



Frank H. Dotterweich College of Engineering

MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING

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Department Overview

The Department of Mechanical and Industrial Engineering offers both regular on-campus Industrial Engineering Master of Science program and 100% online Industrial Engineering Master of Science program. They are designed to instill fundamental concepts as well as practical knowledge of modern engineering and to prepare students for immediate challenges as well as a lifetime of professional advancement. Students who already have a degree in engineering, business or math are encouraged to apply for this program. The U.S. News and World Report rank the online program as one of the Best Graduate Online Engineering Programs in the United States.

Our Degree Plans:

- M.S. Degree Plan I: Thesis major (30 SCH)
24 credit hours of courses and six credit hours of thesis research
- M.S. Degree Plan II: Non-thesis major (36 SCH)
33 credit hours of courses & three credit hours of research project
- MS Degree Plan III: 36 credits of Courses only

Two Graduate Level Certificates (Engineering Project Management Professional and Manufacturing Standards and Standardization) are also available to students and industrial professionals. Both certificates will be shown in your official transcript together with your M.S. degree once the required courses are completed.

Research laboratories are available for work in renewable energy, simulation and optimization, risk management, robotics and automation, intelligent systems and controls, computer integrated engineering design, and disaster management. Excellent computer facilities are available.

Admission Requirements:

- Undergraduate degree in engineering or closely related majors.
- Undergraduate GPA no lower than 2.6/4.00
- TOEFL score of no lower than 550 (paper-based) or 79 (IBT).
- Deadlines and admission information: <http://www.tamuk.edu/grad/>

Core Courses (6 credits):

- Computer Application of Statistical Methods in Engineering
- Principles of Optimization

Elective Courses:

- Activity Scheduling
- Advanced Engineering Project Management
- Advanced Problems in Industrial Engineering
- Advanced Topics in Industrial I Engineering
- Computer Integrated Engineering design
- Computer Simulation of Industrial Systems
- Economic Decision Theory
- Game Theory
- Inventory Systems
- Lean Manufacturing
- Linear Programming and Extensions
- Manufacturing Systems Design
- Risk Management
- Six Sigma and ISO Standards
- Standards of Product Design and Manufacturing
- Supply Chain Management
- System Safety

Scholarships and Assistantships:

Scholarships and graduate assistantships are available to qualified students having strong academic preparation and other evidence of superior achievement and leadership.

Internships and Co-OP Opportunities:

Various companies in manufacturing, logistics, healthcare, and service industries offer internships or Co-OP opportunities for our graduate students.

Employment:

Many of our graduates are now working for companies such as AT&T, UPS, John Deere, Corpus Christi Army Depot, Port of Corpus Christi, NASA, Ford, Applied Material, Barclays, and J.P Morgan Chase & Co.



Department of Mechanical Industrial Engineering		
Researcher Name	Contact Information	Research Interests
Shah Alam	361-593-2459 shah.alam@tamuk.edu	Composite structures and mechanical system design and analysis; Fatigue and fracture mechanics; Finite element analysis; Renewable energy; Structural integrity of aerospace, offshore and subsea structures
Dervis Demirocak	361-593-2003 dervis.demirocak@tamuk.edu	Hydrogen storage; Carbon capture and storage; Li-ion batteries; Solar thermal technologies
Yousri Elkassabgi	361-593-2293 yousri.elkassabgi@tamuk.edu	Heat transfer analysis; Thermal fluid issues; Thermal hydraulics of nuclear reactors; Energy conservation for industrial buildings; Combustion systems
Fei He	361-593-3484 fei.he@tamuk.edu	Disaster mitigation, preparedness, relief and recovery, Anti-terrorism; Operations research, Game theory, Optimization
Mohammad M. Hossain	361-593-3341 mohammad.hossain@tamuk.edu	Structure-property relationship in polymers, films, adhesives, and composites; Tribology, scratch and wear, contact mechanics; Fracture mechanics; Failure analysis; Finite element analysis
Mahesh Hosur	362-593-4519 mahesh.hosur@tamuk.edu	Nanocomposites; Sandwich Composites; Polymer Synthesis; Biocomposites; Thermomechanical, rheological, static and dynamic characterization of composites properties of polymers and composites, ultrasonic and thermography NDE.
Kai Jin	361-593-2135 kai.jin@tamuk.edu	Green product and sustainable manufacturing; Life cycle assessment; Hybrid sustainable energy system; Wind energy; Multi-objective decision-making support systems; Risk management; Economic impact analysis
Sangsoo Lee	361-593-2093 sangsoo.lee@tamuk.edu	Heat transfer in phase-change process (Boiling, Condensation)
Hua Li	361-593-4057 hua.li@tamuk.edu	Renewable energy (wind and wave); Active disassembly using smart materials; Simulation and optimization; Border security; Engineering education
Joon Yeoul Oh	361-593-3941 joon-yeoul.oh@tamuk.edu	Risk analysis & management; Network optimization; Non-linear programming; Heuristic, Queueing theory; Algorithm development
Ashraf Omran	361-593-4360 ashraf.omran@tamuk.edu	Flight dynamics and control; Aerospace dynamical systems and control; Volterra nonlinear aerospace dynamic approximation; Design of experiment (DoE)
Selahattin Ozcelik	361-593-2003 selahattin.ozcelik@tamuk.edu	Robotics and mobile robots; Unmanned aerial vehicles; control systems; Robust and intelligent control; System dynamics
Choongbae Park	361-593-2765 choongbae.park@tamuk.edu	Microfluidics and microfabrication; Manipulating and controlling biological samples
Larry Peel	361-593-2003 larry.peel@tamuk.edu	Design and manufacturing of traditional and flexible composites structures including soft actuators, as well as polymer-based additive manufacturing
William M. Worek	361-593-4015 william.worek@tamuk.edu	Complex energy systems; Combined heat and mass transfer processes; Energy; Environmental; Productivity and energy assessment of industrial and commercial facilities; Development of transformative energy systems
Hong Zhou	361-593-4314 hong.zhou@tamuk.edu	Mechanical & structural design; Wind turbines and solar panels; Digital materials and material systems; CAD/CAM/CAE; Kinematics, Dynamics; Robotics