NEW/CHANGE PROGRAM REQUEST
Graduate Programs

FLORIDA ATLANTIC UNIVERSITY

Department Electrical Engineering and Computer Science

College Engineering and Computer Science

UGPC Approval _____
UFS Approval _____
Banner _____
Catalog _____

Program Name		Effective Date
MS Computer Science	☐ **New Program*** ✔ **Change Program***	*(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.

*All new programs and changes to existing programs must be accompanied by a catalog entry showing the new or proposed changes.

Faculty Contact/Email/Phone

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Consult and list departments that may be affected by the change(s) and attach documentation

Approved by		Date
Department Chair		1/26/2022
College Curriculum Chair		01-26-2022
College Dean		1/26/22
UGPC Chair		Mar 3, 2022
UGC Chair		Mar 3, 2022
Graduate College Dean		Mar 3, 2022
UFS President		
Provost		

Email this form and attachments to UGPC@fau.edu 10 days before the UGPC meeting.

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 6731~~
~~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.