

 FLORIDA ATLANTIC UNIVERSITY	NEW/CHANGE PROGRAM REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ Banner _____ Catalog _____
	Department Electrical Engineering and Computer Science College Engineering and Computer Science		
Program Name MS Computer Science		<input type="checkbox"/> New Program* <input checked="" type="checkbox"/> Change Program*	Effective Date (TERM & YEAR) Summer 2022
Please explain the requested change(s) and offer rationale below or on an attachment. This proposal contains the following revisions: the prerequisites are written as a text rather than a table, and the 3 groups in Option B are replaced by the corresponding course prefix requirements.			
<small>*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.</small>			
Faculty Contact/Email/Phone Hanqi Zhuang, zhuang@fau.edu 561-297-3413		Consult and list departments that may be affected by the change(s) and attach documentation	
Approved by Department Chair _____ College Curriculum Chair _____ College Dean _____ UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____			Date 1/26/2022 01-26-2022 1/26/22 _____ _____ _____ _____ _____

Master of Science with Major in Computer Science

The non-thesis option for this degree requires a minimum of 30 credits. The thesis option requires a minimum of 30 credits, including 6 credits of thesis. ~~All master's degree students must take at least one course from each of the three groups listed in Option B.~~

~~With approval of the advisor, substitution can sometimes be made among similar courses. See the Department of Electrical and Computer Science website for updates.~~

Admission Requirements

Applicants for admission to the master's program are approved by the University upon the recommendation of the department. All applicants must submit with their applications the official transcripts from previous institutions attended and have official GRE scores forwarded to the University. Applications for admission are evaluated on an individual basis. As a minimum, applicants are expected to meet the following requirements. ~~Students with non-engineering bachelor's degrees, click [here](#) for additional requirements.~~

1. ~~A baccalaureate degree in Computer Science or a related field (Students without a computer science background will be expected to take additional courses); Students are expected to have a bachelor's degree in computer science or a related field. Applicants with a different background are encouraged to apply. Students are expected to have taken calculus 2 and a statistics course, to be proficient in programming, and to be knowledgeable in the topics of data structures, algorithm design and analysis, operating systems, and computer architecture. The admission committee will evaluate the application holistically to determine applicant suitability using several factors such as academic performance, GPA, GRE scores, background and experience. The admission committee may assign remedial courses on a case-by-case basis. In some cases, prerequisite courses may be taken after admission to the graduate program;~~

2. At least a 3.0 (of a 4.0 minimum) GPA in the last 60 credits attempted prior to graduation;

3. Submission of the Graduate Record Examination (GRE) is required. GRE scores more than five years old are normally not acceptable. The GRE requirement is waived for any student who has a baccalaureate degree from FAU's Department of Electrical Engineering and Computer Science with a GPA of at least 3.25 (out of a possible 4.0) in the last 60 credits attempted prior to graduation; and

4. International students from non-English-speaking countries must be proficient in written and spoken English as evidenced by a score of at least 500 (paper-based test) or 213 (computer-based test) or 79 (Internet-based test) on the Test of English as a Foreign Language (TOEFL) or a score of at least 6.0 on the International English Language Testing System (IELTS).

~~Applicants are expected to have taken the following prerequisite courses (or equivalents) before pursuing a master's degree. In some cases, prerequisite courses may be taken after admission to the graduate program. Equivalent FAU courses follow.~~

Computer Architecture	CDA 4102 or
Introduction to Microprocessor Systems	CDA 3331C or
CAD-Based Computer Design	CDA 4204
Data Structures and Algorithm Analysis	COP 3530
Computer Operating Systems	COP 4610
Design and Analysis of Algorithms	COT 4400
Calculus with Analytic Geometry 1	MAC 2311
Calculus with Analytic Geometry 2	MAC 2312
Stochastic Models for Computer Science	STA 4821 or
Stochastic Processes and Random Signals	EEE 4541

Submission of Plan of Study

Students are required to submit a Plan of Study when they have completed between 9 and 15 credits of coursework

with a minimum cumulative GPA of 3.0. All courses must be approved by the student's advisor. A student may not register for thesis credits prior to submitting a Plan of Study.



Degree Requirements

Students must satisfy all of the University graduate requirements. In addition, the following specific degree requirements apply, depending on the choice of degree programs.

