

MAT 222 Elementary Probability and Statistics II
Fall 2014

Instructor: Professor Kari Shaw

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Office Hours: Tuesday 9:00 – 9:20 & 12:30 – 1:30

Thursday 9:00 – 9:20 & 1:00 – 2:00

And by appointment

Course Description: This is the second course in the probability and statistics sequence, MAT 221-222, designed for various academic majors. The primary objectives of the course are to understand basic concepts of statistical inference and to learn commonly used statistical methods of inference. The course will cover concepts of estimation and hypothesis testing, inferences involving two populations, Chi-square tests, regression analysis, and analysis of variance.

Text: *Introduction to the Practice of Statistics* by David S Moore, George P McCabe and B Craig, 7th Edition. Chapters 6 through 13 will be covered.

Prerequisites: MAT 221

Liberal Arts Core: This course is the second course in the Quantitative Skills sequence MAT 221-222.

Calculator: You will need a calculator to do the computations that will arise throughout the course. No specific calculator is required, but a TI84 or TI83 graphing calculator is highly recommended.

Cell Phones: All electronic devices other than your calculator should be turned off and put away during class. Calculators on cell phones are not to be used on tests or in-class quizzes.

Examinations: There will be three tests during the semester and a Final Exam. The three tests will be on Tuesday, Sept.23, Thursday, Oct. 23, and Thursday, Nov. 20. The final exam will be on Wednesday, December 10 between 8:00 am and 2:30 pm. There will be no make-up tests. If you miss a test with a valid excuse your score on the relevant portion of the Final exam will replace your missed test score.

Homework: Homework will be assigned each day in class, and **should be completed before the next class meeting**. Homework will **not** be collected, but you cannot be successful in the class unless you do the problems. Homework will also be posted on Blackboard under “Assignments”. You are encouraged to work with others on the homework, and ask questions about homework problems in class and during office hours. A **tentative** list of homework problems is given below.

Quizzes: Short take-home quizzes will be given approximately every class day on the previous day's material. These will be due the next class day by the end of office hours. Quizzes can be turned in during class or at my office door. On review days before exams there will be an in-class quiz. **No late quizzes will be accepted and no make-up quizzes will be given.** A 0 will be entered for any missed quiz. You may miss up to 3 quizzes without penalty. If you choose to miss fewer than three quizzes, the appropriate number of your lowest quiz scores will be dropped. You are encouraged to take all the quizzes to maximize your quiz grade. Quizzes will be posted under "Content" on Blackboard so that if you miss class (although that is strongly discouraged!) you can still print the quiz. Copies will also be available on my office door. The quiz scores will make up 15% of your grade. You may work with others on the take-home (but not in-class) quizzes. Quiz solutions will be posted on Blackboard under "Content" the day they are returned to you.

Grading: Your grade will be computed using the following percentages:

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|-------------|-----------------------------|
| Three tests | 50/3% \approx 16.67% each |
| Quizzes | 15% |
| Project | 10% |
| Final Exam | 25% |

You will be given the curve for each of the first three tests when you get the test back. In any case, the curves will be no higher (but may be lower) than the standard Math Department curve:

| | | | | |
|------------|------------|------------|-----------|------------|
| A (93-100) | A- (90-92) | B+ (87-89) | B (83-86) | B- (80-82) |
| C+ (77-79) | C (73-76) | C- (70-72) | D (60-69) | F (0-59) |

Final Exam: The Final Exam will be comprehensive. All students must take the Final Exam at the scheduled time, which will be a 2-hour block between 8:00 am and 2:30 pm on **Wednesday, December 10**. There will be no exceptions. **You should not make plans to leave campus before 3:00 pm on December 10.**

Class Attendance and Participation: You are expected to attend and participate in class. Missing class is the most common reason for poor performance in the course. **If you miss a class, you are responsible for obtaining notes for that class from a student who attended. It is also your responsibility to find out about any announcements made in class.**

Computer Labs: There will be one or more computer lab session(s). The time and place of the lab session(s) will be announced in class. MINITAB, a statistical software package, will be introduced and computer problems to use MINITAB will be assigned.

Final Project: A data analysis project will be assigned in the middle of the semester and will be due on the last day of classes. The primary objective of the project is to investigate a problem of your interest using statistical methods learned in the course. You will design an experiment, collect data, analyze your data using MINITAB, and write a report. Detailed information about the project will be given to you later in the semester.

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>

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.

Important Dates:

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|---------------|-------------------------|
| 9/2 | Add Deadline |
| 9/15 | Financial Drop Deadline |
| 9/23 | Test 1 |
| 10/20 | Academic Drop Deadline |
| 10/23 | Test 2 |
| 11/20 | Test 3 |
| 11/21 | Withdrawal Deadline |
| 11/23 – 11/30 | Thanksgiving Break |
| 12/4 | Last Class Day |
| 12/10 | Final Exam |

Course Supervisor: Please inform your instructor of any problems you have with this course without delay.

Tentative Homework Assignments:

Problems marked with * should be done using MINITAB.

Chapter 6

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| 6.1 | 6.10, 6.11, 6.13, 6.14, 6.15, 6.25, 6.26, 6.28, 6.31, 6.34 |
| 6.2 | 6.50, 6.51, 6.52, 6.54, 6.56, 6.57, 6.58, 6.59, 6.68, 6.70, 6.71, 6.73 |
| 6.3 | 6.89, 6.92, 6.93, 6.94, 6.95, 6.100 |
| 6.4 | 6.110, 6.111, 6.112 |

Chapter 7

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| 7.1 | 7.15, 7.16, 7.17, 7.18, 7.19, 7.20, 7.21, 7.22, 7.26, 7.30 |
| 7.2 | 7.61, 7.62, 7.68, 7.69, 7.70, 7.71, 7.72, 7.76 |
| 7.3 | 7.98, 7.99, 7.100, 7.101, 7.102 |

Chapter 8

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| 8.1 | 8.17, 8.19, 8.25, 8.26, 8.27, 8.30, 8.32, 8.39 |
| 8.2 | 8.55, 8.56, 8.60, 8.63, 8.65, 8.66, 8.67, 8.68, 8.69 |

Chapter 9

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| 9.1 – 9.2 | 9.14, 9.27, 9.29, 9.30, 9.35, 9.36, 9.37, 9.39, 9.43, 9.44 |
| 9.3 | 9.49, 9.50*, 9.52, 9.55 |

Chapter 10

10.8, 10.9, 10.10*, 10.11*, 10.12*, 10.13*, 10.22*, 10.23*, 10.24*, 10.25*, 10.26*, 10.27*, 10.42*, 10.45*, 10.46*, 10.47*

Chapter 11

11.7, 11.8, 11.12, 11.13, 11.14, 11.15, 11.21*, 11.22*, 11.23*, 11.25*, 11.26*, 11.31*, 11.32*, 11.33*

Chapter 12

12.9, 12.11, 12.13, 12.15, 12.19, 12.27, 12.31, 12.38*, 12.39*, 12.51*, 12.52*

Chapter 13

13.5, 13.6, 13.7, 13.8, 13.12, 13.23, 13.27, 13.35*, 13.36*