

Math 213**Syllabus****Fall 2016**

Professor Cindy McCabe Office: D354 Science Building Phone: 715-346-2085 Email: cmccabe@uwsp.edu www.uwsp.edu/mathsci	Office Hours 10:00-10:50am Mon, Th, Fri 8:00-8:50am Tuesdays 9:00-9:50am Wednesdays <i>or by appointment</i>	Class meets Mon, Wed, Thurs, Fri 12:00 – 12:50pm CCC 111
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Text (rental): *Linear Algebra and its applications*, 5th Edition, by Lay, Lay, & McDonald, published by Pearson, ISBN 978-0-321-98238-4. Topics include most of Chapters 1 – 6, but exclude abstract vector spaces.

Calculators: Daily access to a graphing calculator is required. Sharing is not permitted. Recommended calculators are the TI-83+ or TI-84 models. Computers, phones, and calculators with a “QWERTY” keyboard are not allowed during exams or quizzes.

Optional Purchase Item: Student Study Guide for Linear Algebra and Its Applications, 5/E, by Lay, Lay, & McDonald, published by Pearson ISBN-10: 0321982576

Publisher’s Web Supplies: See http://wps.aw.com/aw_lay_linearalgebra_5/ for review sheets and other materials connected to our text.

Prerequisites: Math 121: Calculus II.

General Course Goals: To gain a basic understanding of linear algebra concepts in \mathbb{R}^n . To be able to think and communicate better mathematically through the study of linear algebra, including some introductory work with mathematical proofs.

Specific Topics:

- Solving systems of linear equations by multiple methods and determining how many solutions a system has
- Determining when a method of solving a linear system is or is not appropriate
- Row reduction and echelon forms, working with matrices
- Using multiple representations of linear systems, including vector equations and matrix equations
- Determining linear independence or dependence and the span of a set of vectors, geometrically and algebraically
- Linear transformations (an introduction to them and their matrices)
- Matrix operations, and characterizations of invertible matrices
- Applications of linear systems
- Determinants introduction, including basic properties and Cramer’s Rule
- \mathbb{R}^n as a vector space, and its subspaces (including null spaces and column spaces)
- Eigenvectors, eigenvalues, the characteristic equation, and matrix diagonalization
- Orthogonality and inner product spaces
- Communicating conclusions and justifications using mathematical notation and language and using English sentences (this includes the use of mathematical terminology and theorems.)

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Evaluation: Final course grades will be determined by the following:

- 75 points for in-class quizzes (best 3 at 25 pts each: lowest quiz score is dropped)
- 60 points for in-class work, sometimes done in groups (highest 20 scores)
- 60 points for weekly homework assignments
- 100 points for Exam 1 (in-class on Wed. Sept. 28)
- 100 points for Exam 2 (in-class on Wed. Oct. 26)
- 100 points for Exam 3 (in-class on Wed. Nov. 23)
- 130 points for the comprehensive Final Exam (Tues. Dec. 20, 2:45 – 4:45pm)

Total: 625 points for this course

Course Grades at or above	93.3 584	90 563	86.7 542	83.3 521	80 500	76.7 479	73.3 458	70 437	66.7 416	60 375	% Points
will receive at least a grade of	A	A -	B +	B	B -	C +	C	C -	D +	D	

I reserve the right to exercise discretion in raising a student's grade if the final weighted average does not appear to reflect the quality of a student's work (for example, because of one low exam score early in the course). I will not use discretionary judgments to lower a student's final grade.

Almost every day, a list of **homework** exercises will be assigned. Full homework assignments will be collected approximately once each week (often on Fridays). This is meant to be formative assessment, so homework grades (out of 6 points each) will mostly be based on completion.

There will be **in-class work** each week, sometimes done in groups. Some days you will need to bring in text exercises for class discussion. It is helpful to work with linear algebra in multiple ways and receive feedback in multiple ways throughout the semester. This work will be worth 3 points each time. Your highest 20 scores will be part of your semester grade. This is also meant as formative assessment, so its grades will be based on evaluations of *satisfactory work, some significant contributions, or little to no significant contribution*.

Each homework set, in combination with the in-class work we do, will be a *minimal* list of items which you need to understand in order to do well in this course. This work is extremely important, so make sure you stay on top of it and ask questions on whatever you don't understand. The effort you put into your homework and in-class work will have a big impact on your semester grade through the improved quiz and exam scores that it produces.

Four regular **quizzes** and four **exams** are listed in the schedule on the next page. Please note these dates now so that you can plan for them in advance. Your lowest quiz score will be dropped from your semester grade.

I do not anticipate other graded items, but if any arise, they will be announced in class and the course points will be adjusted.

Desire to Learn (D2L): Homework assignments, grade information, and other class announcements can be found on the web in Desire to Learn (D2L)

<https://uwsp.courses.wisconsin.edu/d2l/home>.

To access D2L, use your regular campus logon ID and password, and then click on our course: [INTRO LINEAR ALGEBRA ...MATH 213...](#)

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For Help:

- 1) Ask questions as they arise. Come to see me before or after class, stop by during my office hours, or schedule an appointment with me for another time. One of the great parts of my job is working with conscientious students!
- 2) Also, tutoring services may be available through the Tutoring-Learning Center in LRC 018. Some of their services are listed at <http://www.uwsp.edu/tlc/Pages/CA-tutoring.aspx>.

Weekly Schedule - Fall 2016

Week	Wednesday Evaluations	Friday Eval.	Planned focus for tasks and discussions each week
1. Sept. 5 – 9			Chapter 1
2. Sept. 12 – 16			Chapter 1
3. Sept. 10 – 23	Quiz 1		Chapter 1
4. Sept. 26 – 30	Exam 1		Review & Chapter 1
5. Oct. 3 – 7			Chapters 1 & 2
6. Oct. 10 – 14			Chapter 2
7. Oct. 17 – 21	Quiz 2		Chapters 1 & 3
8. Oct. 24 – 28	Exam 2		Review & Chapter 3
9. Oct. 31 – Nov. 4			Chapters 3 & 4
10. Nov. 7 – 11			Chapters 4 & 5
11. Nov. 14 – 18	Quiz 3		Chapter 5
12. Nov. 21 – 25	Exam 3		Review; <i>No class Thurs / Fri</i>
13. Nov. 28 – Dec. 2			Chapter 6
14. Dec. 5 – 9		Quiz 4	Chapter 6
15. Dec. 12 – 16			Chapter 6 & Review <i>(Finals Week begins Fri)</i>

Final Exam: Tuesday Dec. 20, 2:45 - 4:45 pm

Attendance is expected at every class meeting. It is the student's responsibility to make prompt arrangements for finding out what was missed and for making up any assigned work in the case of an absence. Quizzes and exams may not be made up unless arranged with me ahead of time, and then only for sufficient reason. If a dire emergency occurs, contact me as soon as possible to see if an exception is in order.

For information on **accommodations** available to students with disabilities, visit the Disability and Assistive Technology Center in room 609 of the Learning Resources Center (715-346-3365) or their website: <http://www.uwsp.edu/disability/Pages/default.aspx>.

All students are expected to know the UWSP Community **Rights & Responsibilities** and the **Student Academic Standards and Disciplinary Procedures** found by clicking on "Community Standards" at <http://www.uwsp.edu/dos/Pages/Information%20for%20Students.aspx>. This is part of the Dean of Students webpage at UWSP.

Incompletes: A grade of incomplete may be given when circumstances arise which are beyond the student's control, and the student is unable to complete the course, AND the student is passing when the circumstances arise.

