

MAT 122-UC Probability and Statistics for the Liberal Arts II, Spring 2011, p. 1

Instructor: Katie Elliot, 400 D/4 Carnegie, x7084, [kelliot@syr.edu](mailto:kelliot@syr.edu)

Course Supervisor: Associate Professor Steven P. Diaz, 317C Carnegie, x1583. Problems you cannot resolve with your instructor should be brought to the attention of the course supervisor.

Mathematical Prerequisites and Restrictions: MAT 121 is a prerequisite for MAT 122. A student cannot receive credit for MAT 122 after completing any MAT course numbered above 180 with a grade of C or better.

MAT 122 and the Liberal Arts Core: The sequence MAT 121 – MAT 122 can be used to satisfy the quantitative skills requirement of the liberal arts core in the College of Arts and Sciences.

Texts: Elementary Statistics with Finite Mathematics, Custom Edition for Syracuse University, Math 121 & 122, and the Minitab Manual that goes with the 11<sup>th</sup> edition of Elementary Statistics by Mario F. Triola.

Homework: Homework is for your practice. It will not be handed in; it will not be graded. Page 5 of the syllabus contains suggested problems for each section. It is also a good idea to try the statistical literacy and critical thinking, chapter quick quiz, and review exercises at the end of each chapter.

Exams: You should bring your textbook (not the lab manual) and calculator to each exam (including the final). You will be allowed to use your textbook (not the lab manual) and calculator during the exam, but will not be allowed to use any notes other than what you write in your textbook. See page 6 for more details. Student ID's will be checked during the exams.

**Make-up Exams:** Make-up exams will be given only in very exceptional circumstances. In most cases instead of a make-up exam the final exam will be counted extra. In either case, the student must convince the instructor that there is a very good reason for missing the exam.

**Calculation of Course Grade:** Each midterm exam and the final exam will be graded on a scale of 0–100. Your computer exercises will also be graded on a scale of 0-100. Your overall score for the term is then computed by the following formula. Overall score =  $(.15)(\text{test 1}) + (.15)(\text{test 2}) + (.15)(\text{test 3}) + (.15)(\text{test 4}) + (.20)(\text{final exam}) + (.20)(\text{average of computer scores})$ . Your letter grade for the term then comes from the following table.

Overall score x	Letter Grade	Overall score x	Letter Grade
$0 \leq x < 60$	F	$80 \leq x < 83$	B-
$60 \leq x < 70$	D	$83 \leq x < 86$	B
$70 \leq x < 73$	C-	$86 \leq x < 90$	B+
$73 \leq x < 76$	C	$90 \leq x < 93$	A-
$76 \leq x < 80$	C+	$93 \leq x \leq 100$	A

**Final Exam:** Thursday May 5 at regular class time plus perhaps some extra time to make it 2 hours.

**Students with Disabilities:** If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. Do not wait until just before the first test.

**Calculator:** Your calculator should be able to take square roots.

**Available student assistance:** Instructor office hours, Math Clinic, Review sessions.

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Date	Sections	
Jan	18	8-1, 8-2
	20	8-3, 8-4
	25	Computer
	27	8-5, 8-6
Feb	1	Catch up/Review
	3	Test 1
	8	Computer
	10	10-1, 10-2
	15	10-3, 11-1, 11-2
	17	11-3
	22	Computer
Mar	24	Catch up/Review
	1	Test 2
	3	13-1, 13-2, 13-7
	8	14-1, 14-2, 14-3
	10	7.6
	22	Computer
	24	2.1
	29	2.2
	31	Catch up/Review
	Apr	5
7		2.3, 2.4
12		2.5
14		2.6
19		10.1
21		10.2
26		10.3
28		Catch up/Review
May	3	Test 4
	5	Final Exam

Up to Mar 8 sections are from the first part of the book. Taken from Elementary Statistics, Eleventh Edition by Mario F. Triola.

From Mar 10 onward sections are from the second part of the book. Taken from Finite Mathematics, Ninth Edition by Lial, Greenwell, and Ritchey

Computer Labs

1. Instructor cover: 8-1, Testing Hypotheses About  $p$ .  
Students do: Experiments 8-1, 8-2, 8-3.
2. Instructor cover: 8-2 Testing Hypotheses About  $\mu$ , 8-3 Testing Hypotheses About  $\sigma$  or  $\sigma^2$ .  
Students do: Experiments 8-6, 8-10, 8-14.
3. Instructor cover: 10-1 Scatter Plot, 10-2 Correlation, 10-3 Regression.  
Students do: Experiments 10-1, 10-2, 10-4.
4. Instructor cover: sections 11-1, 11-2, 13-1, 13-2, 13-7.

Suggested Homework Problems (During lecture the instructor might suggest more.)

8-2: 1-44 odd.

8-3: 1-32 odd.

8-4: 1-18 odd.

8-5: 1-28 odd.

8-6: 1-16 odd.

10-2: 1-28 odd, 33-36 odd.

10-3: 1-28 odd.

11-2: 1-24 odd.

11-3: 1-22 odd.

13-2: 1-20 odd.

13-7: 1-14 odd.

14-2: 1-20 odd.

14-3: 1-14 odd.

7.6: 1, 3, 5, 7, 9, 11, 23, 25, 31, 39.

2.1: 1, 3, 5, 17, 19, 23, 25, 27, 31, 37, 39, 47, 49.

2.2: 1, 3, 5, 7, 11, 13, 15, 17, 19, 27, 29, 39, 41, 45, 55, 63, 65

2.3: 1-44 odd.

2.4: 1-20 odd, 31, 37, 43, 49.

2.5: 1-18 odd, 27, 29, 35, 37, 49, 59, 65

2.6: 1-20 odd.

10.1: 1-24 odd, 29, 31, 39.

10.2: 1-24 odd, 25, 27a, 31, 41

10.3: 1-16 odd, 23, 25.

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Recall the following rules from the syllabus for the exams.

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Some people do not like to write in their books (perhaps they want to resell them). Therefore I will also allow the following.

You may also write notes on small pieces of paper, which you attach to existing pages in the book under the following restrictions.

1. Each piece of paper can be no larger than a 6 in by 8 in rectangle.
2. Each piece of paper must be attached to an existing page in the book. It must be attached securely enough so that it is unlikely to fall off during an exam. Self adhesive note paper is probably the best way to go. Paper clips are not acceptable. You may use these attached pieces of paper as tabs to help you locate information in the book.
3. At most three pieces of paper may be attached to any one side of any one page in the book.

Remember no loose notes are allowed, and for attachment you must use existing pages in the book. You may not insert extra pages into the book.

**Academic Integrity:** The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academic.integrity.syr.edu>. For this course in particular, failure to obey the rules about what sorts of notes you are allowed to use during exams is considered to be a violation of the academic integrity policy. These rules are found on pages 1 and 6 of the syllabus.

Goals: The goal of MAT 122 is to provide the student the following.

A basic understanding of several types of the statistical process hypothesis testing.

Some knowledge about how to find the line closest to passing through a set of points and how that line can be used.

Familiarity with matrices and solving systems of linear equations.

An introduction to Markov chains.

Practical experience with statistical computer software (Minitab).