MAT 183 - Elements of Modern Mathematics
Syllabus for Spring 2014

Course Instructor and Supervisor: Professor Muhammed Ali ALAN
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Office: Carnegie 219B
Office Hours: Monday, Wednesday, Friday 11:45AM – 12:30PM

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.

Text: Goldstein, Schneider, and Siegel (2010). *Finite Mathematics and its Applications* (2nd custom ed.). Prentice Hall, Custom Edition for Syracuse University.
ISBN:
9780558199128 package
9780558203849 textbook
9781928550204 web assign

Calculator: This course involves extensive use of the TI-84 or TI-83 graphing calculator. Each student is required to own a TI-84 or TI-83calculator. 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-83will 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** without prior approval from your instructor. **In particular, calculators on cell phones, and TI-Nspire with TI-84 keypad are not to be used on tests or quizzes.**

Grading Policy: The grade for this course will primarily be based on the student's performance on the three tests and the final.

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

Test and Exam scores will be curved! No curve at the end of the semester. Letter grades will be assigned as follows:

A	92-100%	B+	88-89%	C+	78-79%	D	60-69%
A-	90-91%	B	82-87%	C	72-77%	F	0-60%
		B-	80-81%	C-	70-71%		

Tests: **There will be two in class tests and an addition final exam. The FINAL EXAM will be given on MONDAY, MAY 5, 2014 sometime between 8:00am and 2:30pm. Every student must take the exam at that time - no exceptions! If you do not take the final exam, you will receive an autamotic F (failure to not attendance).**

Exam I : 14 February 2014, Friday (in class *)
Exam II : 28 March 2014, Friday (in class *)
Final Exam: MONDAY, MAY 5, 2014 sometime between 8:00am and 2:30pm (Place and time will be announced during the semester)

DO NOT PLAN TO LEAVE CAMPUS BEFORE MONDAY, MAY 5, 2014 at 2:30pm!
     (*) In class: It means usual class time, usual classroom.

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.

Quizzes There will be *regular quizzes* in the recitation sections. See the quiz schedule below for quiz schedule.

- MAKE UP for Quizzes: **If you miss a quiz, you can go to any other section to take the quiz of that week. Clarifications: If you miss Quiz 3, then you need to go to another section to take Quiz 3 at the same week. In particular, Quiz 4 or any other quiz cannot be used to make up Quiz 3. If you takes the same quiz twice, i.e., in two different sections, you will receive 0. IN addition, his will be considered as cheating and additional disciplinary action may take place. Besides this there will be no make-up quiz.** I will drop the lowest 2 quiz scores for unexpected cases.

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. Each Friday 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 9 days to finish your hw. If there need to be adjustments due to changes in the lecture schedule these will be announced and reflected in the due dates on WebAssign. Lowest 2 hw scores will be dropped.

The instructions for how to initiate your WebAssign access are at the end of this document.

The Class Key for WebAssign: syr 3174 2472

Extension Policy: A three-day automatic extension of Webassign hw is possible through Webassign. You have to request the extension after the original due time. Extension window closes after 12 days. No other way of requesting extensions.

If you request an extension, you will lose 40% of the point value of the questions answered correctly after the original due date. Questions answered before due date is not effected and they are counted 100%.

Extra Credit Policy: You will receive 25% extra credit for the answers 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 BEFORE YOU HAVE COMPLETELY DONE. IF YOU SUBMIT YOUR HOMEWORK, THERE IS NO WAY TO GO BACK to HOMEWORK AND TO SUBMIT QUESTIONS.

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.**

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.

Tentative Lecture Calendar
(Exam dates are firm, not tentative)

Monday	Sections	Wednesday	Sections	Friday	Sections
13 January	2.3	15 January	2.3	17 January	2.1
20 January	MLK Day NO CLASS	22 January	2.2	24 January	2.2, 2.4
27 January	2.6	29 January	5.1, 5.2	31 January	5.2, 5.3
3 February	5.4	5 February	5.5	7 February	5.6
10 February	Catch up/ Review	12 February	Catch up/ Review	14 February	Exam I
17 February	6.1, 6.2	19 February	6.3	21 February	6.4
24 February	6.5, 6.6	26 February	6.6	28 February	Catch up/ Review
3 March	7.1	5 March	7.1, 7.2	7 March	7.3
10 March	SPRING BREAK	12 March	SPRING BREAK	14 March	SPRING BREAK
17 March	7.4, 7.5	19 March	7.6	21 March	7.6
24 March	7.7	26 March	Catch up/ Review	28 March	Exam II
31 March	8.1	2 April	8.1, 8.2	4 April	8.2, 8.3
7 April	8.3	9 April	10.1	11 April	10.1, 10.2
14 April	10.2	16 April	10.3	18 April	10.3
21 April	10.3, 10.4	23 April	10.4	25 April	Catch up/ Review
28 April	Review/Last Class				
5 May	Final Exam				

