

# Fall 2006 Syllabus for MTH U241

## Instructor/office/contact info/office hours:

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E-mail: [dmassey@neu.edu](mailto:dmassey@neu.edu)      Web site: [www.massey.math.neu.edu](http://www.massey.math.neu.edu)  
Office hours: Tuesday, Wednesday, Thursday 4-5pm  
Other times by appointment or drop-in (I am around a LOT.)

## Required Materials:

Text: Calculus: Concepts and Contexts, vol. 1, special Northeastern University edition, by James Stewart  
Calculator: scientific, graphing calculator (recommend TI83 or higher)

## Algebra/Calculus Help and Tutoring:

There are many resources for improving your algebra and Calculus skills. The best one is to go over any problems with your instructor. In addition, the Mathematics Department Tutoring Center is in Room 540B, Nightingale Hall. Tutoring should begin there two weeks after the start of classes. The tentative schedule is 10am-8pm on Mondays, Tuesdays, and Wednesdays; 10am-6pm on Thursdays; and 10am-2pm on Fridays. This is walk-in tutoring; no appointment is necessary. In the Media Center in Snell Library, one can get a list of tutors who are available for one-on-one tutoring by appointment, at whatever times can be agreed upon by the student and the tutor. A Web page with helpful links to academic assistance is here: <http://www.academicguide.neu.edu/>. There are study aids in the library (Schaum's Outlines are great).

## Attendance:

It is essential that you attend class regularly. The easiest way for you to learn the material, and to know what material has been covered, is to come to class each day. Students are responsible for finding out what material has been covered or what announcements have been made on days that they miss class. If classes are cancelled due to snow, or for other official reasons, any scheduled test will occur on the next class meeting.

We will **NOT** have class on Wednesday, November 22 (the day before Thanksgiving).

## Excused Absences or Late Work:

In order to make-up tests, students must bring written proof of some emergency situation; notes from doctors or nurses, documents verifying court appearances, receipts from having a car towed are all examples of valid documentation. Notes from family members are **not** acceptable. If a situation is of a personal nature, discuss the matter with your academic advisor; an e-mail message from your advisor saying that they believe that you should be allowed to make-up work is acceptable.

## Homework:

Homework will be assigned daily, but will not be collected. It is essential that you at least attempt the homework before the next class meeting. We will go over a limited number of homework problems near the beginning of each class. If you have **many** questions on the homework, you should come to my office hours to go over the material.

## Grading:

The final exam will count as 40% of your grade. There will be three 65-minute tests, each counting as 20% of your grade. The tests will be on Thursday, Sept. 28, Thursday, Oct. 19, and Thursday, Nov. 16. The final exam is at 10:30am on Tuesday, December 12.

The tests and final exam will be graded on a 100-point scale with the A-range from 100-90, B-range from 89-80, C-range from 79-70, D-range from 69-60, and F-range from 59-0. It is possible that a given test will be scaled; in such a case, the numbers themselves will be raised, with the letter grades still corresponding to the same numbers as above (e.g. a raw grade of 60 might be scaled to a 70, and thus be a C-).

## Cheating Policy:

Cheating is an insult to honest students – it will not be tolerated. The University's cheating policy and related disciplinary actions are detailed in the Student Handbook; the Handbook also includes a description of what is

considered cheating by the University. Cheating in this class includes (but is not limited to): looking at the papers of others during a test, talking to other students during a test, and looking at notes during a test (unless it is specifically announced that you may).

The use of advanced calculators is **NOT** considered cheating in this course. Be aware, however, that other courses may well have a policy barring such calculators. Also, your instructor reserves the right to decide on-the-spot between what constitutes a “calculator” and what constitutes a full-fledged “computer”.

All incidents of cheating will be reported to the Office of Student Conduct and Conflict Resolution (OSCCR).

If you have any questions as to what constitutes cheating, please ask me.

