

# MAT 221 - Elementary Probability and Statistics I - Fall 2025 Syllabus

Note: This is the common syllabus for all MAT-221 sections.

## Sections & Instructors:

Class #	Section	Days & Times	Room	Instructor
11257	SEC-M100	TuTh 8:00AM - 9:20AM	Stolkin Auditorium (Physics Bldg.)	T. John
11258	SEC-M200	MWF 11:40AM-12:35PM	Grant Auditorium (Falk School)	X. Au

- M100 Instructor: Thomas John, PhD., Office: 313D Carnegie, email: [thjohn@syr.edu](mailto:thjohn@syr.edu), Ph: x1587
- M200 Instructor: Suanne Au, PhD., Office: 207 Carnegie, email: [xgau@syr.edu](mailto:xgau@syr.edu), Ph: x1498
- Course Supervisor: Thomas John, PhD. Please inform your instructor of any problems that you are having with the course. Problems that are not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor immediately.

Each recitation instructor will provide their own contact information. Contact information for all math faculty and teaching assistants are also available at <https://artsandsciences.syracuse.edu/mathematics/mathematics-people/>.

Office hours information for each instructor will be provided by them as the semester gets underway.

**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

## Textbook & Orange Inclusive Access:

- *Introduction to the Practice of Statistics*, D. S. Moore, G. P. McCabe, and B.A. Craig, 10th ed.
- Chapters 1-6 will be covered in MAT 221.
- Your course materials will be provided through Orange Inclusive Access (OIA). You are automatically enrolled and your required course material will be accessible via Blackboard (once it is made available). All you need to do is log in to Blackboard course page and follow the instructions.
- Students have fourteen days from the start of classes to choose to opt-out of participation. If a student does not opt out before that deadline, their bursar student accounts will be charged for the amount of the materials. If you opt out, you are still responsible for obtaining the materials elsewhere.

**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:** There will be two midterm examinations and a cumulative (comprehensive) final exam. The specific dates of the midterm exams, as well as the specifics for each section, will be decided and announced by the lecture instructor. See the course calendar in the next page for the tentative time frames.

**Final Exam:** The final exam will be comprehensive. Currently lower-level mathematics courses (including MAT-221) are assigned a general exam time period (Exam Day 2, Period 06 Fri, Dec 12, 2025, 8:00am – 2:30pm). A specific 2-hour block and a specific location (possibly different from the lecture auditorium) will be assigned by the registrar for MAT-221 towards the end of the semester. Once decided, this information will be available on MySlice and will be announced in lecture. All students must take the final exam at the scheduled time. There will be no exceptions, and so **you should not make any other plans on Fri, Dec 12, 2025, 8:00am – 2:30pm**

**Missed Exams/Quizzes:** There will be no make-up exams/quizzes for any reason. A missed exam/quiz will count as a zero unless it is due to a documented religious observance, University-sponsored event, or documented emergency. For religious observances and for university-sponsored events, this documentation must be submitted in advance. For emergencies, you must present documentation from a physician or from the Dean's Office as soon as possible. In such cases, a missed exam/quiz score will be replaced by the score on the corresponding portion of the material on the final exam.

**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. Two lowest WeBWorK scores will be dropped.

WeBWorK access information: [*This will not be available/accessible until the first day of classes*]

- Go to <https://webwork.syr.edu/webwork2/>, find your course link named in the form MAT\_221\_Fall\_2025\_\*\*\* (replacing \*\*\* with your section instructor last name).
- Username is your netid (without the at-syr-edu) in ALL lowercase letters (be aware of browsers sometimes capitalizing the first letter in an entry field).
- Initial password is your 9-digit numeric SU-ID number (the physical ID card has a 10th digit past a dash and is not included in the password).
- If you have used WeBWorK before, your password will still be reset.
- Your instructor will have to manually enroll you for you to have access. That is, it is not automatic.
- Please note that this site is NOT managed by the ITS (its.syr.edu). As such, please do not contact the ITS (its.syr.edu) for password reset and access questions. Please contact your instructor.

**No HW Extensions:** No extension will be given in any circumstances. If you have a valid excuse, you may be exempted from that HW, as long as your excuse covers the entire HW period- not just the due date only. Do not wait until the due date to do your HW. "Internet problems," "Broken laptops," "homework portal down on due date," etc. are not valid excuses. However, if there is a persistent homework portal/server problem which is longer than a day (24 hours), then HW due time may be changed.

