Electrical and Computer Engineering at Rutgers

Electrical and Computer Engineering Degrees Offered and Curricular Options

BS
Options:
Electrical Engineering
Computer Engineering

BS/BA Dual Degree

BS/MS Five-year Dual Degree Program

BS/MBA Five-year Dual Degree Program

MS

PhD

ECE Highlights

» Home to High-Performance Computing (HPC) Center, powered by an IBM Blue Gene/P supercomputer, and ORBIT, the National Science Foundation's wireless testbed facility.

» State-of-the-art laboratory facilities include power electronics, communications and signal processing, neuroimaging, visualization, and more.

» Alumni hold prominent positions in industry, academia, and research.

RUTGERS
School of Engineering

For more information, visit
ece.rutgers.edu

Electrical engineers are on the forefront of some of the most exciting technology that continually transforms a rapidly changing world. From developing advanced navigation systems and self-piloted vehicles to designing "smart" homes and cyber security systems, electrical and computer engineers have a profound impact on how we live and how society will continue to progress for generations to come.

Rutgers offers a dynamic electrical and computer engineering program with world-class labs in innovative fields including wireless/mobile communications, cloud computing, virtual reality, signal processing, and nanotechnology. ECE faculty and students are actively engaged in research and students take courses in a variety of areas, including wireless communications, robotics and machine vision, signal processing, network security, and parallel and distributed computing.

TOP 50 ECE
GRADUATE ENGINEERING PROGRAMS (*USNWR*)

WHAT CAN YOU DO WITH AN ECE DEGREE?

Computer engineering
Wireless communications
Electronics
Semiconductors
Signal processing
Telecommunications
Power industry
Cybersecurity
Biomedicine
Financial engineer

"Nothing has been more rewarding than building autonomous robots and spending countless hours programming with my friends in the labs. The work is challenging, but collaborating with peers will carry over into my professional career."
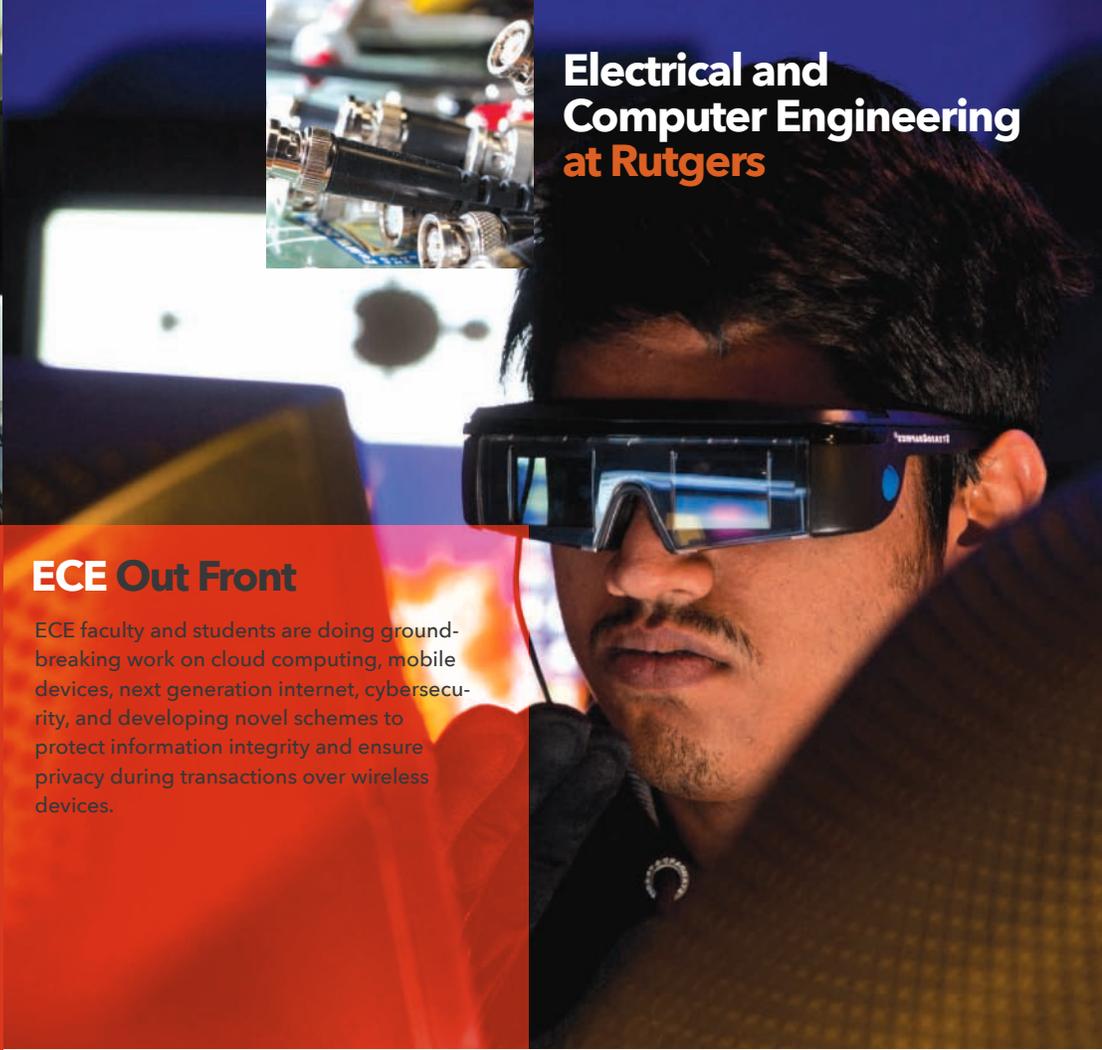
Elie Rosen

