

MECHANICAL ENGINEERING

Enrollment Fall 2009

Undergraduate Students	1,149	Graduate Students	462
Average SAT Score	1289	Ph.D.	174
		Master's	288

Quality Indicators

Total Faculty	69	U.S. News & World Report Rankings Rankings Among Public Institutions	Endowed Chair Holders	4
Professors	25		Endowed Professorship Holders	9
Associate Professors	13	9 Undergraduate 10 Graduate	National Academy of Engineering Members	1
Assistant Professors	22			
Non-tenured/Non-tenure Track	9			

Centers and Laboratories

Advanced Engine Laboratory	Equal Channel Angular Extrusion Laboratory	Polymer Processing Laboratory
Aerosol Technology Laboratory	Experimental Mechanics Laboratory	Polymer Research Laboratory
Boiler Burner and Re-burn Laboratory	Fiber Performance Laboratory	Polymer Technology Center (TEES)
Buoyancy Mixture Laboratory	Fluid Mechanics Laboratory	Product Synthesis and Modeling Design Laboratory (ProSyn)
Center for Dynamic Systems and Control (TEES)	Fluid Mechanics/Combustion Laboratory	Renewable Energy Laboratory
Coal and Biomass Combustion Laboratory	FTIR Spectrometer Laboratory	RJR/Combustion Laboratory
Computational Fluids and Heat Transfer Laboratory	Fuel Utilization Laboratory	Robotics Laboratory
Computational Heat Transfer Laboratory	Industrial Assessment Center	Rotordynamics/Vibration Laboratory
Computational Mechanics Laboratory	Innovation, Design Reasoning, Engineering Education and Methods Laboratory (D-DREEM)	Rotordynamics Laboratory
Computer Laboratory	Innovative Impinging Jets Laboratory	Turbine Heat Transfer Laboratory
Conduction Heat Transfer Laboratory	Laminar Flow Reactor Laboratory	Turbine Performance and Flow Research Laboratory
Convection Heat Transfer Laboratory	Laser Diagnostics Laboratory	Turbomachinery Laboratory (TEES)
Design Center	Mechanics/Advanced Materials Laboratory	Two-Phase Heat Transfer Laboratory
Electrohydrodynamics Laboratory	Nano Energy Laboratory	
Energy Systems Laboratory (TEES)		

Research Areas

Combustion and Fuels

- Aerosol Measurements
- Alternative and Biofuels
- Coal, Biomass and Animal Waste Combustion
- Energy Engine Emission
- Fuel Cells
- Gasification
- Internal Combustion Engine Performance
- Pollutants Formation (NOx, Hg) and Control
- Thermodynamics and Energy Analysis of Engines

Computational Mechanics

- Fluid Mechanics (Aerosols, Gas Dynamics)
- Heat Transfer
- Solid Mechanics

Energy Systems

- Air-Conditioner Performance Evaluations
- Alternate Refrigerants
- Building Energy Monitoring and Analysis
- Defrost Cycle Improvements
- Energy Analysis and Diagnostic Center (EADC)
- Ground Coupled Heat Pumps
- Heat and Mass Transfer in Attic Systems
- Industrial Energy Assessment
- Industrial Energy Efficiency Improvements
- Infiltration Effect on Energy Use in Buildings
- Solar Ponds
- Thermal Energy Storage Evaluations

Fluid Mechanics

- Aerodynamic Analog Laboratory
- Aerosol Technology Laboratory
- Computational Fluid Mechanics
- Laser Anemometry Laboratory
- Tribology Laboratory

Heat Transfer

- Boiling/Condensation
- Computational Fluids and Combustion
- Conduction Heat Transfer
- Heat and Mass Transfer
- Interferometry
- Turbine Heat Transfer
- Two-phase Heat Transfer

Innovation and Design

- Cad/Computer Related Issues
- Cost Information Tools for Designers
- Design for Manufacturability
- Design Methodology/Cognition Issues

Materials And Mechanics

- Advanced High Temperature Ceramics
- Advanced Multifunctional Composites
- Corrosion of Coated Systems
- Cryogenic Engineering and Applied Superconductivity
- Elastic Properties in Advanced Materials

- Friction and Wear of Materials
- Multilayer Thin Films and Nanomechanics
- Self-Assembled Monolayers
- Severe Plastic Deformation
- Structural and Functional Materials
- Superplasticity and Advanced Machining Techniques
- Thermodynamics and Phase Stability
- Transformational Materials

Mechanical Systems and Controls

- Controls
- Manufacturing
- Robotics
- Vehicle Dynamics
- Vibrations

Polymer Science and Engineering

- Engineering Properties of Polymers and Polymeric Composites
- Materials Synthesis
- Polymer Nanocomposites
- Polymer Processing

Turbomachinery

- Computational Fluid Mechanics
- Heat Transfer
- Performance Research
- Rotordynamics