

MASTER'S DEGREE PROGRAMS



The mechanical and industrial engineering department at UIC houses three master's programs, each designed to guide students toward future career success.

Students have access to more than 40 professors who are notable researchers in combustion, environmental science, thermal science, dynamics and control, mechatronics, virtual reality, MEMS (microelectrical mechanical systems), manufacturing, processing, and more.

MS IN MECHANICAL ENGINEERING

Those who rise to the top in mechanical engineering are able to recognize emerging issues, come up with creative solutions, and design and refine prototypes until they have something that truly works. UIC's program will help you to develop that skillset and mindset, opening the door to higher-level opportunities. In this program, you can either combine your courses with a research-based master's thesis or complete your entire MS degree through coursework.

MS IN INDUSTRIAL ENGINEERING

An MS in industrial engineering from UIC will hone your expertise in creating efficient, high-performing systems that bring together people, equipment, materials, power, and information to deliver products or services-preparing you for roles that are expected to grow 8 percent by 2028, according to the U.S. Bureau of Labor Statistics. You can either combine your courses with thesis research or complete your entire degree through coursework.

MASTER OF ENERGY ENGINEERING

This practical program is open to students of many backgrounds: it requires an understanding of math and science but no prior experience or study in engineering. Through courses, guest speakers, site tours, and hands-on projects, you will come to understand the energy industry, from power generation to project management. This program offers evening courses to meet the needs of working professionals, and it has its own website: energyengineering.uic.edu.



International Programs

UIC's international partnership programs allow students from specific universities around the world to complete part of their higher education in our department, potentially culminating in an MS in Mechanical Engineering or an MS in Industrial Engineering from UIC.

Learn more at go.uic.edu/COEinternational.

UIC's Academic Strengths

Mechanical Engineering:

- Design, Controls, and Manufacturing
- Energy Research
- Fluid/Thermal Research

Big Data Analytics

Industrial Engineering:

- Advanced Manufacturing
- · Machine Learning and Artificial Intelligence

Featured Courses

What will you take as an MS student at UIC? Explore your choices at mie.uic.edu (see the Courses page under the Graduate menu). Here are a few that have captured our current students' attention-and that have proved especially valuable in their careers after UIC.

ME 411 MECHATRONICS I

Students learn about elements of mechatronic systems, sensors, actuators, microcontrollers, modeling, hardware in the loop simulations, and real-time software. The class conducts lab experiments with electromechanical systems.

IE 466 PRODUCTION PLANNING AND INVENTORY CONTROL

In this course, industrial engineering students become acquainted with the principles of production planning, master scheduling, job sequencing, design and control of deterministic and stochastic inventory systems, and material requirement planning.

IE 481 ADDITIVE MANUFACTURING PROCESS

Covers aspects of additive manufacturing. The types covered are generic process, design, vat photopolymerization, extrusion based, jetting, direct writing, 3D bio-printing, powder bed fusion, slicing, and data representation.

ME 547 ADVANCED CONCEPTS IN COMPUTER-AIDED ENGINEERING

This course covers useful concepts in motion simulation of complex rigid multibody systems. Students learn about the recursive formulation of kinematical and dynamical equations of open and constrained multibody systems and develop interactive computer solutions.



A Step Ahead

Thanks to the strength of our curriculum and UIC's global connections, many MS students are able to get **internships** that help them level up their career planning.

Sabrina Sullivan



Internship: Army Research Laboratory

Location: Aberdeen, Maryland

Assignment: Assist in data collection, data processing, and the analysis of results from studies being conducted in the Humans in Complex Systems competency, with the intent to improve the understanding of how humans adapt to intelligent systems.

Her perspective: "UIC has greatly prepared me for this internship in regard to the opportunity for research. My time in the Rehabilitation Robotics Lab with director Dr. [Myunghee] Kim and members of the lab have significantly contributed to my success in research and even in course work."

Rinu Ghosh

Internship: Engie North America

Location: Chicago



Her perspective: "UIC's curriculum and educational experience provides a foundation of knowledge and skills that can be applied in a professional setting. Additionally, UIC offers career development services, internship programs, or networking opportunities that have further enhanced my readiness for the internship."



After UIC, where to?

Companies that have hired graduates of UIC's mechanical engineering, industrial engineering, and energy engineering master's programs include:

Air Force Research Laboratory	lm
Advocate Condell Medical	Int
Altoir	In
	IT
Amazon O	Jo
Anthem	Ko
Argonne National Laboratory	Lc
Blue Origin	M
Caterpillar Inc.	M
CNH Industrial	M
Collins Aerospace	Na
Cummins	Pr
Deloitte Switzerland	S
Electro-Motive Diesel Inc.	Sp
Exelon	Sı
Gamma Technologies	TA
General Motors	Те
Google	TF
HBK Engineering	U.
HydraForce	US
Illinois Tool Works	W

ageXpert Inc. tel Corporation tellisense ٨/ hnson Controls omatsu Mining Corp. ckheed Martin ack Trucks (Volvo Group) EMS R&D otorola avistar imera Engineers baceX 🔿 oraying Systems Company InCoke Energy TA Motors sla **RW** Automotive S. Navy SG acker Neuson SE

O Krishnadevi Shetty

Quality Assurance Engineer, Amazon

Krishnadevi Shetty, who earned a degree in industrial engineering, is thriving as a program manager at Amazon in Chicago.

Her daily tasks keep her challenged and include nonconformity investigations, corrective and preventive actions, standard operating procedures, process improvement, and data analysis.

"It is a great overall experience of continuous improvement and quality," she said.

As a student, her favorite course was Regression Applications and Forecasting in Engineering, where she learned single and multiple regression analysis of variance, examination of residuals, introduction to time series analysis, and analytical forecasting techniques; application to engineering system.



• Alexander Bulger

Automation and Controls Engineer, SpaceX

Watching the Starship launch from mission control at SpaceX is just one of the cool parts of Alexander Bulger's job in California.

Bulger works with some of the industry's leading aerospace experts as he oversees and addresses issues across all campuses to ensure optimal system performance. He's also contributing to research and the development of unique systems specifically designed for SpaceX.

The ability to thrive in a demanding professional environment was shaped at UIC where he found opportunities in student groups and support from the staff and faculty.

"The college of engineering excels in forging well-rounded engineers through its active student organizations, research labs, and lab-based courses. These programs are designed to cultivate sharp problem-solving skills and critical thinking, essential assets for any budding engineer," he said.

Admissions

Full details on how to apply-including requirements and deadlines-are at mie.uic.edu under the Graduate menu.

Interested in graduate study at UIC? Talk to us. Contact our graduate team with questions or for an informal conversation.

Wanda Flores Assistant Director of Graduate Programs miegrad@uic.edu