NATIONAL AND INTERNATIONAL COMPETITIONS

ECE students are part of multidisciplinary teams that regularly participate in national and international competitions such as:

- Hardware Competition at IEEE SouthEastcon
- International Aerial Robotics Competition
- VEX Robotics Competition at VEX WORLDS
- Annual Intelligent Ground Vehicle Competition

INTERNSHIPS & CO-OPS

ECE students are greatly encouraged to seek internships and co-ops to gain firsthand engineering experience and to enhance their ability to obtain employment in their field upon graduation.

ECE students can readily find internships in local, state and national industry.

The University's Career Development Services has established within the college a comprehensive developmental approach to helping students in all phases of career planning and preparation.

Their services include:

- Resume review
- Career counseling
- Skills training
- Interview preparation
- Internship/co-op information
- Job search strategies
- Evaluating a job offer
- Graduate school information
- Professional school information

FACILITIES AND RESOURCES

Technology-enhanced classrooms:

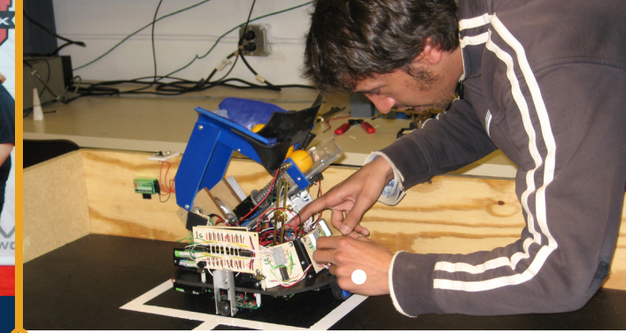
- The lectures occur in technology-enhanced classrooms.
- Some classrooms have a Course Capture capability that records the lecture for later viewing.

Laboratory facilities:

- Design Studio
- Clean Room
- Instruction and Research Laboratories
- Culminating Design Experience Laboratories

Computer requirements:
All engineering undergraduate students are required to have a laptop or notebook that meets or exceeds the Mobile Monarch Student Notebook Program's recommended models for engineering majors.

Software Tools:
To enable student success, students are provided high-end with **engineering and computational software tools** such as Matlab and Mathematica. Additional software resources are available in university and departmental laboratories.



PROFESSIONAL AND CAREER DEVELOPMENT

ECE students participate in the student branch of IEEE *"the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity."*

ECE students learn about careers from alumni and working engineers that come to IEEE student branch meetings and the department's ECE socials.

WHERE OUR GRADUATES GO

After graduation, ECE students join industry or government or pursue graduate degrees. Employers of our students include:

- BAE Systems
- Booz Allen Hamilton
- General Electric
- Huntington Ingalls
- Lockheed Martin
- NASA
- Naval Warfare Systems Command
- Newport News Shipbuilding
- Norfolk Naval Shipyard
- Siemens
- WR Systems

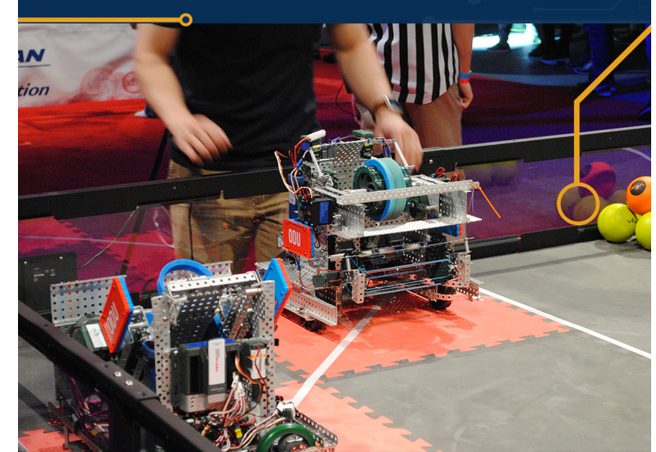
CALL OR VISIT OUR WEBSITE FOR MORE INFORMATION:

Chief Departmental Advisor
231 Kaufman Hall, Norfolk, VA 23529
Phone: 757-683-3741
Fax: 757-683-3220 or www.odu.edu/ece

