FAU
FLORIDA ATLANTIC UNIVERSITY

NEW/CHANGE PROGRAM REQUEST
Graduate Programs

Department Computer & Electrical Engineering and Computer Sci.

College Engineering and Computer Science

Program Name			
Master of Science with Major in Artificial Intelligence	☐ New Program ✔ Change Program	**Effective Date** *(TERM & YEAR)* Fall 2020	

Please explain the requested change(s) and offer rationale below or on an attachment

We will be allowing students to take relevant graduate courses from their disciplines to satisfy elective requirement. The following catalog change is proposed

The current text in catalog is as:

Students may substitute 3 elective courses with any course in the College of Engineering and Computer Science with prior approval from the advisor.

The proposed text is as:

Students may substitute 3 elective courses with any relevant graduate courses with prior approval from the advisor.

Faculty Contact/Email/Phone	Consult and list departments that may be affected by the change(s) and attach documentation
Waseem Asghar/wasghar@fau.edu/561.297.3728	NA

Approved by		Date
Department Chair	Hanqi Zhuang *Digitally signed by Hanqi Zhuang*	10/20/19
College Curriculum Chair		11/12/2019
College Dean		11/12/2019
UGPC Chair		12/11/19
UGC Chair		12/11/19
Graduate College Dean		12-11-19
UFS President		
Provost		

Email this form and attachments to UGPC@fau.edu one week before the UGPC meeting so that materials may be viewed on the UGPC website prior to the meeting.

GRADUATE COLLEGE

NOV 1 3 2019

Master of Science with Major in Artificial Intelligence

The Master of Science (M.S.) with Major in Artificial Intelligence provides a comprehensive curriculum, consisting of foundation and theory of artificial intelligence and elements of computer vision, data analytics and algorithms, knowledge management and reasoning, machine learning and applications. Both thesis and non-thesis options of the M.S. in Artificial Intelligence require a minimum of 30 credits. The thesis option consists of a minimum of 24 coursework credits and 6 thesis credits.

With approval of the advisor, substitution can sometimes be made among similar courses. See the Department of Computer & 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 Graduate College. Applications for admission are evaluated on an individual basis. At 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);

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

3. Submission of the Graduate Record Examination (GRE) scores. GRE scores more than five years old are not acceptable. The GRE requirement is waived for any student who has a baccalaureate degree from FAU's Department of Computer & 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.

Data Structures and Algorithm Analysis	COP 3530
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

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
The M.S. in Artificial Intelligence program offers both thesis and non-thesis options. Both options require a minimum of 30 credits, as specified in the table.

Students must satisfy all of the University graduate requirements. In addition, the following requirements must be met. The coursework credits must satisfy the following constraints:

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

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

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

4. The student 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.

Transfer Credits

Any transfer credits toward the requirements for an M.S. in Artificial Intelligence 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.

Core Courses (9 credits) *Students in both thesis and non-thesis options complete the Core Courses*		
Computational Foundations of Artificial Intelligence	CAP 5625	
Artificial Intelligence	CAP 6635	
Data Mining and Machine Learning	CAP 6673	
Thesis Option (30 credits)		
Master's Thesis - Computer Science *(may be taken over multiple terms)*	COT 6970	6
In addition to the Core Courses and the Thesis credits, students complete five elective courses (15 credits) with the following constraints: Minimum of 3 credits of 6000-level courses and maximum of 3 credits of Directed Independent Study, COT 6900 or COT 6905		
Non-Thesis Option (30 credits)		
In addition to the Core Courses, students complete seven elective courses (21 credits) with the following constraints: Minimum of 9 credits of 6000-level courses and maximum of 3 credits of Directed Independent Study, COT 6900 or COT 6905		
Electives (maximum of 15 credits in Thesis option and 21 credits in Non-Thesis option)		
Computer Vision		
Foundations of Vision	CAP 6411	
Computer Vision	CAP 6415	
Machine Learning for Computer Vision	CAP 6618	
Visual Information Retrieval	COP 6728	
Data Analytics and Algorithms		
Introduction to Data Science	CAP 5768	
Social Networks and Big Data Analytics	CAP 6315	
Data Mining for Bioinformatics	CAP 6546	
Big Data Analytics and Hadoop	CAP 6780	
Analysis of Algorithms	COT 6405	
Knowledge Management and Reasoning		
Natural Language Processing	CAP 6640	
Information Retrieval	CAP 6776	
Web Mining	CAP 6777	

Semantic Web Programming	COP 5859
Machine Learning	
Introduction to Neural Networks	CAP 5615
Evolutionary Computing	CAP 6512
Sparse Learning	CAP 6617
Deep Learning	CAP 6619
Advanced Data Mining and Machine Learning	CAP 6778
Applications	
Artificial Intelligence in Medicine and Healthcare	CAP 6683
Computational Advertising and Real-Time Data Analytics	CAP 6807
Robotic Applications	EEL 5661
Additional Elective Allowance *Students may substitute 3 elective courses with any relevant graduate courses* ~~course in the College of Engineering and Computer Science~~ *with prior approval from the advisor.*	