NEW COURSE PROPOSAL
Undergraduate Programs

UUPC Approval	3-24-25
UFS Approval	
SCNS Submittal	
Confirmed	
Banner Posted	
Catalog	

Department

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

| 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

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

Approved by		*Date*
Department Chair	*Hai Kdva*	3/12/2025
College Curriculum Chair	*Yalan Liu*	3/13/25
College Dean		
UUPC Chair	*Korey Sorge*	3-24-25
Undergraduate Studies Dean	*Dan Meeroff*	3-24-25
UFS President		
Provost		

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

CAI 4004
Introduction to AI for Non-majors

MWF 11:00 – 11:50
3 credits

Semester, Year
Prof. XXXXX YYYYY
Office: XXXXXX
Office hours: MWF 11-12
Classroom: XXXX
Telephone: 561-297-XXXX
Email: zzzzz@fau.edu

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

Course Description

This course provides an introduction to a broad spectrum of Artificial Intelligence (AI) topics for students with no prior experience in computer science or programming. We will explore the fundamental concepts, applications, and recent advances in AI, including generative AI, ethical considerations, and its societal impacts. Students will have a first experience with AI technology by working on a simple, practical AI application using a low-code environment. Students may not enroll in CAI 4004 if they have already taken CAI 5006.

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

N/A

Course Objectives/Student Learning Outcomes

By the end of this course, students will:
- Understand the core principles and techniques underlying AI
- Gain awareness of recent advancements, such as generative AI, and their implications.
- Understand the ethical, societal, and economic impacts of AI.
- Develop hands-on experience with low-code/no-code tools for creating AI models and applications.

Course Evaluation Method

The course will be applying the following popular low-/no-code tools:

- **Teachable Machine** (Google): For building simple machine learning models like image or sound classification.
- **Google Sheets with AI Add-ons:** Tools like AutoML Tables or AI plugins for quick exploration of structured datasets.
- **Microsoft Power Apps**: For creating apps with simple logic and AI features.
- **Hugging Face Transformers via Gradio**: A no-code interface for experimenting with text classification, summarization, and translation.

Each exercise will provide a quick tutorial on how students can access and apply these tools.

The course will be evaluated with the following breakdown.

- **Hands-On Projects (40%):** Graded based on effort, creativity, and alignment with the project goals.
- **Quizzes and Knowledge Checks (20%):** Description: Short quizzes at the end of key sections to assess theoretical understanding of core AI concepts.
- **Final Presentation/Demonstration (30%):** A showcase of the final AI project, including a description of their approach and learning outcomes.

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.

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 <u>University Regulation 4.001</u>.

Required Texts/Readings

Michael Negnevitsky, *Artificial Intelligence: A Guide to Intelligent Systems*, 2011, 3rd Ed., Addison Wesley, ISBN-13:978-1408225745

> * Book has freely available PDFs or excerpts will be provided

Course Topical Outline

Part 1: Introduction to AI
- What is AI? History and evolution
- Key terminology in AI
- AI vs. Human Intelligence
- Overview of AI applications in daily life
- Discussion on AI Myths and Realities

Part 2: Core Concepts in AI
- AI vs. Machine Learning (ML) vs. Deep Learning (DL)
- Key techniques: classification, regression, and clustering
- Hands-on: Creating a basic AI model using a no-code platform

Part 3: Data and AI
- Importance of data in AI
- Types of data: structured vs. unstructured
- Data preprocessing basics
- Data annotation and labeling: Why it's crucial and how it's done
- Understanding overfitting and underfitting in AI models
- Hands-on: Preparing and cleaning a dataset for AI model training

Part 4: Natural Language Processing (NLP)
- Fundamentals of NLP
- Text preprocessing: tokenization, stopword removal, and stemming
- Applications: chatbots, sentiment analysis, and translation
- Hands-on: Building a text classifier using low-code tools

Part 5: Computer Vision
- Basics of computer vision: image recognition and object detection
- Common algorithms: Convolutional Neural Networks (CNNs) explained visually
- Facial recognition technology: benefits and controversies
- Image segmentation: techniques and applications
- Real-time video analysis for surveillance and safety
- Applications in healthcare, retail, and autonomous systems
- Hands-on: Building an image classifier using no-code tools

Part 6: Generative AI
- Overview of Generative AI
- How does Generative AI work?
- Key industry applications of Generative AI
- Applications: content creation, summarization, classification, debating

- Hands-on: Using generative AI tools to talk to documents

Part 7: Trustworthy AI
- Ethical concerns: bias, fairness, and accountability
- Societal implications: job displacement, surveillance, and privacy
- Case studies and discussions
- Hands-on: Analyzing and mitigating bias in an AI model

Part 8: Explainable and Interpretable AI
- What is explainable AI (XAI) and why is it important?
- Techniques for interpreting AI models: SHAP, LIME, and saliency maps.
- Regulatory requirements for explainability in AI.
- Hands-on: Visualizing and interpreting a model's predictions.

Part 9: AI in the Real World
- Integrating AI models into user-friendly applications
- Applications across industries: healthcare, finance, education, and more
- Collaboration between AI and other technologies: IoT, blockchain, and robotics
- Challenges in scaling AI projects in the industry

Part 10: Capstone Project
- The capstone project serves as the culminating activity of the course, allowing students to integrate and apply the knowledge and skills acquired throughout the course.
- Students will work individually or in small groups to create a functional AI application using low-code/no-code tools. The project will demonstrate their understanding of AI concepts, ethical considerations, and practical implementation.