

## MAT 285 – Calculus for the Life Sciences I Spring 2013 (MW)

**Course Description:** This is the first course in a two-course, terminal calculus sequence. It is designed to introduce students to the beauty and power of calculus. Topics include functions, limits, the derivative, tangent lines, curve sketching, exponential and logarithmic functions and the calculus of several variables. Applications to the life sciences are emphasized.

**Course Restrictions:** MAT 285 may not be taken for credit after successful completion of MAT 284 or MAT 295. Students planning to major in a physical science, engineering or mathematics should take MAT 295.

**Prerequisites:** MAT 194 or an equivalent pre-calculus course must be successfully completed before taking MAT 285.

**Liberal Arts Core:** This course is the second course in the Quantitative Skills requirement. This course is the first course in the Natural Sciences and Mathematics Division sequence MAT 285-286.

**Text:** *Calculus for the Life Sciences*, by Greenwell, Ritchey and Lial; Addison Wesley, 1st Edition. The course will cover Chapters 1 - 6 and 9 of the text.

**Calculator:** A graphing calculator is required. The TI84 calculator is the recommended graphing calculator for the course. Students who already own and know how to use another equivalent calculator (e.g. TI83/85/86) are free to use it. A calculator with symbolic calculus capability (such as the TI89 or TI92) is not allowed for exams and quizzes.

**Homework and Quizzes:** Your instructor will announce the homework and quiz policy for the course.

**Tests:** There will be three exams during the semester, each accounting for 20% of your final grade. There will be **no makeup tests**. However, for excused absences, the corresponding portion of the final exam will be used in place of the missing test score.

**Test Corrections:** An essential part of the testing process is to learn from your mistakes. Hence students not getting an A on a test are required to submit correct solutions to all of the problems missed.

**Final Examination:** The final exam is comprehensive and accounts for 20% of the final grade. All mathematics courses numbered 400 and lower have a departmental final exam during the time block 8:00 AM to 2:30 PM pm on Monday, May 6, 2013. The MAT 285 final exam will be scheduled for a two-hour period during this block. The precise time and location of the final exam will be announced in class later this semester. **STUDENTS MUST TAKE THE FINAL EXAM AT THE LISTED TIME. DO NOT PLAN TO LEAVE BEFORE 2:30 PM ON MONDAY, MAY 6, 2013. THERE ARE NO PROVISIONS FOR TAKING THE FINAL EXAM EARLY OR AT ANY OTHER TIME!**

**Grading:** The final score will be computed on a scale of 0 to 100 from the tests (60%), homework, quizzes and test corrections (20%), and the final exam (20%). The final letter grade will be determined as follows:

A 93-100; A- 90-92;  
B+ 87-89; B 83-86; B- 80-82;  
C+ 77- 79; C 73-76; C-70-72;  
D 60-69;  
F 0-59.

**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 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 <http://academicintegrity.syr.edu>.

**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.

**Resolving Problems:** Please inform your instructor of any problems that you have with the course. Problems not satisfactorily resolved with your *instructor* should be brought to the attention of the Course Supervisor without delay. Note that this person is *not* your instructor.

Course Supervisor: Professor Jeffrey L. Meyer  
Office: 206F Carnegie  
Phone: 443-1479  
Email: [jlmeye01@syr.edu](mailto:jlmeye01@syr.edu)

**Help:** Your instructors will be available regularly during their office hours. You can also seek help at the Calculus Help Center in the Lower Level of Carnegie Hall. The Help Center hours are posted by 215 Carnegie Hall or you can obtain a copy of the schedule in the Math Department Office.

### Course Objectives and Learning Goals:

- To reinforce prior understanding of functions, including linear, polynomial, exponential, logarithmic and trigonometric functions.
- To understand what a derivative is, how to find derivatives (limits, formulas), and how

derivatives can be used.

- To correctly use and understand the usage of mathematical notation.
- To develop critical thinking and problem solving skills.

Tentative Class Calendar  
(for MAT 285 MW)

	Date		Date	
January	14	1.1, 1.3	16	1.4, 2.1
	21	No Class	23	2.2, 2.3
	28	2.3, 2.4	30	2.4, 3.1
February	4	3.2, 3.3	6	3.4
	11	Review	13	<b>Exam 1</b>
	18	3.5, 4.1	20	4.2, 4.3
	25	4.3, 4.4	27	4.5, 4.6
March	4	5.1, 5.2	6	5.3
	11	No Class	13	No Class
	18	6.1	20	Review
	25	<b>Exam 2</b>	37	6.2
April	1	6.2	3	6.3
	8	6.4	10	9.1
	15	9.2	17	9.3
	22	Review	24	<b>Exam 3</b>
	29	Last Class		

**Important Dates:**

Add Deadline                      Tuesday, January 22, 2013  
 Academic Drop Deadline      Tuesday, March 19, 2013  
 Withdrawal Deadline          Tuesday, April 16, 2013  
 Final Exam                          Monday, May 6, 2013