Math 124: Linear Algebra
Fall 2016

For all of this and more, visit our course website `https://www.uvm.edu/~cvincen1/math124.html`.

Instructor Information: Professor Christelle Vincent, office 407 in Henry Marcus Lord House.

For content (i.e. mathematical) questions, please post your question to Piazza at the site piazza.com/uvm/fall2016/math124/home. For personal matters, please reach me by email at christelle.vincent@uvm.edu.

Course Description and Goals: In Math 124 we will study matrices, linear dependence, vector spaces, linear transformations, characteristic equations and some applications. Credit cannot be given for both Math 122 (Applied Linear Algebra) and Math 124. Co-requisite: Math 121 (Calculus III).

The goals for this class are the following:
1. To introduce you to or solidify your conception of mathematics as a language and a way to make sense of and solve problems
2. To introduce you to proof writing in mathematics
3. To teach you the theory behind solving systems of linear equations and linear algebra and for you to become comfortable with the algorithms that are used to solve linear equations in applications

Office Hours: I will have three hours of office hours each week, to be finalized together on the first day of class.

Textbook: *Linear Algebra*, by Jim Hefferon. The class will follow the text closely and all suggested problems will come from this book.

The book and its solution manual are available online for free. If you do get the book online, please make sure to get it from the course website so you use the correct version.

It is not recommended that you use a different version, since the homework problems will come from our version and the numbering may be different.

Attendance: You are expected to attend every lecture. If for whatever reason you cannot attend lecture, you are responsible for asking a classmate to tell you what you have missed and/or reading the posted slides on your own.

You can always send a friend to turn in your homework in class or to me (see the homework policy below).

If you miss lecture and a quiz is given that day, you will get a score of zero on that quiz.

ROTC, military, athletics: If you are a student-athlete or are in ROTC or have active military duty and you believe you might need accommodations due to commitments related to these activities, please submit in writing to me by the end of the second full week of classes your planned schedule of athletic competition or your planned schedule of military duties for the semester. You will be expected to turn in homework on time, or in advance, as necessary, except in very special circumstances.

If you are a student-athlete, the department of Vermont Catamount Athletics has various resources to help you manage your academic load. Do not hesitate to avail yourself of these resources.

Religious accommodations: Students have the right to practice the religion of their choice. If you believe you might need accommodations to take part in religious celebrations, please submit in writing to me by the end of the second full week of classes your religious holiday schedule for the semester. Together we will work on arranging a way to make up any work you might miss. You will be expected to turn in homework on time, or in advance, as necessary, except in very special circumstances.

SAS: In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Student Accessibility Services (previously ACCESS). Once you have this letter, I will be available to meet with you privately to discuss the accommodations you plan to use in this course.

Grading: Your grade for this class will be based on your performance in the following activities, weighted as follows:

     Quizzes: 15%
     Homework: 10%
     Exam 1: 20%
     Exam 2: 20%
     Final Exam: 35%

All of your work will be graded on correctness as well as legibility and clarity. I reserve the right to assign a score of zero to any problem or assignment that is unreasonably difficult to understand or read.

Suggested problems: After every class I will suggest some problems from the book for you to work on. These problems are not for credit and you should not turn them in, although I am happy to give you feedback on your work if you come to my office hours. Solutions to all suggested problems can be found in the solutions manual. Seriously working on these problems regularly will be crucial to success in the class.

Quizzes: Approximately twice a week we will have a short in-class quiz at the beginning of class. The quiz will be closed-book and closed-notes, but the question(s) will be taken verbatim from the suggested problems. A suggested problem might be covered by a quiz as early as the next class period.

Only your top ten quiz scores will count as part of your final quiz grade. There will not be any any make-up quizzes *under any circumstances.* If you must miss so many classes that you are not present for at least ten quizzes, please arrange a private meeting with me. If you can present me with documentation explaining your circumstances, we can work out some alternative way to assess your learning.

Homework: Occasionally during the semester I will assign some written homework (approximately five homework sets). Homework sets will be announced in class and posted online, with a due date given at least one week in advance. The homework will be graded and returned to you.

Homework will be due on the announced due date by 5pm. You must turn in your homework either to me in class or drop it off at my office (either to me or in the envelope taped to my door). I do not guarantee that I will find, or grade, homework that is turned in anywhere else.

I will drop your lowest homework score from your total score at the end of the semester when computing your final grade. Late homework will be accepted only under very exceptional circumstances; the purpose of the dropped homework score is exactly to account for the less exceptional circumstances when you are unable to hand in your homework on time.

Your homework *must* be stapled, and have your full name.

Exams: There will be two in-class exams and a university scheduled final exam. The problems on the exams will be similar to the suggested problems and the problems on the homework. All exams for Math 124 will be closed-book, closed-notes, with no calculators or other electronic aids permitted.

The tentative dates for the in-class exams are
- October 12
- November 16

If you have a conflict with an exam in this class, you must inform me in writing at least one week before the date of the exam, or one week before the last day of classes for the final exam.

If an emergency occurs and you need to miss an exam, you must notify me in writing within 24 hours of the exam. Please include the reason and documentation. Except if you are missing the final exam, your final grade will be based solely on the rest of your scores in the class.

The final exam is on December 12, from 10:30am to 1:15pm, in Perkins 107.

Individual exams will not be curved nor scaled. However, final grades in this class will be scaled to give a distribution that is typical for this class. Exams will be difficult and averages will be low, but letter grades will be adjusted appropriately at the end of the semester.

Academic dishonesty: The UVM Code of Academic Integrity is in effect in this class as always. Please familiarize yourself with it if you haven't already.

Specifically, in this class you may work on assigned homework (which you turn in) with peers, but the work you turn in must be your own and reflect your own understanding of the material. All quizzes and exams must strictly and exclusively be your own work, and be completed without access to notes, books or any outside resources.

Statement on diversity: Mathematics can be learned and enjoyed by everyone, regardless of gender, age, race, sexual orientation, or other personal characteristics. As a group we will work to create a space where we all feel welcomed and encouraged, and any actions or speech that detract from this atmosphere will not be tolerated.

In particular, we will be mindful of encouraging others to let us know if they do not already know something and do everything to support them in their learning. We will not say that things are "trivial." We will offer corrections gently and with the intention of helping the other, as opposed to making ourselves feel good.