**Grading:** Your final grade will be based on two midterm exams (20% each), a cumulative final exam (25%), Daily Quizzes (20%), and HW (15%). Final letter grades will be based on the following scale:

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

**Quiz:** There will be a short timed quiz on WeBWorK after each lecture based on the material covered in that lecture. The logistics, including the due times will be announced by the lecture instructor.

**Available Student Assistance:** Your recitation instructor and your lecture instructor will have office hours. In addition, the Mathematics Department offers help in the Math Clinic. The hours and location are posted on <https://artsandsciences.syracuse.edu/mathematics/undergraduate-studies/math-help/> (Fall 2025 hours to be posted by the 3<sup>rd</sup> week of classes).

In addition, Center for Learning and Student Success (CLASS) offers free group tutoring sessions for MAT 221. Visit <https://class.syr.edu> to learn more and register for a session.

**Shared Competency:** MAT 221 fosters the shared competency (Syracuse University's university-wide learning goals for undergraduate students): "Scientific Inquiry and Research Skills".

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

Week	Chapter	Week	Chapter
Week of Aug-25	Chapter 4 (4.1 & 4.2)	Week of Oct-20	Chapter 5 & 6 (5.3 & 6.1)
Week of Sep-01	Chapter 4 (4.5)	Week of Oct-27	Chapter 6 (6.1 & 6.2)
Week of Sep-08	Chapter 4 (4.5)	Week of Nov-03	Section 6.2 & Exam 2 (on the last lecture day of the week)
Week of Sep-15	Chapter 1 (1.1-1.3)	Week of Nov-10	Sec 6.3 & Ch. 2 (2.1-2.3)
Week of Sep-22	Ch. 1 & 4 (1.4, 4.3, 4.4)	Week of Nov-17	Chapter 2 (2.4-2.6)
Week of Sep-29	Catchup & <b>Exam 1</b> (on the last lecture day of the week)	Week of Nov-24	<b>Thanksgiving Break</b>
Week of Oct-06	Chapter 5 (5.1 & 5.2)	Week of Dec-01	Chapter 3 (3.1-3.3)
Week of Oct-13	<b>Fall Break (10/13 &amp; 10/14)</b> Chapter 5 (5.2 & 5.3)	Week of Dec-08	Catchup & Review for Final
		<b>Friday Dec-12th</b>	<b>FINAL EXAM BLOCK</b>

**Learning Objectives:** After taking this course, students will be able to:

- Demonstrate understanding of the key principles of descriptive statistical analyses
- Summarize data numerically and graphically
- Recognize particular sampling and statistical experimental designs, as well as their usage and purpose
- Demonstrate understanding of basic concepts of mathematical probability.
- Compute probabilities and work with key random variable distributions based on specific contexts and using various rules
- Demonstrate understanding of the importance of Central Limit Theorem and the associated approximations
- Demonstrate understanding of basic statistical inference procedures (confidence intervals and statistical tests of hypotheses)

**Tips for success in this course:**

- It is absolutely essential that you understand how to solve all the assigned problems. Once you understand how to solve a problem, write your solution down neatly and in full detail with explanations that make your reasoning clear.
- Don't fall behind. If you are having difficulties keeping up with the material, seek help.
- Take advantage of all the help available for students (listed above in this syllabus).
- Discussing problems with a classmate is very useful.
- Questions in class and recitations are strongly encouraged.
- Expect to work hard. Don't get discouraged if you find some of the material difficult. Be persistent and patient.

**Important Syllabus Reminders from the Office of Academic Affairs:** Following are the language the University asks the faculty to provide in their syllabi: [from [academicaffairs.syracuse.edu/important-syllabus-reminders/](http://academicaffairs.syracuse.edu/important-syllabus-reminders/)]

**Academic Drop Deadline:** As part of our efforts to track satisfactory academic progress, the Academic Drop Deadline and the Financial Drop deadline will both occur on September 15, 2025, for the fall semester. Students may still withdraw from courses after these deadlines; this would place a 'WD' grade on their transcripts. Students enrolled in "flex" classes (Flexibly formatted classes) have different deadlines and will need to check MySlice for the Academic and Financial Drop deadlines that pertains to their class.

