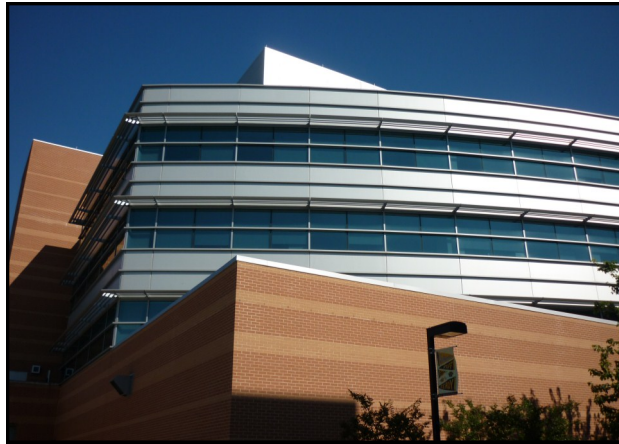


Graduate Programs in Electrical Engineering

UMBC

AN HONORS
UNIVERSITY
IN MARYLAND



Thrice-named the #1 up-and-coming national university by *U.S. News and World Report*, UMBC offers an exceptional and affordable education.

UMBC has continually proven itself to be a leader in Science and Engineering education. The Computer Science and Electrical Engineering (CSEE) Department is made up of 39 full-time faculty members and 15 research professors who dedicate themselves to teaching and research.

Currently, the department has over 250 graduate students from around the globe. Recent graduates have moved to faculty and research positions at academic institutions, companies such as Google, Microsoft, Amazon, Tyco International, GE Global Research and Northrop Grumman as well as government organizations such as NASA and the NIH.

M.S. in Electrical Engineering

Students pursuing a Master's of Science (M.S.) in Electrical Engineering can choose from a thesis and non-thesis option. The thesis option requires the completion of a thesis that must be defended with an oral examination and approved by the student's master's thesis committee. In addition, thesis M.S. students must complete 30 credit hours including the Graduate Seminar, 4 core courses and 6 credit hours of research. The non-thesis option requires the completion of a scholarly paper. In addition, non-thesis M.S. students must complete 33 credit hours including the Graduate Seminar, 4 core courses and 3 credits of ENEE 698. Both options must be completed within 5 years and students must maintain a 3.0 G.P.A.

Ph.D. in Electrical Engineering

Students pursuing a Doctorate of Philosophy (Ph.D.) in Electrical Engineering are required to complete 33 credit hours including the Graduate Seminar, 4 core courses, 7 electives and 18 credit hours of doctoral dissertation research. Ph.D. students must complete and defend their dissertation, pass the comprehensive portfolio, and pass the preliminary examination to be admission to candidacy. The program must be completed within 4 years after admission to doctoral candidacy and students must maintain a G.P.A. of 3.33.

Core Courses (4 out of 8 core courses required)

ENEE 601: Linear Systems Theory
ENEE 620: Probability and Random Processes
ENEE 621: Detection and Estimation Theory
ENEE 622: Information Theory
ENEE 630: Solid-State Electronics
ENEE 631: Semiconductor Devices
ENEE 680: Electromagnetic Theory
ENEE 683: Lasers

The Electrical Engineering graduate program is research active. Five out of our eight Electrical Engineering faculty members are fellows of one or more professional societies, such as the OSA, AIMBE, and SPIE. Faculty members receive funding from organizations such as NSF, NIH, NASA, NIST, DoD, and from the industry to support their research projects.

Research Areas

The main areas of research within the program are :

- Communications
- Sensor technology
- Signal processing
- photonics
- microelectronics

In signal processing, both traditional model-based (such as statistical signal processing) as well as data-driven signal processing methods are emphasized with applications in medical imaging and data analysis, communications and remote sensing. In nano/micro/opto-electronics, the current emphasis areas are MOCVD crystal growths, NIR and MIR optoelectronics and technologies for health and environmental applications, bio-photonic and photoacoustic sensing for chemical and biological imaging and identification. Finally, in photonics, the current work includes silicon photonics, Ultra-high capacity optical networks, RF-photon systems and components

To Apply Visit <http://www.csee.umbc.edu/programs/graduate/application-process/> OR send an email to gradDirector@csee.umbc.edu