### **Additional Contacts:**

If you have concerns/ problems in the course, and are not comfortable discussing them with your instructor, please contact either of the following:

Course Coordinator: Prof. Mark Bridger, [bridger@neu.edu](mailto:bridger@neu.edu), 527 NI, 617-373-5525

Chairman of Mathematics: Prof. Robert McOwen, [mcowen@neu.edu](mailto:mcowen@neu.edu), 505 LA, 617-373-5635

## **TOPICS AND ASSIGNMENTS**

### **Week 1: Sept. 6-8**

#### Chapter 1: Functions and Models

- 1.1 Representing Functions, p. 22: 1,2,10,23,25,27,43-45,47,57,58,64
- 1.2 A Catalog of Functions, p. 35: 1,3-7,15,19,26
- 1.4 Graphing Calculators, p. 54: 2, 6-10, 15,18,29

### **Week 2: Sept. 11-15**

- 1.7 Parametric Curves, p. 79: 1,2,5-7,9-12,16,20,21,25,29,30,38

#### Chapter 2: Limits and Derivatives

- 2.1 Tangents and Velocities, p. 97: 2,3(iv,viii)
- 2.2 Limit of a Function, p. 106: 3,13,16-18,24

### **Week 3: Sept. 18-22**

- 2.6 Velocities and Rates of Change, p. 145: 2,3,5,7,8,13,15,16  
**Wednesday, Sept. 20 - last day to file Final Exam conflict form**
- 2.7 Derivatives, p. 153: 3-7,12(use radians),15,19-22,29  
**Friday, Sept. 22 - last day to drop without a “W” grade**

### **Week 4: Sept. 25- 29**

- 2.8 Derivative as a Function, p. 165: 2-5,12,14,32,37,39,49(challenge)
- Review  
**Test 1 on Thursday, Sept. 28**

### **Week 5: Oct. 2-6**

- 2.9 What  $f'$  Says About  $f$ , p. 172: 1-3,8,10,15,18,21,23,25,26

#### Chapter 3: Differentiation Rules

- 3.1 Polynomials & Exp. Functions, p. 190: 1,3-25(odds),32,37,38,41,50,54,57

3.2 Product & Quotient Rules, p. 198: 3,6,7,10,11,19,23,29-32,38,45,46

**Monday, Oct. 9: Columbus Day - no classes**

**Week 6: Oct. 10-13**

- 3.3 Rates of Change, p. 210: 1,3,8,11,14,15,24,33
- 3.4 Trig. Functions, p. 218: 1,4,7,8,14,19,23,26,29,32,35,37,41
- 3.5 The Chain Rule, p. 228: 1-29(odds),40-43,47,60,63,65

**Week 7: Oct. 16-20**

- 3.6 Implicit Differentiation, p. 238: 1,7,11,13,17,29,31,36,41,43,44,55
- Review

**Test 2 on Thursday, Oct. 19**

**Week 8: Oct. 23-27**

- 3.7 Log Functions, p. 245: 3-13(odds),14,24,29-32
  - 3.8 Linear Approx., p. 252: 1,2,5,9,21,28-30,34
- Chapter 4: Applications of Differentiation
- 4.1 Related Rates, p. 267: 8,9,11,14,18,27,30,33

**Week 9: Oct. 30-Nov. 3**

- 4.2 Maxima & Minima, p. 274: 4,9,23,29,32,37-43(odds),53
- 4.3 Derivatives & Curves, p. 286: 6,7,11,17,21,24,25,29,30,37,48,54

**Week 10: Nov. 6-10**

- 4.4 Graphing with Calculus & Calculator, p. 295: 1,3,8,11,20,21,23,34
- 4.6 Optimization Applications, p. 311: 3,4,10,12,16,22,23,38,40
- 4.8 Newton's Method, p. 325: 4,8,11,15,29

**Week 11: Nov. 13 – 17**

- 4.9 Antiderivatives, p. 332: 1,7,12,21,29,33,34,40,46,48,55
- Review

**Test 3 on Thursday, Nov. 16**

**Friday, Nov. 17: Last day to drop a class with a "W" grade**

**Week 12: Nov. 20-22 (until 11:35am)**

Chapter 5: Integrals

- 5.1 Areas & Distances, p. 352: 3,6,14,18

**Nov. 22 at 11:35am - Nov. 26 - Thanksgiving break**

**Week 13: Nov. 27 - Dec. 1**

- 5.2 The Definite Integral, p. 364: 2,11,17,18,21,27,31,35,40,43,44,49,50
- 5.3 Evaluating Def. Integrals, p. 374: 3,6,11,14,17,20,27,29,38,45,48,53,55,57,59
- 5.4 The Fundamental Theorem of Calculus, p. 383: 2,5,8,9,17,22

**Week 14: Dec. 4-6**

5.5 Substitution Rule, p. 392: 1-13(odds),18,21,24,30,31,33,45,47,53

**Thursday, Dec. 7 - reading day**

**Final Exams: Dec. 8, 11-15**

**Final Exam for MTH U241: 10:30am, Tuesday, Dec. 12**