

MAT 122 – Probability and Statistics For the Liberal Arts II SPRING 2019

Instructor/Course Supervisor: Prof. Abdellatif Bourhim, 313J Carnegie, 315-443-2549, abourhim@syr.edu. Problems not satisfactorily resolved 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 121 after completing STT 101 or 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, Math 121 & 122, 5th Custom Edition for SU, **and** Minitab Manual that goes with the 13th edition of Elementary Statistics by Mario F. Triola.

Labs/Recitations: When you registered for this course you should have also registered for a recitation section that goes with it. All the scheduled recitations will meet and attendance is required. There will be computer lab assignments and/or other work to be done during these recitation times. The lab assignments must be handed in to be graded, and will be counted toward your grade. Bring your textbook, laboratory manual, and calculator to these recitations. The recitation instructors will have office hours (times and places to be announced) during which missed labs can be made up. The recitation instructors are not required to allow making up labs that are more than two weeks outstanding. **Note:** *Switching lab section is not allowed unless it is done through MySlice.*

Homework: Homework is for your practice. No homework will be collected. Page 4 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 exams (including the final exam) are open book. 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 you will not be allowed to use any notes other than what you write in, or attach modestly to, your textbook. Cell phones or any devices capable of wireless communication (for example, smart watches) are not allowed. Textbooks and calculators cannot be shared during exams. Student ID's will be checked during the exams.

Make-up Exams: There will be no make-up exams. When an exam is missed for a reason deemed valid by the instructor, the missing grade will be replaced, without penalty, by a student's score on the final exam.

Calculation of Course Grade: There will be three in-class exams and a final exam, each one of them will count as 20% of your final grade. Once your average of recitation scores is converted to a 100-based scale, it will also count as 20% of your final grade. Raw scores will not be rounded, and will turn into letter grades as follows.

| Raw score x | Letter Grade | Raw 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: Final exam will be given on Monday, May 06, 2019, between 8 AM to 2:30 PM. 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 Monday, May 06, 2019.**

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

Available student assistance: Instructor office hours, TA office hours, and Math Clinic. Information will be made available by the instructor as well as at [math.syr.edu](http://math.syr.edu/people/office-hours.html) (<http://math.syr.edu/people/office-hours.html>) and <http://math.syr.edu/undergraduate/math-help.html>) by the second week of the semester. You are also encouraged to attend the free small group tutoring sessions for MAT 122 available through the **Center for Learning and Student Success (CLASS)**. Several tutoring sessions for MAT 122 will be offered each week. The tutors will be trained undergraduate and graduate students who have access to our course information and can help you study efficiently and effectively. Visit class.syr.edu to learn when and where these sessions meet and how to reserve a spot.

Exam schedule: *The exam days are firm.* How much is covered by those days may differ from section to section. Your instructor will make clear what topics will be covered on each exam.

| Exam | Date |
|--|---|
| Exam 1 (up to somewhere in chapter 10) | Thursday February 07, 2019 |
| Exam 2 (up to somewhere in chapter 14) | Thursday March 07, 2019 |
| Exam 3 (up to somewhere in the chapter about Markov chains) | Tuesday April 23, 2019 |
| Final Exam (whole course) | A 2-hour period in 8AM - 2:30PM on Monday May 06, 2019 |

Attendance: You are expected to attend every class, every exam, and the final exam. If you miss a class, it is your responsibility to obtain a copy of the lecture notes for that class from another student. You are also responsible for any announcements about changes to the course schedule, the exam schedule, or the course requirements that were made during that class.

Cell phones: All electronic devices other than calculators should be turned off and put away during class.

Students with Disabilities: If you believe that you need academic adjustments (accommodations) for a disability, please contact the Office of Disability Services (ODS), visit the ODS website <http://disabilityservices.syr.edu>, located in Room 309 of 804 University Avenue, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting academic adjustments. ODS is responsible for coordinating disability-related academic adjustments and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since academic adjustments may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. Making arrangements with ODS takes time. Do not wait until just before the first test. Students taking exams at ODS should take them at times which overlap the exam time for the rest of the class.

