The program provides advanced level instruction emphasizing engineering practice. The focus is on electrical engineering design, system operation, and management in all the courses and through the independent study requirement. The program also stresses oral and written communication. The opportunity exists in one of the following options:

Electrical Engineering: Students may concentrate their studies in Electrical Power, Controls, Microelectronics, and Embedded applications by selecting appropriate courses from the list of courses.

Excellence in Engineering and Management (E²M): Receive a Master’s degree in Electrical Engineering and an MBA.

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.
**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 ELECTRICAL 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 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 Minimum score: 79-80 iBT. IELTS is also accepted. Minimum 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.aspx

Electrical Engineering: Students may concentrate their studies in Electrical Power, Controls, Microelectronics, Communications and/or Signal Processing, and Embedded applications by selecting appropriate courses from the list of courses.
Excellence in Engineering and Management (E2M): Receive a Master’s degree in Electrical Engineering and an MBA.

Note: The department is working on introducing a degree in computer engineering.

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. 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). 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.
The Master of Electrical Engineering program requires a minimum of 30 credits. The general requirements structure of the Master of Civil Engineering program is as follows (all courses are 3 credits unless otherwise specified):

**CORE COURSES [15 CREDITS REQUIRED]**
- EE 521 Communications Theory
- ECE 525 FiberOptic Communication
- EE 540 DSP Hardware
- EE 543 Digital Control Systems
- EE 544 State Variable Control Systems
- ECE 551 Neura/net Applications
- EE 565 Digital VLSI Design I
- EE 567 Analog VLSI Design I
- EE 572 Power Systems Analysis
- EE 573 Power Electronics
- ECE 532 Embedded Microprocessors
- ECE 534 VHDL & Applications
- EE 641 Digital Signal Processing
- EE 642 Advanced Linear Discrete and Continuous Control Systems
- EE 643 Advanced Digital Control Systems
- EE 644 Estimation and Filtering Theory
- ECE 662 Solid-State Electronic Devices
- EE 671 Transformers – Theory and Practice
- EE 672 Protective Relaying
- EE 675 Surge Processes in Power Engineering

**MATHEMATICS [3 CREDITS REQUIRED]**
- M515 Methods of Applied Mathematics I

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

**GRADUATE PROJECT [6 CREDITS REQUIRED]**
- EE 600 Graduate Project in Electrical Engineering (3 to 9 credits) – Independent Study cannot begin until the student has completed 12 credits of course work toward the degree.

**ELECTIVE COURSE [3 CREDITS REQUIRED]**
A professional elective may be selected from the following categories:
1) Any other EE graduate course listed above under core courses and also listed under core courses for Electrical Power Specialty or special topics.
2) EE 600 Independent Studies in Electrical Engineering may be increased to 9 credits.
3) M 516 Methods of Applied Mathematics II
   - M 517 Applied Engineering Statistics
   - EM 600 Engineering and the Corporation
4) An additional graduate management course
5) An approved engineering graduate course in another department

**RESEARCH TOPICS AND PROJECTS**
Research Projects:
- Comparison of Deterministic and Random Sampling Techniques for Quality Analysis of Integrated Circuits
- Application of Data Acquisition Techniques to Electric Machinery
- Cost-effective CAD for Robust Design of Integrated Circuits Using Artificial Neural Networks
- Multi-target Tracking: Recent Advances and Development
- Real-Time Fault Diagnostics of Power Transformers
- Active Noise Control
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### UNIQUE SPECIALTIES

- **VLSI Laboratory:** where research is conducted in the area of neural network based VLSI circuit optimization, miniaturization trends in IC technology, and reduction of electromagnetic interference in VLSI interconnects.
- **State-of-the-art Industry Funded Research Facility for Real-Time Fault Diagnostics of Power Transformers:** where research is conducted on accurately locating a partial discharge inside a transformer while it is on-line.
- **NSF Funded Digital Signal Processing Simulations and Hardware Laboratory:** where MATLAB and the latest Texas Instruments products such as TM53206711 are utilized to detect signals, design filters, etc.
- **NSF Funded Instructional Design Laboratory:** provides state-of-the-art facilities for conducting design and simulation projects. It also has facilities for multimedia presentation and Web-based educational technology tools.
- **A new Field Programmable Gate Arrays (FPGA) Laboratory:** provides a complete TTL parts cabinet within a single chip.
- **The department oversees eight laboratories:** Electronics, Digital, Microprocessor, FPGA, Communications, VLSI, Power, System/Machinery, and DSP Simulations and Hardware.
- **New courses in VHDL and Embedded Microprocessors** have been introduced recently along with the software/hardware support.

### RECENT STUDENT PROJECTS:

- Crosstalk Minimization & Investigation of Shielding Structures
- Analyze, Develop and Improvise network configuration of devices in Building HVAC systems using RFID technology, RF technology and Handheld computing technology
- Performance of Turbo Coded Signals Over Fading Channels
- Investigation of layout techniques for minimizing Latch-Up problems in CMOS VLSI
- Active Noise Control of a Loudspeaker
- An Investigation of Electrical Fast Transient Noise Coupling between Power and Data Cables Located in Common Raceways
- Acoustic-Phonetic Approach to Speech Recognition

**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 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: [new.hartford.edu/ceta/](http://new.hartford.edu/ceta/)