2301, Statics	3
HIST 2610, United States History to 1865*	3
Total	18

SPRING	HOURS
BUSI 1340, Free Enterprise System on Global Environment (may be used to satisy a portion of Understanding the Human Community requirement)**	3
ENGR 2060, Professional Presentations (may be used to satisfy a portion of Understanding the Human Community requirement**)	3
ENGR 2332, Mechanics of Materials	4
HIST 2620, United States History Since 1865*	3
PHYS 2220, Electricity and Magnetism	3
PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics	1
Total	17

JUNIOR YEAR

FALL	HOURS
CNET 3150, Construction Contract Documents	2
CNET 3160, Construction Cost Estimating	3
CNET 3410, Occupational Safety and Liability	3
CNET 3430, Structural Analysis	3
PSCI 1040, American Government I*	3
Humanities*	3
Total	17

SPRING	HOURS
CNET 3190, Construction Scheduling	3
CNET 3440, Steel Structures	3
CNET 3460, Soils and Foundations	3
PSCI 1050, American Government II*	3
Visual and Performing Arts*	3
Total	15

SENIOR YEAR

FALL	HOURS
BLAW 3430, Legal and Ethical Environment of Business	3
CNET 3480, Structural Design with Concrete, Timber and other Materials	3
CNET 4170, Construction Management	3
CNET 4780, Senior Design I	2
CSCE 4010, Engineering Ethics	2
Total	13

SPRING	HOURS
BLAW 4770, Real Estate Law and Contracts	3
CNET 4180, Problems in Project Management	3
CNET 4620, Advanced Design in Cold-Formed Steel Structures	3
CNET 4790, Senior Design II	2
Technical Elective	2
Total	13

See the University Core Curriculum section of this catalog for approved list of course options.
***** See College of Engineering degree requirements section of this catalog for approved list of course options.***

Actual degree plans may vary depending on availability of courses in a given semester.
Some courses may require prerequisites not listed.

BS in Engineering Technology
Major in Electronics Engineering Technology

Following is one suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment. Students are responsible for meeting all course prerequisites.

FRESHMAN YEAR

FALL	HOURS
CHEM 1410, General Chemistry for Science Majors**	3
CHEM 1430, General Chemistry Laboratory**	1
ENGL 1310, College Writing I*	3
MATH 1710, Calculus I	4
PSCI 1040, American Government I*	3
HIST 2610, United States History to 1865*	3
Total	17

SPRING	HOURS
ENGL 2700, Technical Writing*	3
HIST 2620, United States History Since 1865*	3
MATH 1720, Calculus II**	3
Humanities*	3
Technical Elective	4
Total	16

SOPHOMORE YEAR

FALL	HOURS
ENGR 2060, Professional Presentations (may be used to satisfy a portion of Understanding the Human Community requirement**)	3
ENGR 2405, Fundamentals of Electrical Engineering	4
ENGR 2720, Digital Logic	4
Understanding the Human Community*	3
PHYS 1710, Mechanics**	3
PHYS 1730, Laboratory in Mechanics**	1
Total	18

SPRING	HOURS
ENGR 1030, Technological Systems (may be used to satisfy the Social and Behavioral Sciences requirement*)	3
ENGR 2750, Introduction to Microprocessors	4
PHYS 2220, Electricity and Magnetism	3
PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics*	1
PSCI 1050, American Government*	3
Visual and Performing Arts*	3
Total	17

JUNIOR YEAR

FALL	HOURS
ELET 3700, Circuit Analysis	4
ELET 3720, Electronics I	4
ELET 3750, Digital Systems	4
Technical Elective	3
Total	15

SPRING	HOURS
ELET 3740, Electronics II	4
ELET 3760, Design of DSP Systems	4
Technical Elective	2
Technical Elective	3
Technical Option (advanced)	3
Total	16

SENIOR YEAR

FALL	HOURS
ELET 4710, High Frequency Systems I	4
ELET 4720, Control Systems	4
ELET 4730, Analog and Mixed Signal Electronics	4
ELET 4780, Senior Design I	2
Total	14

SPRING	HOURS
CSCE 4010, Engineering Ethics	2
ELET 4770, High Frequency Systems II	4
ELET 4790, Senior Design II	2
MFET 4190, Quality Assurance	3
Total	11

See the University Core Curriculum section of this catalog for approved list of course options.
***** See College of Engineering degree requirements section of this catalog for approved list of course options.***

Actual degree plans may vary depending on availability of courses in a given semester.
Some courses may require prerequisites not listed.

