

MAT 251: Calculus for Life Sciences Spring 2013 Course Syllabus

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| Instructor: Dr. Jenifer Boshes | Office Hours: Monday and Wednesday 1:00-2:00, Tuesday and Thursday 12:00-12:30 and by appointment |
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| Class Number: 24821 | Office Phone: (602) 496-0572 |

Required Text:

Bittinger, *Calculus for the Life Sciences, ASU Custom Edition*, Addison Wesley / Benjamin Cummings, with a MyMathLab ACCESS CODE. Options available in the bookstore are: textbook with MyMathLab Access Code ISBN 9780558326128, or an eBook (online textbook) with MyMathLab Access Code ISBN 9780321199911. Note the second option can be purchased online (credit card or paypal) through www.mymathlab.com using the course ID below.

CourseID: boshes20518

Prerequisites:

Students are expected to have completed MAT 170 (Precalculus) or an equivalent with a grade of C or better or to have scored a 54 or higher on ALEKS.

Calculator:

A graphing calculator is required for this course. The highly recommended models are TI-83 and TI-83 Plus. Any calculator that has a computer algebra system (CAS) will not be allowed on exams and quizzes. This includes, but is not limited to, the Casio FX2, Casio 9970GS, TI-89 and TI-Titanium. If a student is found using one of the models that is not permitted on an exam, the student will receive a zero for that exam. Cellular phone calculators are not permitted. Also, the sharing of calculators is not allowed on exams or quizzes.

Homework:

No late homework will be accepted and in-class work that is missed cannot be made up. Online homework is assigned regularly through MyMathLab (www.mymathlab.com). In order to register for MyMathLab, you must have an access code and a Course ID. The access code can be purchased with a new textbook or online (see text requirements). The Course ID will be announced in class.

Hand-written homework will be announced in class and posted on Blackboard. Hand-written work must meet the following criteria to be accepted:

- All relevant papers are stapled together.
- It is written legibly and submitted on time (at the *beginning* of class).
- All answers are boxed and there are no spiral notebook shreds.
- The upper right-hand corner shows: Name, class time, and assignment.
- All work is shown. No work = No credit (even if the answer is correct).

| Tentative Schedule | | |
|---------------------------|---|--------------------|
| Week of | Topics | Notes |
| Jan 07 | 1.1: Slope & Linear Functions | |
| Jan 14 | 1.1-1.3: Slope & Linear Functions; Polynomial Functions; Rational & Radical Functions; | |
| Jan 21 | 4.1-4.2: Exponential Functions; Logarithmic Functions; | No school 01/21 |
| Jan 28 | 1.4-1.5: Trigonometric Functions; The Unit Circle | |
| Feb 04 | 2.1-2.2: Limits & Continuity | Exam 1 |
| Feb 11 | 2.3-2.6: Avg Rates of Change; Instantaneous Rates of Changes; Differentiation Techniques | |
| Feb 18 | 2.4-2.5: Differentiation Techniques | |
| Feb 25 | 2.5, 2.7-2.8: Differentiation Techniques –Product and Quotient Rule; The Chain Rule | |
| Mar 04 | 2.5, 2.8: Differentiation Techniques – The Chain Rule | Exam 2 |
| Mar 11 | Spring Break | No classes |
| Mar 18 | 4.5, 2.5, 2.9: The derivatives of a^x and $\log_a x$; Differentiation Techniques – Trigonometric Functions; Higher-Order Derivatives | |
| Mar 25 | 3.1-3.2: Using First Derivatives to find Max/Min; Using Second Derivatives to find Max/Min | |
| Apr 01 | 3.1-3.2, 3.4- 3.5: Finding Absolute Max/Min | |
| Apr 08 | 5.1, 5.5: Integration; Substitution | |
| Apr 15 | 5.6: Integration by Parts | Exam 3 |
| Apr 22 | 5.2*-5.4: Areas and Accumulations*, Fundamental Theorem of Calculus; Definite Integrals | |
| Apr 23 | Review | |
| | *Time permitting | |

