

MAT 651 : Probability and Statistics I (Fall 2017)

Place and Time: Carnegie 219, Tuesdays and Thursday 8:00 am – 9:20 am.

Course Description:

A review of basic probability theory, transformations and moments, common families of distributions, multiple random variables and multivariate transformations, conditional probability and hierarchical distributions, sampling from the normal distributions, convergence concepts, order statistics.

Instructor

Professor Pinyuen Chen, Carnegie Building 316 B, 443-1577, pinchen@syr.edu.
Office Hours: Tuesdays Thursdays 9:30 am – 10:30 am & by appointments.

Text: *Statistical Inference*, by George Casella and Roger L. Berger, 2nd edition, Duxbury

Grading Policy:

Exam I: Chapters 1 and 2	25%
Exam II: Chapter 3 and Sections 4.1 and 4.2	25%
Exam III: Sections 4.3 to 5.4	25%
Homework	25%

- Homework will be graded. You should work on all homework problems yourself and be ready to present your solutions in class.
- Students who fail to present their “correct” solutions will receive a “0” for that homework set. Any student who receives “0”s in two homework sets will receive an F for the class.

Prerequisite: Calculus I, II, and III up to multivariate calculus.

Course Schedule: Chapters 1-4 and Sections 5.1 – 5.4.

References

Bickel and Doksum (2001) *Mathematical Statistics*, Vol. 1, 2nd edition, Prentice Hall.
Cox and Hinkley (1974) *Theoretical Statistics*, Chapman and Hall.
Dudewicz and Mishra (1988) *Modern Mathematical Statistics*, Wiley.
Gnedenko (1989) *Theory of Probability*.
DeGroot and Schervish (2010) *Probability and Statistics*, 4th edition or any earlier edition.

Learning Goals

Students will be expected to

- 1) use and understand basic mathematical notation;
- 2) select and apply an appropriate mathematical model for certain elementary probabilistic problems;
- 3) do basic hand calculations with accuracy;
- 4) use appropriate hardware and/or software related to certain probability distributions.

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.

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/>

Disability

Students who may need academic accommodations due to a disability are encouraged to discuss their needs with the instructor at the beginning of the semester. In order to obtain authorized accommodations, students should be registered with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498 and have an updated accommodation letter for the instructor. Accommodations and related support services such as exam administration are not provided retroactively and must be requested in advance."

For more information about services and policy, see [Office of Disability Services](#):

Office of Disability Services

804 University Avenue Room 309

Syracuse, New York 13244-2330

Phone: Voice: (315) 443-4498

TDD: (315) 443-1371

E-Mail: odssched@syr.edu

Religious Observances Policy:

Syracuse University's religious observances policy, found at http://supolicies.syr.edu/emp_ben/religious_observance.htm, recognizes the diversity of faiths represented among 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 are

provided an opportunity to make up any examination, study, or work requirements that maybe missed due to a 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.