Graduate studies in Civil engineering at the University of Hartford lead to the Master of Civil Engineering (M.Eng.). The program emphasizes applied design and stresses communication, which is very important for a successful career. The Master of Engineering program includes independent study requirements, which offer the opportunity to pursue design projects or self-directed study. The program, which offers specialty course work, applied mathematics, engineering management, and design project independent study, provides excellent preparation for an engineering career and for continued graduate study.

The graduate program stresses applied research for the practicing civil engineer. The goal is to prepare you to solve more sophisticated design problems that will help you advance in your engineering career. Small classes promote interaction with the faculty and keep you up to date with the most recent technology. This is combined with research projects that offer you the opportunity to become an expert in your chosen field.
ACCREDITATION

All graduate engineering degree programs are accredited by the New England Association of Schools and Colleges and by the Board of Higher Education of the state of Connecticut. According to ABET (Accreditation Board for Engineering and Technology) regulations, ABET does not accredit both undergraduate and graduate programs at the same time.

GRADUATE CIVIL ENGINEERING PROGRAM REQUIREMENTS

To be considered for admission applicants must have an appropriate baccalaureate degree in engineering from an engineering degree program accredited by the Engineering Accreditation Commission (EAC) of the Accrediting Board for Engineering and Technology (ABET); and have a minimum 3.0 GPA as an undergraduate.

Applicants who hold baccalaureate degrees in engineering fields not usually considered typical (electrical, mechanical, civil, aerospace, chemical, computer, or control engineering are typical engineering degrees), or who hold baccalaureate or master’s degrees in non-engineering fields or in engineering technology, or those whose undergraduate GPA is below 3.0 but who have significant engineering experience will be considered on an individual basis. The same applies to applicants holding bachelor degrees from institutions not accredited by EAC/ABET. Applicants in these categories may be required to complete specified undergraduate engineering courses before being admitted to the Master of Engineering program. Students should obtain at least a B grade in all such preparatory courses. Applicants may enroll for up to 6 credits on a non-matriculated basis prior to making a formal application for admission. Grades of courses taken on this basis will be considered in the review of the application.

APPLICATION REQUIREMENTS

The admissions review committee will consider only complete applications. All application materials should be sent to the Graduate Office at the following address: Center for Adult and Graduate Academic Services, CC231; University of Hartford; 200 Bloomfield Avenue; West Hartford, CT 06117 USA.

The following items are required:

- An on-line application
- A non-refundable application fee of $50
- Official transcripts for all collegiate level coursework forwarded to the University of Hartford
- Letter of intent or resume
- 2 letters of recommendation
- If interested enrolling full time and applying for an assistantship: Official results of the GRE (Graduate Record Exam) forwarded to the University of Hartford using school code 3436. Visit: www.ets.org

International Applicants

The following items are required in addition to the above:

- TOEFL – official scores to be submitted. The University of Hartford test code Number is 3436. Visit TOEFL at: www.ets.org Min score: 550 paper-based; 79-80 iBT. IELTS is also accepted. Min score 6.5 Visit: www.ielts.org
- Guarantor’s Statement – A certified Guarantor’s Statement of financial support is required. You may download the Guarantor’s Statement at: www.hartford.edu/graduate/int
DEADLINES AND DATES

Admission into Engineering can occur for the Fall or Spring Semester. Applications are accepted year-round, but should be received no later than November 1 for the spring term and April 15 for the fall term for international applicants. The admissions committee will review complete applications in the order in which they are received.

COSTS OF ATTENDANCE

Graduate students in Engineering are charged the per-credit-hour rate. The 2014-2015 academic year per-credit-hour rate for courses in the Engineering program is $716 per credit hour.

International students who hold F-1 visas are required to attend as full-time students (minimum of 9 credits per semester). The 2014-2015 academic year full-time tuition and fees for international graduate students in Engineering program is $14,348 per year. This is estimated and based on the minimum full-time cost for tuition and fees for the fall and spring semesters.

FINANCIAL AID

Domestic Financial Aid:
Student financial assistance for graduate and professional students through the Office of Admission and Student Financial Assistance at the University of Hartford is limited to the Federal Family Education Loan and supplemental loan programs. Students must meet all eligibility requirements as established by the U.S. Department of Education. The academic year includes summer, fall, and spring.

There are three items which students must satisfy in order to be eligible for financial aid:

• Be matriculated into a graduate degree-granting program
• Be registered for at least 6 credits a semester-except Summer term, which contains 2 six-week sessions. You may satisfy the 6 credit requirement during Summer term by taking 6 credits during one session or by taking 3 credits each session.
• File the Free Application for Federal Student Aid (FAFSA) for the academic year and meet all eligibility requirements established by the U.S. Department of Education.

For more information, call: 800.947.4303 or email: finaid@hartford.edu

International Financial Aid:
Financial Aid for international graduate students is currently limited to Graduate Assistantships. These assistantships are administered by the individual departments throughout the University and vary in size and availability.

Assistantships and Fellowships:
CETA has a number of openings available for graduate assistantships. To qualify, a graduate student must be matriculated and carrying at least 9 credits per semester. Official Graduate Record Examination (GRE) scores are also required but only for the first semester of study. The amount of assistantship is up to $2,500 per semester, reflecting a commitment of up to 10 work hours per week. Work assignments are determined by the department that oversees the student’s technical specialty. Assistantships will be awarded on the basis of academic performance and financial need. Cumulative and most recent semester grade point averages will determine academic performance. Assistantships will be awarded on a semester basis.

