

MAT 183 - ELEMENTS OF MODERN MATHEMATICS
Syllabus for Spring 2016

Course Instructor and Supervisor : Prof. Vincent E. Fatica

Email: vefatica@syr.edu

Phone: 315-443-1587

Office: Carnegie 313A

Office Hours: MW 1:00 - 3:00, TTh 12:00 – 1:45

Course Description: This course is designed for students in the School of Management. 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 (2nd custom ed.) Pearson, Custom Edition for Syracuse University.

ISBN:

Textbook 9780558203849

WebAssign 9781928550204

Package 9780558199128

The WebAssign code is mandatory. The package contains both the textbook and the WebAssign Code. The WebAssign code can also be purchased online. See the instructions below for the details of instructions of how to register to WebAssign.

Calculator: This course involves extensive use of the TI-84 or TI-83 graphing calculator. Each student is required to have a TI-84 or TI-83 calculator. The calculator will prove to be an indispensable tool throughout the course, particularly in the Mathematics of Finance component. Since the TI-84 or TI-83 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-84 or TI-83 is the only calculator that may be used on a test or the final exam. In particular, calculators on cell phones, TI-Nspire with/or without TI-84 keypad are not to be used on tests or quizzes. 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 which 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.

QUIZZES

Every week, starting in the second week, there will be regular quizzes in your recitation sections.

- There will be no make-up quizzes. The two lowest or missing quiz scores will be dropped.
- You have to take your quiz at your recitation session. If you take quiz at a different recitation session, your quiz grade will be 0.

HOMEWORK: Homework will be done online using WebAssign. You are required to purchase your entry code for this online system - it is bundled with the custom edition of the text. The first 14 days of WebAssign is free. The trial period (the grace period) will end on Tuesday, February 2, 2016 at 12:00 AM EDT. After this date you cannot access your homework without the access code. Each Thursday night a set of WebAssign problems will be assigned. They will be discussed during the following week's recitations and will be due at 11:59pm on the Sunday of that week. Namely, you will have at least 10 days to finish your hw. Lowest 2 homework scores will be dropped. The instructions for how to initiate your WebAssign access are at the end of this document.

WebAssign Class Key: syr 6426 1481

Extension Policy: If you request it after the original due time, a three-day extension of WebAssign homework is automatic. There will be no other extensions. Extension window closes after 14 days. However, the 3-day extension does not exceed the 14-day extension period. For example, if you request an extension during the 13th day after the due date, then you will not have a 3-day extension but you will have time until the end of 14th day to complete your homework. There is no other way of requesting extensions. If you request an extension, you will lose 50% of the point value of the questions answered correctly after the original due date. Questions answered before the due date are not effected and they are counted 100%.

Extra Credit Policy: You will receive 50% extra credit for the questions submitted 168 hours (1 week) before the due date. You will have 6 submissions allowed. **SUBMIT YOUR QUESTIONS ONE BY ONE. DO NOT SUBMIT THE WHOLE HOMEWORK. IF YOU SUBMIT YOUR HOMEWORK, THERE IS NO WAY TO GO BACK to HOMEWORK, AND TO SUBMIT REMAINING QUESTIONS.**

WEBASSIGN WARNINGS

- Submit question by question. Never submit the whole assignment at once. After you submitted the assignment, even I do not have the permission to give you more trials.
- If you see a green check sign next to the question you have submitted, then your answer to that question is correct, and you do not need to do anything further about that question. Again, never touch the "Submit Assignment" button, on the bottom of the page.
- You can see your points per question and your total points at the top of the page under the "Extension Requests" & "Print Assignment" links. If you see your score, and it is correct, then you do not need to anything. Contact me only if there is an error in your score.
- If there are no explicit directions to enter the solution, then enter your answers as number: integer, decimal or fractions. Using fractions is the safest method in most cases. In particular, do not enter expressions like $5 * C(5,2)$ or $1 - 3 * 5/2$.
- If there are any explicit directions, then follow the directions.
- Check whether your email address is your Syracuse email and your ID number is correct. At the end of the semester, I will import your grades and use them according to your ID number and Syracuse ID.
- NEVER change your username. It results in duplication of account, rather than overwriting your existing account.
- Note that all due times are 11:59p.m. That is local time in New York State. If you are in another state, or country, then check your time zone and submit your homework according to NY time.
- In general if you have any trouble with login, try the following trouble shooting steps.
 - restart your web browser,
 - restart your computer/laptop,
 - use Firefox instead of other webbrowsers. Especially, Apple users are strongly recommended to use Firefox instead of Safari.