Academic Integrity: Syracuse University's Academic Integrity Policy reflects the high value that we, as a university community, place on honesty in academic work. The policy defines our expectations for academic honesty and holds students accountable for the integrity of all work they submit. Students should understand that it is their responsibility to learn about course-specific expectations, as well as about university-wide academic integrity expectations. The policy governs appropriate citation and use of sources, the integrity of work submitted in exams and assignments, and the veracity of signatures on attendance sheets and other verification of participation in class activities. The policy also prohibits students from submitting the same work in more than one class without receiving written authorization in advance from both instructors. Under the policy, students found in violation are subject to grade sanctions determined by the course instructor and non-grade sanctions determined by the School or College where the course is offered as described in the Violation and Sanction Classification Rubric. SU students are required to read an online summary of the University's academic integrity expectations and provide an electronic signature agreeing to abide by them twice a year during pre-term check-in on MySlice. The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. **Any established violation in this course may result in course failure regardless of violation level.**

Related link: <http://class.syr.edu/academic-integrity/policy/>

Learning Outcomes: The goal of MAT 122 is to provide the student with the following.

- A basic understanding of several types of statistical hypothesis tests.
- How to find a straight line that best fits a set of points and how to use it to predict the values of a dependent variable based upon the values of an independent variable.
- Familiarity with matrices and solving systems of linear equations.
- An introduction to Markov chains.
- Practical experience with statistical computer software (Minitab).

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 (MySlice -> Student Services -> Enrollment -> My Religious Observances) from the first day of class until the end of the second week of class.

Related link: http://supolicies.syr.edu/studs/religious_observance.htm

Important Dates:

- **Add Deadline:** Tuesday, January 22, 2019.
- **Financial/Academic Drop Deadline:** Monday, February 04, 2019.
- **Withdrawal Deadline:** Tuesday, April 16, 2019.
- **Last Day of Classes:** Tuesday, April 30, 2019.

Suggested Homework Problems:

1. Elementary Statistics:

- Sec 8-1: 1-31 odd
- Sec 8-2: 1-33 odd
- Sec 8-3: 1-23 odd
- Sec 8-4: 1-25 odd
- Sec 10-1: 13-27 odd
- Sec 10-2: 13-27 odd
- Sec 11-1: 5-23 odd
- Sec 11-2: 5-19 odd
- Sec 13-2: 5-15 odd
- Sec 13-7: 5-11 odd
- Sec 14-1: 1-11 odd

2. Finite Mathematics:(Some problems are designated as to be done with a graphing calculator. You may skip them even if they are on this list as the calculations get too messy).

- Sec 7-6: 1-39 odd
- Sec 2-1: 1-49 odd
- Sec 2-2: 1-73 odd
- Sec 2-3: 1-49 odd
- Sec 2-4: 1-57 odd
- Sec 2-5: 1-65 odd
- Sec 2-6: 1-29 odd
- Sec 10-1: 1-39 odd
- Sec 10-2: 1-43 odd
- Sec 10-3: 1-69 odd

Recitations

1. Instructor covers: 8-1 Minitab's Assistant Feature and 8.2 Testing Claims about p .
2. Students do: Experiments 8-1, 8-2 and 8-3.
3. Instructor covers: 8-3 Testing Claims about the mean and 8-4 Testing Claims about the variance and standard deviation.
4. Students do: Experiments 8-6, 8-10 and 8-14.
5. Instructor covers: Minitab's Assistant Feature, 10-2 Scatterplot, 10-3 Correlation and 10-4 Regression.
6. Students do: Experiments 10-1, 10-2, 10-3 and 10-5.
7. Instructor cover: 11-1 Goodness-of-Fit, 11-2 Contingency Tables, 13-2 Sign Test and 13-7 Runs test.
8. Instructor will material from the Textbook appropriate to what has been covered in the main lecture.