

Syllabus for MATH 1252, Calculus and Differential Equations for Biology 2

Northeastern University, Summer 2 2015

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Office hours: Tuesdays and Wednesdays, 1 pm – 2.30 pm, or by appointment.

Meeting times and location: MTWR, 8.00 am – 9.40 am at Kariotis Hall 110.

Textbook: *Calculus and its Applications* by Larry J. Goldstein, David C. Lay, David I. Schneider, Nakhle H. Asmar. (thirteenth edition).

Web Materials: All class announcements, material, and grades will be posted on Blackboard.

Homework: Homework will be assigned, but will NOT be collected.

Quizzes: There will be 7 in-class quizzes during the semester.

Quiz 1: July 9

Quiz 2: July 16

Quiz 3: July 23

Quiz 4: July 30

Quiz 5: August 6

Quiz 6: August 13

Quiz 7: August 19

It is strongly advised that you do all of assigned homework since the quizzes will closely resemble the homework problems. There will be NO make-up quizzes.

Final exam:

The final exam is cumulative. Date and location of the final exam are to be determined. **Check for exam schedule conflicts as soon as possible.** Only two finals at the same time or three in one day is a University recognized legitimate reason to be excused from taking the final at the scheduled time. Students with such a conflict should complete a final exam conflict form, available on the registrar's website.

Grading: The course grade will be determined as follows:

Final exam: 40%

Quizzes: 60%

Letter grades are determined numerically:

$A \geq 93$, $92 \geq A- \geq 90$, $89 \geq B+ \geq 87$, $86 \geq B \geq 83$, $82 \geq B- \geq 80$,
 $79 \geq C+ \geq 77$, $76 \geq C \geq 73$, $72 \geq C- \geq 70$, $69 \geq D+ \geq 67$, $66 \geq D \geq 63$,
 $62 \geq D- \geq 60$, $F \leq 59$

The grade I (Incomplete) will be given only if you have a good attendance record, have missed the final exam for a good reason, and otherwise are doing passing work. An incomplete is given at the discretion of the instructor.

Additional Resources: The Mathematics Department Tutoring Center is in Room 540B, Nightingale Hall. This peer tutoring is free. Peer Tutoring appointments can be booked via MyNEU under TUTORING. Although you can walk in, it is really best to sign up in advance. Tutoring requests are scheduled by students in real-time and confirmed by email. Next-day appointments must be booked by 9:00 pm the previous day. Tutoring services in the Mathematics Department Tutoring Center will begin on July 7. See <http://www.northeastern.edu/csastutoring/setting-up-appointments/> For more information about peer tutoring.

Issues with the course/instructor: If you have issues with this course and/or instructor which you are not comfortable discussing with your instructor, you should contact the Teaching Director, Prof. Massey, at d.massey@neu.edu.

Academic Honesty: Collaboration on quizzes, tests and final exam is not allowed. From Student Code of Conduct (see <http://www.northeastern.edu/osccr/academicintegrity>): "A necessary prerequisite to the attainment of the goals of the University is maintaining complete honesty in all academic work. Students are expected to present as their own only that which is clearly their own work in tests and in any material submitted for credit. Students may not assist others in presenting work that is not their own. ... Offenders are subject to disciplinary action." For more on Academic Integrity see: <http://www.northeastern.edu/registrar/courses/cat1213-univ-proc.pdf>

Note the Following Dates:

July 19, is the last day to drop a Summer 2-15 class without a W grade

July 20, is the last day to elect pass/fail for Summer 2-15 class

July 28, is the last day to file a Final Exam Conflict Form for Summer 2-15 classes

August 7, is the last day to drop a Summer 2-15 class with a W grade

Important:

- 1) Any student with a disability is encouraged to meet with the instructor during the first week of classes to discuss accommodations. The student must bring a current Memorandum of Accommodations from the Disability Resource Center (DRC).
- 2) If you are an athlete and have conflicts with an important class activity (quiz, mid-term, or final), you should let your instructor know before the end of second week of classes. You should also bring an official letter from the Office of Athletics.
- 3) All electronic devices (mobile phones, laptops etc.) should be turned off during class time, quizzes, tests and final exam.

Syllabus: Syllabus is subject to change. It is your responsibility to be aware of any changes the instructor may make to the syllabus as they are announced in class. Students are responsible for all information given when they are absent.

TRACE: Please complete the TRACE evaluations at the end of the course.

Schedule of Topics

Week 1: July 6 – 10

6.5 Applications of Definite Integral
9.1 Integration by Substitution
9.3 Evaluation of Definite Integrals
9.2 Integration by Parts
9.5 Some Applications of the Integral
Partial Fractions

Week 2: July 13 – 17

9.6 Improper Integrals
10.2 Separable Differential Equations
10.6 Applications of Differential Equations
Parametric equations of Curves

Week 3: July 20 – 24

7.1 Functions of Several Variables
7.2 Partial Derivatives
7.3 Maxima and Minima of Functions of Several Variables
7.4 Constrained Optimization (Lagrange Method)
Chain Rule

Week 4: July 27 – 31

Dot Product
Directional Derivatives
Gradients
Exact Differential Forms
Line Integrals

Week 5: August 3 – 7

Line Integrals and Exact Differentials
Exact Differential Equations
Integrating Factors
7.5 The method of Least Squares

Week 6: August 10 – 14

7.6 Double Integrals
Green's Theorem
11.1 Taylor Polynomials
11.2 Newton's Method

Week 7: August 17 – 21

11.3 Infinite Series
11.4 Series with Positive Terms
11.5 Taylor Series
Review

August 24 - August 25 final exams