Grading Policy:

The grade for this course will be based on the student's performance on homeworks and quizzes, the two in-class tests, and the final exam, those grades being weighted as follows.

| | |
|-----|--------------------|
| 25% | Exam 1 |
| 25% | Exam 2 |
| 35% | Final Exam |
| 15% | Quizzes & Homework |

After numerical grades are combined as above, letter grades will be assigned as follows:

| | | | | | |
|----|--------------|----|--------------|----|--------------|
| A | 93 - 100% | A- | 90 - 92.999% | | |
| B+ | 87 - 89.999% | B | 83 - 86.999% | B- | 80 - 82.999% |
| C+ | 77 - 79.999% | C | 73 - 76.999% | C- | 70 - 72.999% |
| D | 60 - 69.999% | F | 0 - 59.999% | | |

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 during exam block 11, Monday May 9, during a two-hour period between 8:00 and 2:30, and at no other time. **DO NOT MAKE PLANS TO LEAVE CAMPUS BEFORE 2:30 p.m. on Monday, May 9, 2016.** The exact time and location of the final will be announced they are determined.

Every student must take the exam at that time. There will be no exceptions.

| | |
|-------------------|---|
| Exam I | Tuesday, February 23, 2016, (in class) |
| Exam II | Thursday, April 14, 2016, (in class) |
| Final Exam | Monday, May 9, 2016, in a 2-hour period between 8:00 A.M. and 2:30 P.M. (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.

MAKE UP POLICY:

There will be NO makeup tests. For students with an EXCUSED absence, the final exam score will be substituted for the missing exam score.

Attendance and Class Preparation:

Students are expected to attend every lecture and every recitation and are responsible for any announcements made during lecture. Students should read the appropriate sections of the text before the class in which the material is presented. All electronic devices other than the calculator should be turned off and put away during class - including laptop computers.

TENTATIVE LECTURE CALENDAR
(Exam dates are firm, not tentative)

Week ... sections ...

| | |
|-----------|-------------------------------------|
| 1/19-1/21 | 2.3, 2.1 |
| 1/26-1/28 | 2.2, 2.4, 2.6 |
| 2/2-2/4 | 5.1, 5.2, 5.3 |
| 2/9-2/11 | 5.4, 5.5, 5.6 |
| 2/16-2/18 | 6.1, 6.2, Catch up/Review |
| 2/23-2/25 | Exam I , 6.3 |
| 3/1-3/3 | 6.4, 6.5, 6.6 |
| 3/8-3/10 | 7.1, 7.2, 7.3 |
| 3/15-3/17 | SPRING BREAK |
| 3/22-3/24 | 7.4, 7.5, 7.6 |
| 3/29-3/31 | 7.7, 8.1, 8.2 |
| 4/5-4/7 | 8.2, 8.3 |
| 4/12-4/14 | Catch up/Review, Exam II |
| 4/19-4/21 | 10.1, 10.2 |
| 4/26-4/28 | 10.3, 10.4 |
| 5/3 | Catch up/Review (last class) |
| 5/9 | Monday, Final Exam |

HELP!

The main lecturer and your recitation instructor will hold regular office hours. In addition, the Mathematics Department offers regular math clinics. These will start the second week of classes and will be held in the reading room of Carnegie. A schedule of clinic hours will be available in the math office (215 Carnegie).

You should see your recitation instructor or your class instructor for questions requiring explanations about problems, concepts etc.; such question cannot be taken care of by email.

UNIVERSITY AND DEPARTMENT POLICY STATEMENTS

Students with Disabilities:

If you believe that you need 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 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. DO NOT wait until just before the first test.

Academic Integrity:

Syracuse University's Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the policy and know that it is their responsibility to learn about course-specific expectations, as well as about University policy. 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 offense 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 standard sanction for a first offense by a graduate student is suspension or expulsion. For more information and the complete policy, see <http://academicintegrity.syr.edu>

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.

Related link: http://supolicies.syr.edu/studs/religious_observance.htm

If you will miss a test due to a religious obligation, you must notify me using an official notification form (from MySlice) by the end of the second week.

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 assigned 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.

WebAssign Registration Instructions for MAT 183 Spring 2016

1. Go to www.webassign.net
2. Click on ENTER CLASS KEY.
3. Enter the class key by entering "syr" in the first box, 6426 in the second box, and 1481 in the third box; then click SUBMIT.
4. If you see "Instructor: Vincent Fatica" and then click on **YES, THIS IS MY CLASS.**
5. Select I need to create a WebAssign account (if you do not have an account associated to your SU email from an earlier class or another semester. If you have an account associated to your SU account, then choose I already have a WebAssign account.)
6. Enter a user name and password of your choice. **NEVER CHANGE YOUR USERNAME!** (If you change your username, then the system duplicates your account and you may lose some of your hw).
Enter your name and Last Name.
Enter your SU email account [Use your SU email account. No gmail, yahoo, Hotmail, or any other account. I receive your scores according to your email address.] If you use any email not ending as @syr.edu, you may lose your homework scores.
Enter your SU Student ID.
Then click on "Create my Account".
7. The next page confirms your information, so click on **LOG IN NOW.**
8. You should be logged in now. Select one of the options
 - purchase an access code online (if you do not have an access code)
 - enter an access code (purchased with textbook or from a bookstore)
 - continue my trial period

Note that the Trial period (the grace period) will end Tuesday, February 2, 2016 at 12:00 AM EDT. After this date you cannot access Homework sets at WebAssign without an access code.