Fau

FLORIDA ATLANTIC UNIVERSITY

NEW COURSE PROPOSAL Undergraduate Programs

Department Electrical Engineering and Computer Science

College Engineering and Computer Science (*To obtain a course number, contact erudolph@fau.edu*)

UUPC Approval <u>10-6-202</u> 5
UFS Approval
SCNS Submittal
Confirmed
Banner Posted
Catalog

,	·				
Prefix CAI	(L = Lab Course; C = Combined Lecture/Lab; add if appropriate)	Type of Course	CourseTitle		
Number		Research	Al Capstone	e Projects	
4741	Lab				
4/41	Code				
Credits (See	Grading	Course Descript	t ion (Syllabus mi	ust be attached; see <u>Template</u> and <u>Guidelines</u>)	
<u>Definition of a Credit Hour</u>)	(Select One Option)			ms to design, implement, and present an nusing artificial intelligence (AI). Working in	
3	Regular 💽	teams and mentored	by faculty or indu	stry partners, students integrate skills in ain knowledge to develop a functional Al	
Effective Date		system or research pr	ototype. Delivera	bles include a written report, a reproducible	
(TERM & YEAR)	Sat/UnSat 🔾	code repository, and p	oresentations.		
Fall 2026					
Prerequisites, witl	h minimum grade*	Corequisites		Registration Controls (Major,	
				College, Level)	
				Instructor approval required	
Senior standing					
4D C 1					
*Default minimum passing grade is D Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course					
WAC/Gordon Rule Course		Intellectual Foundations Program (General Education) Requirement			
Yes	√ No	(Select One Option)			
Yes V NO		None			
	eria must be indicated in				
syllabus and approval attached to proposal. See		General Education criteria must be indicated in the syllabus and approval			
WAC Guidelines.		attached to the proposal. See <u>Intellectual Foundations Guidelines</u> .			
Minimum qualifications to teach course					
To have a Ph.D. degree in CS/Engineering or relevant disciplines					
Faculty Contact/Ema	ail/Phone	List/Attach comments from departments affected by new course			
M. DeGiorgio / mdegiorg(@fau.edu / 561-297-0003				
Approved by	, ,			Date	
Department Chair _	Haikalva			9/24/2025	
	Ulas	lan Liu		9/25/25	
College Curriculum Cl	hair	un Lui		7/15/14	
College Dean	1/2 5				
UUPC Chair ———	Korey Jorge			10-6-2025	
College Dean UUPC Chair Undergraduate Studies Dean UES President				<u>10-6-2025</u>	
UFS President					
Provost					

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



TA name Office Office hours Telephone Email xxxxxx xxxxxxxx xxxxxxx MWF xx:xx - xx:xx 561-297-xxxx xxxxxx@fau.edu

Course Description

In this course, students will work in teams to design, implement, and present an applied solution to a real-world problem using artificial intelligence (AI). Working in teams and mentored by faculty or industry partners, students integrate skills in programming, data analysis, and domain knowledge to develop a functional AI system or research prototype. Deliverables include a written report, a reproducible code repository, and presentations.

Instructional Method

This class is designated as "In-Person w/Recorded Lecture" (section XXX) or "Videotaped Class" (section YYY). In-person class sessions will be automatically recorded and uploaded to Canvas within 24 hours. Student enrolled in section XXX may choose to attend in-person classes or view recordings, whereas students enrolled in section YYY are only able to view recordings.

Prerequisites/Corequisites

Senior standing

Course Objectives/Student Learning Outcomes

By the end of this course, students will:

- Develop real-world skills by integrating programming, data analysis, and domain knowledge
- Design a functional AI system or research prototype that is hosted on a reproducible code repository
- Gain experience working effectively in a team
- Improve written and oral communication skills through final report and presentation

Course Evaluation Method

Mid-semester project progress assessment	10%
Teamwork assessment	10%
Code repository of implemented solution	40%
Written report	15%
Final presentation	15%
Total	100%

Teams communicate and meet regularly with faculty or industry project partners, and progress and teamwork will be assessed after each meeting.

