Course Change Request

Date Submitted: 02/18/26 9:54 am

Viewing: CDS 403 : Machine Learning Applications in Science

Transfer Course(s): CDS L403

Last approved: 05/02/20 4:37 am

Last edit: 02/18/26 9:54 am

Changes proposed by: jbazaz

Catalog Pages referencing this course

Computational and Data Sciences (CDS)

Computational and Data Sciences, BS

In Workflow

1. **CDS Chair**
2. SC Curriculum Committee
3. SC Assistant Dean
4. Assoc Provost-Undergraduate
5. Registrar-Courses
6. Banner

History

1. Dec 12, 2018 by Estela Blaisten-Barojas (blaisten)
2. May 2, 2020 by Tory Sarro (vsarro)

Select modification type:

Substantial

Are you completing this form on someone else's behalf?

Yes ~~No~~

Requestor:

Name	Extension	Email
Arie Croitoru	5428	acroitor@gmu.edu

Effective Term: Summer 2026

Subject Code: CDS - Computational and Data Sciences

Course Number: 403

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Machine Learning Applications in Science

Banner Title: Machine Learn Applications Sci

Will section titles vary by semester? No

Credits: 3

Schedule Type: Lecture

Hours of Lecture or Seminar per week: 3

Repeatable: May be only taken once for credit, limited to 3 attempts (N3)

Max Allowable Credits: 9

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):

Working knowledge of Python programming.

Recommended Corequisite(s):

Required Prerequisite(s) / Corequisite(s) (Updates only):

[remove CDS 230] ~~CDS 230 - Modeling and Simulation or sufficient computing skills~~

~~MATH 203 - Linear Algebra~~

~~CDS 303 - Scientific Data Mining~~

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(	CDS 230	C	UG		
Or		CDS 230	XS	UG	)	
And	(	MATH 203	C	UG		
Or		MATH 203	XS	UG	)	
And	(	CDS 303	C	UG		
Or		CDS 303	XS	UG	)	

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description:

Covers practical applications in STEM areas of decision trees, rule-based classification, support vector machines, Bayesian networks, ensemble methods, and Neural Networks. Emphasis resides on the process of applying machine learning effectively to a variety of problems.

Justification:

What: Removing CDS 230 as a prerequisite and making Python experience a recommended prereq.
Why: To accommodate students whose Python knowledge was gained in other courses.

Does this course cover material which crosses into another department? No

Learning Outcomes:

1) The class is meant to teach the practical side of machine learning for applications, such as mining science and engineering data or building adaptive user interfaces.
2) Class emphasis will be on learning the process of applying machine learning effectively to a variety of problems rather than emphasizing on the theoretical aspects.

Will this course be scheduled as a cross-level cross listed section?

Attach Syllabus

~~CDS403_AppliedMachineLearning.pdf~~

Additional Attachments

Specialized Course Categories:

Have you reached out to the Libraries to determine whether there are adequate resources to support your course? If not, please email Meg Meiman, Associate University Librarian for Learning, Research, and Engagement at mmeiman2@gmu.edu.

Additional Comments:

Reviewer Comments

Key: 15953