**Academic Integrity And Artificial Intelligence:** As a pre-eminent and inclusive student-focused research institution, Syracuse University considers academic integrity at the forefront of learning, serving as a core value

and guiding pillar of education. Syracuse University's Academic Integrity Policy provides students with the necessary guidelines to complete academic work with integrity throughout their studies. Students are required to uphold both course-specific and university-wide academic integrity expectations such as crediting your sources, doing your own work, communicating honestly, and supporting academic integrity. The full Syracuse University Academic Integrity Policy can be viewed by visiting the Syracuse University Policies website.

Upholding Academic Integrity includes the protection of faculty's intellectual property. *Students should not upload, distribute, or share instructors' course materials, including presentations, assignments, exams, or other evaluative materials without permission. Using websites that charge fees or require uploading of course material (e.g., Chegg, Course Hero) to obtain exam solutions or assignments completed by others, which are then presented as your own violates academic integrity expectations in this course and may be classified as a Level 3 violation.* All academic integrity expectations that apply to in-person assignments, quizzes, and exams also apply online.

Specifically for this course, the academic integrity aspects relate to quizzes/exams. A student is not allowed to use ANY electronic device except for their calculator during the quiz/exam until the quiz/exam is handed in. Accessing material beyond standard calculator functionalities and any statistical table provided during the quiz/exam will be a violation of academic integrity.

Students found in violation of the policy 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. Students may not drop or withdraw from courses in which they face a suspected violation. Any established violation in this course may result in course failure regardless of violation level.

**Artificial Intelligence:** Syracuse's academic integrity expectations extend to the fast-growing realm of artificial intelligence (AI) and represent the importance of understanding, exploring, and evaluating emerging technologies.

Based on the specific learning outcomes and assignments in this course, artificial intelligence is permitted on the following: any work done outside of the lecture and the recitation but with explicit indication (disclosure and citation) and step-by-step explanations of the submitted work. See each assignment, quiz, or exam instructions for more information about what artificial intelligence tools are permitted and to what extent, as well as citation requirements. If no instructions are provided for a specific assignment, then no use of any artificial intelligence tool is permitted. Any AI use beyond that which is detailed in course assignments is explicitly prohibited except when documented permission is granted.

[Above is language from Option 2 from [academicaffairs.syracuse.edu/important-syllabus-reminders/](http://academicaffairs.syracuse.edu/important-syllabus-reminders/) || Some Artificial intelligence use]

**Academic Integrity Online:** All academic integrity expectations that apply to in-person quizzes and exams also apply to online quizzes and exams. In this course, all work submitted for quizzes and exams must be yours alone. Discussing quiz or exam questions with anyone during the quiz or exam period violates academic integrity expectations for this course.

In addition, *using websites that charge fees or require uploading of course material (e.g., Chegg, Course Hero) to obtain exam solutions or assignments completed by others and present the work as your own violates academic integrity expectations in this course and may be classified as a Level 3 violation, resulting in suspension or expulsion from Syracuse University.*

**Attendance Policy (including Absence Notification):** Attendance in classes is expected in all courses at Syracuse University. It is a federal requirement that faculty promptly notify the university of students who do not attend or cease to attend any class. Faculty will use Early-Semester Progress Reports and Mid-Semester Progress Reports in Orange SUccess to alert the Registrar and Financial Aid Office on non-attendance. For more information visit: <http://registrar.syr.edu/students/non-attendance/>

If a student is unable to participate in-person or virtually for an extended period of time (48 hours or more), the student may request an absence notification from their home school/college Dean's Office or through Student Outreach and Support office. Instructors will be notified via the "Absence Notification" flag in Orange SUccess.

Barnes Center at the Arch (Health, Counseling, etc.) staff will not provide medical excuse notes for students. When Barnes Center staff determine it is medically necessary to remove a student from classes, they will coordinate with Student Outreach and Support case management staff to provide appropriate notification to faculty through Orange Success. For absences lasting less than 48 hours, students are encouraged to discuss academic arrangements directly with their faculty.

Additional information may be found at Student Outreach and Support: Absence Notifications >>  
<https://experience.syracuse.edu/student-outreach/student-support/absence-notifications/>

**Blackboard Learning Management System:** This class will use the Blackboard Learning Management to house the syllabus, course content, links to external course materials, assignments, quizzes, exams, feedback, and grades. Due dates and times in Blackboard are stored in Coordinated Universal Time (UTC) and displayed for each user based on the time zone setting of their computer and data from their internet browser. The system will always display the time zone being used. If an instructor sets a due date of 11pm Eastern time, a student in the Pacific time zone will see a due date of 8pm.”

