MAT 285 – Calculus for the Life Sciences I
Summer 2017

Instructor: Fernando Betancourt **Office: Carnegie 400**
Office Hours:MW 2:30pm-3:30pm **Email: febetanc@syr.edu**

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, 2nd Edition. The course will cover Chapters 1 - 6 and 9 of the text.

Calculator: A graphing calculator is required. The T184 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: Homework will be given daily but it will not be collected. Quizzes are going to be given weekly at the final 10 minutes of the class.

Tests: There will be two exams during the semester, each accounting for 20% of your final grade. There will be **no makeup tests and quizzes**. However, for excused absences, the corresponding portion of the final exam will be used in place of the missing test score.The final exam is comprehensive and accounts for 40% of the final grade.

Grading: The final score will be computed on a scale of 0 to 100 from the tests (20% each), quizzes (15%), attendance (5%) and the final exam (40%). 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.

Exam Dates:

- Exam 1: July 21, 2017
- Exam 2: August 3, 2017
- Final Exam: August 11, 2017

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.

Help: I will be available regularly during my 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.