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|  FLORIDA ATLANTIC UNIVERSITY | NEW/CHANGE PROGRAM REQUEST Graduate Programs | | UGPC Approval _____ UFS Approval _____ Banner _____ Catalog _____ |
| | Department Comp. and Electrical Eng. and Computer Science College Engineering and Computer Science | | |
| Program Name Master of Science with Major in Artificial Intelligence | <input type="checkbox"/> New Program* <input checked="" type="checkbox"/> Change Program* | Effective Date <i>(TERM & YEAR)</i> Spring 2021 | |
| Please explain the requested change(s) and offer rationale below or on an attachment. Add the new course CAP 6547 Reinforcement Learning to the MS in Artificial Intelligence curriculum. | | | |
| <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 NA | |
| Approved by Department Chair <u>Hanqi Zhuang</u> <small>Digitally signed by Hanqi Zhuang DN: cn=Hanqi Zhuang, o=FAU, ou=CEECs, email=zhuang@fau.edu, c=US Date: 2020.05.13 17:11:11 -0400</small> College Curriculum Chair <u>Ramesh Teegavarapu</u> <small>Digitally signed by Ramesh Teegavarapu DN: cn=Ramesh Teegavarapu, o=Florida Atlantic University, ou=Civil, Environmental and Geomatics Engineering, email=rteegava@fau.edu, c=US Date: 2020.05.14 09:02:28 -0400</small> College Dean <u>Mihaela Cardei</u> <small>Digitally signed by Mihaela Cardei DN: cn=Mihaela Cardei, o=Florida Atlantic University, ou, email=mcardei@fau.edu, c=US Date: 2020.05.24 17:08:22 -0400</small> UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____ | | Date <u>5/13/2020</u> <u>5/14/2020</u> <u>5/24/2020</u> _____ _____ _____ _____ | |

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

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.

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| Core Courses (9 credits) <i>Students in both thesis and non-thesis options complete the Core Courses</i> | | |
| 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 <i>(may be taken over multiple terms)</i> | COT 6970 | 6 |
| <i>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</i> | | |
| Non-Thesis Option (30 credits) | | |
| <i>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</i> | | |
| 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 | |
| Computer Performance Modeling | CEN 6405 | |
| 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 | |

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| <u>Reinforcement Learning</u> | <u>CAP 6547</u> |
| 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 <i>Students may substitute three elective courses with any relevant graduate courses with prior approval from the advisor.</i> | |