

Computer Engineering Program

Computer engineering is an exciting field that spans topics across electrical engineering and computer science. Students learn, practice, and perform research related to the design and analysis of computer systems, including both hardware and software aspects and their integration. Careers in computer engineering are wide and varied, ranging from embedded computer systems found in consumer products or medical devices, to control systems for automobiles, aircraft and trains, to more wide-ranging applications in telecommunications, financial transactions and information systems.

Computer Engineering graduate degree programs, Master of Engineering, Master of Science, and Doctor of Philosophy, are jointly administered by the Department of Computer Science and the Department of Electrical and Computer Engineering. For details on facilities and resources available for these degree programs, please consult the sections corresponding to these departments in this graduate record. Students can choose advisors from either one of the departments. Also, students may receive financial assistance in the form of a teaching or research assistantship from either one of these departments.

Computer engineers design, produce, operate, program, and maintain computer and digital systems. They generally apply the theories and principles of science and mathematics to the design of hardware, software, networks, and processes to solve technical problems. Hence research in Computer Engineering covers a broad spectrum of topics, such as computer architecture, embedded systems, integrated circuit design, Very Large Scale Integration (VLSI) systems, Field Programmable Gate Arrays (FPGAs), design automation, hardware/software codesign, software development and systems, software engineering, digital and computer systems design, computer networks, computer and network security, testing, fault-tolerant computing, dependable computing, real-time systems, algorithms, operating systems, middleware, compilers, database management, parallel computing and distributed systems, and computer graphics and vision.

The graduate degree programs in Computer Engineering are new, with the first set of students graduating in the Summer of 2003. Detailed requirements for these degrees are posted on the web site <http://www.cpe.virginia.edu>.