

Math 301, Linear Algebra, Fall 2011
MWF 1:00-1:50pm

Instructor: Amy DeCelles

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Office hours: M 2-3pm, W 3-5pm, F 2-3pm, and by appointment

Course Prerequisites: The listed prerequisites are Math 211 and Math 205; however, mathematics courses through Math 213 would be helpful.

Course Content: We will be studying the mathematics of phenomena that depend linearly on several parameters. As a first example, to develop geometric intuition, we consider linear transformations of vectors in the plane. We then study systems of linear equations, which motivate the study of matrix equations and matrix decompositions. We also investigate a variety of applications. Finally we will study abstract vector spaces and inner product spaces.

Course Materials and Resources:

- Textbook: *Linear Algebra: A Modern Introduction*, 3rd Edition, David Poole
- Course webpage: <http://people.goshen.edu/~adecelles/math301>. Notes and other information will be posted there.
- Software: We may be using a computer algebra system, Mathematica, which is installed on all the lab computers.

In-class activities: Class time will be used for mini-lectures, student presentations, seminar-style discussion of course readings, and group activities.

Homework: Each week you will have written homework, consisting of practice problems and mathematical arguments, typically due in class on Monday and returned within the week.

Final Course Grade: The final grade for this course will be computed as follows:

- In-class activities (10%)
- Homework (15%)
- In-class presentation on project results (10%)
- Paper on project results (20%): due 3pm Fri Dec 9 via Moodle
- Exam 1 (15%): Mon Sep 19
- Exam 2 (15%): Wed Oct 26 (tentative)
- Exam 3 (15%): Fri Dec 2 (tentative)

Make-up midterm exams will be given to students with legitimate excuses such as verified illness, University sponsored events, etc., as long as the make-up exam can be taken within one week of the in-class exam. If it is not possible to schedule a make-up within one week, the grade for the midterm will be prorated from the final exam. Written documentation is required.

Referencing Sources: You are free to consult outside sources, such as books, websites, other students, or professors, when you are working on assigned work. When you submit your work, please include references for each source that you consult.

Disability Accommodations: Goshen College wants to help all students be as academically successful as possible. If you have a disability and require accommodations, please contact Lois Martin, the Director of the Academic Resource & Writing Center early in the semester so that your learning needs may be appropriately met. In order to receive accommodations, documentation concerning your disability must be on file with the Academic Resource & Writing Center, Good Library 113, x7576, lmartin@goshen.edu. All information will be held in the strictest confidence. The Academic Resource and Writing Center offers tutoring and writing assistance for all students. For further information please see www.goshen.edu/studentlife/arwc/.