

Mechanical Engineering

Degrees Available at SIUE

- Bachelor of Science, Mechanical Engineering

Accelerated Combined Degree

This program provides an accelerated option for qualifying SIUE students who wish to earn simultaneous undergraduate and graduate credit for some courses taken their senior year. Learn more at siue.edu/academics/accelerated-combined-degrees.

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. 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. Students 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 GPA of at least 2.0 on a 4.0 scale.



School of Engineering Department of Mechanical and Mechatronics Engineering



Faculty

Serdar Celik, PhD

2007, Southern Illinois University Carbondale

Arman Dabiri, PhD

2018, University of Arizona

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 Shavezpur, 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 Curriculum for the Bachelor of Science in Mechanical Engineering

Fall Semester

Spring Semester

	Fall Semester	Spring Semester
Year 1	IE 106 Engineering Problem Solving 3 CHEM 131 Engineering Chemistry (BPS) 4 CHEM 135 Engineering Chemistry Lab (EL) 1 ENG 101 English Composition I 3 MATH 150 Calculus I (BPS, FQR) 5 FST 101 Succeeding & Engaging at SIUE 1 Total Credits 17	ENG 102 English Composition II 3 ACS 103 Interpersonal Communications (EUSC) 3 MATH 152 Calculus II (BPS) 5 PHYS 141 Physics I for Engineering (BPS) 3 PHYS 151L University Physics Laboratory I (EL) 1 Total Credits 15
Year 2	CE 204 Engineering Graphics & CAD 3 CE 240 Statics 3 MATH 250 Calculus III (BPS) 4 PHYS 142 Physics II for Engineering (BPS) 3 PHYS 152L University Physics Laboratory II (EL) 1 Total Credits 14	ME 262 Dynamics 3 CE 242 Mechanics of Solids 3 ECE 210 Electrical Circuits 3 ECON 111 Principles of Macroeconomics (BSS) 3 MATH 305 Differential Equations I 3 CS 145 Intro to Computing for Engineers 3 Application for Upper Division 0 Total Credits 18
Year 3	ME 310 Thermodynamics I 3 ME 350 Dynamics of Mechanisms 3 ME 354 Numerical Simulation 1 ME 370 Materials Engineering 3 STAT 380 Statistics for Applications (BICS) 3 Breadth Fine & Performing Arts (BFPA) 3 Total Credits 16	ME 312 Thermodynamics II 3 ME 315 Fluid Mechanics 3 ME 356 Dynamic Systems Modeling 3 ME 380 Design of Machine Elements 3 ME 380L Stress Laboratory 1 PHIL 323 Engineering, Ethics & Professionalism (FRA, BHUM) 3 Total Credits 16
Year 4	ME 410 Heat Transfer 3 ME 410L Thermal Fluid Laboratory 1 ME 482 Mechanical Engineering Design I 2 ME Elective I 3 IE 345 Engineering Economic Analysis 3 Interdisciplinary Studies (IS)/Global Cultures (EGC) 3 Health Experience (EH) 0-3 Total Credits 15-18	ME 356L Dynamical Systems Laboratory 1 ME 484 Mechanical Engineering Design II 2 ME Elective II 3 ME Elective III 3 Breadth Life Science (BLS) 3 Engineering Elective 3 Total Credits 15
		Total Hours 126-129

Transfer Students: To maximize your transfer experience, complete the **bold** course 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. Visit siue.edu/transfer to find course equivalency guides.

Graduation Requirements

Degree requirements include the following:

- A cumulative GPA of 2.0 or higher in engineering courses
- A cumulative GPA of 2.0 or higher 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

Contact Information

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