

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Undergraduate Programs	UUPC Approval <u>10-11-21</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Electrical Engineering and Comp Science College Engineering and Computer Science	
Current Course Prefix and Number CAP 4630	Current Course Title Introduction to Artificial Intelligence	
<i>Syllabus must be attached for ANY changes to current course details. See Checklist. Please consult and list departments that may be affected by the changes; attach documentation.</i>		
Change title to: Change prefix From: _____ To: _____ Change course number From: _____ To: _____ Change credits* From: _____ To: _____ Change grading From: _____ To: _____ Change WAC/Gordon Rule status** Add <input type="checkbox"/> Remove <input type="checkbox"/> Change General Education Requirements*** Add <input type="checkbox"/> Remove <input type="checkbox"/> <small>*Review Provost Memorandum</small> <small>**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.</small> <small>***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.</small>	Change description to: See attached syllabus for new course description. Change prerequisites/minimum grades to: Change corequisites to: Change registration controls to: Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade (default is D-).	
Effective Term/Year for Changes: Spring 2022	Terminate course? Effective Term/Year for Termination:	
Faculty Contact/Email/Phone Hanqi Zhuang, zhuang@fau.edu, 561-297-3413		
Approved by Department Chair _____ College Curriculum Chair <u>Dan Meeroff</u> College Dean <u>Fred Bloetscher</u> UUPC Chair <u>Dan Meeroff</u> Undergraduate Studies Dean <u>Edward Pratt</u> UFS President _____ Provost _____	Date _____ <u>9/23/2021</u> _____ <u>10-4-21</u> _____ <u>10-4-21</u> _____ <u>10-11-21</u> _____ <u>10-11-21</u> _____ _____ _____	

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

Department of Electrical Engineering and Computer Science
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 Course Syllabus

1. Course title/number, number of credit hours	
Introduction to Artificial Intelligence - CAP 4630	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisite: COP 3530 or COP 3410	
3. Course logistics	
Term: TBD Class location and time:	
4. Instructor contact information	
Instructor's name Office address Office Hours Contact telephone number Email address	TBD
5. TA contact information	
TA's name Office address Office Hours Contact telephone number Email address	TBD
6. Course description	
A broad introduction to the core concepts of artificial intelligence, including intelligent agents, problem solving by search, knowledge representation and reasoning, and learning from examples. Programming in Python and possibly other software environments.	
7. Course objectives/student learning outcomes/program outcomes	
Course objectives	Learning Objectives <ul style="list-style-type: none"> o Identify the key concepts associated with artificial intelligence (AI) solutions. o Understand fundamental concepts of Artificial Intelligence, including the use of Heuristics with A* search, min-max search with alpha beta pruning, knowledge representation, and connectionist and emergent machine learning approaches. o Improve the ability to solve problems in Computer Science especially when problems are difficult to solve or may not have known solutions. o Improve the philosophical understanding of both computational and human intelligence. o Improve the ability to work independently on creative and novel projects.

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<i>Student learning outcomes & relationship to ABET 1-7 outcomes</i>	<p>ABET Outcomes:</p> <p>1. An Ability to identify, formulate, and solve complex computing/engineering problems by applying principles of computing, engineering, science, and mathematics. (Problem solving)</p> <p>6. An ability to apply engineering/computer science theory and hardware/software development fundamentals to develop and conduct appropriate experimentation, analyze and interpret data, and use computing/engineering judgment to produce engineering/computing-based solutions/conclusions. (Experimentation and/or simulation)</p>						
8. Course evaluation method							
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Homework Assignments</td> <td style="width: 30%; text-align: center;">80%</td> <td rowspan="2" style="width: 40%; vertical-align: top;"> <ul style="list-style-type: none"> o Homework assignments will consist of hands-on assignments using Python and selected tools and libraries. o Tests will consist of true-or-false and multiple-choice questions administered online using Canvas. </td> </tr> <tr> <td>Tests</td> <td style="text-align: center;">20%</td> </tr> </table>	Homework Assignments	80%	<ul style="list-style-type: none"> o Homework assignments will consist of hands-on assignments using Python and selected tools and libraries. o Tests will consist of true-or-false and multiple-choice questions administered online using Canvas. 	Tests	20%		
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Tests	20%						
9. Course grading scale							
<p>Grading Scale: 90 and above: "A", 88-89: "A-", 86-87: "B+", 80-85: "B", 78-79 : "B-", 76-77: "C+", 70-75: "C", 68-69: "C-", 66-67: "D+", 60-65: "D", 58-59: "D-", 58 and below: "F."</p>							
10. Policy on makeup tests, late work, and incompletes							
<p>Late Assignments Policy –</p> <p>Make-up Policy for Tests: Makeup tests are given only if there is solid evidence of a medical or otherwise serious emergency that prevented the student from participating in the exam.</p> <p>Incomplete Grade Policy Incomplete grades are against the policy of the department. Unless there is solid evidence of a medical or otherwise serious emergency situation and the student is currently passing the class, incomplete grades will not be given.</p>							
11. Special course requirements							
TBD							
12. Classroom etiquette policy							
To enhance and maintain a productive atmosphere for learning, personal communication devices such as cell phones are to be disabled during class sessions.							

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13. Attendance policy statement

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. After two full weeks of face to face instruction with consecutive 'no show' of any students in person in the classroom, the modality of this course section may be changed to remote instruction only at the discretion of the university.

Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations, or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final grade as a direct result of such absence.

14. Disability policy statement

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

15. Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>

16. Code of Academic Integrity policy statement

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#). If your college has particular policies relating to cheating and plagiarism, state so here or provide a link to the full policy—but be sure the college policy does not conflict with the University Regulation.

17. Required texts/reading

Textbook: S. Russell and P. Norvig. "Artificial Intelligence: A Modern Approach". 4th edition, Pearson, 2020, ISBN-10: 0134610997

18. Supplementary/recommended readings

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TBD

19. Course topical outline, including dates for exams/quizzes, papers, completion of reading

- Intelligent Agents
 - Agent and environment
 - Intelligent agent
 - Agent task environment
 - Rational agent
 - Agent structure and types
- Problem Solving /Search
 - State graph
 - State Space Search
 - Blind Search
 - Heuristic Search
 - Constraint Satisfaction
 - Gaming Playing
- Knowledge and Reasoning
 - Logic, Models, and entailment
 - Propositional Logic
 - Knowledge Representation
 - Knowledge Reasoning
- Learning from examples
 - Decision Trees Learning
 - Neural Networks
- Reinforcement Learning