Electrical and
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at Rutgers

Hands-On Experience

Senior team projects address sensor networks, control and DSP systems, communication systems and computer networks, software engineering, robotics, virtual reality, and circuit and microelectronic systems.

Internships offer valuable technical and business experience and networking connections, and have included leading technology companies: Intel, Siemens, Lockheed Martin, Northrop Grumman, JP Morgan, and Verizon.

ECE Out Front

ECE faculty and students are doing groundbreaking work on cloud computing, mobile devices, next generation internet, cybersecurity, and developing novel schemes to protect information integrity and ensure privacy during transactions over wireless devices.

Research Opportunities

Wireless information networks

Mobile devices

Cybersecurity

Robotics

Digital signal processing

Neuroscience

Cloud computing

High-performance computing

Nano devices

Neuromorphic devices

Program Highlights

The undergraduate program consists of two specific options, both of which lead to a BS degree in electrical and computer engineering. The electrical engineering option includes wireless communication systems and networks, signal image and speech processing, automatic control, electronic materials, devices and circuits, computer vision, robotics, virtual reality, and VLSI design. The computer engineering option, which builds on a broad background in electrical engineering, prepares students for careers in the area of computer hardware and software engineering. Students can also opt for specific areas of concentration, which include robotics, wireless communications, micro-electronics, and financial engineering.

Senior Design Project

Students creatively pursue novel ideas using their knowledge and ingenuity in a final project that integrates professional and technical skills. Recent senior design projects have included a "Green Water" device that produces clean water using solar energy, a "Piano Playing Robot" in which an iPhone provides visual input resulting in a robot playing music, and the sophisticated "Rainfall Sensing Network" which enables rainfall data collection from distributed geographical areas.

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Established in 1864, the School of Engineering at Rutgers, The State University of New Jersey, is home to educational opportunity and innovation, pursuing work of enormous relevance to society and the economy. With seven academic departments and world-renowned research centers, the School of Engineering currently enrolls more than 3,300 undergraduate and 700 graduate students, and generates more than $60 million in research funding annually.

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