

**REVISED (August 7, 2018)**

**MASTER OF SCIENCE IN COMPUTER SCIENCE** (with Thesis)

**Overview of Degree**

The Master of Science degree in Computer Science at The University of Georgia is a comprehensive program of study intended to give qualified and motivated students a thorough foundation in the theory, methodology, and techniques of Computer Science. Students who successfully complete this program of study will have a grasp of the principles and foundations of Computer Science. They will be prepared to pursue higher academic goals, including the Doctor of Philosophy degree. They will obtain skills and experience in up-to-date approaches to analysis, design, implementation, validation, and documentation of computer software and hardware. With these skills they will be well qualified for technical, professional, or managerial positions in government, business, industry, and education.

Prospective students are advised to consult The University of Georgia Graduate Bulletin for institutional information and requirements.

**Admission Requirements**

In addition to the general University of Georgia policies set forth in the Graduate Bulletin, the following departmental policies apply to all applicants:

1. A bachelor degree is required, preferably with a major in Computer Science or an allied discipline. Students with insufficient background in Computer Science must take undergraduate Computer Science courses to remedy any deficiencies (in addition to their graduate program). A sufficient background in Computer Science must include at least the following courses (or equivalent):

MATH 2200;	Analytic Geometry and Calculus
MATH 2410;	Integral Calculus with Theory
CSCI 1301;	Introduction to Computing and Programming
CSCI 1302;	Software Development
CSCI 1730;	Systems Programming
CSCI/MATH 2610;	Discrete Mathematics for Computer Science
CSCI 2670;	Introduction to Theory of Computing
CSCI 2720;	Data Structures

2. Admission to this program is selective; students with a record of academic excellence have a better chance of acceptance. Students with exceptionally strong undergraduate records may apply for admission to the graduate program prior to fulfilling all of the above requirements.

3. Graduate Record Examination (GRE) test scores are required for admission consideration.
4. Three letters of recommendation are required, preferably written by university professors familiar with the student's academic work and potential. If the student has work experience, one letter may be from his/her supervisor. Letters should be sent directly from the letter writer.
5. A one or two page personal statement outlining the student's background, achievements, and future goals is required.
6. A student may include a recent copy of her resume as part of the application packet; however, this is not required.

### **Graduate School Requirements**

Additional requirements are specified by the Graduate School (application fee, general application forms, all transcripts, etc.). Please see the University of Georgia Bulletin for further information. Detailed admissions information may be found at Graduate School Admissions. Printed information may be obtained by contacting the

University of Georgia Graduate School  
Terrell Hall  
210 S. Jackson St.  
Athens, GA 30602

phone: 706-542-1739  
fax: 706-425-3094  
e-mail: gradadm@uga.edu

Applications are processed on a year round basis. Students can be admitted for either semester (Fall or Spring). Please visit the Graduate School for application submission deadlines.

### **Summary of Basic Degree Requirements**

#### **Primary Focus**

The primary focus consists of at least 30 semester hours of resident graduate course work. This includes:

1. at least 12 hours of core CSCI graduate level course work (see "Core Curriculum" below),
2. at least 8 hours of advanced CSCI graduate student only course work (see "Advanced Course Work" below),

the above (items 1 & 2) should include at least 12 semester hours of course work open only to graduate students (exclusive of CSCI 6950, CSCI 7000, CSCI 7005, CSCI 7007, CSCI 7010, CSCI 7100, CSCI7200, CSCI 7300, CSCI 7310, CSCI8990).

3. at least 1 hour of CSCI 8990 Research Seminar  
(see “Research Seminar” below),
4. at least 6 hours of CSCI 7000 Master’s Research  
(see Master’s Research below),
5. at least 3 hours of CSCI 7300 Master's Thesis  
(see Master's Thesis below),

Typically, full-time students will take 9 to 15 hours per semester. See the CSCI section of the University of Georgia Bulletin for course descriptions. A program of study should be a coherent and logical whole; it requires the approval of the student's major professor, the student's advisory committee, and the departmental graduate coordinator. Note: no course with a grade of C+ or lower may be included on the student’s program of study (see the Graduate Bulletin for other GPA constraints).

