MAT 121
Probability and Statistics for the Liberal Arts I
Spring 2014, Tu-Th Sections

Instructor: Professor Uday Banerjee
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Office Hours: Mon. 9:00-10:00, Wed. 3:00-4:00, or by appointment
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Course Supervisor: Prof. Uday Banerjee, 206B Carnegie, x1460.
Problems you cannot resolve with your instructor should be brought to the attention of the course supervisor.

Mathematical Prerequisites and Restrictions: MAT 121 has no formal prerequisites; however, it is desirable that students have a reasonable level of competence in high school algebra. MAT 121 is a prerequisite for MAT 122. A student cannot receive credit for MAT 121 after completing STT 101 or any MAT course numbered above 180 with a grade of C or better.

MAT 121 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^{th} edition of Elementary Statistics by Mario F. Triola.

Computer Labs: When you registered for this course you should have also registered for a recitation section that goes with it. These meet in either Carnegie 100 or Physics 115 or Link 110. Check your schedule to see where your recitation section meets. There will be 13 computer lab assignments to be done during these recitation times, which you must hand in to be graded. All the 13 computer labs are required and count toward your final semester grade. Attendance in all the recitations is required. Please bring your textbook, laboratory manual, and calculator to these recitations.

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: All 4 hour exams and the final exam are open note-book. Students may use their class-notes, but no textbook. Students may use any type of calculator they wish except that they may not use calculators capable of wireless communication. *Cell phones or any other device capable of wireless communication are not allowed. The student will receive an automatic 0, if found using a cell phone or wireless communication device.* Student ID's will be checked during the exams.

Make-up Exams: There will be no make-up exams. A missed exam will be accepted only in exceptional circumstances, e.g., because of a serious health reasons (a doctor's letter, stating that you were not in a state to attend the class, is required) or other serious reasons (supported with appropriate document). In such situations, the final exam grade will be counted extra to compensate for the missed exam.

Calculation of Course Grade: Each midterm exam and the final exam will be graded on a scale of 0–100. Your computer labs 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)(test 1) + (.15)(test 2) + (.15)(test 3) + (.15)(test 4) + (.20)(final exam) + (.20)(average of lab scores).

Your letter grade for the term then comes from the following table.

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

Final Exam: Final exam will be given on **Monday, May 5**, between 8:00am to 2:30pm. The exact time and location for the 2-hour time slot for the final exam will be announced in lecture near the end of the term. The final exam will not be given at any other time. Therefore, **do not make plans to leave campus before 2:30pm on May 5**. There will be no make-up final exam.

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

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

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 303 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 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.

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://academicintegrity.syr.edu

Any kind of violation of the academic integrity policy, e.g., cheating during an exam or improper sharing of information related to exams, will result into an automatic F for the course.

Religious observances policy. SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to are religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, an online notification process is available through MySlice (Student Services -> Enrollment -> My Religious Observances) from the first day of class until the end of the second week of class.

Date and topics to be covered:

All these sections are from the Elementary Statistics with Finite Mathematics, Custom Edition for Syracuse University, Math 121 & 122 by Mario F. Triola.

Date		Sections
Jan	14	1-1, 1-2, 1-3, 1-4
	16	1-5, 2-1, 2-2
	21	2-3, 2-4
	23	2-5
	28	Review
	30	Test 1
Feb	4	3-1, 3-2
	6	3-3
	11	3-4
	13	4-1, 4-2
	18	4-3
	20	4-4, 4-5
	25	4-7
	27	Review
Mar	4	Test 2
	6	5-1, 5-2
	18	5-3, 5-4
	20	6-1, 6-2
	25	6-3
	27	6-5
Apr	1	6-4, 6-6
	3	Review
	8	Test 3
	10	7-1, 7-2
	15	7-3
	17	7-4, 7-5
	22	Review
	24	Test 4
	29	Review

