Math 2410 - Methods of Linear Algebra

Syllabus

Spring 2019

1   Course Information

Instructor:	Alex Cameron
Email:	alexander.cameron@vanderbilt.edu
Office:	SC 1224
Office Hours:	Wednesdays 10-11, Thursdays 9-11, or by appointment
Course Webpage:	Brightspace
Meeting Time:	MWF 12-1
Meeting Location:	SC 1307
Textbook:	*Linear Algebra with Applications* by Steven Leon (9th Ed)
Prerequisites:	MATH 2300

2   Course Description

Vectors and matrix operations. Linear transformations and fundamental properties of finite dimensional vector spaces. Solutions of systems of linear equations. Eigenvalues and eigenvectors. We will cover most sections from Chapters 1-6 of the course textbook.

3   Exams and Course Grade

The grade for this course will be entirely based on your performance on a sequence of six exams - one for each of the first six chapters of the course textbook. Exams will be open-book and administered in class every Friday during the semester as well as during the time reserved for the final exam (Thursday, May 2 at 9am).

A passing score on an exam is 85%. Students may take an exam as many times as they would like within the constraints of the semester, but each exam in the sequence must be passed before the next exam can be attempted.

The final letter grade for the course will be determined as follows:

A	All 6 exams passed, at least 3 of which with scores of at least 95%
A-	All 6 exams passed
B+	First 5 exams passed and at least 75% scored on the 6th
B	First 5 exams passed and at least 60% scored on the 6th
B-	First 5 exams passed
C+	First 4 exams passed and at least 75% scored on the 5th
C	First 4 exams passed and at least 60% scored on the 5th
C-	First 4 exams passed
D+	First 3 exams passed and at least 75% scored on the 4th
D	First 3 exams passed and at least 60% scored on the 4th
D-	First 3 exams passed
F	Anything short of the above thresholds

4   Justification

There are two main reasons for running the course this way:

1. It is *learner-centered* and allows more flexibility for the students to focus on material they're having trouble with before moving on.

2. It promotes *active learning*. Studies on the psychology of learning indicate that subjects are learned best when the knowledge/skills being learned are put to the test early and often. In this way, exams can be as much a form of instruction as evaluation. **Students are encouraged to take the course exams every Friday whether they feel "ready" to take it or not.**

5   Problem Sets

I will assign problems for each of the first six chapters of the textbook. These problems will not be collected or graded (though I am happy to review any solutions you would like me to check). However, working problems outside of class is one of the most important things you can do to prepare for the exams and learn the material. So please work the problems!

6   Absences

There will be no formal participation component for this course. The only way that absences can negatively impact your grade in the course is if you need to miss a large

number of Fridays. There will be 16 opportunities to pass 6 exams (14 Fridays and a 2-hour final exam period). This number of opportunities already takes into account that a student might need to miss an occasional Friday. So I will not give make-up exams during the semester for three or fewer Friday absences. If you end up having a documented reason for needing to miss four or more Friday classes during the semester, then please let me know as soon as possible.

7   Honor Code

Vanderbilt's Honor Code definitely applies to this course!

8   A Message from the Math Department

"The Open Enrollment Period ends on Monday, January 14th. This is the deadline for students to add a course or to make other changes in YES. Between January 15th and January 21st, any withdrawals or adjustments in level or in grading status must be completed using the add/drop form. If only the "DROP" section of the form is filled out, the instructor may sign the form. If a student wishes to make any change that involves filling in the "ADD" section of a drop/add form (whether or not it also involves filling in the "DROP" section), then the student must see the DUS (John Rafter) or the Assistant DUS (Jakayla Robbins) in person. Per Math Department policy, the only change to a math course that will be approved is a change to the level of the course (e.g. switching from Math 1301 to Math 1300 or vice versa)."