DEPARTMENT OF MATHEMATICS   CENTRAL WASHINGTON UNIVERSITY

Math 130	Finite Mathematics	Spring 2012

Professor: Dr S.P. Glasby

Course Information

Office:	BU 119 (office hours by appointment, or times listed adjacent to door).
Study Guide etc:	http://www.cwu.edu/~glasbys/ click on Teaching link
Lectures:	M–F 12-1pm, BU 111.
Text:	Cutlip and Owen, Finite Mathematics: Introductory Probability and Statistics, Harcourt Brace Janovich, 1991 (old or new versions)
Assessment:	Test 1 (5%); Test 2 (5%); Test 3 (40%); Final exam (50%).
Required:	You must average $\geqslant 50\%$ on T1 and T2; o/w take Math 102/100B/C.
Dates:	T1 Fri Mar 30, T2 Mon Apr 2, T3 Thu May 3, E Tue Jun 5, 2-4pm TBC
Attendance:	at T1, T2, T3, and the final is required. Please reserve the above dates.
UMC:	Hertz 104; http://www.cwu.edu/~mathcenter/ for times
SI:	Times and location to be announced.
Phones/Music:	Using phones and iPods in class is not permitted.
Safari:	http://www.cwu.edu/~regi/course_information.html for exam time and final grades

This course covers basic ideas from probability and statistics which are helpful for making decisions in life when there is an element of chance, or when you are dealing with large amounts of data. Math 130 prepares you for courses in mathematics, statistics, psychology, sociology, economics, management, the natural sciences etc. A prerequisite for the course is a satisfactory CPT score in "mathematical skills" and "reading and comprehension". See the Mathematics Department secretary, if you are unsure whether or not you have the necessary prerequisites. Math 130 requires you to know basic algebra. **You must average at least** 50% **on Tests 1 and 2 to obtain a passing grade in this course.** If you average less than 50% consider retaking an algebra course (e.g. Math 100B/C) and then retake Math 130 when your are better prepared. Alternatively, take Math 102 if that fits your degree program. To test your basic algebra go to http://www.cwu.edu/~glasbys/, follow the teaching link, and look for appropriate links. The link common mathematical errors also has merits. I encourage students to use a computer simulation of the Monte Hall problem at http://math.ucsd.edu/~crypto/Monty/monty.html when we cover this topic.

We shall cover chapters 6–10 of the textbook but shall omit parts of chapter 9. (The index and Chapters 1–5 of this text are missing, and page 86 is blank.) I recommend that you look at some more modern finite mathematics texts (e.g. Goldstein, Schneider & Siegel) which are available from the CWU library, and via interlibrary loan.

I will assign homework problems each week. Each Tuesday will be devoted to going over homework problems for the previous week. On Tuesdays bring your questions, solutions, and textbook.

If you are unable to attend a lecture, make sure you get a copy of the notes from a classmate. I urge you to form your own study groups: you can learn a lot by explaining solutions to a friend, and by hearing solutions. The Univ. Mathematics Center (UMC in Hertz 104) is a useful source of help (see above). Special Instruction (SI) sessions are commonly available at times and locations announced during the quarter. A list of private mathematics tutors may be obtained from the Mathematics Secretary (BU116). You may be eligible for free tutoring – see the Academic Achievement Program's web page `http://www.cwu.edu/∼aap/campus.html`.

The final exam will be comprehensive. After each test I will post, adjacent to my office, a list of scores and approximate grades, so you can determine your relative position in the class. You should double check the time of the final exam at `http://www.cwu.edu/∼regi/course_information.html` in case the provisional time above changes. The exam will be in our assigned classroom.

Students requiring special accommodation, because of a physical or mental disability, should see me in the first week of the course. Also, if you are quite sick or suffer a notable hardship, then please let me know promptly. Claims of lengthy hardship that are disclosed the day before the final exam receive less sympathy. Although the Registrar will mail you your final grades, you can find out earlier by using Safari.

A brief description of the course content is: counting, probability, conditional probability, Bayes' theorem, continuous and discrete random variables, the binomial distribution as an approximation to the normal distribution, Chebychev's inequality, basic statistics (mean, variance, quartiles, percentiles etc.), and finally we study life insurance problems, marginal analysis and touch upon game theory. The "course outcome" or "student learning objective" is that passing students have a reasonable mastery of these subjects.

When you do your homework, please write it neatly as if it were an exam. Become practiced at using equal signs between equal quantities (and not between unequal quantities), and setting your work out so that your reasoning is easily followed. Some students need to practice doing basic arithmetic and basic algebra of fractions and exponentials without a calculator. Although calculators are not allowed on the tests or final exam, they are helpful for evaluating and checking certain homework answers.

Email: Before sending email please read `http://www.cwu.edu/∼glasbys/EMAIL`.

Math 130 Homework Problems

Below is a list of homework problems for all of the course.

We shall commonly solve problems each Tuesday, on the lecture material up to the previous Friday. On problem-solving days bring your textbook, your solutions and your questions!

Prob. Set 1	§6	p9: 2,3,9, p14: 20,22,31–37
Prob. Set 2	§6	p23: 62,64–66,67–70,74,75,79, p30: 88,89,99,101,106,114–116,124,131
		p36: 140–143,164,165,171,172, p41: 173,178–180,187
Prob. Set 3	§7	p59: 1,3,5,14,15,16,21–23,40,41,45,55,63, p65: 68,71,72,74,75
Prob. Set 4	§7	p71: 84,90,103–105,121,125,127,131,142–145, p81: 154–156,158
Prob. Set 5	§7	p88: 175–176,190–191, Monte Hall Problem
Prob. Set 6	§8	p114: 1,3,5,10-13,21,23, p122: 35,37,40,43, p132: 55,57,64,75,
		p146: 77,79,87,122, p153: 155,156, p159: 170–173, p165: 189–193
Prob. Set 7	§9	p191: 23,24,32–36
Prob. Set 8	§9	p205: 56,57,59,60,61,63; §10 p243: 1,3,5,7,10,13
Prob. Set 9	§10	p248: 14–20, p256: 21–29, 57–63