

# MAT 121: Probability & Statistics for the Liberal Arts I

## M002 — Summer 2019

### Instructor Information

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*Office Hours:* TW 1:00–2:00 pm  
*Course Supervisor:* Dr. Leonid Kovalev

### Class Information

*Dates:* May 20 – June 28  
*Time:* MTWR 2:00–4:25 pm  
*Classroom:* Carnegie 110 (Lecture) & 124 (Labs)

### Course Description

First in a two-course sequence. Teaches probability and statistics by focusing on data and reasoning. Topics include displaying data, numerical measures of data, elementary probability, discrete distributions, normal distributions, confidence intervals. NOTE: 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.

### Course Objectives

After this course, you should be able to . . .

- explain what the field of Statistics is.
- recognize good/bad Statistics in real world situations.
- state how Statistics can be used/abused in real-world situations.
- explain some of the basic vocabulary and mathematical tools used in Statistics.
- apply basic statistical tests to make inferences about real-world scenarios.
- improve your mathematical literacy and logical thinking skills.

### Textbook, Calculators, & Software

Textbook: *Elementary Statistics with Finite Mathematics*, 5th Edition, Triola, Syracuse University. ISBN: 9781323762479 (Ordinary Textbook ISBN: 9781323752234).

Lab Manual: *Elementary Statistics Minitab Manual*. ISBN: 9781323764176.

Calculator: You will need a calculator to do the computations that will arise throughout the course. No specific calculator is required; however, any calculator that can do roots/powers will suffice. Note that Carnegie Library offers calculators for 3 hour loan, if you have a valid SU ID.

Software: Excel and Minitab will be used for statistical computations throughout the course. However, you will not be required to own a copy of either; both Excel and Minitab can be found on almost any campus computer.

### **Phone and Device Policies**

Following the Mathematics Department guidelines, all electronic devices should be turned off and put away during class. Use of such devices can result in dismissal from class. If there is an issue which requires you to need a phone in class, discuss this with your instructor.

### **Class Attendance and Participation**

It is essential to your success in this course that you attend each lecture and participate in the discussions. Therefore, you are expected to attend each lecture and to show up on time. Should you need to miss a class for any reason, you are to contact the instructor in a timely manner. Reasons for missing lecture must be documentable and presented, if requested. You are responsible for any material covered, any work assigned, or any course changes made during the lecture. *Do not* expect the instructor to provide notes from any class that you might miss. More than three unexcused absences from lectures could result in receiving an 'F' in the course. Furthermore, excessive lateness will also count as an absence. If you are dismissed from lecture due to problems during the lecture, e.g. disruptive behavior or unauthorized cell phone use, then this dismissal will be recorded as an absence.

*Syracuse University's Attendance Policy including Verification of Medical Condition:* Attendance in classes is expected in all courses at Syracuse University. It is a federal requirement that students who do not attend or cease to attend a class to be reported at the time of determination by the faculty that the student never attended or stopped attending the class. Faculty use Early-Semester Progress Reports and Mid-Semester Progress Reports in Orange SUccess to alert the Registrar and Financial Aid Office. For more information, [visit this link](#). Excuses for class absences for medical reasons will be given only if such absences are advised by a health care provider at the Health Center, based on clinical findings and prescribed treatment recommendations. Excused notes will not be given solely to confirm a visit to the Health Center; Health Services does not issue excuse notes for medical absences. Students may contact the Office of Student Assistance in cases where they are absent from class for an extended period of time (48 hours or more) due to illness or other medical condition. The Office of Student Assistance will utilize Orange SUccess to send absence notifications to faculty. For illnesses lasting less than 48 hours, the student should discuss academic arrangements with their faculty. For complete details on excuse notes, [visit this website](#).

## Homework & Labs

The only way to learn Mathematics is to do Mathematics! It is essential for students to complete all of the homework assignments and labs. The purpose of homeworks and labs will for you to practice the statistical concepts covered in class. Homeworks are your chance to independently work through problems and test your personal ability to work through statistical problems and concepts. These will help you understand how you would perform on the course material during exams. Labs are a chance to engage in mathematics through group work, expand your ability to discuss and explain mathematics, and extend your ability to experience Statistics using statistical software.

