Consistently ranked in the top 10 percent nationally, Ohio State’s Department of Electrical and Computer Engineering enjoys an excellent academic and research reputation not only among peer programs, but from industry and government research facilities as well. The department is ranked 18th in the 2014 U.S. News and World Report listings. The graduate program offers master of science and doctoral degrees in electrical and computer engineering, with a diverse student body of more than 300 students.

Opportunities for Students
The graduate program in Electrical and Computer Engineering (ECE) prepares students for technical leadership roles in industry, academia and government. The graduate program offers degrees leading to either a master’s or doctoral degree in ECE with specializations in analog and RF electronic circuits, communications and signal processing, computer and digital systems, computer vision and image processing, control systems, electromagnetics, remote sensing and microwaves, electro-optics and photonics, intelligent transportation, nanotechnology and electronic materials, networking, robotics, and sustainable energy and power systems.

Course work for the master’s program is designed to be flexible to fit the needs of the student. Only 12 of the total 30 credits must be ECE courses; however, in a traditional master’s program, the student may take significantly more ECE courses. The master’s program has two options: thesis and nonthesis. In the nonthesis option, the main emphasis is the coursework. The thesis option allows the student to work on a significant research project during the course of the program.

The purpose of the ECE doctoral program is to produce graduates who can think independently and solve engineering problems based on scientific and mathematical concepts. The training to produce such a graduate involves the in-depth study of a challenging research problem that has not been previously solved or solved to a desired level of effectiveness. The student is expected to work closely with a faculty advisor on the research problem (resulting in a dissertation), and it is expected that the overwhelming majority of his/her time in the doctoral program will be devoted to solving the research problem. Ninety percent of ECE doctoral students receive fellowships or graduate assistantships, and are provided a stipend and tuition coverage.

About the Department
The Department of Electrical and Computer Engineering’s 50 tenure track faculty members, eight research scientists, and 3 clinical faculty include 20 IEEE Fellows; many others are fellows in other societies. ECE faculty include internationally renowned researchers with noteworthy research programs and a large number of graduate students. In 2013, research funding to the department is $21.6 million, placing the department among the very best in the nation for per faculty research funding. Faculty members have recently received national honors including the Army Research Office Young Investigator Award, the Office of Naval Research Young Investigator Award, and the National Science Foundation CAREER Award.
Research

The department features more than 25 laboratories that cover research in virtually all areas of electrical and computer engineering. Among the major laboratories are:

- **ElectroScience Laboratory** (10 faculty, 11 research scientists, 80 graduate students): ESL is one of the top academic laboratories in the nation for electromagnetics, with ongoing research in microwave and wireless technology, computational electromagnetic modeling, new electromagnetic materials, electromagnetic compatibility, RF MEMS, ground penetrating and airborne radar, sensors, remote sensing, GPS systems, bioelectromagnetics and optics.

- **Information Processing System Laboratory** (10 faculty, 3 research scientists, 42 graduate students): The IPS Lab is nationally renowned for research in wireless communication and networking, statistical signal and image processing, speech processing, wireless biosensors and distributed sensor systems.

- **Control Research Laboratory** (6 faculty, 2 research scientists, 30 graduate students): CRL is considered one of the best academic control system laboratories in the nation. The researchers in CRL work on all aspects of control, including nonlinear, robust, distributed, and intelligent control. They have applied these to autonomous vehicles, biological systems, intelligent transportation, motion of humans and robots, automotive systems, aerospace systems, traffic monitoring and flexible structures.

- **Solid State Electronics and Photonics Laboratory** (9 faculty, 3 research scientists, 40 graduate students): SSEP is internationally recognized for research ranging from the synthesis and characterization of nanoscale electronic, photonic and multi-function materials, including both inorganic and organic compounds, to the creation of devices for ultra-high speed, energy conversion, sensor and optoelectronic applications. More than $25 million of shared facilities are housed within SSEP to carry out research in these areas.

- **High Performance Computing and Networking Laboratory** (3 faculty, 12 graduate students): The HPCN Lab leads internationally recognized efforts to integrate high performance computing with communication networks. The primary areas of research of HPCNL members include real-time distributed computing, resource management in real-time and distributed systems, wireless sensor and mobile ad hoc networks, inter-vehicle communication systems, parallel algorithms and network measurement and modeling. The group collaborates with other ECE laboratories and the Ohio Supercomputer Center on several projects.

The Department of Electrical and Computer Engineering also has significant research programs in computer vision and pattern recognition, power electronics, renewable energy, biomedical imaging, multimedia and robotics.

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**Graduate Applications**

Applications to Ohio State University must be submitted online. Please visit the Ohio State University Office of Graduate Admissions website, [http://www.gradapply.osu.edu](http://www.gradapply.osu.edu), to apply online. Also, the electrical and computer department's website, [http://ece.osu.edu/futurestudents/graduate/](http://ece.osu.edu/futurestudents/graduate/), provides more information about the program as well as links to the university admissions website.