Quiz/Recitation Schedule

Week starting	Activities	Quiz
13 January	Matrices on the TI84	No Quiz
20 January	Review 2.3, 2.1	No Quiz
27 January	Review 2.2-2.4	Quiz 1, Sections 2.3
3 February	Review 2.6, 5.2-5.3	Quiz 2, Sections 2.1, 2.2-2.4
10 February	Review 5.5, 5.6, Review of Exam I	Quiz 3, Sections 2.6, 5.2
17 February	Review 5.5, 5.6, Review of Exam I	Quiz 4, Sections 5.3, 5.5
24 February	Review 6.1, 6.4	Quiz 5, Sections 5.5, 5.6,
3 March	Review 6.5-6.6	Quiz 6, Sections 6.1-6.4
10 March	SPRING BREAK	SPRING BREAK
17 March	Review 7.1-7.3	Quiz 7, Sections 6.5-6.6
24 March	Review 7.4-7.6, Review of Exam II	Quiz 8 Sections 7.1-7.3
31 March	Review 7.7 Review of Exam II	Quiz 9 Sections 7.4-7.6
7 April	Review 8.1, 8.3	Quiz 10, Sections 7.6, 7.7
14 April	Review 10.1, 10.2	Quiz 11, Sections 8.1-8.2
21 April	Review Chapter 10	Quiz 12, Sections 10.1, 10.2
28 April	NO RECITATION	

Deadlines and important dates for Fall 2013

First Day of Classes	Monday, January 13
Last Day to Add Class	Tuesday, January 21
Choosing Pass/Fail or Audit	Monday, January 27
Financial Drop	Monday, February 3
Academic Drop	Tuesday, March 18
Withdrawal Deadline	Tuesday, April 15
Last Day of Classes	Tuesday, April 29

FINISHING AN INCOMPLETE – IF YOU ARE COMPLETING AN INCOMPLETE GRADE FROM THE PREVIOUS SEMESTER, YOU SHOULD NOT REGISTER FOR THE COURSE AGAIN. ASK INSTRUCTOR AND INFORM HIM THAT YOU ARE FINISHING AN INCOMPLETE. THE INSTRUCTOR FOR THIS SEMESTER WILL FORWARD YOUR GRADE TO THE INSTRUCTOR THAT GAVE YOU THE INCOMPLETE.

<div align="center">**University and Department Policy Statements**</div>

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS),
<div align="center">**http://disabilityservices.syr.edu,**</div>
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: The Syracuse University 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 instructor and general academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see
<div align="center">**http://academic integrity.syr.edu**</div>

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

<div align="center">**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.**</div>

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. Don't 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, don't 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. Don't 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.

EXERCISES

The following exercises from the text are selected to help the student understand the material. Problems in WebAssign will be similar to problems in this list.

Linear Algebra
2.1   17, 19, 25, 27, 31, 37, 38
2.2   9, 15, 23, 26, 27, 30, 35, 36
2.3   7, 15, 17, 21, 26, 33, 37, 43, 46, 47, 49, 51
2.4   11, 15, 16, 17, 19, 27, 31
2.6   5, 7, 8, 12, 13, 16, 19

Counting
5.2   2, 3, 5, 9, 11, 13, 15, 17
5.3   5, 7, 13, 15, 17, 19, 23, 25, 41, 43, 45
5.4   11, 17, 19, 23, 24, 25, 31, 33, 37, 52*
5.5   5, 7, 11, 21, 25, 27, 32, 34, 38, 41, 52, 59, 76
5.6   1, 3, 5, 7, 9, 10, 11, 17, 19, 23, 30, 31, 36, 46

Probability
6.2   1, 3, 7, 9, 11, 15, 19, 24
6.3   2, 3, 4, 7, 10, 17, 19, 23
6.4   1, 3, 9, 13, 15, 17, 19, 21, 22, 35, 36
6.5   1, 2, 3, 4, 6, 7, 10, 12, 13, 15, 17, 22, 23, 30, 39
6.6   4, 6, 7, 8, 13, 15, 20, 24

Statistics
7.2   1, 7, 9, 10, 22
7.3   1, 3, 5, 7, 10, 12, 19
7.4   2, 9, 10, 11, 12, 16, 24, 26
7.5   1, 3, 7, 8, 11, 12, 13
7.6   1, 3, 5, 7, 25, 26, 31, 33

Markov Processes
8.1   1, 7, 9, 10, 11, 13, 14, 15
8.2   1, 5, 7, 14, 15, 16, 18
8.3   3, 5, 7, 12, 13, 14, 15, 16, 17

Mathematics of Finance
10.1   1, 4, 6, 8, 11, 15, 19, 23, 37, 40, 49
10.2   1, 4, 7, 9, 11, 14, 17, 19, 21, 25, 27*, 36, 41
10.3   1, 2, 3, 5, 7, 11, 17, 20, 21, 27
10.4   3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32,
        34, 36, 38, 42, 44, 46, 48

WebAssign Registration Instructions for
MAT 183 Spring 2014

1. Go to www.webassign.net.

2. Click on **LOG IN** on the left side of the page.

3. Click on **I HAVE A CLASS KEY**.

4. Enter the class key by entering **syr** in the first box, **3174** in the second box, and

   2472 in the third box; then click **SUBMIT**.

5. Make sure you see my name there (Muhammed ALAN) and then click on

   Yes, this is my class.

6. Select **I need to create a WebAssign account.**

7. Enter a user name and password of your choice, enter the required identifying

   information. Then click on **Create my Account**.

8. The next page confirms your information, so click on **Log In Now**.

9. You should be logged in now. Select **Purchase an access code online** if

   you need one, or if you have one with your new textbook that you purchased at

   the SU book store, you can click on the left hand button to enter that.

   Or, you can continue for about 14 more days until you are able to get an access

   code (if you plan on getting it with a new textbook, for example).