### **Core Curriculum (Primary Focus Item #1)**

At least one course from each of the following three groups must be taken:

#### Group 1: Theory

CSCI 6470 Algorithms  
CSCI 6480 Approximation Algorithms  
CSCI 6610 Automata and Formal Languages

#### Group 2: Software Design

CSCI 6050 Software Engineering  
CSCI 6370 Database Management  
CSCI 6570 Compilers

#### Group 3: System Design

CSCI 6720 Computer Architecture and Organization  
CSCI 6730 Operating Systems  
CSCI 6760 Computer Networks: Technology and Application  
CSCI 6780 Distributed Computing Systems

The core curriculum consists of a total of 12 semester hours. Core competency is certified by the student's advisory committee with the approval of the Graduate Coordinator. The student’s advisory committee manages the core competency in cooperation with the student. Students are expected to meet the core competency requirement within their first three enrolled academic semesters (excluding summer semester). Note: a course used to fulfill part of the core requirement (Item #1) may not be used to also fulfill part of the advanced coursework requirement (Item #2).

### **Advanced Course Work (Primary Focus Item #2)**

Students must take at least 8 hours of CSCI graduate student only coursework. This includes at least 4 hours at the 8000-level (i.e., at least one 8000-level course).

Note: a student may satisfy this 8 hour requirement using only 8000-level courses, or with 4 hours of 8000-level course work and 4 hours of 6000-level course work. In the case that a student uses a 6000-level course for advanced course work, that course must be a graduate student only course. In no case shall a 6000-level course used to fulfill part of the advanced course work requirement count toward the advanced course work requirement AND the core curriculum requirement. In addition, neither CSCI 8990 nor CSCI 6950 may be used to fulfill this requirement.

### **Research Seminar (Primary Focus Item #3)**

All students must take 1 hour of CSCI 8990 Research Seminar, in which they must attend weekly meetings of a research seminar and give presentations.

### **Master's Research (Primary Focus Item #4)**

The Master's research involves the student's investigations under the supervision of his/her major professor and requires the approval of the major professor and the advisory committee. The Master's research often includes original research into some area of Computer Science. It must demonstrate mastery of a particular area of Computer Science. The candidate's advisory committee assures that the quality of the research meets the standards of the Department and the Graduate School. The candidate must register for CSCI 7000 Master's Research for at least 6 hours of credit while working on the project.

### **Master's Thesis (Primary Focus Item #5)**

The thesis is a report of the student's investigations under the supervision of his/her major professor and requires the approval of the major professor and the advisory committee. The thesis must demonstrate competent style and organization, and communicate technical knowledge. The thesis often includes original research into some area of Computer Science. It must demonstrate mastery of a particular area of Computer Science. The candidate's advisory committee assures that the quality of the thesis meets the standards of the Department and the Graduate School. The candidate must register for CSCI 7300 Master's Thesis for at least 3 hours of credit while working on the thesis.

### **Advisory Committee**

The advisory committee will consist of one major professor and two additional members. At least two of the three members must be from the Computer Science Department.

### **Non-Departmental Requirements**

Non-departmental requirements are set forth by the Graduate School (see the Graduate Bulletin). They concern residence, time limits, programs of study, acceptance of transfer credits, minimum GPAs, thesis, and final examination.

### **Graduation Requirements**

A student admitted to the M.S. degree program will be advised by the graduate coordinator until a major professor is chosen. Before the end of the second semester in residence, a student must submit to the Graduate School, through the graduate coordinator, the following forms: (i) a Program of Study Form and (ii) an Advisory Committee Form. The Program of Study Form indicates how and when degree requirements will be met and must be formulated in consultation with the student's major professor. An Application for Graduation Form must also be submitted directly to the Graduate School.

### **Thesis Defense**

After all course work has been completed and the thesis has been approved by the student's major professor, the thesis is transmitted to the advisory committee at least two weeks before the thesis defense date. The thesis defense is an oral examination conducted by the student's advisory committee, and constitutes the second part of the master's final examination. All members of the advisory committee must be present at the defense. The advisory committee members including the major professor must vote on whether the student passed the defense and record their votes on the Approval Form for Master's Thesis, Defense, and Final Examination. To pass the exam, at least two of the three votes must be passing.