FLORIDA ATLANTIC UNIVERSITY

COURSE CHANGE REQUEST
Undergraduate Programs

Department Electrical Engineering and Comp Science

College Engineering and Computer Science

UUPC Approval 10-11-21
UFS Approval _____
SCNS Submittal _____
Confirmed _____
Banner Posted _____
Catalog _____

***Current* Course Prefix and Number**	CAP4770	***Current* Course Title**	Introduction to Data Mining and Machine Learning

*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.*

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 ☐ **Remove** ☐

Change General Education Requirements***

Add ☐ **Remove** ☐

*Review Provost Memorandum

**WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to this form. See WAC Guidelines.

***General Education criteria must be indicated in syllabus and approval attached to this form. See GE Guidelines.

Change description to:

This course teaches the principles of data mining and machine learning. Topics include classical machine learning algorithms, such as regression, classification, and clustering, feature selection methods, and applications of machine learning.

Change prerequisites/minimum grades to:

(COP 3530 or COP3410) and (EEE 4541 or STA 4821 or STA 2023 or equivalent) with a "C" or better.

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		***Date***
Department Chair	[signature]	9/23/2021
College Curriculum Chair	Dan Meeroff	10-4-21
College Dean	Fred Bloetscher	10-4-21
UUPC Chair	Dan Meeroff	10-11-21
Undergraduate Studies Dean	Edward Pratt	10-11-21
UFS President		
Provost		

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

Department of Electrical Engineering and Computer Science
Florida Atlantic University
Course Syllabus

1. Course title/number, number of credit hours	
Introduction to Data Mining and Machine Learning - CAP4770	3 credit hours
2. Course prerequisites, corequisites, and where the course fits in the program of study	
Prerequisites: (COP 3530 or COP3410) and (EEE 4541 or STA 4821 or STA 2023 or equivalent)	
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	
This course teaches the principles of data mining and machine learning. Topics include classical machine learning algorithms, such as regression, classification, and clustering, feature selection methods, and applications of machine learning.	
7. Course objectives/student learning outcomes/program outcomes	
Course objectives	To enable students to understand basic concepts of data mining and machine learning algorithms with an emphasis on real world applications.
8. Course evaluation method	
Homework assignments worth 50% total Video presentation 15%	Exam 35%
9. Course grading scale	
Grading Scale: 90 and above: "A", above 85 but below 90: "B+", 80-85: "B", above 75 but below 80: "C+", 70-75: "C", above 65 but below 70: "D+", 60-65: "D", above 55 but below 60: D-, 55 and below: "F."	
10. Policy on makeup tests, late work, and incompletes	
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. Makeup exam should be administered and proctored by department personnel unless there are other pre-approved arrangements	

Late work is not acceptable.

Incomplete grades are against the policy of the department. Unless there is solid evidence of a medical or otherwise serious emergency situation incomplete grades will not be given.

11. Special course requirements

TBD

12. Classroom etiquette policy

University policy requires that in order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular phones, are to be disabled in class sessions, and laptops are only to be used for note taking and related activities.

13. 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.

14. Disability policy statement

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodation 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 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: An Introduction to Statistical Learning: with applications in R,
by Gareth James etc., ISBN-10: 1461471370 - ISBN-13: 978-1461471370

18. Supplementary/recommended readings

TBD

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

- Introduction to machine learning
- Regression
  - Linear Regression
  - Logistic Regression
- Classification
  - Decision trees
  - Nearest neighbor classification
  - Neural networks
- Clustering
  - K-means clustering
- Feature Selection
- Sampling and Cross-validation