Exams:

You will take three exams during the semester. Each will involve a mix of mechanical skills and conceptual reasoning. The best preparation is regular attendance and completion of assigned homework. Makeup exams are given at the discretion of the instructor and only in the case of a verified medical or other documented emergency.

| Exam | (Tentative) Date |
|--------|------------------|
| Exam 1 | Feb 4 |
| Exam 2 | March 6 |
| Exam 3 | Apr 17 |

Final exam:

The *cumulative* final exam will be taken in the regularly assigned classroom according to the final exam schedule. According to ASU policy, final exams can be rescheduled only under the following circumstances: (1) religious observance, (2) two finals scheduled at the same time, or (3) more than three exams scheduled on the same day. No final exams will be rescheduled for personal reasons.

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| Final Exam: Monday, May 6; 12:10-2:00PM |
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Make-Up Policy:

Make-up exams are only given in the case of documented immediate family/medical emergencies. There are no exceptions to this policy. Please note that work emergencies do not constitute family/medical emergencies. Arrangements for any make-ups must be done within one week of the exam. There are no make-ups for homework.

Student Success Center:

The Student Success Center is located on the first floor of University Center. Hours and tutor availability can be found at studentsuccess.asu.edu/downtown. Be sure to go for help before it is too late and several days before an exam.

Attendance:

All students are expected to come to class each day prepared to discuss assignments and material being presented in class. During class, any student can expect to be called upon to answer questions posed by the instructor and other students. Moreover, part of being prepared for class involves bringing all course materials to class, including your calculator. Statistics show that students who regularly come to class tend to do better than students who skip class every now and again. **Only four (4) unexcused absences will be allowed during the semester. The fifth absence is grounds for the student earning a grade of EN (failure due to lack of attendance) for the semester.**

Final Grade Breakdown:

| Point Allocation | |
|-----------------------|-----|
| Three midterm exams | 45% |
| Homework & group work | 30% |
| Final exam | 25% |

| Grades | | | |
|-----------|-----|----------|----|
| 97-100% | A+ | 79.5-80% | B- |
| 90-96.99% | A | 77-79.5% | C+ |
| 89.5-90% | A - | 70-77% | C |
| 87-89.5% | B+ | 60-70% | D |
| 80-87% | B | 0-60% | E |

Additional Information & Recipe for Success:

- Turn off any cellular phones prior to entering class. Blatant cellular phone usage (i.e., text messaging) during class is not tolerated and will negatively affect the student's participation grade for the semester.
- Classroom disturbances, including but not limited to: arriving late, leaving early, leaving during the middle of class, talking during lecture, and cellular phones, are not tolerated. Each student is expected to show respect for every student registered in the course. Recurring disturbances caused by an individual will result in an administrative withdrawal from the course.
- The highest standards of academic integrity are expected of all students at all times. Violations of academic integrity include, but are not limited to, cheating, fabrication, tampering, plagiarism, or facilitating such activities. We will act very harshly against any acts of academic dishonesty during quizzes or exams.
- Students with disabilities should arrange to meet with me as soon as possible to arrange for reasonable accommodations for their learning needs. Students registered with DRC must notify the instructor at least one week prior to any exam.
- Arrangements for any religious observances, ASU sanctioned activity, or ASU student athlete obligations must be arranged with the instructor at least one week prior to the event.
- No individual extra credit assignments will be offered.
- I reserve the right to make changes to this syllabus as necessary. Changes will be considered official if they are announced in class or posted on Blackboard.
- Always attend class. Absences and final grades are negatively correlated.
- Try to work homework problems without the aid of notes or the textbook.
- Identify problem areas and get help immediately.
- Form study groups to tackle homework and exam review. Discuss concepts verbally and aim for collective understanding.

| Important Dates | |
|------------------------|----------------|
| Course Withdrawal | March 31, 2013 |
| Complete withdrawal | April 30, 2013 |