BS in Engineering Technology Major in Manufacturing Engineering Technology

Following is one suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment. Students are responsible for meeting all course prerequisites.

FRESHMAN YEAR

FALL	HOURS
CHEM 1410, General Chemistry for Science Majors**	3
CHEM 1430, General Chemistry Laboratory**	1
ENGL 1310, College Writing I*	3
ENGR 1304, Engineering Graphics	3
MATH 1710, Calculus I	4
PSCI 1040, American Government*	3
Total	17

SPRING	HOURS
ENGL 2700, Technical Writing*	3
ENGR 1030, Technological Systems (may be used to satisfy Social and Behavioral Sciences requirement*)	3
MATH 1720, Calculus II**	3
PHYS 1710, Mechanics**	3
PHYS 1730, Laboratory in Mechanics**	1
Total	13

SOPHOMORE YEAR

FALL	HOURS
CSCE 1020, Program Development	4
ENGR 2060, Professional Presentations (may be used to satisfy a portion of Understanding the Human Community requirement**)	3
ENGR 2301, Statics	3
ENGR 2405, Fundamentals of Electrical Engineering	4
HIST 2610, United States History to 1865*	3
Total	17

SPRING	HOURS
ENGR 2332, Mechanics of Materials	4
MFET 2100, Manufacturing Processes and Materials	3
PHYS 2220, Electricity and Magnetism**	3
PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics**	1
PSCI 1050, American Government*	3
Humanities*	3
Total	17

JUNIOR YEAR

FALL	HOURS
HIST 2620, United States History Since 1865*	3
MEET 3660, Applications in Thermal Sciences	3
MFET 3110, Machining Principles and Processes	4
MFET 3250, Plastic Materials and Processes	3
ENGR 3450, Engineering Materials	3
ENGR 3451, Engineering Materials Laboratory	1
Total	17

SPRING	HOURS
ELET 3970, Electronic Devices and Controls	3
MEET 3650, Design of Mechanical Components	3
MEET 4360, Experimental Thermal Sciences	2
MFET 4190, Quality Assurance	3
MFET 4210, CAD/CAM System Operations	3
MGMT 3830, Operations Management	3
Total	17

SENIOR YEAR

FALL	HOURS
MFET 3520, Soldering, Brazing and Adhesive Bonding	3
MFET 4200, Engineering Cost Analysis	2
MFET 4230, CNC Programming and Operation	4

MFET 4780, Senior Design I	2
Visual and Performing Arts*	3
Total	14

SPRING	HOURS
CSCE 4010, Engineering Ethics	2
MFET 4790, Senior Design II	2
Understanding the Human Community*	3
Technical Elective	2
Technical Elective	3
Total	12

See the University Core Curriculum section of this catalog for approved list of course options.
***** See College of Engineering degree requirements section of this catalog for approved list of course options.***

Actual degree plans may vary depending on availability of courses in a given semester.
Some courses may require prerequisites not listed.

BS in Engineering Technology Major in Mechanical Engineering Technology

Following is one suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment. Students are responsible for meeting all course prerequisites.

