

# Math 130 Finite Mathematics

Fall 2011

**Time and Location:** Monday-Friday 12:00 - 12:50 Bouillon 144

**Instructor:** Dr. Yvonne Chueh

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**Office Hours:** 11:00A.M to 11:50 A.M., Monday –Friday and by appointment.

**Help Sessions:** Supplemental instruction available in the weekday evening (TBA)

**Course goals:** This course is designed to help you become capable of critical thinking, master the basic principles of counting and probabilities, and apply the necessary techniques to quantitative decision makings.

**Course description:** This course meets General Education "Basic Skills (D)" requirement and prepares student for introductory statistics courses in various departments. It covers the language of sets, counting procedures, introductory probability, and introductory descriptive statistics.

**Required Text:** 1. Bill Owen and Fred Cutlip, *Finite Mathematics: Introductory Probability and Statistics*, Thomson Learning;  
2. Math 130 Course pack for instructor Chueh from Wildcat store

**Calculator:** A calculator with statistical functions is required in class and writing exams. TI-83 Plus graphing calculator or similar model is highly recommended.

## Course outlines:

- Introductory counting and probability
- More counting and probability including conditional probability, independence, Bayes' theorem
- Random variables and probability distributions
- Introductory statistics

**Worksheets: In-class or Take-home worksheets will be assigned and collected for grading.**

**Homework:** Daily homework from textbook sections will be assigned but not collected. The assigned problems will form the basis of the exams. You are encouraged to solve homework problems with classmates and seek help from the class or office hours.

**Grading:** Your course grade will be determined by the following:

1. **Tests:** Four 100-point in-class tests. You get to drop the lowest of your four scores (see note below), so these tests will count for 300 points.
2. **Worksheets:** 100 points. No late turn in is accepted once the worksheet is graded and returned to the class. However, I will give extra 10 points to cover contingent absence for every student.
3. A comprehensive final exam worth 100 points.

A perfect score on both of the above categories would result in a total of 500 points. Your course grade will be determined by the percentage  $p$  of these points you earn, according the following scale.

$93 \leq p$	A	$74 \leq p < 76$	C
$90 \leq p < 93$	A-	$70 \leq p < 74$	C-
$86 \leq p < 90$	B+	$65 \leq p < 70$	D+
$84 \leq p < 86$	B	$58 \leq p < 65$	D
$80 \leq p < 84$	B-	$p < 58$	F
$76 \leq p < 80$	C+		

**Note:** No makeup exams will be given. If you miss an exam, it will be the one you drop. You **must** take the final exam to pass the course.

**Students with disabilities:** If you require accommodation based on a documented disability, have emergency medical information to share, or need special arrangements in case of emergency evacuations; please discuss the situation with me as soon as possible.

## SCHEDULE OF CLASS TOPICS AND ASSIGNMENTS

Topic coverage and test schedule are presented below. In order to perform well in this class, **preliminary textbook reading** before each class and reviewing class notes throughout the entire quarter is necessary. Students are advised to complete the homework assignments soon after the each topic is covered. Homework assignments are all the odd-numbered textbook exercises.

<u>Week</u>	<u>Textbook Sections to be covered</u>	<u>Topics</u>
1. Sept 21-23	6.1~6.2	<b>Counting and Probability:</b> <ul style="list-style-type: none"> <li>▪ Sorting a population</li> <li>▪ Counting principle</li> </ul>
2. Sept 26-30	6.3~6.7	
3. Oct 3-7	<b>Review</b> <b>Test 1 (Covering Chapter 6)</b>	<ul style="list-style-type: none"> <li>▪ Probability</li> <li>▪ Experiments</li> <li>▪ Rules</li> <li>▪ Equally likely prob.</li> <li>▪ Relative frequency</li> <li>▪ Subjective prob.</li> </ul>

4. Oct 10-14	7.1~7.2	<b>More counting and prob.</b>
		<ul style="list-style-type: none"> <li>▪ Counts</li> <li>▪ Variation on counting</li> <li>▪ Conditional prob.</li> </ul>
5. Oct 17-21	7.3~7.4 (Important! DO NOT MISS.)	
		<ul style="list-style-type: none"> <li>▪ Multiplicative Rule</li> <li>▪ Tree</li> <li>▪ Independence</li> </ul>
	<b>Review</b>	
6. Oct 24-28	<b>Test 2 (Covering Chapter 7)</b> 8.1~8.4	<b>Random variables and prob. dist.</b>
		<ul style="list-style-type: none"> <li>▪ Random variables</li> <li>▪ Dispersion of r.v.</li> <li>▪ Binomial dist.</li> </ul>
7. Oct 31-Nov 4	<b>Review</b>	
8. Nov 7-11	<b>Test 3 (Covering Chapter 8)</b> 8.5~8.6	<b>Normal distributions</b>
		<ul style="list-style-type: none"> <li>▪ Density curves</li> <li>▪ Applications</li> </ul>
9. Nov 14-18	9.1~9.4	<b>Statistics</b>
		<ul style="list-style-type: none"> <li>▪ Graphical</li> <li>▪ Numerical</li> <li>▪ Relative standing</li> </ul>
	<b>Review</b>	
10. Nov 21-25	<b>Test 4 (Covering Chapter 9 and normal distribution)</b> <b>Thanksgiving holiday</b>	
11. Nov 21-25	<b>Review</b>	
12. Dec 59	<b>Final Exam (TBA)</b>	