What is the University of Florida EDGE Program?
EDGE enables engineering professional, military members, and students worldwide to participate in courses, certificates, and degree programs from the UF College of Engineering. Engineers can earn a master’s degree at a time and place convenient to them through programs from UF EDGE. As an EDGE student, you view the same course lectures, complete the same assignments and exams as UF campus based engineering students. Since admissions, lecture materials, and assignments are the same for UF EDGE students and campus students, you will earn the same academic credentials participating as a distance student as you would participating on campus, there is no distinction between UF transcripts of online (EDGE) and campus students.

Learn Anywhere, Anytime
UF EDGE brings this exciting learning experience to a worldwide audience of place-bound engineers through a variety of distance learning technologies accessible at the workplace, home and other sites.

EDGE courses are delivered as streaming and downloadable video formats. These are the same courses instructed by University of Florida College of Engineering faculty on campus, taught in EDGE studio classrooms. Courses are supplemented by additional online course materials and interaction.

No campus visits or travel are required for EDGE participation. Degree programs can be completed in as little as 24 months. Distance master’s degree program students can take as many courses each semester as their jobs and family schedules permit (as long as degrees are completed within the UF graduate school time limit, currently 7 years). The EDGE Program can work with companies or the military that support direct payment of tuition for employees.

UF EDGE brings the classroom to you with online, worldwide course delivery!

Computer & Information Science & Engineering Department
The UF Department of Computer and Information Science and Engineering is concerned with the theory, design, development and application of computer systems and information processing techniques. The mission of the CISE Department is to educate undergraduate and graduate majors as well as the broader campus community in the fundamental concepts of the computing discipline, to create and disseminate computing knowledge and technology, and to use our expertise in computing to help society solve problems. CISE master's degree programs can be completed online through the UF EDGE Program.

I first started at a different university which initially appeared more flexible but I quickly realized that continuing my graduate education at my Alma Mata (University of Florida) was a better option for the quality of education, the cost, self pace and flexibility. The UFEDGE and CISE personnel were very supportive throughout the program. My professors were accommodating of my situation and very available over email and the phone. My most challenging class was very bearable because of a professor that was available on weekends and all odd hours of the day. I highly recommend this program and have two pieces of advice. One, start small and figure out what class load matches your work load. Two, the lectures are available within hours of the live presentation so don't let them pile up! - Ukachi Achareke, Computer Engineering
Computer & Information Science & Engineering Degree Program Admission
Admission is coordinated by the Computer & Information Science & Engineering department.

Computer & Information Science & Engineering

Master’s degree programs offered through UF EDGE

Applicants must have:

- A Bachelor of Science degree in computer science or computer engineering with a cumulative undergraduate upper-division GPA of at least a 3.0 on a 4.0 scale.
- Satisfactory scores on the general portion of the Graduate Record Examination (GRE) totaling 317- Quantitative: 164  Verbal: 153

For international students whose first language is not English, a minimum score of 80 on Internet-bases Test of English as a Foreign Language (TOEFL) is required to be excused from the English language course requirements. L India does require the TOEFL. You may substitute the TOEFL with IELTs with a minimum score of 6.

The Master’s degree programs offered through UF EDGE are non-thesis. A non-thesis Master’s degree from the Computer & Information Sciences & Engineering (CISE) department requires the completion of 30 total credits (10 courses). A minimum cumulative GPA of 3.0 is required for graduation. Typical course offerings for the CISE department are listed below. Students should work with their CISE department academic advisor to ensure their chosen ‘program of study’ of EDGE offered CISE courses meets all requirements for degree completion.

Computer Engineering Core Requirements

In the 10 course sequence toward the master’s degree, students must complete specific Core courses. The required Core courses are dependent upon the student’s major. For specific information on the Core for each major please refer to the following URL: https://www.cise.ufl.edu/academiccs/grad

The Computer & Information Science & Engineering Department offers the following Master degrees:

1. Computer Science through the College of Engineering
2. Computer Engineering through the College of Engineering
3. Digital Arts and Science through the College of Engineering
4. Computer Science through the College of Liberal Arts and Sciences

Students should work with their CISE department graduate academic advisor to ensure their chosen EDGE courses meet all requirements for degree completion.
CISE EDGE Courses Emphasizing ‘Computer Engineering’

**COP 5615 Operating System Principles (3 credits)**
The concepts and techniques of efficient management of computer system resources.

**COP 5536 Advanced Data Structures (3 credits)**
Development of efficient data structures used to obtain more efficient solutions to classical problems, such as those based on graph theoretical models, as well as problems that arise in application areas of contemporary interest.

**COP 5556 Programming Language Principles (3 credits)**
History of programming languages, formal models for specifying languages, design goals, run-time structures, and implementation techniques, along with survey of principal programming language paradigms.

**CAP 5805 Computer Simulation Concepts (3 credits)**
Introduction to concepts in continuous and discrete simulation. Emphasis on fundamental concepts and methodology, using practical examples from a wide variety of disciplines.