Information about Blackboard is available on Answers Blackboard; alternatively, you can contact Information Technology Services by sending an email to [help@syr.edu](mailto:help@syr.edu), calling 315.443.2677, or in-person at the ITS Service Center, located at 1-227 CST in the Life Sciences Complex. Business hours for the Service Center can be found on the ITS website.

**Disability Syllabus Statement:** Syracuse University values access and inclusion; we are committed to a climate of mutual respect and full participation. There may be aspects of the instruction or design of this course that result in barriers to your inclusion and full participation in this course. I invite any student to contact me to discuss strategies and/or accommodations (academic adjustments) that may be necessary to ensure equitable access, and to collaborate with the Center for Disability Resources (CDR) in this process.

If you would like to discuss disability-related accommodations or register with CDR, please visit Center for Disability Resources. Please call (315) 443-4498 or email [CDRspecialist@syr.edu](mailto:CDRspecialist@syr.edu) for more detailed information.

CDR is responsible for coordinating disability-related academic accommodations and will work with the student to develop an access plan. Since academic accommodations are generally not provided retroactively, please contact CDR as soon as possible to initiate this process.

**Discrimination Or Harassment:** The University does not discriminate and prohibits harassment or discrimination related to any protected category including creed, ethnicity, citizenship, sexual orientation, national origin, sex, gender, pregnancy, reproductive health decisions, disability, marital status, political or social affiliation, age, race, color, veteran status, military status, religion, sexual orientation, domestic violence status, genetic information, gender identity, gender expression or perceived gender.

Any complaint of discrimination or harassment related to any of these protected bases should be reported to Sheila Johnson-Willis, the University’s Chief Equal Opportunity & Title IX Officer for Faculty and Staff. She is responsible for coordinating compliance efforts under the various laws including Titles VI, VII, IX and Section 504 of the Rehabilitation Act. She can be contacted at Equal Opportunity, Inclusion, and Resolution Services, 621 Skytop Road, Suite 1001, Syracuse University, Syracuse, NY 13244-1120; or by email: [equalopp@syr.edu](mailto:equalopp@syr.edu); or by telephone: 315-443-4018.

**TITLE IX:** Federal and state law, and University policy prohibit discrimination and harassment based on sex or gender (including sexual harassment, sexual assault, domestic/dating violence, stalking, and sexual exploitation). If a student has been impacted by any prohibited behavior based on sex or gender, they can obtain confidential counseling support, 24-hours a day, 7 days a week, from the Sexual and Relationship Violence Response Team at the Counseling Center (315-443-8000, Barnes Center at The Arch, 150 Sims Drive, Syracuse, New York 13244). Incidents of sexual or relationship violence or harassment can be reported to the University’s Title IX Coordinators (Sheila Johnson Willis, Chief Equal Opportunity Officer and Title IX Officer for Faculty and Staff, 315-443-4018, [equalopp@syr.edu](mailto:equalopp@syr.edu) or Pamela Peter, Director/Coordinator of Student Title IX Case Management, 315-443-0211,

titleix@syr.edu). Reports to law enforcement can be made to the University's Department of Public Safety (315-443-2224, 005 Sims Hall), the Syracuse Police Department (511 South State Street, Syracuse, New York, 911 in case of emergency or 315-435-3016 to speak with the Abused Persons Unit), or the State Police (Campus Sexual Assault Victims Unit, 844-845-7269). I will seek to keep information you share with me private to the greatest extent possible, but as a professor I have mandatory reporting responsibilities to share information regarding sexual misconduct, relationship violence, stalking, harassment, and crimes I learn about with the University's Title IX Officer to help make our campus a safer place for all and to ensure you have access to available resources.

**Email Policy:** Syracuse University has established email as a primary vehicle for official communication with students, faculty, and staff. Emergency notifications, educational dialog, research, and general business correspondence are all consistently enhanced in institutions of higher learning where email policies exist and are supported by procedures, practice, and culture.

An official email address is established and assigned by Information Technology Services (ITS) for each registered student, as well as for all active faculty and staff members. All University communications sent via email will be sent to this address. Faculty and staff members must use the officially established University email address to communicate with students registered in their classes. Keep in mind that student records sent to a non-syr.edu email address may create a FERPA violation (See the complete policy at Syracuse University Email Policy).

