

 FLORIDA ATLANTIC UNIVERSITY	NEW/CHANGE PROGRAM REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ Banner Posted _____ Catalog _____
	Department College		
Program Name	New Program Change Program	Effective Date (TERM & YEAR)	
Please explain the requested change(s) and offer rationale below or on an attachment			
Faculty Contact/Email/Phone		Consult and list departments that may be affected by the change(s) and attach documentation	
Approved by			Date
Department Chair <u>Hani Kalva</u>			<u>1/15/2025</u>
College Curriculum Chair <u>Francisco Presuel-Moreno</u>			<u>1/21/2025</u>
College Dean <u>Raquel Assis</u>			<u>1/21/2025</u>
UGPC Chair _____			_____
UGC Chair _____			_____
Graduate College Dean _____			_____
UFS President _____			_____
Provost _____			_____

ARTIFICIAL INTELLIGENCE MASTER OF SCIENCE (M.S.)

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 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. Applications for admission are evaluated on an individual basis. At a minimum, applicants are expected to meet the following requirements.

1. Have obtained a bachelor's degree from an accredited institution. Students are expected to have taken Calculus 1 or Methods of Calculus and a statistics course, to be proficient in programming, and to be knowledgeable in data structures and algorithm analysis. Students can gain this knowledge through undergraduate classes or learn it through work experience. The admissions committee will evaluate the application holistically to determine applicant suitability using several factors, such as academic performance, GPA, 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 maximum) GPA in the last 60 credits attempted prior to graduation; and
3. 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).

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~~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 (~~6-15~~ credits)

Students in both thesis and non-thesis options complete ~~the five c~~Core cCourses. ~~Select two courses from the following three courses.~~

Computational Foundations of Artificial Intelligence	CAP 5625	<u>3</u>
--	----------	----------

Artificial Intelligence	CAP 6635	<u>3</u>
-------------------------	----------	----------

Data Mining and Machine Learning	CAP 6673	
---	---------------------	--

<u>Deep Learning</u>	<u>CAP 6619</u>	<u>3</u>
----------------------	-----------------	----------

<u>Reinforcement Learning</u>	<u>CAP 6649</u>	<u>3</u>
-------------------------------	-----------------	----------

One of the following courses:

<u>Computer Vision</u>	<u>CAP 6415</u>	<u>3</u> <u>or</u>
------------------------	-----------------	--------------------

<u>Machine Learning for Computer Vision</u>	<u>CAP 6618</u>	<u>3</u> <u>or</u>
---	-----------------	--------------------

<u>Natural Language Processing</u>	<u>CAP 6640</u>	<u>3</u>
------------------------------------	-----------------	----------

Thesis Option (30 credits)

Master's Thesis —Artificial Intelligence (may be taken over multiple terms)	CAP 6974	6
--	----------	---

In addition to the cCore cCourses and the tThesis credits, students complete ~~six~~three Electrical Engineering and Computer Science elective courses (~~189~~ credits) with the following constraints: ~~Two AI~~ electives. Mminimum 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 cCore cCourses, students complete eightfive Electrical Engineering and Computer Science elective courses (1524 credits) with the following constraints: Four AI electives. Minimum of 69 credits of 6000-level courses and maximum of 3 credits of Directed Independent Study, COT 6900 or COT 6905.

AI Electives

Select 12 credits for Non-Thesis option and 6 credits for 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

~~Computational Foundations of Artificial Intelligence~~ CAP-5625

~~Introduction to Data Science~~ CAP-5768

~~Social Networks and Big-Data Analytics~~ CAP-6315

~~Data Mining for Bioinformatics~~ CAP-6546

~~Artificial Intelligence~~ CAP-6635

~~Computer Performance Modeling~~ CEN-6405

~~Analysis of Algorithms~~ COT-6405

~~Randomized Algorithms~~ COT-6446 -

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

~~Reinforcement Learning~~ CAP-6629

~~Data Mining and Machine Learning~~ CAP-6673

~~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

EECS Electives: ~~Select four courses from the graduate courses offered by the EECS department. Course substitution is allowed with the prior approval of the advisor.~~

-