Course Grading Scale

Grade	Total (%)
A	[93 – 100]
A-	[90 - 92)
B+	[87 - 89)
В	[83 - 86)
B-	[80 - 82)
C+	[77 - 79)
С	[73 - 76)
C-	[70 - 72)
D+	[67 - 69)
D	[63 - 66)
D-	[60 - 62)
F	[0-59)

Policy on Makeup Tests, Late Work, and Incompletes (if applicable)

Late work will not be accepted. All assignments will be posted well in advance, and students may submit assignments early. Any assignment not turned in by the due date will result in a zero.

Make-up tests are given only if there is solid evidence of a medical or otherwise serious emergency situation that prevented the student from participating in the exam.

Incomplete grades are against the policy of the department, and they will only be assigned if there is solid evidence of medical or otherwise serious emergency situation.

Policy on the Recording of Lectures

Students enrolled in this course may record video or audio of class lectures for their own personal educational use. A class lecture is defined as a formal or methodical oral presentation as part of a university course intended to present information or teach students about a particular subject. Recording class activities other than class lectures, including but not limited to student presentations (whether individually or as part of a group), class discussion (except when incidental to and incorporated within a class lecture), labs, clinical presentations such as patient history, academic exercises involving student participation, test or examination administrations, field trips, and private conversations between students in the class or between a student and the lecturer, is prohibited. Recordings may not be used as a substitute for class participation or class attendance and may not be published or shared without the written consent of the faculty member. Failure to

adhere to these requirements may constitute a violation of the University's Student Code of Conduct and/or the Code of Academic Integrity.

Attendance Policy

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. 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 course grade as a direct result of such absence.

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/

Disability Policy

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/.

Code of Academic Integrity

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.

Artificial Intelligence Preamble

FAU recognizes the value of generative AI in facilitating learning. However, output generated by artificial intelligence (AI), such as written words, computations, code, artwork, images, music, etc., for example, is drawn from previously published materials and is not your own original work. FAU students are not permitted to use AI for any course work unless explicitly allowed to do so by the instructor of the class for a specific assignment. [Policy 12.16 Artificial Intelligence].

Class policies related to AI use are decided by the individual faculty. Some faculty may permit the use of AI in some assignments but not others, and some faculty may prohibit the use of AI in their course entirely. In the case that an instructor permits the use of AI for some assignments, the assignment instructions will indicate when and how the use of AI is permitted in that specific assignment. It is the student's responsibility to comply with the instructor's expectations for each assignment in each course. When AI is authorized, the student is also responsible and accountable for the content of the work. AI may generate inaccurate, false, or exaggerated information. Users should approach any generated content with skepticism and review any information generated by AI before using generated content as-is.

If you are unclear about whether or not the use of AI is permitted, ask your instructor before starting the assignment.

Failure to comply with the requirements related to the use of AI may constitute a violation of the Florida Atlantic Code of Academic Integrity, <u>Regulation 4.001</u>.

Proper Citation: If the use of AI is permitted for a specific assignment, then use of the AI tool must be properly documented and cited. For more information on how to properly cite the use of AI tools, visit https://fau.edu/ai/citation

AI Language Specific to the Course

AI Flexible Policy:

The use of AI to assist in work assigned in this specific course is permitted only for specific assignments as indicated by the instructor. Use must be properly documented and <u>cited</u> per instructor guidelines.

Required Texts/Readings

N/A

Course Topical Outline

- Project Scoping & Proposal
 - o Problem identification and stakeholder needs
 - O Data availability and ethics/IRB considerations
- Project Planning & Design
 - o Requirements and success metrics
 - o Architecture/design of AI solution
 - o Reproducibility and project management practices
- Development & Implementation
 - o Data preprocessing and pipeline development
 - o Model selection, training, and validation
 - o Integration with domain-specific knowledge
- Responsible AI & Risk Mitigation
 - o Bias, fairness, and transparency checks
 - o Documentation (model cards, data sheets)
 - Security and privacy considerations
- Testing & Evaluation

- o Performance metrics and error analysis
- o Usability testing for target audience
- Communication & Dissemination
 - o Technical report and documentation
 - Oral presentation/demo to faculty and industry panel
 - o Portfolio artifact submission (code, results, poster)