

## COMPUTER SCIENCE PROGRAM

### Master of Science in Computer Science (M.S.C.S.) Degree

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#### DEGREE INFORMATION

**Program Admission Deadlines:**

Fall: ~~June 1~~ [February 15](#)

Spring: October 15

Summer: No admit

**International Students in the U.S.:**

Fall: June 1

Spring: October 15

Summer: no admit

**International Students Outside the U.S.:**

Fall: ~~May 1~~ [January 15](#)

Spring: ~~September 15~~ [July 15](#)

Summer: no admit

**Minimum Total Hours:** 30 thesis; 30 non-thesis

**Program Level:** Masters

**CIP Code:** ~~14.0901~~ [11.0701](#)

**Dept. Code:** ESB

**Program (Major/College):** ECC EN

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#### CONTACT INFORMATION

**College:** Engineering

**Department:** Computer Science and

Engineering

**Contact Information:** [www.grad.usf.edu](http://www.grad.usf.edu)

**Other Resources:** [www.usf4you.usf.edu](http://www.usf4you.usf.edu)

#### PROGRAM INFORMATION

The Department of Computer Science and Engineering offers a thesis and non-thesis option for the degree of Master of Science in Computer Science (M.S.C.S.). The thesis option requires students to pursue a more concentrated range of topics. The non-thesis option offers students some experience in many areas of computer science. There is considerable freedom in the choice of the courses.

The breadth of subjects which are part of computer science together with the immense diversity of its applications, make it imperative that students in the Master's program maintain close contact with the Graduate Program Director, or, if choosing the thesis option, with their major professor in order to achieve a coherent plan of study directed towards a specific goal. In particular, election of courses should only be made with prior consultation and approval of the Major Professor or the Graduate Program Director.

**Accreditation:**

Accredited by the Commission on Colleges of the Southern Association of College and Schools.

**Major Research Areas:**

An excellent selection of courses and laboratories support graduate studies in algorithms, artificial intelligence, [machine learning](#), [data mining](#), ~~bioinformatics~~, computer architecture, graphics, networks, computer vision, distributed systems, expert systems, formal verification, ~~human computer interface~~, image processing, pattern recognition, robotics, [databases](#), software engineering, ~~software security~~, [compilers](#), [programming languages](#), and VLSI design, and CAD.

## ADMISSION INFORMATION

Must meet University requirements (see Graduate Admissions) as well as requirements listed below.

### Program Admission Requirements

~~The GRE will be waived for M.S. degree applicants with an undergraduate degree from an ABET-accredited United States university.~~

- The GRE is required for all Ph.D. and M.S. applicants who apply for TA, RA, GA, or Fellowships. The median GRE scores of recently admitted students include 770 on the Quantitative portion and a Verbal Total of 450. [For GRE tests taken after August 1, we require a minimum of 161 on the Quantitative portion \(81 percentile\) and a minimum of 150 \(44 percentile\) on the Verbal.](#) If a candidate is admitted to the M.S. program and later decides to join the Ph.D. program, the GRE requirement must be met by the candidate as part of the application process. [The GRE will be waived for M.S. degree applicants with an undergraduate degree from an ABET-accredited United States university](#)
- Minimum grade point average (GPA) of "B" (or equivalent) for all coursework completed during the last two years of undergraduate program.
- [Submission of TOEFL scores with an Internet-based score of 79 or higher for applicants from non-English speaking countries. If consideration of an assistantship is desired, the speaking score component of the TOEFL must be 26 or above, or a score of 6.5 on the International English Language Testing System, \(IELTS\).](#)
- [The TOEFL requirements may be waived if the applicant meets one of the following conditions:](#)
  - [Has scored 500 or higher on the GRE Verbal Test, \(Old Scores\) or 153 with the New GRE scoring.](#)
  - [Has earned a college degree at a U.S. institution of higher learning.](#)
  - [Has earned a college degree from an institution whose language of instruction is English, \(must be noted on the transcript\).](#)
  - [Has scored 6.5 on International English Language Testing System, \(IELTS\).](#)
- ~~Minimum TOEFL score for international students is 550 (paper based total) or 213 (computer based total) or 79 (internet based total).~~
- Three letters of recommendation.
- Statement of purpose.
- The applicant must also have mathematical preparation equivalent to that obtained from courses in Calculus through Differential Equations; knowledge of computer science and computer engineering, including logic design, computer architecture, data structure, operating systems and algorithms. The majority of students accepted to the Program possess an undergraduate degree in Computer Science, Computer Engineering, Electrical Engineering, or Mathematics. However, students who hold an undergraduate degree in a related field are encouraged to apply.
- ~~For teaching assistantship consideration, applicants from non-English speaking countries must take and pass the speaking component of the internet-based TOEFL with a score of 26 or above.~~

