Math 341 - 10405 - Linear Algebra I (4)  
Syllabus - OSU - Fall 2012

**Instructor:** Filix Maisch  
**e-mail:** maischf@math.oregonstate.edu

**Meetings:** MWF 2 - 2 : 50  
**phone:** 541-737-7127

**Room:** WB 205  
**office:** Kidder 332  
**off. hrs:** MWF 3 - 3 : 50

**Text:** Linear Algebra, 4th edition, *David C. Lay*

**Web:** people.oregonstate.edu/~maischf/

**Attendance:** Regular attendance will be expected, but roll will not be taken.

**Honor Code:** Students are expected to be familiar with Oregon State University’s Statement of Expectations for Student Conduct. Please review this statement at the following web link:

http://oregonstate.edu/admin/stucon/achon.htm

**Accommodations:** Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term. Students who believe they are eligible for accommodations should contact DAS immediately at 737-4098.

**Course Description:** This course covers the following topics: Matrix algebra, determinants, systems of linear equations, computational aspects of eigenvalues and eigenvectors.

**Prerequisites:** MTH 254

**Schedule:** See web for **tentative** term schedule.

**Evaluation:** Your grade is determined by online homework, take-home quizzes, unannounced in-class true-false discussion quizzes, a midterm and a final. Here is the point breakdown:

- T/F Quizzes - 30 (4 quizzes worth 10 points each, but only the top 3 count.)
- Homework - 90 (Multiply your average homework percentage by 90 and round up.)
- Take-Home Quizzes - 80 (4 quizzes worth 20 points each.)
- Midterm - 100 (Friday, October 26th, in-class)
- Final - 200 (9 : 30 - 11 : 20, Monday, December 3rd)

Grades will not be **harder** than:

450 - 500 A/A-, 400 - 449 B+/B/B-, 350 - 399 C+/C, 300 - 349 D, 0 - 299 F.

I will **not be using blackboard** for this course. A “keep track of my own grade” sheet is included at the end of this syllabus.

**Homework:** Homework is online. See the instructions on the web, where there is also a list of **suggested** exercises from the text that serve as study problems for the midterm and final.

**Course ID:** maisch44653  
**Course Name:** Math341Fall2012

**Resources:** Your primary resource is me. Make a note of my office hours and come by as soon as you have any questions related to your study of linear algebra. Another resource is the *Math Learning Center* in Kidder 108H, which is a great place to drop in for help. It is open from 9 AM to 4 PM, Monday through Friday, from the second week onward.
Tests and Quizzes: Take-Home Quizzes will be distributed on the dates shown on the tentative term schedule. They are due in-class the following Monday. You are allowed a non-graphing calculator for both the midterm and final. For the midterm, you are allowed both sides of one 3x5 inch handwritten note card, and for the final, you are allowed both sides of one 4x6 inch handwritten note card.

T-F Quizzes: No resources are allowed on the unannounced in-class true-false discussion quizzes, but you are intended to discuss your reasoning with your fellow students. No make-ups are allowed unless you have a verifiable and documented emergency.

Specific Learning Outcomes:
1) Classify the types of solutions of linear systems and solve linear systems in matrix notation using elementary row operations.
2) Apply linear transformations and construct the matrix of a linear transformation.
3) Understand and apply the basic properties of vectors in $\mathbb{R}^n$ as well as the definition of a subspace, the span of a set of vectors, a basis for a subspace, and specifically the column and null spaces of a matrix.
4) Determine when a square matrix is invertible and be able to find the inverse of an invertible matrix.
5) Use matrix notation, properties of determinants, and algebraic properties of matrices.
6) Be able to determine linear dependence or independence for a set of vectors.
7) Find the characteristic polynomial and eigenvalues and eigenvectors of square matrices and be able to explain the concepts as they apply to square matrices of any size.
Write down your scores!

(1) Take-Home Quiz 1: .......out of 20

(2) Take-Home Quiz 2: .......out of 20

(3) Take-Home Quiz 3: .......out of 20

(4) Take-Home Quiz 4: .......out of 20

(5) True-false quiz 1: .......out of 10

(6) True-false quiz 2: .......out of 10

(7) True-false quiz 3: .......out of 10

(8) True-false quiz 4: .......out of 10

(9) Best 3 of 4 true-false quizzes: .......out of 30

(10) Homework: .......out of 90

(11) Midterm: .......out of 100

(12) Final: .......out of 200