FRESHMAN YEAR

FALL	HOURS
CHEM 1410, General Chemistry for Science Majors**	3
CHEM 1430, General Chemistry Laboratory**	1
ENGL 1310, College Writing I*	3
ENGR 1304, Engineering Graphics	3
MATH 1710, Calculus I**	4
PSCI 1040, American Government*	3
Total	17

SPRING	HOURS
ENGL 2700, Technical Writing*	3
ENGR 1030, Technological Systems (may be used to satisfy Social and Behavioral Sciences requirement*)	3
MATH 1720, Calculus II**	3
PHYS 1710, Mechanics**	3
PHYS 1730, Laboratory in Mechanics**	1
Humanities*	3
Total	16

SOPHOMORE YEAR

FALL	HOURS
CSCE 1020, Program Development	4
ENGR 2060, Professional Presentations (may be used to satisfy a portion of Understanding the Human Community requirement**)	3
ENGR 2301, Statics	3
ENGR 2405, Fundamentals of Electrical Engineering	4
HIST 2610, United States History to 1865	3
Total	17

SPRING	HOURS
ENGR 2302, Dynamics	3
ENGR 2332, Mechanics of Materials	4
MFET 2100, Manufacturing Processes and Materials	3
PHYS 2220, Electricity and Magnetism**	3
PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics**	1
Technical Elective	3
Total	17

JUNIOR YEAR

FALL	HOURS
HIST 2620, United States History Since 1865*	3
MEET 3940, Fluid Mechanics Applications	3
MFET 3110, Machining Principles and Processes	4
ENGR 3450, Engineering Materials	3
ENGR 3451, Engineering Materials Laboratory	1
Understanding the Human Community*	3
Total	17

SPRING	HOURS
ELET 3970, Electronic Devices and Controls	3
MEET 3650, Design of Mechanical Components	3
MEET 3990, Applied Thermodynamics	3
MFET 4190, Quality Assurance	3
MFET 4210, CAD/CAM System Operations	3
PSCI 1050, American Government*	3
Total	18

SENIOR YEAR

FALL	HOURS
MEET 4050, Mechanical Design	3
MEET 4350, Heat Transfer Applications	3
MEET 4780, Senior Design I	2
MFET 4200, Engineering Cost Analysis	2
Visual and Performing Arts*	3
Total	13

SPRING	HOURS
CSCE 4010, Engineering Ethics	2
MEET 4360, Experimental Thermal Sciences	2
MEET 4790, Senior Design II	2
Technical Option (advanced)	3
Total	9

See the University Core Curriculum section of this catalog for approved list of course options.

***** See College of Engineering degree requirements section of this catalog for approved list of course options.***

Actual degree plans may vary depending on availability of courses in a given semester.
Some courses may require prerequisites not listed.

BS in Engineering Technology
Major in Nuclear Engineering Technology

Following is one suggested four-year degree plan. Students are encouraged to see their advisor each semester for help with program decisions and enrollment. Students are responsible for meeting all course prerequisites.

FRESHMAN YEAR

FALL	HOURS
CSCE 1020, Program Development	4
ENGL 1310, College Writing I*	3
HIST 2610, United States History to 1865*	3
MATH 1710, Calculus I	4
Total	14

SPRING	HOURS
CHEM 1410, General Chemistry for Science Majors**	3
CHEM 1430, General Chemistry Laboratory**	1
ENGL 2700, Technical Writing*	3
HIST 2620, United States History Since 1865*	3
MATH 1720, Calculus II**	3
Understanding the Human Community*	3
Total	16

SOPHOMORE YEAR

FALL	HOURS
ENGR 1030, Technological Systems (may be used to satisfy Social and Behavioral Sciences requirement*)	3
ENGR 2060, Professional Presentations (may be used to satisfy a portion of Understanding the Human Community requirement**)	3
PHYS 1710, Mechanics**	3
PHYS 1730, Laboratory in Mechanics**	1
Humanities*	3
Visual and Performing Arts*	3
Total	16

SPRING	HOURS
ENGR 2301, Statics	3
MATH 1680, Elementary Probability and Statistics	3
PHYS 2220, Electricity and Magnetism**	3
PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics**	1
PSCI 1040, American Government*	3
Technical Elective	3
Total	16

JUNIOR YEAR

FALL	HOURS
ENGR 2405, Fundamentals of Electrical Engineering	4
MFET 4190, Quality Assurance	3
NUET 3910, Principles of Nuclear Technology	3
Technical Option	3
Technical Option	4
Total	17

SPRING	HOURS
ELET 3970, Electronic Devices and Controls	3
MEET 3990, Applied Thermodynamics	3
NUET 3920, Nuclear Instrumentation and Measurement	4
PSCI 1050, American Government*	3
Technical Option (advanced)	3
Total	16

