

Math 183 – Elements of Modern Mathematics Syllabus for Fall 2018

Instructor and Supervisor: Professor Kari Shaw

Office: 305 Carnegie

Office Phone: 443-2650

Email: keshaw@syr.edu

Office hours: Tuesday 11:00 – 11:45 & 3:30 – 4:00

Thursday 11:00 – 11:45 & 3:30 – 4:00

These are drop in times – no appointment is necessary. You can also make an appointment for a different time if you cannot make these hours.

Course Description: This course is designed for students interested in management, finance, economics or related areas. The course will involve no calculus, and a thorough background in high school mathematics is the only prerequisite. The course has three main components: Linear Algebra, Probability & Statistics, and the Mathematics of Finance.

Textbook: Goldstein, Schneider, and Siegel (2010). *Finite Mathematics and its Applications* (3rd custom ed.) Pearson, Custom Edition for Syracuse University. We are NOT using WebAssign, although the textbook at the bookstore may be bundled with an access code.

Calculator: This course involves extensive use of the TI-84 or TI-83 graphing calculator. Each student is required to have a TI-83/4 calculator. The calculator will prove to be an indispensable tool throughout the course. Since the TI-83/4 will be useful, if not essential, for virtually every topic, it is important to familiarize yourself with the calculator as soon as possible. Though the main techniques will be demonstrated in class, it is up to you to become proficient with the calculator on your own. The TI-83/4 is the only calculator that may be used on exams or quizzes. In particular, calculators on cell phones, TI-Nspire with/or without TI-84 keypad are not to be used. Use of any other brand calculator, or any another model of Texas Instruments in the exams or quizzes is forbidden and if you use a calculator that is not allowed, then your exam or quiz may be counted as 0. All electronic devices other than the calculator should be turned off and put away during class. **The use of any electronic device other than the TI-83/84 during an examination is strictly forbidden.**

Online Homework will be done online using *WeBWork*, an open-source homework system for math and science courses. Access information:

1. Go to webwork.syr.edu
2. Click on the class name
3. Your username is your SU netID, for example *imstudent* (all lower case)
4. Your password is initially set to be your 9-digit SUID. You should change it after logging in.
5. If you have trouble logging in, email Prof Shaw: keshaw@syr.edu

The number of attempts on most problems is unlimited. Exceptions, for True/False or multiple choice, are clearly marked. Problems can be done in any order. You do not have to do them all at once. You have one week to complete most assignments. Assignments are due by 11:00 pm on the days they are due. You can get a PDF file of the entire assignment and print it out to work offline. Online homework will count 10% of your grade. You are encouraged to ask questions about the online homework in recitation and office hours.

Extension Policy: No extensions will be granted.

Extra Credit Policy: You will receive 33% **extra credit** for correct answers submitted in the **first 3 days an assignment is posted**. This will be handled by setting **full credit at 75%**. So any score over 75% contains extra credit. This extra credit is available throughout the semester and can directly improve your quiz scores. I urge you to take advantage of it.

Quizzes: There will be regular quizzes in your recitation section. Your TA will give you the quiz schedule. There will be no make-up quizzes. Your two lowest or missing quiz scores will be dropped.

Grading Policy: Your grade will be based on the your performance on homework and quizzes, the two in-class tests, and the final exam, those grades being weighted as follows.

| <i>Category</i> | <i>Weight</i> |
|--------------------|---------------|
| Exam 1 | 25% |
| Exam 2 | 25% |
| Final Exam | 30% |
| Quizzes & Homework | 20% |

Numerical grades will be combined as above, and rounded to two decimal places. Then letter grades will be assigned as follows:

| <i>Grade</i> | <i>Range</i> | <i>Grade</i> | <i>Range</i> | <i>Grade</i> | <i>Range</i> | <i>Grade</i> | <i>Range</i> |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| A | 93 – 100 % | A- | 90 – 92.99% | B+ | 87 – 89.99% | B | 83 – 86.99% |
| B- | 80 – 82.99% | C+ | 77 – 79.99% | C | 73 – 76.99% | C- | 70 – 72.99% |
| D | 60 – 69.99% | F | 0 – 59.99% | | | | |

TESTS: There will be two in-class tests and a comprehensive final exam. The final examination covers the entire course. The final exam will be given on Wednesday, December 12, during a two-hour period between 8:00 am and 2:30 pm, and at no other time. **Do not make plans to leave campus before 2:30 p.m. on Wednesday, December 12, 2018.** The exact time and location of the final will be announced later in the semester. Every student must take the exam at that time. There will be no exceptions. **No early final exams will be given.**

Exam I Thursday, October 4 (in class)

Exam II Thursday, November 15 (in class)

Final Exam Wednesday, December 12, in a 2-hour period between 8:00am and 2:30pm (exact time and place to be announced later). The use of any electronic device other than the TI-83/84 during an examination is strictly forbidden.

