Lecture: MTWR 8:00 – 9:50 a.m. in GAB 317

Prerequisite(s): Math 1710.


Final Exam: **Friday**, August 14, 8:00 a.m.–9:50 a.m.

In Class One Hour Tests: Thursday, July 16, Thursday, July 23, Thursday, July 30, Thursday, August 6.

Instructor: William Cherry

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Office Hours: Mondays (except July 13) & Thursdays 1–3 p.m.
Tuesdays & Wednesdays 10:00–Noon

Students unable to attend the above scheduled office hours or needing extra help are welcome to make an appointment with me at other times.

Grades: There will be four components to your final grade, weighted as follows:

- Daily Homework: 15%
- Computer Projects: 15%
- In Class Tests: 40%
- Final Exam: 30%

Attendance: Class attendance will not be taken, but attendance at every class is important during summer session. Missing even one class during an accelerated summer session is equivalent to missing almost an entire week during a regular semester, so missing even one class day can put you so far behind you will have trouble catching up. Attendance on the dates of the in class tests is mandatory. Makeup tests will be given only in very exceptional cases and must be arranged in advance. No late homework will be accepted. The three lowest homework scores will be dropped when computing final grades.

Academic Dishonesty: Cheating on final exams or in-class tests is a serious breach of academic standards and will be punished severely.

Calculators: Students are required to have a scientific calculator that can compute basic probability/statistical functions such as factorials, permutations, and combinations. A TI-83 or 84 graphing calculator will be more than sufficient, but the graphing features will not be necessary for this course. There are non-graphing scientific/statistical calculators that are much cheaper than graphing calculators, and any of those will be fine. However, the instructor will be using the TI-83/84 to demonstrate in class.

Note: It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office.
Detailed Description of Course Requirements

**Final Exam:** The final exam will be comprehensive covering material from the entire term. The final exam will be **Friday, August 14**, 8:00 a.m. – 10:50 a.m. You must plan to take the exam on this date. Under no circumstances will early final exams be given, and vacation travel plans are not valid excuses for not taking the final at its scheduled time. You should bring a scientific calculator to these exams.

**In Class Tests:** Attendance at these tests is mandatory. Makeup tests will be allowed only in very exceptional circumstances, and **must be arranged in advance**. You should bring a scientific calculator to these exams. In class tests will take place during the first hour of Thursday classes and a short lecture will follow the tests.

**Homework:** You will have three types of daily homework in this class.

Every day, I will assign reading and practice problems. Doing the reading is very important. We will not have time to cover everything in class in full detail, and the activities planned for each class day will assume that you have done the reading and attempted at least some of the practice problems. It is OK if you do not completely understand the reading assignment or could not do all of the practice problems on the first try. The point is that we do not need to spend lots of class time on the things that everyone understood from reading the book, and then we can spend more class time discussing the more difficult things. You will not be asked to turn in the practice homework problems, so they do not need to be written up neatly. They will mostly be problems with answers in the back of your book so you can check for yourself if you are doing them right. However, it is a good idea to keep your solutions to these problems neatly in a note book because this will help you study for tests, and it is helpful if you bring this note book with you if you come to ask questions during office hours. Some test problems may come directly from the practice problems previously assigned.

A written homework assignment will be due at the beginning of every class. This assignment will be graded and returned to you so you can see how well you are learning the material.

Working together on homework is both allowed and encouraged. However, when working together, everyone should be making equal contributions. If one person is doing all the work, the other person will probably not be adequately prepared to take the exams in this course. Although working together is allowed and encouraged, you are not allowed to simply photocopy (or verbatim copy) another student’s assignment. The homework grader may penalize you for identical assignments.

**Computer Projects:** We will have three computer projects throughout the term to allow students to work with real data and to see how computers can be helpful in studying probability. The computer projects will **not** involve any programming. Most of them will involve the use of the Excel spreadsheet program.

**Warning about Summer Terms!** University level course work requires on average TWO hours of homework and preparation outside class for each hour spent in class. That means you are expected to spend **SIXTEEN HOURS PER WEEK** doing homework for and studying for this class outside of the time you are in class. Plan your schedules accordingly.
Course Content and Objectives

In natural sciences such as physics and chemistry, experiments lead scientists to abstract theories that help them understand and predict natural phenomena. The abstract theories are called mathematical “models.” Mathematical models are not perfect predictors of real world events because of experimental error in observation, but also because they often ignore some aspects of the real problem. For example, friction is often ignored in basic physics models. Problems that arise in business, social sciences, and some aspects of engineering and the life sciences often lack the rigorous theoretical understanding that we often have in sciences like physics and chemistry. It is nevertheless important to be able to make sensible predictions about the future, even when one does not have a solid theoretical understanding of the underlying phenomena. Probability and its close cousin, statistics, involve the mathematical study of how to model and make good predictions about situations where one does not have a good theoretical understanding, or where even if one does have a good theoretical understanding, working with the full theory is too complicated, too time consuming, or too hard for practical computations.

The first part of the course will be basic definitions and terminology associated with probability. We will begin with “discrete” probability, which is related to counting the number of possibilities for something to happen, such as the odds of winning a game of chance or estimating the number of defective products to be produced on an assembly line. The second part of the course will be “continuous” probability, which brings calculus into the study of probability. The final part of the course will concentrate on applications of probability to computer science and engineering.

Where to Get Help

Instructors’ Office Hours: Your professor is here to help you learn. You are encouraged to take full advantage of his office hours. No appointment is necessary to see your professor during his regularly scheduled office hours. If you cannot make the regularly scheduled office hours, ask for an appointment for another time.

Math Lab: The Math Lab, located in GAB 440, offers free tutoring. It is open from 7:00 a.m. until 7:00 p.m. Mondays–Thursdays and from 1–5 p.m. on Fridays and Saturdays. The Math Lab will even help you online or via fax. To get help online visit www.math.unt.edu/mathlab and to get help via fax, fax your question to 940-369-7788. Try not to get addicted to math lab help. It is important that you learn to do problems on your own, or you will not do well on tests. Never ask for help in the math lab unless you have thought about a problem for at least 20 minutes on your own first.

Private Tutors: The Mathematics Department (GAB 435) can provide you with a list of private tutors if you really feel you need more one-on-one help than the above sources can provide. If you do work with a tutor, remember you cannot bring your tutor to exams with you. If you do not start your homework until you meet with your tutor, you will start to rely on your tutor like a crutch and will not do well on exams. To work effectively with a tutor, you need to continually try to do as much as possible by yourself BEFORE you meet your tutor, and only use your tutor for those things you could not finish yourself.