SENIOR YEAR

FALL	HOURS
MEET 3940, Fluid Mechanics Applications	3
NUET 3930, Radiation Biology and Safety	4
NUET 4050, Nuclear Reactor Theory	3
NUET 4780, Senior Design I	2
NUET 4940, Electrical Power Generation and Transmission	3
Total	15

SPRING	HOURS
CSCE 4010, Engineering Ethics	2
NUET 4790, Senior Design II	2
NUET 4930, Reactor Engineering Design and Operation	3
Technical Option (advanced)	3
Technical Option	4
Total	14

****See the University Core Curriculum section of this catalog for approved list of course options.***
***** See College of Engineering degree requirements section of this catalog for approved list of course options.***

Actual degree plans may vary depending on availability of courses in a given semester.
Some courses may require prerequisites not listed.

Minor in Engineering Technology

General Engineering Technology

The minor in general engineering technology requires 18 semester hours (6 advanced), chosen with approval of the engineering technology department chair.

Graduate Degrees

The Master of Science with a major in engineering systems is available at the graduate level. Prospective students should consult with the graduate departmental advisor prior to initial enrollment.

Scholarships

The department offers scholarships designated specifically for studies in engineering technology. For further information, inquire in the departmental office.

Courses of Instruction

All Courses of Instruction are located in one section at the back of this catalog.

Course and Subject Guide

The "Course and Subject Guide," found in the Courses of Instruction section of this book, serves as a table of contents and provides quick access to subject areas and prefixes.

Department of Materials Science and Engineering

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Richard F. Reidy, Interim Chair

Faculty

Professors Brostow. *Associate Professors* Banerjee, D'Souza, El Bouanani, Reidy. *Assistant Professors* Du, Gorman, Scharf, Shepherd, Srinivasan. *Visiting Professor* Needleman.

Introduction

The Department of Materials Science and Engineering addresses the education and technological challenges of creating, applying and characterizing new materials for the 21st century. The Department of Materials Science and Engineering is committed to training students at the undergraduate and graduate levels in all aspects of modern materials including metals, ceramics, polymers, electronic and optical materials and materials characterization. Students have opportunities for hands-on instruction and research with modern equipment and facilities. The department has strong collaborative programs with industries in the Dallas–Fort Worth region and with universities both locally and throughout the world.

The department offers bachelor of science, master of science and doctoral degrees, all with a major in materials science and engineering. The undergraduate program was approved in July 2006 and started admitting students immediately. Presently, the department has nine tenured or tenure track faculty who divide their time between teaching and research in the different areas mentioned above. Research support comes from a variety of federal, state and industrial entities. The department has one of the most advanced analytical characterization facilities in the country and both undergraduate and graduate students receive training on state-of-the-art equipment. Finally, the department has strong connections to local industries and is setting up relationships for cooperative education experiences and internships so that students can receive practical training in addition to the classroom and laboratory instruction. Students who graduate with a bachelor of science degree with a major in materials science and engineering can expect a very healthy job market and relatively high starting salaries in a variety of industries. In fact, materials science and engineering graduates are heavily sought after by industries of all types, including automotive, chemical, aerospace, microelectronics, magnetic storage, transportation, sports, defense, forensics, and manufacturing. A BS degree with a major in materials science and engineering also prepares students for continuing their education with a master's or a PhD degree either in materials science and engineering or in a related field.

Vision and Mission

The vision of the Department of Materials Science and Engineering at the University of North Texas is to: have a world-class materials science and engineering research program with local, national and international scientific and technological impact; provide an outstanding educational experience for a diverse student population; and provide a collegial environment for students, staff and faculty.

The mission of the Department of Materials Science and Engineering is to provide a high quality engineering education to our diverse student population by maintaining a balance between the theoretical and applied aspects of materials science and engineering through course work, laboratories and independent research topics. The department provides national and international leadership in research and scholarship, and strives to build mutually beneficial partnerships with both internal and external collaborators, with alumni and with the