Master of Science with Major in Computer Science, Thesis Option (30 credits)

1. Requires 6 credits of orally defended written thesis. The M.S. committee is chaired by the student's thesis advisor. The chair of the committee must be a graduate faculty member from the Department of Electrical Engineering and Computer Science.

2. Requires 24 credits of approved coursework with the following constraints:

a. ~~A minimum of 3 credits must be selected from each of the three groups listed in Option B. A minimum of 3 credits from Theory and Algorithms (graduate course prefix COT), a minimum of 3 credits from Software and Programming (graduate course prefix COP or CEN), and a minimum 3 credits from Systems and Applications (graduate course prefix CAP, CIS, CNT, or CDA). Special topics courses (COT 5930, COT 6930, CEN 5931, CEN 6930) and directed independent study courses (COT 6900, COT 6905) may be counted only with prior approval of the advisor.~~

b. A minimum of 12 credits in Computer Science and Engineering courses.

c. No more than 3 credits of directed independent study may be taken.

d. No course can be counted toward the degree that is more than 10 years old at the time the degree is awarded.

e. No 4000-level course is allowed toward the degree. Courses taken to make up for the deficiencies will not be counted toward the degree.

3. At least one-half of the credits must be at the 6000 level or above.

4. Must have a GPA of 3.0 (out of 4.0) or better.

5. All courses in the degree program must be completed with a grade of "C" or better.

6. Must complete one semester of CGS 5937, Graduate Seminar (0 credits) with grade of Satisfactory ("S").

Master of Science with Major in Computer Science, Non-Thesis Option (30 credits)

1. Requires 30 credits of approved coursework with the following constraints:

a. ~~A minimum of 3 credits must be selected from each of the three groups listed in Option B. A minimum of 3 credits from Theory and Algorithms (graduate course prefix COT), a minimum of 3 credits from Software and Programming (graduate course prefix COP or CEN), and a minimum 3 credits from Systems and Applications (graduate course prefix CAP, CIS, CNT, or CDA). Special topics courses (COT 5930, COT 6930, CEN 5931, CEN 6930) and directed independent study courses (COT 6900, COT 6905) may be counted only with prior approval of the advisor.~~

b. A minimum of 18 credits in Computer Science and Engineering courses.

c. No more than 3 credits of directed independent study may be taken.

d. No course can be counted toward the degree that is more than 10 years old at the time the degree is awarded.

e. No 4000-level course is allowed toward the degree. Courses taken to make up for the deficiencies will not be counted toward the degree.

2. At least one-half of the credits must be at the 6000 level or above.
3. Must have a GPA of 3.0 (out of 4.0) or better.
4. All courses in the degree program must be completed with a grade of "C" or better.
5. Must complete one semester of CGS 5937, Graduate Seminar (0 credits) with grade of Satisfactory ("S").

Transfer Credits

Any transfer credits toward the requirements for a master's degree in Computer Science must be approved by the department, the College and the University. The transfer credits must correspond to equivalent requirements and performance levels expected for the degree. Normally no more than 6 credits of coursework (that have not been applied to a degree) can be transferred from another institution.

Option-B

Group 1: Theory	
Analysis of Algorithms	COT 6405
Queueing Theory	MAP 6264
Theory and Philosophy of Computation	COT 6200
Randomized Algorithms	COT 6446

Group 2: Software Development	
Multimedia Programming	CAP 6018
Software Engineering	CEN 5035
Software Maintenance and Evolution	CEN 6027
Software Requirements Engineering	CEN 6075
Software Testing	CEN 6076
Software Architecture and Patterns	CEN 6085
Object-Oriented Software Design	COP 5339

Group 3: Computer Systems	
Computer Performance Modeling	CEN 6405
Computer Data Security	CIS 6370
Theory and Implementation of Database Systems	COP 6734
Mobile Computing	CNT 6517
Data Mining and Machine Learning	CAP 6673
Multimedia Systems	CAP 6010
Evaluation of Parallel and Distributed Systems	CDA 6122
Introduction to Neural Networks	CAP 5615
Wireless Networks	EEL 6591
Advanced Data Mining and Machine Learning	CAP 6778
Video Communication	CNT 6885
Foundations of Vision	CAP 6411

Advanced Computer Networking	CNT 6516
Vehicular Networks	CNT 6528

Appropriate course substitutions can be made with approval of the student's graduate program advisor.