**The Family Educational Rights And Privacy Act:** The Family Educational Rights and Privacy Act (FERPA) sets forth requirements regarding the privacy of student records. FERPA governs both the access to and release of those records, known as education records, and the information they contain. Under FERPA, faculty have a legal responsibility to protect the confidentiality of student records. For additional information about FERPA and Syracuse University's FERPA policy, see Compliance with the Family Education Rights and Privacy Act or contact the Office of the Registrar (315.443.2422).

Among the FERPA policies, of interest is section VI (Release Without Consent): "*FERPA authorizes the following disclosures of education record information without a student's consent:*" [...] part vii: "*Disclosures to parents of a dependent student, as defined in Section 152 of the Internal Revenue Code of 1986.*"

**Faith Tradition Observances:** Syracuse University's Religious Observances Policy 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 traditions. Under the policy, students are given 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 academic drop deadline. For observances occurring before the drop deadline, notification is required at least two academic days in advance. Students may enter their observances in MySlice under Student Services/Enrollment/My Religious Observances/Add a Notification.

**Health & Wellness Considerations:** Well-being and mental health are significant predictors of academic success. It is critical to take care of yourself physically and emotionally and to effectively navigate stress, anxiety, and depression. Please familiarize yourself with the range of resources the Barnes Center provides (<https://ese.syr.edu/bewell/>) and seek out support for mental health concerns as needed. Counseling services are available 24/7, 365 days, at 315-443-8000.

**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 crisis in progress. Crises 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.

In the event of an emergency, please use one of the following numbers to reach us:

From any phone: **315.443.2224**; From your cell phone: **#78 (#SU)**; Campus landline: **711**

For more information on ORANGE ALERT, including how to update your contact information, visit the DPS website <https://dps.syr.edu/public-information/orange-alert/>

**Policy on Faculty Use of Student Academic Work:** Educational use of student work: I intend to use academic work that you complete this semester in subsequent semesters for educational purposes. Before using your work for that purpose, I will render the work anonymous by removing identifying material.

**Reading Day and Final Exam Policies:** Reading days are designed to allow students the maximum opportunity to prepare for final examinations. Neither exams nor required class meetings may be scheduled on any reading day. The exam schedule is designed to reduce scheduling conflicts, to provide adequate study time during reading days, and to comply with the New York State instructional contact hours requirements. Exam times appear at Office of the Registrar: Final Exams Schedule and are available in MySlice/Faculty Center/My Exam Schedule.

**Registration Policy:** Students may not attend, submit work, audit, or otherwise participate in courses without being officially enrolled. Instructors may not allow students to attend classes or submit work unless they appear on the official class list or are attending with instructor approval for the purpose of making up an Incomplete (I) grade in a prior term. Instructors will check their class rosters regularly to ensure that everyone attending is registered for the class. Read the full policy in the Academic Rules section of the Undergraduate Course Catalog.

**Supporting Students' Academic Success:** Orange SUccess is the platform used to help students succeed by providing timely feedback on academic progress. Timely feedback from faculty members can also enhance advisor efforts. Several opportunities will be provided to offer feedback to students.

At any time during the semester, faculty may provide real-time feedback to students by raising early alerts in Orange SUccess. As mentioned above, this system provides immediate email notifications to students of alerts. Advisors can review attendance and progress indicators during advising meetings.

**Key Dates:** Please see <https://www.syracuse.edu/academics/calendars/academic-year/#fall-2025> for the key dates for the semester. In particular:

First day of classes/Extended Campus Classes	Monday, Aug. 25
Late registration and schedule adjustment	Monday, Aug. 25 - Tuesday, Sept. 2
Labor Day (no residential classes, University offices closed)	Monday, Sept. 1
Add deadline	Tuesday, Sept. 2
Early-semester progress report	Monday, Sept. 8 - Friday, Sept. 12
Academic/Financial deadline to drop class	Monday, Sept. 15
Grading option deadline (choose pass/fail or audit)	Monday, Sept. 15
Religious observance notification deadline	Monday, Sept. 15
Fall Break, excluding LAW (no residential classes)	Monday, Oct. 13 - Tuesday, Oct. 14
Mid-semester progress report	Thursday, Oct. 16 - Thursday, Oct. 30
Withdrawal deadline	Friday, Nov. 21
Thanksgiving Break (no residential classes, University offices open Monday through Wednesday)	Sunday, Nov. 23 - Sunday, Nov. 30
Last day of classes	Tuesday, Dec. 9
Reading days	Wednesday, Dec. 10, Saturday, Dec. 13, Sunday, Dec. 14
Final grades due from faculty	Tuesday, Dec. 30