MATH 221 SECTION 1 SYLLABUS
LINEAR ALGEBRA AND APPLICATIONS
Spring Semester 2015

PROFESSOR: Prof. L. B. Pierce, 215 Physics Building, pierce@math.duke.edu

LECTURES: Wednesday and Friday 10:05am - 11:20am, Room 047 in Physics Building

by Theodore Shifrin and Malcolm R. Adams

OVERVIEW: Students will learn the concepts and theory of linear algebra, and will gain a solid understanding of the construction of mathematical proofs.

OFFICE HOURS:
- Wednesdays 11:20am – 11:50am in 215 Physics Building
- Thursdays 3:30pm – 4:30pm in 215 Physics Building
- Fridays 11:20am – 11:50am in 215 Physics Building

MATH HELP SOURCES: http://www.math.duke.edu/first_year/help.html

COURSE WEBPAGE: http://www.math.duke.edu/~pierce/Math221_2015S.shtml

REQUIREMENTS: Weekly problem sets, two extended in-class quizzes, one midterm, and one final exam. In addition there will be the possibility of short quizzes, individual presentations at the board, and in-class group assignments.

PROBLEM SETS:
- Problem sets will be distributed in class on Wednesdays (and available online) and completed problem sets must be handed in on paper at the beginning of lecture (typically) the following Wednesday.
- Late problem sets will not be accepted.
- We encourage students in this course to discuss their work on the problem sets in groups. However, each student must present a complete written solution to each problem, in her or his own words, without reference to the written solution of any other person. On each student’s written problem set, the student should name the students or other people with whom the student had significant discussions about the problems. Written sources (such as books and online sources other than the course textbook) that contributed significantly to the student’s understanding of the problem should also be cited.
- Unless otherwise noted on a particular assignment, it is acceptable to verify your work on problem sets with a computational aid, but it is not recommended, since no computational aids will be allowed on in-class quizzes, midterm, or final exam.
- It is acceptable to seek out clarifications of concepts and definitions by consulting other textbooks or online sources. However it is not acceptable to intentionally seek out solutions to the precise problems on the problem set, either in other texts, materials from previous semesters, or online sources.

STANDARDS FOR WRITTEN WORK
- Homework on multiple pages must be stapled; the front page must include your full name and the number of the problem set. Each problem must be labeled precisely as on the assignment sheet (e.g. Exercise 1.6.3). Handwritten homework must be entirely legible. Written work not meeting these standards will not be graded.
• All usage of language must be phrased in complete sentences.

• Full work must be shown on each problem, in order to receive full credit.

• The logic of a proof must be complete in order to receive full credit.

BEST PRACTICES FOR COMMUNICATION

• All emails should include the words Math 221 in the subject line.

• All emails should begin with the greeting “Dear Prof. Pierce.”

GENERAL PRACTICE FOR IN-CLASS ASSESSMENTS:

• Be prepared to use your student identification number (instead of your name) in order to label in-class extended quizzes, the midterm, and the final exam.

• During in-class assessments of any kind, visible electronic devices will be confiscated, to be returned only after the end of the assessment exercise.

EXTENDED QUIZZES: Two extended in-class quizzes will be given, the first one on Friday February 6 and the second one on Wednesday April 15. The precise material covered on these extended quizzes will be announced in due course. There is in addition the possibility of short in-class quizzes. All quizzes will be closed book (no books or electronic resources allowed) and must be completed entirely independently, with no collaboration or consultation with others.

MIDTERM: The in-class midterm will occur in class on Friday February 13. The midterm will be closed book (no books or electronic resources allowed) and must be completed entirely independently, with no collaboration or consultation with others.

FINAL: The final exam, as dictated by University policy, is on Wednesday April 29 from 2pm - 5pm in our usual classroom. The final will be closed book (no books or electronic resources allowed) and must be completed entirely independently, with no collaboration or consultation with others.

MISSED WORK: Students are expected to arrive at class punctually and to submit all homework on-time. Late homework will not be graded. Missed in-class quizzes, presentations, group work, midterm or final exam, may not be made up unless an accommodation may be allowed because the situation qualifies for one of four strictly-defined types of University-sanctioned exceptions: personal emergencies or tragedies, an incapacitating illness, a religious holiday, or varsity athletic participation. In these instances it is the student’s responsibility to be aware of and follow all relevant University-wide policies, including appropriate notification of the instructor.

ETHICS: Students are expected to adhere to the Duke Community Standard. On each problem set, in-class quiz, midterm, and final exam, students must reaffirm commitment to the Duke Community Standard. If a student is responsible for academic dishonesty on a graded item in this course, then the student will have an opportunity to admit the infraction and, if approved by the Office of Student Conduct, resolve it directly through a faculty-student resolution agreement; the terms of that agreement would then dictate the grading response to the assignment at issue. If the student is found responsible through the Office of Student Conduct and the infraction is not resolved by a faculty-student resolution agreement, then the student will receive a score of zero for that assignment, and the instructor reserves the right to further reduce the final grade for the course by one or more letter grades—possibly to a failing grade—at the discretion of the instructor.
COURSE GRADE: The lowest grade for a problem set (one problem set) will be dropped. The final letter grade for the course will be based, at the discretion of the instructor, on the following requirements:

- Problem sets (roughly 10%)
- In-class participation (attendance, presentations, group work, short quizzes) (roughly 10%)
- Extended in-class quizzes (roughly 20%)
- Midterm (roughly 25%)
- Final (roughly 35%)