## DEGREE PROGRAM REQUIREMENTS

Total Minimum hours:

**30 hours**

Core Requirements:

**9 hours**

Successful completion of three core graduate-level courses is required. For non-thesis option, students must make a grade of "B" or higher in these core courses:

COP 6611 Operating Systems	<u>3</u>
EEL 6764 Principles of Computer Architecture	<u>3</u>
COT 6405 Introduction to the Theory of Algorithms	3

## DRAFT 2014-2015

### Electives:

Thesis option students must select should pick at least 15 hours from the following and non-thesis option students must select at least should pick 21 hours from the list of available graduate elective courses below in consultation with the Graduate Program Director or individual advisor following:

CAP 5400	Digital Image Processing	3
CDA 5416	Introduction to Computer-Aided Verification	3
CAP 5625	Introduction to Artificial Intelligence	3
CAP 5682	Expert and Intelligent Systems	3
CAP 5771	Data Mining	3
EEL 5771	Introduction to Computer Graphics I	3
CNT 6215	Computer Networks	3
<del>CAP 6100</del>	<del>Human Computer Interface</del>	<del>3</del>
CAP 6415	Computer Vision	3
CAP 6455	Advanced Robotic Systems	3
CAP 6615	Neural Networks	3
COP 6621	Programming Languages and Translation	3
<del>CAP 6672</del>	<del>Robot Intelligence and Computer Vision</del>	<del>3</del>
EEL 6706	Testing and Fault Tolerance in Digital Systems	3
CAP 6736	Geometric Modeling	3
EEL 6766	Advanced Computer Architecture	3
<del>CDA 5416</del>	<del>Introduction to Computer-Aided Verification</del>	<del>3</del>
CIS 6900	Independent Study	1-19
CIS 6930	Special Topics	1-5
CIS 6940	Graduate Instruction Methods	1-4
CIS 6946	Internships/Practicums/Clinical Practice	0-3
<del>CIS 6930</del>	<del>Special Topics</del>	<del>1-5</del>
<del>CIS 6940</del>	<del>Graduate Instruction Methods</del>	<del>1-4</del>
CIS 6971	Thesis: Master's	2-19
<del>CNT 6215</del>	<del>Computer Networks</del>	<del>3</del>
<del>COP 6621</del>	<del>Programming Languages and Translation</del>	<del>3</del>
<del>EEL 5771</del>	<del>Introduction to Computer Graphics I</del>	<del>3</del>
<del>EEL 6706</del>	<del>Testing and Fault Tolerance in Digital Systems</del>	<del>3</del>
<del>EEL 6766</del>	<del>Advanced Computer Architecture</del>	<del>3</del>

### Thesis Option:

The thesis option requires the completion of 24 credit hours of CSE graduate-level courses (9 credit hours of core courses and 15 hours of electives) and 6 credit hours of thesis. At least 16 credit hours must be at the 6000 level. With prior permission from the Graduate Program Director, students can take a maximum of 3 hours of Independent Study or Internship, and maximum of 3 hours of one-hour seminar courses, and may be applied up to one graduate level course (3 credit hours) outside of the department.

### Non-Thesis Option:

The non-thesis option requires 30 credit hours, with 9 credit hours of core courses and, 21 hours of electives. At least 16 credit hours must be at the 6000 level. Maximum of 3 hours of Independent Study and maximum of 3 hours of one-hour seminar courses may be applied. With prior permission from the Graduate Program Director, students can take a maximum of 3 hours of Independent Study or Internship, a maximum of 3 hours of one-hour seminar courses, and up to one graduate level course (3 credit hours) outside of the department.

### Additional Requirements:

For the thesis option, 6 hours of the thesis (CIS 6971 Thesis: Masters) should be in computer science related problems, as determined by the Major Professor and documented in the Plan of Work.

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For Non-Thesis Option, at least 6 hours of electives should be in the following topic areas: advanced algorithms, compilers, databases, parallel computing and distributed systems, security, [data mining](#), [machine learning](#), programming languages, or software engineering, as determined by the Graduate Program Director and documented in the Plan of Work.

### **COURSES**

See <http://www.ugs.usf.edu/sab/sabs.cfm>

