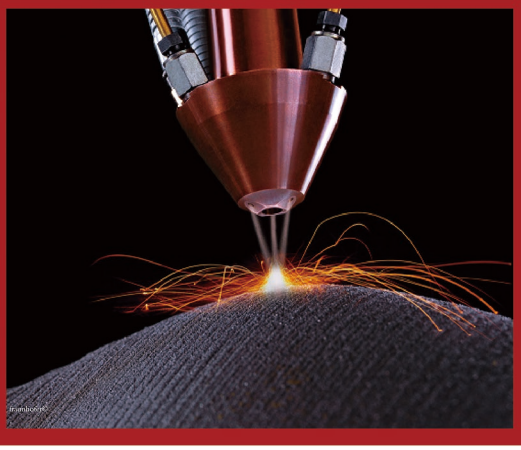
TEXAS TECH UNIVERSITY
Whitacre College of Engineering

Master of Science in Manufacturing Engineering

Department of Industrial, Manufacturing & Systems Engineering



Core Courses:

- IE5351 Advanced Manufacturing Processes
- IE5352 Advanced Manufacturing Engineering
- IE5355 Computer-Aided Manufacturing
- IE5356 Biomedical Design and Manufacturing
- IE5357 Manufacturing Facilities Planning and Design

Available Technical Tracks:

(including but not limited to)

- Chemical Engineering as Chemical and Petroleum Process
- Electrical Engineering as Integrated Circuit Manufacturing
- Industrial Engineering as Production Management
- Mechanical Engineering as Design for Manufacturing
- Information System as Manage-

Empolyment Opportunity:

Average Starting Salary: $79,963

Potential Careers:

- Manufacturing Engineer
- Production Engineer
- Industrial Engineer
- Facilities Engineer
- Mechanical Engineer
- Project Manager

Program Overview

Manufacturing is a rapidly growing global enterprise. To respond to the need of high-tech work force in both local and global regions, the Whitacre College of Engineering at Texas Tech University has lauched a Master of Science Program in Manufacturing Engineering (MSMfgE). The MSMfgE is a multi-disciplinary program which is directly administrated by the Department of Industrial, Manufacturing & Systems Engineering and is supported by the Stinson Advanced Manufacturing Technology Lab. This program aims to prepare outstanding students to assume key positions in high-tech oriented manufacturing firms by giving them a unique set of cross-disciplinary skills. The program objectives are:

- To combine theoretic and practical knowledge to prepare world-class engineers for a successful career
- To provide graduate level education and training in the interdisciplinary engineering of primary interest to the student
- To prepare engineers to improve quality and efficiency of manufacturing systems
- To advance the knowledge and methodologies for manufacturing system design, analysis, operation, and control

Program Features

The program is notable for its interdiciplinary and experiential approach. To help students to meet self-defined goals, the program provides two optional degree plans:

30-hour thesis program

- 15 credit hours for 5 core courses
- 9 credit hours for selective courses
- 6 credit hours of master's thesis

30-hour non-thesis program

- 15 credit hours for 5 core courses
- 15 credit hours for selective courses

Empolyment Opportunities

- **Equipment and Automation**: Boeing, General Motors, Ford, Tesla, Cummins, Caterpillar, John Deere, 3M, Texas Instruments, Cameron, and more!
- **Energy**: Excon, Emerson, GE Energy, Siemens, Chevron, and more!
- **Additive manufacturing**: 3D Systems, HP, Stratasys, FormLabs, and more!
- **Semiconductors**: Apple, Applied Materials, X-FAB, ASML, Intel, AMD, Micron Technology, Qualcomm, and more!
- **Healthcare**: GE Healthcare, Johnson & Johnson, St. Jude Medical, and more!

TEXAS TECH UNIVERSITY
Edward E. Whitacre Jr.
College *of* Engineering

Texas Tech University

Founded in 1923, Texas Tech University is the largest institution of the Texas Tech University System. In Fall 2020, 40,322 students attended classes in Lubbock on the 1,839-acre campus, which is the nation's second largest campus.

The university is the only campus in Texas that is home to a major university, law school, and medical school. It hosts 10 colleges and has 150 undergraduate, 100 master's and 50 doctoral degrees. Texas Tech University achieves tier one designation as a "Highest Research Activity" university in the Carnegie Classification of Institutions of Higher Learning.

Department of Industrial, Manufacturing & Systems Engineering

The Department of Industrial, Manufacturing & Systems Engineering at Texas Tech University is respected and ranked nationally. The department offers a variety of Engineering courses and activities while maintaining small class sizes. Professors know their students by name and are genuinely interested in preparing them for a successful engineering career. The department began offering the master of science degree in 1961, and the doctorate degree in 1965. The department enrolls over 200 undergraduate, 160 graduate students and has conferred more than 1,600 B.S., 1,000 M.S., and 200 Ph.D. degrees.

Advanced Study and Research

The department sets up a 3000-square-foot J. Michael Stinson Advanced Manufacturing Lab equipped with a variety of manufacturing facilities and equipment, such as laser additive manufacturing system, inkjet 3D bioprinting system, fused deposition modeling system, and rotary ultrasonic machining system. The lab is specifically designed for advanced study and research in the MSMfgE program, and covers the following areas of advanced manufacturing technology:

- **Advanced manufacturing processes** including additive manufacturing, nontraditional machining, heat treatment, powder methallurgy, etc.
- **Advanced manufacturing engineering** including concurrent engineering, cellular manufacturing, Six Sigma, nanotechnology, lean manufacturing, etc.
- **Compuater-aided manufacturing** including automation, sensors, industrial robots, logic control, programmable logic controller, etc.
- **Biomedical design and manufacturing** including biomedical devices, tissue-engineered scaffolds, bioprinting and biofabrication, etc.
- **Manufacturing facilities design** including layout planning models, warehouse operations, facilities plan evaluation & selection, etc.

Finacial Aid

Financial aid will be provided dependent on the qualifications. Merit scholarships, which are based on academic performance, will be awarded by the Graduate School and the Department. Detailed information about finacial aid is available at:

https://www.depts.ttu.edu/gradschool/funding/
http://www.depts.ttu.edu/imse/graduate/graduate_scholarships_imse.php

How to Apply

Interested students can apply by filling out an online application at: www.applytexas.org

REQUIRED DOCUMENTS

• ApplyTexas application • Official Transcripts • 3 letters of recommendation
• GRE scores • TOEFL or IELTS scores (International Student Only)

Detailed information concerning admission and online application is available at:

http://www.depts.ttu.edu/gradschool/admissions/

APPLICATION DEADLINES

Fall semester: March 1 (Domestic); January 15 (International)

Spring semester: October 1 (Domestic); June 15 (International)

Contact Information

Texas Tech University
Department of Industrial, Manufacturing & Systems Engineering
Box 43061
Lubbock, TX 79409-3061
Tel. 806-742-3543
Email: changxue.xu@ttu.edu
www.depts.ttu.edu/imse

Texas Tech University
Office of Graduate Admissions
Box 41030
Lubbock, TX 79409-1030
Tel. 806-742-2787
Email: graduate.admissions@ttu.edu
http://www.depts.ttu.edu/gradschool/admissions/howtoapply.php