**CEN 6070 Software Testing and Verification (3 credits)**
Concepts, principles, and methods for software testing and verification. Topics include human and machine-based testing strategies, formal proofs of correctness, and software reliability.

**CEN 5540 Computer and Network Security (3 credits)**
Issues, analysis, and solutions. Viruses, worms, logic bombs, network attacks, covert channels, steganography, cryptology, authentication, digital signatures, electronic commerce.

**CDA 5155 Computer Architecture Principles (3 credits)**
Fundamental design issues of processor and computer architecture, a variety of design approaches for CPU, memory, and system structure.

**CDA 5636 Embedded Systems (3 credits)**
Design and verification of embedded systems including system level modeling/specification, design space exploration, hardware-software partitioning, architecture synthesis, compilation for area/power/performance code compression, real-time operating systems/databases, and functional validation of embedded systems.

**COT 5405 Analysis of Algorithms (3 credits)**
Introduction and illustration of basic techniques for designing efficient algorithms and analyzing algorithm complexity.

**CNT 5410 Computer Network Security Systems**
(pre-requisite: COT 5405)
Issues, analysis, and solutions. Viruses, worms, logic bombs, network attacks, covert channels, steganography, cryptology, authentication, digital signatures, electronic commerce.

**CEN 5035 Software Engineering (3 credits)**
Topics in projects organization, specification techniques, reliability measurement, documentation.

**COP 5725 Database Management Systems (3 credits)**
An introduction to systems and procedures for managing large computerized databases.

**CNT 5106C Computer Networks (3 credits)**
This is an introductory course on computer networks at the graduate level. We will focus on the concepts and fundamental design principles that have contributed to the global Internet's scalability and robustness and will survey the underlying technologies that have led to the Internet's phenomenal success.

**COP 6726 Database Systems Implementation (3 credits)**
DBMS architecture, query processing and optimization, transaction processing, index structures, parallel query processing, object-oriented and object-relational databases, and related topics.

**COT 6315 Formal Language & Computation Theory (3 credits)**
Familiarity with discrete mathematics and data structures. Introduction to theoretical computer science including formal languages, automata theory, Turing machines, and computability.

**CISE EDGE Courses Emphasizing ‘Bioinformatics’**

**CAP 5510 Bioinformatics (3 credits)**
Basic concepts of molecular biology and computer science. Sequence comparison and assembly, physical mapping of DNA, phylogenetic trees, genome rearrangements, gene identification, biomolecular cryptology, and molecular structure prediction

**COT 5615 Mathematics for Intelligent Systems (3)**
Prereq: MAC 2313, Multivariate Calculus; MAS 3114 or MAS 4105, Linear Algebra; STA 4321, Mathematical Statistics

**CAP 5515 Computational Molecular Biology (3 credits)**
Algorithms related to molecular biology. Sequence comparisons, pattern matching, pattern extraction, graph techniques in phylogeny construction, secondary structure prediction, multiple sequence alignment, contig search, DNA computing, computational learning theory, and genetic algorithms.

**CAP 6610 Machine Learning (3 credits)**
Review of attempts, within the artificial intelligence community, to construct computer programs that learn. Statistical pattern recognition with its applications to such areas as optical character recognition.

**Sample Program of Study for:**
**Master of Science Degree in Computer Engineering completed through the EDGE Program**

10 courses; 30 credits for master's degree; non-thesis, no campus visits required

(Note: this is just a sample program of study, course substitutions can be made to tune the degree program to your education needs by making a ‘program of study’ with a CISE academic advisor)

**COT 5405 Analysis of Algorithms (3 credits)**

**CDA 5155 Computer Architecture Principles (3 credits)**

**COP 5556 Programming Language Principles (3 credits)**

**COP 5615 Operating System Principles (3 credits)**
COP 5536 Advanced Data Structures (3 credits)
CEN 6070 Software Testing and Verification (3 credits)
CEN 5106C Computer Networks (3 credits)
CEN 5035 Software Engineering (3 credits)
COP 5725 Database Management Systems (3 credits)
CAP 5771 Introduction to Data Science (3 credits)

Who do I contact with questions?

For general questions about the University of Florida EDGE Program, how EDGE works, what to expect as an EDGE student, how distance exam proctoring works, nondegree status to begin soon, etc. Contact the UF EDGE office directly:

Pamela Simon
UF EDGE Student Assistance & Registration
e-mail: phs@ufl.edu phone: 352-392-9670
www.ufedge.ufl.edu

Computer & Information Science & Engineering

Master’s degree programs offered through UF EDGE

For questions about the UF Computer & Information Science & Engineering (CISE): how to apply for admission to the master’s degree program in the CISE Department, contact the CISE department directly at:

Kristina L. Sapp
Computer & Information Science & Engineering
Email: klsapp@cise.ufl.edu
Phone: 352-392-1090

For questions about the UF Computer & Information Science & Engineering (CISE): curriculum, or Core course requirements or advising, contact the CISE department directly at:

Adrienne L. Cook
Computer & Information Science & Engineering
Email: alcook@ufl.edu
Phone: 352-392-1090

www.ufedge.ufl.edu