NEW COURSE PROPOSAL
Undergraduate Programs

FLORIDA ATLANTIC UNIVERSITY

Department

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

UUPC Approval _____
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

Prefix **Number**	(*L = Lab Course; C = Combined Lecture/Lab; add if appropriate*) **Lab Code**	**Type of Course**	**Course Title**

Credits (*See Definition of a Credit Hour*) **Effective Date** (*TERM & YEAR*)	**Grading** (*Select One Option*) **Regular** **Sat/UnSat**	**Course Description** (*Syllabus must be attached; see Template and Guidelines*)

Prerequisites, with minimum grade*	**Corequisites**	**Registration Controls** (*Major, College, Level*)

***Default minimum passing grade is D-.** Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course*

WAC/Gordon Rule Course **Yes** **No** WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines.	**Intellectual Foundations Program (General Education) Requirement** (*Select One Option*) General Education criteria must be indicated in the syllabus and approval attached to the proposal. See Intellectual Foundations Guidelines.

Minimum qualifications to teach course
Masters in Computer Science or a related field

Faculty Contact/Email/Phone	**List/Attach comments from departments affected by new course**

Approved by	*Date*
Department Chair _~~Hui Kalva~~_	2/12/2024
College Curriculum Chair Hongbo Su	2/13/2024
College Dean	2/14/24
UUPC Chair	
Undergraduate Studies Dean	
UFS President	
Provost	

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

CAI 4825
AI for Cybersecurity

DAY X – X
3 credits

Fall 2024
Prof. XXXXX YYYYY
Office: XXXXXX
Office hours: DAY X-X
Classroom: XXXX
Telephone: 561-297-XXXX
Email: zzzzz@fau.edu

TA name	xxxxxx xxxxxxxxx
Office	xxxxxxxx
Office hours	DAY xx:xx – xx:xx
Telephone	561-297-xxxx
Email	xxxxxx@fau.edu

Course Description
This course introduces artificial intelligence methods within the field of cybersecurity. Students will learn how supervised learning, unsupervised learning, and big data, are applied in practice to relevant various cybersecurity, including in characterizing cyber-attacks, malware and intrusion detection, and threat modeling. Importance of fairness, transparency, and explainability in cybersecurity machine learning models will be highlighted.

Instructional Method
In-Person. There is no remote option for this course.

Prerequisites
COP 3410 or COP 3530 With a minimum grade of C

Course Objectives/Student Learning Outcomes
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.

Course Evaluation Method
Include a breakdown of the graded course components and their weight in determining the overall course grade (e.g. Midterm exam--20%, Essay #1--15%, Attendance and Participation--10%, etc.). Students are entitled to know how they are progressing in a course based on the individual grades received. If you have a policy about how unexcused class absences will affect the final grade, clearly state your policy. Please note that the University Provost, in order to identify and assist

students at academic risk, requests that courses with freshmen have graded assignments well before midterm. If applicable, also note the minimum grade required to pass the course (if not a "D-").

Course Grading Scale

Grade	Total (%)
A	[93 – 100]
A-	[90 – 92)
B+	[87 – 89)
B	[83 – 86)
B-	[80 – 82)
C+	[77 – 79)
C	[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.

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.

Required Texts/Readings
N/A

Course Topical Outline
Supervised learning with application to spam filtering and phishing
Unsupervised learning with application in cybersecurity with anomaly detection
Measuring internet traffic behavior
Adversarial machine learning and threat models
Defense against adversaries
Intrusion detection
Fairness, transparency, and explainability in cybersecurity machine learning models