Consideration for continuation of an assistantship requires a minimum cumulative grade point average of 3.6 Please note, assistantships, fellowships or other support a student receives as a result of their enrollment may impact Federal Stafford Loan eligibility.
PROGRAMS OF STUDY

The Master of Civil Engineering program offers two program tracks — Structural Engineering and Transportation Engineering. The program requires a minimum of 30 credits. The general requirements of the Master of Civil Engineering program, for each track, is as follows:

**STRUCTURAL ENGINEERING**

**CORE COURSES [15 CREDITS REQUIRED]**
- CE 500 Advanced Mechanics of Materials
- CE 501 Advanced Structural Design
- CE 507 Finite Element Analysis
- CE 530 Geotechnical Engineering II
- CE 601 Structural Dynamics

**MATHEMATICS [3 CREDITS REQUIRED]**
- M 515 Methods of Applied Mathematics I

**ENGINEERING MANAGEMENT [3 CREDITS REQUIRED]**
- EM 601 Engineering Program Management

**ELECTIVES [6 CREDITS FROM THE FOLLOWING LIST]**
- CE 503 Geographic Information Systems in Practice
- CE 523 Engineering Hydrology
- CE 600 Graduate Project in Civil Engineering
- ME 602 Continuum Mechanics
- M 517 Applied Engineering Statistics
- EM 600 Engineering and the Corporation

**RESEARCH TOPICS AND PROJECTS**

**Research Topics:**
- Earthquake Resistant Structural Design
- Reinforced Concrete and Steel Structural Systems
- Progressive Collapse Mitigation
- Structural Mechanics and Finite Element Methods

**Student Projects:**
- Investigation, Analysis, and Rehabilitation of Large Reinforced Concrete Beams for the Original, Deteriorated, and Rebuilt Conditions
- Application of Geographic Information System (GIS) to Pavement Management Systems (PMS)
- Use of Neural Networks in Civil Engineering Practice
- Design of a Chamber for Safe Disposal of PEN Explosive Caps
- North Connector Roadway Design
TRANSPORTATION ENGINEERING

CORE COURSES [9 CREDITS REQUIRED]
CE 510 Simulation and Modeling of Transportation Systems
CE 512 Traffic Flow Theory & Analysis
CE 514 Urban Transportation Planning
CE 516 Public Transportation Sys
CE 518 Advanced Highway Engineering

ENGINEERING MANAGEMENT [3 CREDITS REQUIRED]
EM 601 Engineering Program Management (3 credits required)

MATHEMATICS [3 CREDITS REQUIRED]
M 517 Methods of Applied Mathematics I

ELECTIVES [15 CREDITS REQUIRED]
CE 503 Geographic Info Systems (GIS)
CE 504 CT Environmental Reg’s and Policy
CE 506 Emergency Preparedness
CE 523 Engineering Hydrology
CE 530 Geotechnical Engineering II
CE 540 Ana. Indeterminate Structures
CE 541 Structural Concrete Design II
CE 542 Structural Steel Design II
ECE 551 Engr Sys Design Using neutral nets
M 517 Methods of Applied Mathematics I
CE 600 Graduate Project in Civil Engineering
Any approved graduate course

RESEARCH TOPICS AND PROJECTS

Research Topics:
• Highway Capacity, Traffic Operational Analysis
• Simulation and Modeling of Transportation Systems
• Computational Intelligence, Optimization and Stochastic Process in Transportation Engineering
• Adaptive Traffic Signal Control
• Intelligent Transportation Systems
• Safety Analysis

Student Projects:
• A Fuzzy Logic Based Integrated Interchange Ramp Metering Signal Control
• Evaluation of Fuzzy Logic Based Ramp Metering Algorithms using Microscopic Traffic Simulation
• Analysis of Hydrogen Station Network Using Geographic Information Systems (GIS)
• Selection of Highway Interchange Types
• Traffic Accident Data Mining using a Machine Learning Model
• A Survey of Advanced Traveler Information Systems (ATIS)
• Comparison of Capacity Estimations due to Downstream Link Queues at Signalized Interchanges
The graduate program stresses applied research for the practicing engineer. The goal is to prepare you to solve more sophisticated design problems that will help you advance in your engineering career. Small classes promote interaction with the faculty and keep you up to date with the most recent technology. This is combined with research projects that offer you the opportunity to become an expert in your chosen field.

- **Excellence in Engineering and Management (E2M)**
  Receive a Master’s degree in one of the above areas and an MBA.

**UNIQUE FEATURES**

- **Environmental Engineering Laboratory**
  Specialties include the advancement of physical, chemical, and biological processes for water and waste treatment and air quality.

- **Structural Engineering Laboratory**
  State-of-the-art computational facilities are used for the application of structural design and finite element analysis in structural components.

- **Transportation Engineering Laboratory**
  Provides a variety of traffic simulation, planning and signal control programs for analyzing, evaluating and designing transportation system components.

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**FURTHER INFORMATION**

The Center for Graduate and Adult Academic Services would be happy to provide more specific information about a degree program or answer any other questions you may have. Please contact the office at: GradStudy@hartford.edu or by phone 860.768.4371 or 800.945.0712.

For more specific information about the Structural Engineering Track Graduate Program, please contact Dr. David Pines at 860.768.4560 or email pines@hartford.edu, or visit the CETA website. For more specific information about the Transportation Engineering Track Graduate Program, please contact Dr. Clara Fang at 860.768.4845 or email fang@hartford.edu, or visit the CETA website.

For more specific information about the Engineer program please contact the Graduate Program Manager Laurie Granstrand at 860.768.4858 or email: granstran@hartford.edu or visit the CETA website.

Program Website: [uhaweb.hartford.edu/CETA/](http://uhaweb.hartford.edu/CETA/).