Final Exam: May 5. Do not make plans to leave campus before 2:30pm on May 5

Computer Labs

1. Instructor cover: Introduction to Computers; Chapter 1.

2. Instructor cover: Chapter 2.

3. Students do: Experiments 2-2, 2-10, 2-12, 2-13, 2-14, 2-18, 2-20.

4. Instructor cover: Chapter 3.

5. Students do: Experiments 3-1, 3-2, 3-3, 3-4, 3-9.

6. Instructor cover: Chapter 4.

7. Students do: Experiments 4-1, 4-2, 4-3, 4-19 (Count 1's not 6's.).

8. Instructor cover: Sections 5-1, 5-2, 5-4.

9. Students do: Experiments 5-1, 5-4, 5-6, 5-7, 5-8.

10. Instructor cover: Sections 6-1, 6-2, 6-3, 6-5.

11. Students do: Experiments 6-1, 6-3, 6-5.

12. Instructor cover: As much of chapter 7 as you have time for.

13. Students do: Experiments 7-1, 7-2, 7-5, 7-6, 7-13.

Suggested Homework Problems

1-2: 1-25 odd
1-3: 1-31 odd
1-4: 1-27 odd
1-5: 1-33 odd
2-2: 1-21 odd, 29
2-3: 1-13 odd
2-4: 1-25 odd
2-5: 1-9 odd
3-2: 1-23 odd, 29, 31, 33
3-3: 1-23 odd, 29-35 odd
3-4: 1-29 odd
4-2: 1-39 odd
4-3: 1-39 odd
4-4: 1-29 odd
4-5: 1-29 odd
4-7: 1-35 odd
5-2: 1-29 odd
5-3: 1-43 odd
5-4: 1-19 odd
6-2: 1-51 odd
6-3: 1-31 odd
6-4: 9, 13, 19
6-5: 1-19 odd
6-6: 1-31 odd
7-2: 1-43 odd
7-3: 1-27 odd, 31-35 odd
7-4: 1-29 odd
7-5: 1-23 odd

Goals: The goal of MAT 121 is to provide the student the following:

A basic understanding of the notions fundamental to the use of statistics as a tool for understanding decision-making. These notions include the description of data (pictorially and numerically), frequency distributions, probability, some classical probability distributions (binomial, normal, Student -t, Chi-square), and confidence interval estimates.

Facility in naming, computing, and interpreting the various numeric quantities associated with the notions mentioned above. These quantities include several population parameters and sample statistics, notably measures of central tendency (mean, median, mode) and measures of spread (range, standard deviation and variance). They also include measures of position (percentiles and z-scores), probabilities, point estimates, and margins of error.

A foundation for the further study of statistical inference in MAT122. Also practical experience with statistical computer software (MINITAB).

Getting help

Your instructor and recitation instructor will be holding regular office hours and will make appointments with students having class conflicts with their scheduled office hours. In addition, the Mathematics Department offers regular math clinics. These will be set up by the second week of the semester and a schedule of the clinics will be posted outside the math office and on the department's website.

How to succeed

Here are a few basic suggestions for how to succeed in this course.

1. It is absolutely essential that you understand how to solve the assigned homework problems and, more importantly, how and why the skills and techniques presented in the course are used in solving the assign problems. Exam questions will be similar to these problems.
2. Ask questions in lecture, recitation and/or at the clinic about anything that is not completely clear. Don't hesitate to bring questions to your instructors during office hours.
3. Every day, read and study the sections in the textbook covered in the lecture. Learning mathematics takes time! Read carefully and work through all the

examples in complete detail. It can be helpful to try to work through an example on your own before reading the solution.

4. Stay caught up. Mathematical concepts build on each other cumulatively and you need to stay on top of the material at every stage. If you are having difficulty, don't expect that the problem will take care of itself and disappear later. Contact your course instructor or your recitation instructor immediately and discuss the problem!
5. Form a study group. Many students benefit from a study group to work through challenging problems and to review for exams. You should attempt the problems ahead of time by yourself and then work through any difficulties with your study partners. Explaining your reasoning to another student can help to clarify your own understanding.
6. You should expect to work hard. Don't get discouraged if you find some of the material very difficult. Be persistent and patient! If you follow the above suggestions, your experience in this course will be a rewarding one.