If you need or desire an extension on any homework or lab for any reason, contact your instructor in a timely fashion, as permitted by the need. There is no guarantee that you will receive an extension on any assignment, so plan your schedule carefully. Finally, you are encouraged to work with others on homeworks. Mathematics is a social activity! However, do not simply use others to do your work but rather use others to help work through and engage in the concepts. Work through the problems first on your own and then discuss with others. If you work with others on written homeworks or labs, indicate on your assignment with whom you worked. *Plagiarism is unacceptable* and will result in a zero grade for all persons involved, and will result in serious academic repercussions.

## Exams

There will be two exams and a final exam. You are expected to be present, seated, and ready to take the exam before the exam begins. You are not permitted to use any outside materials, resources, or electronic devices (including but not limited to mobile phones, smartwatches, etc., but not including a calculator) on the exams. Any violation of this policy is a violation of the university's Academic Integrity Policy. The first exam will be on May 30th and covers Chapters 1–3. The second exam will be June 13th and covers Chapters 4–6. The final exam is comprehensive and will be given during the last day of class.

*There will be no make-up exams, even in the case of an emergency.* A missed exam counts as a zero unless a valid excuse from a physician or the Dean's Office is presented to your instructor. With an acceptable written excuse, a missed exam score will be replaced with the percentage earned on the corresponding subsection of the final exam.

## Grading

The course grade is determined by the following components:

Homework	20%
Labs	20%
Exam 1	20%
Exam 2	20%
Final Exam	20%

## Grade Scale

Final grades will be assigned according to the following scale:

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

## Mathematics & Writing Help

Be proactive about your success in the course! If you need help, there are many resources available to help you. Your first primary contact for help is the instructor. If you are struggling, attend office hours or send an email. Do not wait to bring issues, course related or otherwise, to the attention of the instructor. If you cannot attend office hours, send an email to the instructor to try to make other arrangements. You can find a list of the mathematics help available to you, as well as the corresponding schedules, at <http://math.syr.edu/undergraduate/math-help.html>. For the full range of academic services available to you, visit <https://myt.syr.edu/>.

## Students with Disabilities

Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. My goal as your instructor is to create a learning environments that are useable, equitable, inclusive and welcoming. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or accurate assessment or achievement, I invite you to meet with me to discuss additional strategies beyond accommodations that may be helpful to your success.

If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS) located at 804 University Avenue, third floor or go to the ODS website at <http://disabilityservices.syr.edu/> and click current students tab to register on-line. You may also call 315.443.4498 to speak to someone regarding specific access needs. ODS is responsible for coordinating disability-related accommodations and will issue 'Accommodation Letters' to students as appropriate. Since accommodations may require early planning and are not provided retroactively, please contact ODS as soon as possible.

## Faith/Tradition Observances Policy

Syracuse University's religious observances policy, found at [http://supolicies.syr.edu/emp\\_ben/religious\\_observance.htm](http://supolicies.syr.edu/emp_ben/religious_observance.htm), recognizes the diversity of faiths represented in the campus community and protects the rights of students, faculty, and staff to observe religious holy days according to their tradition. Under the policy, students should have an opportunity to make up any examination, study, or work requirements that may be missed due to a religious observance provided they notify their instructors no later than the end of the second week of classes for regular session classes and by the submission deadline for flexibility formatted classes. You should discuss with your instructor how any missed work is to be made up in a timely fashion; in particular, discuss

the issue with them *before* the absence. Student deadlines are posted in MySlice under Student Services/Enrollment/My Religious Observances/Add a Notification.

### **Counseling Services**

If at any point during the semester, you feel overwhelmed with your class work, feel thoughts of depression/suicide, experience sexual assault/rape, experience problems with substance abuse or relationship abuse, or have any other struggles with physical/mental health, ***please seek help!*** The Counseling Center Services at Syracuse University is a resource offering assistance with any issue you might have - both individually and through group sessions. There is ***never*** any shame in seeking help. If you or someone you know is struggling with any of these issues, speak out! The Counseling Center Services website can be found at <http://counselingcenter.syr.edu/>, is located at 200 Walnut Place, Syracuse NY 13244-4350, and can be contacted at 315.443.4715.

