UIC ENGINEERING

Civil, Materials, and Environmental Engineering

MASTER OF SCIENCE DEGREE PROGRAMS

The world is building at an astounding pace.

The U.S. Bureau of Labor Statistics projects faster-than-average growth in the construction industry through 2029, along with 5,500 new civil engineering jobs and 1,700 additional environmental engineering positions.

UIC Engineering offers **three master of science programs** designed to prepare you for careers in creating, managing, and improving the built world around us.

MS IN CIVIL ENGINEERING

Civil engineering encompasses structural engineering and mechanics, environmental engineering, geotechnical engineering, transportation engineering, and more. Our degree program helps to define your knowledge and skills in the area that is most relevant to you. In this program, you can either combine your coursework with a master's thesis research project or complete your entire MS degree through coursework.

MS IN MATERIALS ENGINEERING

Materials—including metals, intermetallics, polymers, ceramics, composites, and electronic materials—are critical to modern industrial society. Our MS program develops your expertise in the design, manufacture, and characterization of materials for specific applications. In this program, you can either combine your coursework with a master's thesis research project or complete your entire MS degree through coursework.

MS IN CONSTRUCTION ENGINEERING AND MANAGEMENT

To meet the growing demand in the field for highly skilled construction engineering managers, UIC launched this master's degree program—the only one of its kind at a public university in the greater Chicago area. Students learn about a wide range of topics, including construction regulations, quality control, professional ethics, risk management, project planning, and environmental sustainability.

Programs for Working Professionals

The UIC civil, materials, and environmental engineering department schedules its courses with working professionals in mind. Most of our programs can be taken either full-time or part-time, and faculty teach courses in the evening as often as possible to make life easier for students who are returning for a master's degree while holding a job.

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 Civil Engineering or MS in Materials Engineering from UIC.

Learn more at go.uic.edu/COEinternational.

UIC's Academic Strengths

Construction Engineering and Management

Geotechnical Engineering

Materials Engineering

Structural Engineering

Sustainability

Transportation Engineering

Water-Environmental Engineering

Featured Courses

What will you take as an MS student at UIC? Explore your choices at cme.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.

CME 406 BRIDGE DESIGN
This course introduces students to the theory and procedures related to the design and analysis of modern bridges. The class covers construction practices for concrete and steel bridge structures, and students learn how to use the AASHTO Code.

CME 470 PHYSICAL AND MECHANICAL PROPERTIES OF MATERIALS
Subjects covered in this course include basic metallurgical phenomena, kinetics and phase stability, and diffusion and transformation rates. By the end of the semester, students are expected to have a fundamental grasp of the mechanical properties of materials, creep, fatigue, and fracture.

CME 508 URBAN TRAVEL FORECASTING
Where will people go, and how will they get there? This course introduces the theory and method of forecasting travelers' origin, route, mode, destination, departure time, and trip frequency in congested urban transportation networks.

CME 585 CONSTRUCTION ENGINEERING PROJECT CONTROLS
Students get an overview of metrics and control mechanisms in construction engineering and management; control systems during construction; risk and quality control; earned-value analysis; and operational effects on cost and schedule.

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.

Francis Amoah

Internship: DLZ Illinois Inc.

Location: Chicago

Assignment: "As a construction inspector, I am a resident engineer assigned to CDOT road resurfacing projects. My primary responsibility is ensuring that general contractors adhere meticulously to contract specifications. This role requires technical proficiency and a keen attention to detail to ensure project compliance and quality assurance."

Their perspective: "As a master's student in construction management at UIC, I'm gaining practical skills and industry insights that directly prepare me to lead and innovate in the construction industry. The program's emphasis on real-world projects and faculty expertise is instrumental in shaping my career trajectory."

Sreyashi Biswas

Internship: WSP

Location: Chicago

Assignment: "Some tasks I completed over my summer internship included designing base plates for columns, caisson/drilled pier designs, snow load calculations, Revit modeling, performing code research, and creating design spreadsheets."

Their perspective: "I chose UIC for the campus life in Chicago and the university's courses. UIC is preparing me for my future goals with exposure to different career fields within my specialization."

After UIC, where to?

Companies that have hired graduates of the UIC MS in Civil Engineering, Materials Engineering, and Construction Engineering and Management programs include:

AECOM
Bechtel Civil Infrastructure
Benesch
Chicago Department of Transportation
Chicago Department of Water Management
Christopher B. Burke Engineering
Ciorba Group
Clark Dietz
CLEAResult
Commonwealth Edison
Constellation Energy
DLZ Corporation
DNV KEMA
Engineering Services Group
EXP
Federal Highway Administration
Ford Motor Company
Fox-Nesbit Engineering
Frontrunner Systems
Gas Technology Institute
Geosyntec Consultants
GL Leading Technologies
Grumman/Butkus Associates
HNTB
Illinois Department of Transportation
Jacobs
KPMG
Metropolitan Water Reclamation District of Greater Chicago
Parsons
Patrick Engineering
Sargent & Lundy
Siemens
STV Group
Turner Construction
U.S. Army Corps of Engineers
U.S. Environmental Protection Agency
URS Corporation

Samuel Mermall

Principal, Constellation Energy

What does Samuel Mermall like about his job? "I love working for a company passionate about tackling climate change and accelerating the transition to a carbon-free economy," he said. "The education I received at UIC helps me to approach decarbonization, renewable energy, battery storage, and clean hydrogen from both technical and business perspectives, directly benefiting Constellation and our customers."

Each class he took at UIC prepared him for the working world. "I learned skills and ways of thinking, which are directly applicable to my work. From hard science to project finance, my courses at UIC helped prepare me for a future of solving interesting challenges at the intersection of technology, business, and science."

Huzefa Dewaswala

Project Manager, Frontrunner Systems

Huzefa Dewaswala wants to change the world by providing it with more great buildings, each built to the highest possible standards. Within the next decade, he plans to be running his own successful construction company. Today, he is laying the groundwork through his role at Frontrunner Systems, managing project resources, scheduling, purchasing, installation plans, and billing for a company that "cares about me and my professional growth."

Dewaswala's upward trajectory is an outgrowth of his MS in Civil Engineering degree from UIC, where he was an active member of the American Society of Civil Engineers' Construction Institute and enjoyed coursework in sustainable cities and construction organization management.

"I highly recommend UIC to new applicants," he said. "Good academics, reputation, diversity, and location—good for job opportunities, as Chicago has plenty of them."

Admissions

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

Interested in graduate study at UIC? Talk to us. Contact our civil, materials, and environmental engineering graduate team with questions or for an informal conversation.

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