

## **MAT 286 – CALCULUS FOR THE LIFE SCIENCES II**

### **SPRING 2018**

**Course Description:** This is the second course in a two-course, terminal calculus sequence. It is designed to introduce students to the beauty and power of calculus. Topics include anti-differentiation, integration, areas and volumes, double integrals and differential equations. Applications to the life sciences are emphasized.

**Course Restrictions/ Prerequisites:** MAT 285 must be successfully complete before taking MAT 286. Students planning to major in a physical science, engineering or mathematics should take MAT 295-296-397 sequence.

**Liberal Arts Core:** This course is the second course in the Quantitative Skills sequence MAT 285-286.

**Text:** *Calculus for the Life Sciences*, by Greenwell, Ritchey and Lial; Addison Wesley, 2nd Edition. The course will cover Chapters 7, 8, part of Chapter 9 and Chapter 11.

**Calculator:** A graphing calculator is required for this course and the TI-84 or TI-83 calculator is recommended. Students who already own and know how to use another equivalent calculator (e.g. TI-85 or TI-86) are free to use it. A calculator with symbolic calculus capability (such as the TI-89, TI-92 or TI-Nspire) is **NOT** allowed for exams and quizzes.

**Homework and Quizzes:** Your Instructor will announce the homework and quiz policies for your section of the course.

**Tests:** There will be three in-class midterm exams and a final exam during the semester, each accounting for 20% of your final grade. There will be **no makeup tests**, and a missed examination counts as a zero unless you present a valid excuse from a physician or the Dean's office. With a written excuse, the score of the final exam will be used to determine the score of the missing test.

**Test Corrections:** An essential part of the testing process is to learn from your mistakes. Hence, students not earning at least 90% on the first two tests are required to submit test corrections. Your instructor will give you details.

**Final Examination:** The final exam is comprehensive and accounts for 20% of the final grade. It will be given on Monday, May 7, 2018 sometime between 8:00 am & 2:30 pm. The MAT 286 final exam will be scheduled for a two-hours period during this block. The precise time and location of the final exam will be announced in class later. **STUDENTS MUST TAKE THE FINAL EXAM AT THE LISTED TIME. DO NOT PLAN TO LEAVE CAMPUS BEFORE 2:30 PM ON MONDAY, MAY 7. THERE ARE NO PROVISIONS FOR TAKING THE FINAL EXAM 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%). Numerical grades will be combined as above, and rounded to two decimal places. Then letter grades will be assigned as follows:

Ltr	Range	Ltr	Range	Ltr	Range	Ltr	Range
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%				

**Class Attendance and Participation:** You are expected to attend and participate in class. Missing class is the most common reason for poor performance in the course. **If you miss a class, you are responsible for obtaining notes for that class from a student who attended. It is also your responsibility to find out about any announcements made in class.**

**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 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, TDD: (315) 443- 1371 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.

**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 Notification and policy:** SU religious observances notification and policy, found at <http://hendricks.syr.edu/spiritual-life/index.html>, 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 a religious observance provided they notify their instructors before the end of the second week of classes for regular session classes and by the submission deadline for flexibly formatted classes.

For fall and spring semesters, an online notification process is available for students in **My Slice / StudentServices / Enrollment / MyReligiousObservances / Add a Notification**. Instructors may access a list of their students who have submitted a notification in My Slice Faculty Center.

### **Course Objectives and Learning Goals:**

- To reinforce prior understanding of functions, including linear, polynomial, exponential, logarithmic and trigonometric functions.
- To understand what an integral is, how to compute integrals (limits, formulas), and how integrals can be used.
- To correctly use and understand the usage of mathematical notation.
- To develop critical thinking and problem solving skills.

**Help:** Your instructor will be available regularly during office hours. You can also seek help at the Calculus Help Center. The location and hours of operation will be posted outside of the Math Department Office (215 Carnegie Hall); you can obtain a copy of the schedule in the Math Dept. Office.

**Course Supervisor:** Kari Shaw, 305 Carnegie, 443-2650, keshaw@syr.edu

**Course-related problems.** Please inform your instructor of any problems you have with this course. Problems not satisfactorily resolved with your instructor should be brought to the attention of the course supervisor (listed above) without delay.

**Important Dates:**

- Add Deadline: Tuesday, January 23, 2018
- Academic & Financial Drop Deadline: Tuesday, February 6, 2018
- Withdrawal Deadline: Tuesday, April 17, 2018
- Final Exam: Monday, May 7, 2018