If you or someone you know is having issues with gender or sexual identity issues, the LGBT[QIA]+ Center is there to create a safe space for those with marginalized genders and sexualities or those who might be struggling with these issues. The LGBT[QIA]+ Center website can be found at <http://lgbt.syr.edu/>, is located at 750 Ostrom Avenue, Syracuse, NY 13244-4350, and can be contacted at 315.443.3983. Know that my office is a safe space and should you prefer any gender specific pronoun/name, please be sure to make me aware!

### **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 university 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 written 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, the academic integrity aspects especially relate to quizzes/exams, as well as independent work to be done for any labs, projects, and reports. No student is allowed to use *any* electronic device, except for a calculator, during any quiz or exam until the quiz or exam is turned in. Accessing material beyond what is provided on the formula card, tables, and the basic calculator functionalities during any quiz or exam is a violation of the academic integrity policy. For any project or reports, standard plagiarism policies apply. Please, review the Syracuse University Libraries page on plagiarism: <https://researchguides.library.syr.edu/c.php?g=258089&p=1723661>. Note that the university offers writing assistance to students, see the "Mathematics & Writing Help" section of the syllabus. Additional rules regarding the projects and reports will be given throughout

the semester.

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/policy/>.

### **Orange Alert**

Orange Alert, Syracuse University's crisis notification system, uses text messages, phone, and email alerts to provide rapid notification and instructions to members of the University community in the event of a critical incident in progress. Critical incidents could include an individual who is considered armed and dangerous, a hazardous materials incident, an explosion, or any other event in which there is an immediate threat of physical harm or death to campus community members. Orange Alert contact information for students, faculty, and staff is drawn from the MySlice online information system; please keep your contact information current. In the event of an emergency, the phone emergency line from on-campus is 711; the phone emergency line from off-campus is 315.443.2224; the phone emergency line from cell phone providers ATT/Verizon/Nextel is #78. For complete details on emergency procedures, visit: <http://emergencyguide.syr.edu/>.

### **Use of Student Work**

In compliance with the federal Family Educational Rights and Privacy Act, registration in this class is understood as permission for assignments prepared for this class to be used anonymously in the future for educational purposes.

### **Email Policy**

Syracuse University has established email as a primary vehicle for official communication with students, faculty, and staff. All email communication in this course should be done using your @syr.edu email account. Due to federal laws, such as FERPA, emails coming from a non-SU email may not receive a response. Please, title emails with MAT 121: [Email Issue], where "email issue" is a summary title of the content of the email. This is to help ensure that your email is noticed and responded to.

### **Important Dates**

Summer at Syracuse (University College) is not publishing the deadlines this summer. With so many flexible format classes, departments and students were not aware of the correct deadlines, which caused confusion for everyone. They are publishing information on how students can find their own deadlines. To find these dates and deadlines, go to <http://myslice.syr.edu> and login with your SU ID. Any important dates will be found under View My Class Schedule and/or Finances → View Financial Deadlines.

## Tips for Success

- Be proactive about your success in the course.
- Do not procrastinate! Begin your assignments and studying early!
- Attend every class and lab.
- Ask questions whether it is during class, lab, office hours, at the math clinic or via email to your instructor.
- Form a study group! Working together will help you and others better understand the course material as you can work through different difficulties and offer each other clarifications on concepts.
- Do problems! Reading through your notes is not enough. Seek out new problems and work through them carefully. When you are done, check your answer. If you are wrong, examine carefully what misunderstanding occurred and how to avoid it in the future. If you were correct, examine if there was a faster way, check to see if your solution ‘flowed’ and was easy to read, and think over what concepts/computations were used and what ‘type’ of problem the exercise was.
- Always check to be sure that you understand when a statistical computation can be used and possible sources of error or bias in the statistics computed.
- Every time you approach a new concept, carefully think how it could be applied in your own field of study.