# Department of Mathematics
# Pomona College

## Syllabus for Mathematics 60 Fall 2014

**Time and Place:** MWF 11:00 am - 11:50 am MDSL 126

**Instructor:** Dr. Adolfo J. Rumbos

**Office:** MDSL 106

**Phone / e-mail:** ext. 18713 / arumbos@pomona.edu

**Office Hours:** MWF 10:05 am - 10:55 am, Th 10:00 am -11:00 am, or by appointment

**Text:** *A Course in Linear Algebra* by David D. Damiano and John B. Little

**Prerequisite:** Calculus III or Calculus II

**Course Description.** This is a course on vector spaces and linear transformations. We will draw from our past experience in dealing with real-valued functions in Calculus. Our focus will be on the algebraic structure instead of the analytic one (as was the case in Calculus courses). We will single out those functions between vector spaces that "interact nicely" with the algebraic structure; these are the linear transformations. In our study of linear transformations we will see how matrices arise naturally. We will also see how the theory of systems of linear equations is a very important tool in the study of vector spaces. We shall pay special attention to geometric interpretations and applications. This will lead to the study of the eigenvalue problem and the diagonalization. We will attempt to cover all the topics listed in the attached **Tentative Schedule of Lectures and Examinations**.

**Assigned Readings and Problems.** Readings and problem sets will be assigned at every lecture. Homework assignments will be collected on an alternate basis. Students are strongly encouraged to work on every assigned problem. **Late homework assignments will not be graded**.

**Grading Policy.** Grades will be based on the homework, two 50-minute examinations (see attached schedule), plus a comprehensive final examination. The grades will be computed according to the following distribution:

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|---|---|
| homework | 20% |
| two 50-minute exams | 50% |
| final examination | 30% |

**Final Examination.**

Time: Monday, December 15 9:00 am - 11:00 am.
Place: MDSL 126