Course Change Request

Date Submitted: 12/11/25 2:15 pm

Viewing: MATH 464 : Linear Algebra with Data Applications

Last approved: 05/25/21 4:02 am

Last edit: 01/12/26 12:14 pm

Changes proposed by: csausvil

Catalog Pages referencing this course

Department of Mathematical Sciences

Mathematics (MATH)

Select modification type:

Substantial

In Workflow

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

Approval Path

1. 12/11/25 2:54 pm Maria Emelianenko (memelian): Approved for MATH Chair

History

1. May 25, 2021 by Catherine Sausville (csausvil)

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

Yes ~~No~~

Requestor:

Name	Extension	Email
Sarah Khankan	3-1461	skhankan@gmu.edu

Effective Term: Summer 2026

Subject Code: MATH - Mathematics

Course Number: 464

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Linear Algebra with Data Applications

Banner Title: Linear Algebra with Data App

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):

Recommended Corequisite(s):
Math 322

Required Prerequisite(s) / Corequisite(s) (Updates only):
~~Math 322 and~~ CS 112

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

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?
	(					
	(	MATH 322	C	UG		
Or		MATH 322	XS	UG	)	
And	(	CS 112	C	UG		
Or		CS 112	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:

Structure of linear spaces and the operator algebra, duality, invariants, Jordan and singular value decompositions, spectral theorem. Rigorous derivation of foundational data science methods such as PCA, MDS, and SVM. Computational and analytic assignments are given.

Justification:

What: Updating Co-requisites.

Why: This change in prerequisites is being proposed to address the challenges undergraduate Data Science concentration students—especially transfer students and those who switched majors—face in completing the required course sequence on time. The goal is to better support students who enter the major later in their academic careers while still advising, whenever possible, that students complete Math 322 before taking Math 464.

Does this course cover material which crosses into another department? Yes

Impacted Departments:

Department
CS - Computer Science
CDS - Computational & Data Sciences
STAT - Statistics

Learning Outcomes:

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

Attach Syllabus

464-syllabus_May12final.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: 17201