MAT 221   Elementary Probability and Statistics I
Fall Semester 2017

This is the common syllabus for all MAT-221 sections. Each section and recitation instructors will provide their own contact information. Contact information for all math faculty and teaching assistants are also available at `http://math.syr.edu/people/office-hours.html`.

Course Description: This course is the first course in the Quantitative Skills sequence MAT 221-222. The primary objective of MAT 221 is to provide students with knowledge of elementary probability and statistics. Students will learn the basic concepts of descriptive statistics, design of experiments, probability theory, sampling distributions, and estimation of parameters. Students continuing to MAT 222 will learn how to use statistics to make various decisions.

Mathematics Prerequisite: Algebra competency

Textbooks: *Introduction to the Practice of Statistics* by D. S. Moore, G. P. McCabe, and B.A. Craig, 9th edition. Chapters 1-6 will be covered in MAT 221.

Calculator: You will need a calculator to do the computations that will arise throughout the course. No specific calculator is required, but TI 84 or TI 83 graphing calculator is highly recommended. Calculators are not to be shared during exams and quizzes.

Exams: All exams, including the final exam, are closed book and closed notes. Students may use any type of calculators they wish except calculators capable of wireless communication. Cell phones or any other devices capable of wireless communication are not allowed. Student ID's will be checked at the exams. There will be no make-up exams, even in the case of an emergency. With an acceptable written excuse, a missed exam score will be replaced by the score on the corresponding portion of the material on the final exam.

There will be two midterm examinations which will be held in the following weeks:

> Exam 1   Week of October 2
> Exam 2   Week of November 6

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 a.m. and 2:30 p.m. on Wednesday, December 13, 2017. There will be no exceptions, so you should not make plans to leave campus before 2:30 p.m. on Wednesday, December 13, 2017.

Homework: Homework will be done online using WeBWorK, an open-source homework system for math and sciences courses. The number of attempts on each problem is unlimited. Problems can be done in any order, and you do not have to do them all at once. You can also get a PDF file of the entire assignment and print it out to work offline. Two lowest WeBWorK scores will be dropped.

WeBWorK access information:

If you enrolled in this class before Aug. 25th, 2017, you can set up your WeBWorK account now. Otherwise, you have to wait until after the Add deadline (Sep. 5th, 2017) to do so.

1. Go to `http://webwork.syr.edu/`, and click on the class name (MAT_221_Fall_2017).

2. Your Username is your NetID. (For example, your username would be "jqpublic" if your email is jqpublic@syr.edu.)

3. Your Password is initially set to be your 9-digit SUID. You should change it after logging in.

Additional practice HW problems may be assigned occassionally by the lecture instructor. The instructor will clarify whether or not those problems will be collected.

Quiz: Starting from the second week of classes, there will be a quiz in recitation similar to the homework problems. The specific sections covered by each quiz will be announced in lecture. There will be no make-up quizzes, even in the case of an emergency. The lowest two quiz scores will be dropped.

Grading: Your final grade will be based on two midterm exams (25% each), a cumulative final exam (30%), weekly quizzes (12%), and HW (8%). Final letter grades will be given according to the following scale:

Raw Grade x	Letter Grade	Raw Grade x	Letter Grade
$93 \leq x \leq 100$	A	$77 \leq x < 80$	C+
$90 \leq x < 93$	A-	$73 \leq x < 77$	C
$87 \leq x < 90$	B+	$70 \leq x < 73$	C-
$83 \leq x < 87$	B	$60 \leq x < 70$	D
$80 \leq x < 83$	B-	$0 \leq x < 60$	F

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

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 exam.

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.

For this course in particular, the use of any notes or another person's work during quizzes and exams is considered to be a violation of the academic integrity policy. A first violation will result in a zero on the quiz or exam. A second violation will result in failing the course.

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. For more information and the complete policy, see `http://class.syr.edu/academic-integrity/`

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. An online notification process is available through MySlice (Student Services $\rightarrow$ Enrollment $\rightarrow$ My Religious Observances) from the first day of class until the end of the second week of class.

Available Student Assistance: Your recitation instructor will hold regular office hours and will make appointments with students having class conflicts with their scheduled office hours. Your lecture instructor will also have office hours. In addition, the Mathematics Department offers help in the Math Clinic, located at 109 Carnegie. The hours are posted on `http://math.syr.edu/undergrad/math-help.html`.

Learning Goal: Students will be expected to

1. use and understand basic mathematical notations;

2. select and apply an appropriate mathematical model for certain elementary probability problems;

3. do basic hand calculations with accuracy;

4. use appropriate hardware and software related to certain probability distributions.

Tentative Course Schedule

This schedule is only tentative. It is your responsibility to find out which topics are covered in class each week.

Week of Aug-28	Ch.1	Week of Oct-23	Ch.3/Ch.5
Week of Sep-4	Ch.1	Week of Oct-30	Ch.5
Week of Sep-11	Ch.4	Week of Nov-6	Ch.5/Review/Exam 2
Week of Sep-18	Ch.4	Week of Nov-13	Ch.6
Week of Sep-25	Ch.4	Week of Nov-20	Thanksgiving Break
Week of Oct-2	Ch.4/Review/Exam 1	Week of Nov-27	Ch.6
Week of Oct-9	Ch.2	Week of Dec-4	Ch.6/Review
Week of Oct-16	Ch.2/Ch.3		

Suggested Practice Problems

Since WeBWorK does not provide enough problems for you to learn the concepts covered in this class, you should work these textbook problems as the corresponding section is covered in lecture. Exams and quizzes are based on these textbook problems as well as the WeBWorK problems.

SECTION	PROBLEMS
1.1	7(a−d), 8(a−d) 9, 11(a), 14(a−c)
1.2	25(a,b), 27(a,c), 28, 29, 34, 35, 39(a−c), 40
1.3	65, 66, 67(a−c), 68, 69, 70(a−c), 75-80, 87, 88(a−c)
1.4	102, 103, 110, 111(a), 112-115, 118-121, 124-135, 138a, 139a
4.2	18, 21-23, 25-35, 38-41
4.3	45, 48, 49, 53-59, 61, 62
4.4	68, 70-78, 83, 86
4.5	96-120, 123
2.1	5, 6
2.2	16, 17, 24, 32, 34b
2.3	41, 46, 60
2.4	73(a,b), 75c, 76, 77, 87
2.5	101-103, 105-107
2.7	135-141, 143
3.1	14, 15, 16
3.2	24, 25, 27, 31, 34
3.3	50, 54, 55, 58, 63, 70
5.1	7-9, 12
5.2	25, 26, 28-34, 37-39
5.3	57-65, 69, 71, 73, 78
6.1	12-17, 19, 20, 23-25, 27-29, 33, 36
6.2	52-59, 72-75
6.3	95, 98-101, 106