OLD DOMINION UNIVERSITY

Frank Batten College of Engineering and Technology

ELECTRICAL & COMPUTER ENGINEERING UNDERGRADUATE PROGRAMS



Department of Electrical and Computer Engineering

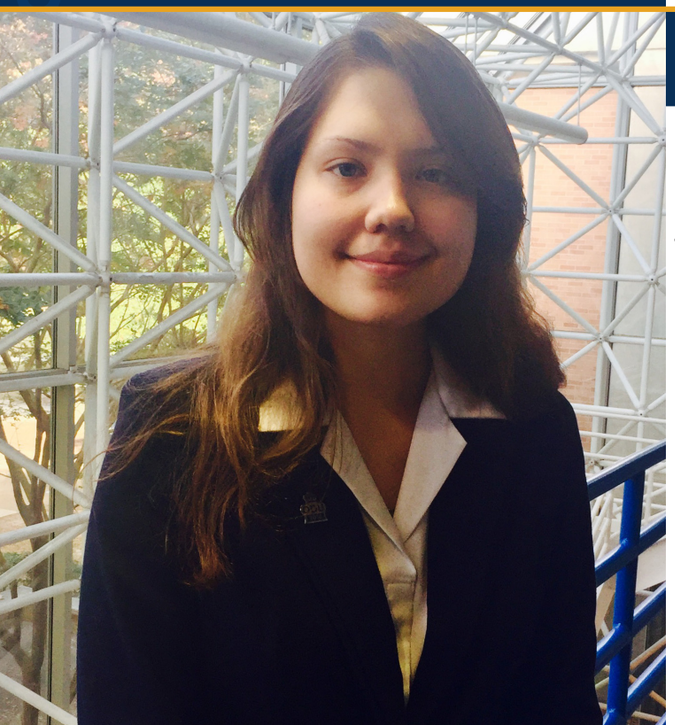
Undergraduate four-year degree programs:

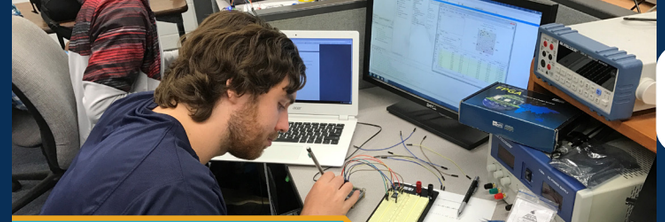
Bachelor of Science in Electrical Engineering (BSEE)

Bachelor of Science in Computer Engineering (BSCpE)

These programs are accredited by the Engineering Accreditation Commission of ABET (www.abet.org).

The ECE undergraduate programs provide a broad foundation in electrical and computer engineering through combined lecture and laboratory work. They prepare the student for entering the profession of electrical or computer engineering and for further study at the graduate level.





ELECTRICAL ENGINEERING

Solid foundations and background in:

- Mathematics
- Science
- English
- Circuits
- Signals
- Systems
- Electronics
- Electromagnetics
- Digital systems
- Microelectronics

Elective freedom for specialization in emphasis areas:

- System Science
- Physical Science
- Electrical Power
- Power Systems
- Digital Design

Master principles using theoretical investigation and experimental verification.

Electrical engineering students learn device fabrication processes (photolithography, oxidation, diffusion, metallization) and get to fabricate their own circuits in the clean room.

COMPUTER ENGINEERING

Broad engineering background:

- Mathematics
- Science
- English
- Computer Hardware
- Computer Systems
- Computer Science

Technical core coursework:

- Computer and electrical engineering to address system hardware
- Computer science to address software aspects of systems and networks

Built-in minor in Computer Science

Elective freedom for specialization in emphasis areas:

- Computer Hardware
- Cyber Security
- Digital Design
- Computer Networks

Computer engineering students build on the hardware description language tools introduced in the sophomore year to master the design, test and synthesis of advanced digital circuits.

CURRICULUM

FRESHMAN YEAR

All engineering students start in the Engineering Fundamentals Division (EFD) where freshmen immediately become engaged in practical engineering and technology activities.

Required course: Explore Engineering/Technology

Team projects in different engineering disciplines. Students experience the professional spectrum from idea generation on through to its translation into the design, manufacturing and commercialization cycle.

SOPHOMORE–SENIOR YEARS

A strong foundation in:

- basic sciences, mathematics, engineering
- general education to assure a well-rounded program of study

A diversity of learning opportunities and mechanisms:

- Traditional classroom environment
- Hands-on projects and laboratory instruction
- One-on-one interaction with faculty on undergraduate research

Preparation for professional careers or further study in engineering or science disciplines.

Multidisciplinary design experience: Senior project based on knowledge and skills acquired throughout the curriculum.

B.S. TO GRADUATE DEGREE PROGRAMS

Qualified students may apply to linked degree programs:

- Bachelor's/master's degree programs
- Bachelor-to-Ph.D. program

By starting to earn graduate credits while still an undergraduate, qualified students may **finish their graduate degrees sooner.**

UNDERGRADUATE RESEARCH

Old Dominion University has undergraduate research programs at the university, college and department levels which:

- Promote and facilitate the inclusion of undergraduates in ODU's active research community
- Expand student educational experience
- Prepare students for graduate programs and the job market

Undergraduate students are encouraged to participate in the ongoing research conducted by the ECE faculty. The research work may lead to a thesis or a dissertation.

Research in the ECE department is grouped into three main areas:

- Cyber-Physical Systems
- Medical/Biological Systems, Methods and Devices
- Solid State and Physical Electronics