Undergraduate

Mechanical Engineering

SIUe

School of Engineering
Department of Mechanical and Industrial Engineering

Degrees Available at SIUE

- Bachelor of Science in Mechanical Engineering (Accreditation Board for Engineering and Technology (ABET) Accredited)

ABET Engineering Accreditation Commission

Mechanical Engineering at SIUE

Mechanical engineering is based on the application of physics and mathematics. It is challenging, rewarding, and is one of the most diverse disciplines among engineering programs. In the Department of Mechanical and Industrial Engineering at SIUE, mechanical engineering students develop skill sets necessary for a number of engineering jobs, including applications in aerospace, automotive, biomedical, robotics, energy and more.

Mechanical engineers are problem solvers, critical thinkers and designers. Mechanical engineers design and create complex machines that can impact every facet of human life. They work in teams to design and operate robots, engines, machine parts, medical devices and much more. In the School of Engineering at SIUE, you will gain an expertise that will remain with you throughout your engineering career and will enable you to make a difference in society.

Career Opportunities

At SIUE, earning an undergraduate degree in mechanical engineering is only the beginning for our students. Our graduates have a wide variety of opportunities available to them upon graduation, and are prepared to contribute to society through professional practice in industry or governmental positions. Some of our students may also choose to pursue careers in related areas such as business, law or medicine.

Recent graduates of our program are employed at Amsted Rail and Lockheed Martin, as well as other reputable businesses. These graduates work as process engineers, design engineers and many other roles.

Some of our graduates continue their education by pursuing advanced degrees in graduate school or by gaining advanced training and licensing in their chosen profession. Students with an undergraduate degree in mechanical engineering may enter graduate school to continue their education in mechanical engineering or other closely related disciplines such as aerospace, civil, biomedical and chemical engineering.

Hands-On Learning

In the mechanical engineering program at SIUE, students have multiple opportunities to engage in experiential learning. The mechanical engineering curriculum includes a number of laboratory classes where our students apply their knowledge of engineering science in a variety of hands-on experiments. Students also participate in a two-semester senior design course, which allows them to practice teamwork and critical analysis, and to apply their creativity in a design and fabrication project with real-life applications in mind. At SIUE, students also have the opportunity to participate in mechanical engineering work experience and cooperative education, or they can participate in a study abroad program. Additionally, our students also have the option to engage in research with mechanical engineering faculty members through the Undergraduate Research and Creative Activities (URCA) program.

Admission Requirements

To be admitted to the Bachelor of Science program, students must:

- Complete all Academic Development courses required by the University.
- Complete any courses to address high school deficiencies.
- Be eligible to enroll in MATH 125-Pre-calculus or higher.
- Maintain a cumulative grade point average (GPA) of at least 2.0 on a 4.0 scale.

Graduation Requirements

Degree requirements include the following:

- A cumulative grade point average (GPA) of 2.0 or higher on a 4.0 scale in engineering courses.
- A cumulative GPA of 2.0 or higher on a 4.0 scale is required for mechanical engineering courses numbered above 299.
- Completion of all departmental and University requirements.
- Completion of a senior assignment as part of ME 482 and 484 Mechanical Engineering Design I and II.

Faculty

Serdar Celik, PhD
2007, Southern Illinois University Carbondale

Jeff Darabi, PhD
2000, University of Maryland

Michael Denn, PhD
2013, Washington University in St. Louis

Keqin Gu, PhD
1988, Georgia Institute of Technology

Soondo Kweon, PhD
2009, University of Illinois at Urbana-Champaign

Albert Luo, PhD
1996, University of Manitoba - Winnipeg

Majid Molki, PhD
1982, University of Minnesota

Kamran Shavezipur, PhD
2008, University of Waterloo

Fengxia Wang, PhD
2008, Purdue University

Nima Lotfi Yagin, PhD
2016, Missouri University of Science and Technology

Terry Yan, PhD
1993, University of California - Davis

Mingshao Zhang, PhD
2016, Stevens Institute of Technology

SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE
SCHOOL OF ENGINEERING

Sample Four-Year Curriculum

	Fall Semester		Spring Semester	
Year 1	IE 106 Engineering Problem Solving	3	ENG 102 English Composition II	3
	CHEM 131 Engineering Chemistry (BPS)	4	ACS 103 Interpersonal Communication Skills (EUSC)	3
	CHEM 135 Engineering Chemistry Lab (EL)	1	**MATH 152** Calculus II (BPS)	5
	ENG 101 English Composition I	3	**PHYS 141** Physics I for Engineering (BPS)	3
	MATH 150 Calculus I (BPS, FQR)	5	**PHYS 151L** University Physics Laboratory I (EL)	1
	Total Credits	16	Total Credits	15
Year 2	**CE 204** Engineering Graphics & CAD	3	**ME 262** Dynamics	3
	CE 240 Statics	3	**CE 242** Mechanics of Solids	3
	MATH 250 Calculus III (BPS)	4	**ECE 210** Electrical Circuits	3
	PHYS 142 Physics II for Engineering (BPS)	3	**ECON 111** Principles of Macroeconomics (BSS)	3
	PHYS 152L University Physics Laboratory II (EL)	1	**MATH 305** Differential Equations I	3
	Total Credits	14	**CS 145** Intro to Computing for Engineers	3
			Application for Upper Division	0
			Total Credits	18
Year 3	ME 310 Thermodynamics I	3	ME 312 Thermodynamics II	3
	ME 350 Dynamics of Mechanisms	3	ME 315 Fluid Mechanics	3
	ME 354 Numerical Simulation	1	ME 356 Dynamic Systems Modeling	3
	ME 370 Materials Engineering	3	ME 380 Design of Machine Elements	3
	STAT 380 Statistics for Applications (BICS)	3	ME 380L Stress Laboratory	1
	Breadth Fine & Performing Arts (BFPA)	3	PHIL 323 Engineering, Ethics & Professionalism (BHUM)	3
	Total Credits	16	Total Credits	16
Year 4	ME 410 Heat Transfer	3	ME 356L Dynamical Systems Laboratory	1
	ME 410L Thermal Fluid Laboratory	1	ME 484 Mechanical Engineering Design II	2
	ME 482 Mechanical Engineering Design I	2	ME Elective II	3
	ME Elective I	3	ME Elective III	3
	IE 345 Engineering Economic Analysis	3	Breadth Life Science (BLS)	3
	Interdisciplinary Studies (IS)/Global Cultures (EGC)	3	Engineering Elective	3
	Health Experience (EH)	0-3	Total Credits	15
	Total Credits	15-18		

Transfer Students To maximize your transfer experience, complete the **bolded** courses/requirements pre-transfer **AND** satisfy either the Illinois Articulation Initiative (IAI) General Ed Core or receive an AA, AS, or AAT (early childhood, special ed or math) degree from an IAI community college. If 'Minor' requirements are shown, discuss careful course selection with the academic advising contact listed. Transfer Credit Equivalency Guides are located at siue.edu/transfer.

Contact Information

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This information is concurrent with the 2018-2019 Academic Catalog.
Courses are subject to change at any time.

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