Math 132 Lecture 4

TR 2:30-3:45 Van Vleck B321

- **Instructor:** Ben Ellison

  Office: 316 Van Vleck Hall

  Office Hours: By Appointment; MF 11:00-12:00.

  Office Telephone: (608) 263-3062

  Email: ellison@math.wisc.edu

- **Course Overview**

  In this course we will cover three important mathematical topics: probability, algebra, and data analysis. We will begin with probability, which will take about three to four weeks to cover. That section will end with an exam. After that, we will cover algebra, which will take approximately eight weeks to cover. That section will also end with an exam. Finally, we will cover Data Analysis, which will take two to three weeks. That section will end with an assignment, due during the final exam period.

  There are also several non-content related goals for this course:

  1. Students should learn how to completely and clearly express their mathematical ideas and solutions. Solving a problem is not enough; you need to be able to explain what steps you took, and be able to justify those steps.
  2. Students should be able to arrive at a solution using a variety of methods. The more ways you know how to solve a problem, the better able you will be to explain what the solution represents.
  3. Students should be able to evaluate their own work, as well as the work of others. If someone got a different answer than you, you should be able to figure out which (if any) method was correct. If someone gets the same answer but through different steps, you should be able to figure out if both of your steps were valid, and whether the methods have any limitations.
  4. Students should have a better understanding of what mathematics is. As you will see, it is not a set of formulas and laws that need to be memorized, but a cohesive body of work that was created as people tried to solve real problems. Hopefully, you will see that mathematics is approachable, understandable, and (possibly) fun.

  There are two other points I would like to make:

  1. The point of this course is **not** to teach you how to teach math. I do not have any expertise in this area. You will learn (hopefully) a great deal of mathematical content, as well as how mathematics is conducted.
  2. Often, I will not tell you the correct answer to a problem. Instead, I may ask you to justify your answer to me or to the class, or I may try to lead you toward the correct answer. Students often find this very frustrating. This is very much a part of learning how to do mathematics. However, if you feel I could do a better job in my teaching, feel free to tell me your concerns.

- Course Materials

  While there is no book for this course, we do have a course pack, which will serve as our guide for the course. This is available at the University Bookstore. It is required for the course, as most of our classwork will rely on the worksheets contained in the course pack.

- Course Webpage and Course Email

  The website for the course will be

  `http://www.math.wisc.edu/~ellison/m132/`

  A copy of the syllabus will be posted online. More importantly, this website will have a copy of all homework, handouts, and tests used in the course. The course website also has an anonymous feedback page. You can use that form to e-mail me any comments or suggestions that you wish to put forth without fear of reprisal. However, abuse of the form may result in its removal.

  In addition to the website, our course also has a listserve, which I will use to send out announcements. If you are registered for the course, your e-mail should be included. If for some reason it is not, or if you would like me to add a different e-mail address to the list, please contact me and I will do so. Also, you will have the opportunity to send e-mails on the listserve, asking questions to classmates, sparking discussions, organizing study groups, etc. Any e-mails you send must be related to the course, and any abuse of the listserve will not be tolerated.

- **Grading Policy**

  The semester grade will be determined by 500 points distributed across the first exam (100 points), the second exam (150 points), homework (125 points), the final assignment (75 points), and participation (50 points).

  Practice problems may be assigned, but not be collected. You are very strongly encouraged to do the assigned homework. **There is NO substitute for doing problems!!!!!** The easiest way to succeed in this course is to do as many problems as you can. We can use class time to discussing practice problems, so do not be shy to ask questions if you are having trouble. Of course, feel free to contact me about any problems you wish to go over.

  There will be five homework assignments given throughout the semester. You may work on these with others, and use any technology you like. However, every student must turn in their own homework, and all work must be your own. Homework problems will be similar to the practice problems, as well as the projects we work on in class. This will involve writing mathematically, which may be unfamiliar to many of you. As a result, I will allow students to correct their past homework in order to recoup 50% of the points they missed. All rewrites must be turned in with the next assignment in order to receive credit (e.g. the rewrite on the first assignment must be turned in with the second assignment, the rewrite of the second assignment must be turned in with the third assignment, etc.).

  The first exam will cover probability, which I am tentatively scheduling for September 25. The second exam will cover algebra, which is tentatively scheduled for November 25. The tests will take place during the class period, so there should be no conflicts. Make up tests will only be given if a student will miss a test for a suitable reason. Further, there will be no use of graphic calculators on an exam. The tests will be

written so that any calculations you can make can be done quickly in one's head or by hand. However, I will permit scientific calculators.

The final exam period is Monday, December 15, at 7:45AM as per university scheduling. The final assignment will be due by 9:45 AM on that day. Note that it is against university policy to count any assignment received after that time.

- **Discussion**

  The majority of every class period's time will be taken up by discussion, whether individual or group. During every class, we will break up into groups and do various activities. I will be monitoring your discussions and make note of who is and is not actively participating.

  At the beginning of the semester, every student will start with a C as their participation grade. Your grade will improve if you show up to class and actively participate in both your group and the class at large. Your grade will worsen if you have unexcused absences and/or do not participate. You will not be penalized for excused absences (appointments, emergencies, etc.), but such absences must be approved by me. Further, you will be responsible for making up missed work. If you miss a class, you must meet with me to go over the material you missed.

  The point of discussion is not only to learn what the "right" answer is, but how we arrive at the answer. Often times there are multiple ways of getting to an answer. We need to understand and evaluate these different methods. Just because a process is different from yours (or mine) does not mean it is incorrect. Thus, we will have to be able to (constructively) criticize our own work, as well as the work of others. That being said, it is inappropriate to pick on a single person or to mock their ideas. We all make mistakes, especially me. To a very large degree, learning mathematics is learning to work at a problem, make mistakes, and learn from those mistakes. If a student is being excessively dismissive or demeaning toward someone else, that student will be at least penalized by loss of participation points. If the attitude is especially destructive, harsher measures will be taken.

- **Outside Help**

  If you feel you do not understand the material as well as you would like, please contact me or come to my office hours. I am more than willing to meet with students in order to help them. I cannot state this strongly enough: if you are having trouble understanding the material, please arrange to meet with me. If you feel this is not enough, there is a tutor list, which can be found on the 2nd floor of Van Vleck. It can also be found here: `www.math.wisc.edu/~paulson/tutor.html`. While neither MathLab nor the Math Tutorial Program covers Math 132, you can contact GUTS at guts.studentorg.wisc.edu/ for additional help.

- **McBurney Disability Resource Center**

  Any students of the McBurney Disability Resource Center who wish to discuss any accommodations with me should contact me as soon as possible.