

Syracuse University
Department of Mathematics
MAT 525: Mathematical Statistics
Term 1 2015–16

Instructor	William Volterman
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Lectures	TH 2:00 pm - 3:20 pm CARN 120
Office Hours	W 1:00 pm – 4:00 pm CARN 316A or by appointment
Text Book	Probability and Statistics (4th Edition) <i>Morris H. DeGroot and Mark J. Schervish</i> ISBN-10: 0321500466 ISBN-13: 978-0321500465

Prerequisite: Calculus and MAT 521 or equivalent. A good understanding of calculus will be necessary to perform well in this course.

Goals: The course will discuss statistical estimation and hypothesis testing. Point estimation will be taught with discussion on efficiency. Interval estimation and hypothesis testing will be discussed focusing on the likelihood ratio test. Goals of this course would be to understand basic ideas of statistical inference (estimation and testing), to learn theoretical basis of fundamental inferential procedure, and to apply them in real data analysis.

The learning outcomes as stated in the catalogue are as follows.

Estimation and confidence intervals, normal distribution and central limit theorem, testing hypotheses, chi-square, t, and F distributions, least squares, regression, and correlation.

Software: You will need a calculator for the course. No specific calculator is required.

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. The presumptive penalty for a first instance of academic dishonesty by an undergraduate student is course failure, accompanied by a transcript notation indicating that the failure resulted from a violation of academic integrity policy. The presumptive penalty for a first instance of academic dishonesty by a graduate student is suspension or expulsion. 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 more information and the complete policy, see <http://academicintegrity.syr.edu>.

Important Message The instructor(s) and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their email and course website during the term and to note any changes.

I.e., everything in this outline (or posted online) is subject to change.

Grading Scheme: The grading scheme is tentatively as below. Dates will be announced later. Alternative grading schemes may be considered. There are no make ups. If something is missed with legitimate reason and proof, the marking scheme will be adjusted accordingly.

- Assignments: 25%
- Midterm Tests: 30%
- Exam 45%

Attendance: You are expected to attend every class. 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 schedule/requirements/policies.

Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS), <http://disabilityservices.syr.edu>, located at 804 University Avenue, room 309, or call 315-443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue Accommodation Authorization Letters to students with documented disabilities as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

Our community values diversity and seeks to promote meaningful access to educational opportunities for all students. Syracuse University and I are committed to your success and to supporting Section 504 of the Rehabilitation Act of 1973 as amended and the Americans with Disabilities Act (1990). This means that in general no individual who is otherwise qualified shall be excluded from participation in, be denied benefits of, or be subjected to discrimination under any program or activity, solely by reason of having a disability.

Please contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations.

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.

Key dates: See the Academic Calendar for important dates during the term
<http://syracuse.edu/registrar/acadcalendars/acadd12015-16.pdf>

- First day of classes: **August 31st**
- Financial deadline to drop class: **September 21st**
- Academic drop deadline: **October 26th**
- Withdrawal deadline: **November 20th**
- Last day of classes: **December 11th**