Note that the second test is the Thursday before Thanksgiving break. No early tests will be given. Do not make plans to leave early for Thanksgiving break before the test.

Important Dates:

- Add Deadline: Tuesday, September 4
- Academic & Financial Drop Deadline: Monday, September 17
- Exam I: Thursday, October 4
- Exam II: Thursday, November 15
- Withdrawal Deadline: Friday, November 16
- Final Exam: Wednesday, December 12

Make-up policy: There will be NO make-up tests. For students with an EXCUSED absence, the relevant portion of the final exam will be used to make up the missing exam score. There will be NO make-up quizzes. Two quizzes may be missed without penalty.

Attendance and Class Preparation: Students are expected to attend every lecture and every recitation, and are responsible for any announcements made during lecture. Missing class is the most common reason for poor performance in the course. Lectures, with spaces for working examples, will be available on Blackboard under “Content” before lecture starts. Completed lectures, with the examples worked, will be available late in the day on Blackboard. **If you miss a class, it is your responsibility to find out about any announcements made in class.** Students should read the appropriate sections of the text before the class in which the material is presented. All cell phones should be silenced and put away during class.

Help: Prof Shaw and your TA will hold regular office hours and will make appointments with students having class conflicts with their scheduled office hours. In addition, the Mathematics Department offers regular math clinics. These will be set up by the second week of the semester and a schedule of the clinics will be posted on Blackboard, outside the math office, & on the department’s website.

Course-related problems. Please inform your TA or Prof Shaw of any problems you have with this course. Problems not satisfactorily resolved with your TA should be brought to the attention of Prof Shaw without delay.

University and Math Department Policy Statements:

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/>

Students with disabilities. If you believe that you need academic adjustments (accommodations) for a disability, please contact the Office of Disability Services (ODS), <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.

Diversity and Disability: Syracuse University values diversity and inclusion; we are committed to a climate of mutual respect and full participation. Our goal is to create 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, you are invited to meet with your Instructor to discuss additional strategies beyond accommodations that may be helpful to your success.

Religious observances policy. Syracuse University's 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 holy days 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 a religious observance provided they notify their instructors no later than 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.

Learning Outcomes:

- The ability to select an appropriate mathematical model for a given real world problem;
- The ability to understand and enunciate the limitations of conclusions drawn from mathematical models;
- The ability to effectively use appropriate mathematical technology;
- A mastery of the basic properties of matrices and the ability to solve simple matrix equations;
- A mastery of the basic properties and formulas of probability and statistics and the ability to compute simple probabilities in a statistical setting and to interpret the results;
- A mastery of the basic formulas from the mathematics of finance and the ability to apply these formulas in a variety of settings that arise in personal finance.

How to succeed: Here are a few basic suggestions for how to succeed in this course.

1. It is absolutely essential that you understand how to solve the assigned homework problems and, more importantly, how and why the skills and techniques presented in the course are used in solving the assign problems. Quiz and exam questions will be similar to these problems.
2. Ask questions in lecture, recitation and/or at the clinic about anything that is not completely clear. Do not hesitate to bring questions to your instructors during office hours.
3. Every day, read and study the sections in the textbook covered in the lecture. Learning mathematics takes time! Read carefully and work through all the examples in complete detail. It can be helpful to try to work through an example on your own before reading the solution.
4. Stay caught up. Mathematical concepts build on each other cumulatively and you need to stay on top of the material at every stage. If you are having difficulty, do not expect that the problem will take care of itself and disappear later. Contact your course instructor or your recitation instructor immediately and discuss the problem!
5. Form a study group. Many students benefit from a study group to work through challenging problems and to review for exams. You should attempt the problems ahead of time by yourself and then work through any difficulties with your study partners. Explaining your reasoning to another student can help to clarify your own understanding.
6. You should expect to work hard. Do not get discouraged if you find some of the material very difficult. Be persistent and patient! If you follow the above suggestions, your experience in this course will be a rewarding one.