**Math 28, Fall 2014 Professor Aimee Johnson**

**Honors Linear Algebra**



**Overview:**

Honors Linear Algebra is intended for the student who likes to delve deeply into their mathematical studies, who already knows they will spend extra time on this course (and is looking forward to doing so!), and who enjoys fooling around with abstract ideas and rigorous proofs. Topics include vector spaces, linear maps, eigenvalues and eigenvectors, inner product spaces, and the spectral theorem.

**Meeting Times**:

The course meets four times a week: MWF 11:30 – 12:20 and W 2:00 – 3:00

**Location:**

All class meetings will be held in SC 158

**Pre-requisites:**

Either: Credit or Placement for Math 15 and 25 (or 26), with either a B or better; or placement by taking part IV or the departmental placement exam.

**Required Book:**

We will use the modestly named *Linear Algebra Done Right*, by Sheldon Axler. Students will be expected to complete a reading assignment before almost every class meeting, and will need to bring this book to class for quick references. Luckily, it sells on Amazon for less than $40. Because our book is so abstract, students may want to look up examples in other linear algebra texts as well: many are available in Cornell Library.

**Reading Assignments**:

Students will be expected to read a section of the book every day before class. Reading mathematics is hard! Expect to re-read each section at least three times. The introduction to the book mentions a speed of one page per hour. You can come to class with specific questions (like “what does the book mean when it says …”). We will spend our class time working on examples and details pertaining to the reading. We will not spend much class time on lectures.

**Homework:**

There will be weekly homework assignments, due in class on Fridays. You should work on these continuously throughout the week – don’t expect to be able to answer all the problems on the first try! You may work together but the final write up of your homework must be your own. Anything else will be considered a violation of our rules and may be brought to the College Judiciary Committee. Note the word “final”: like all writing assignments, it is expected that you will have a rough draft that might be quite messy, but what you turn in is your final draft. It is recommended that you type up your solutions in TEX, but it will only be required if your writing is not legible enough. The level of detail that should be included in your homework write up is that which would be sufficient for a reader that is learning linear algebra along with you

No late homework is ever accepted.

**Wednesday Afternoon Class Meeting**:

This will often be used to discuss homework, usually with students taking turns leading such discussions.

**Grading:**

30% Homework and Participation

20% Exam 1

20% Exam 2

30% Final

**Instructor Information**:

Office: SC 143 Phone: 610-690-7357 Email: [aimee@swarthmore.edu](mailto:aimee@swarthmore.edu)

Office Hours: TBA

**Accomodations Statement:**

If you believe that you need accommodations for a disability, please contact Leslie Hempling in the Office of Student Disability Services (Parrish 113) or email lhempli1@swarthmore.edu to arrange an appointment to discuss your needs. As appropriate, she will issue students with documented disabilities a formal Accommodations Letter. Since accommodations require early planning and are not retroactive, please contact her as soon as possible. For details about the accommodations process, visit the Student Disability Service website at http://www.swarthmore.edu/student-life/academic-advising-and-support/student-disability-service.xml . You are also welcome to contact me privately to discuss your academic needs. However, all disability-related accommodations must be arranged through Leslie Hempling in the Office of Student Disability Services.