MATH 1341 Syllabus
Calculus I for Science and Engineering
Fall 2010

Instructor: Federico Galetto, email: galetto.f@husky.neu.edu, phone: 617-373-5534.

Classes: M W Th 8:00 - 9:05 AM, 154 Ryder Hall.

Office hours: M W 1:00 - 2:30 PM or by appointment, office: 541 Nightingale Hall.

Text: *Worldwide Differential Calculus* by David B. Massey.
A PDF version of the textbook is available for free (after filling out a short form) at: www.centerofmath.org/nu/. The PDF textbooks contain a link, at the beginning of each section, to one or more free video lectures, by Prof. Massey, on the contents of that section. The free PDF textbook is only printable one page at a time, via screen shot/capture. The following options can be ordered online, from the same link above:

- a paperback, printed, bound, grayscale (a.k.a. black and white) textbook for $29.95;
- a fully printable premium PDF, which contains extra links to video solutions of selected exercises, for $10.00;
- a DVD containing the premium PDF textbook, a PDF study guide, all of the video lectures and all of the video solutions for $25.

Homework: homework will be assigned at each class. You are responsible for knowing how to solve all the problems assigned, whether they are reviewed in class or not. You are expected to keep up with the homework in order to perform well on quizzes and exams. Homework may be collected to check on your progress and will be used to determine a student's grade if he or she is on the borderline of two grades.

Quizzes and exams: there will be weekly quizzes, a midterm and a final exam. Quizzes will usually be held during the first 20 minutes of class each Thursday. If any class is canceled for any reason (e.g. snow, instructor illness), any scheduled quiz or exam will take place during the next class meeting. **If you miss a quiz you will get a zero for that quiz and there will be no make up quizzes**.

Grading: the course grade will be determined as follows:

- quizzes 40% (the two lowest quiz grades will be dropped);
- midterm exam 20%;
- final exam 40%.

Additional points may be awarded for active class participation. Notice there is no extra credit. Letter grades are determined numerically as follows: 93 and over = A; 90-92 = A-; 87-89 = B+; 83-86 = B; 80-82 = B-; 77-79 = C+; 73-76 = C; 70-72 = C-; 67-69 = D+; 63-66 = D; 60-62 = D-; and below 60 = F.

Important dates:

Sep. 28,	last day to drop a class without a W grade;
Sep. 29,	last day to file a final exam conflict form;
Oct. 28,	midterm exam (tentatively);
Nov. 19,	last day to drop a class with a W grade;
Dec. 13,	final exam.

The day of the final exam is to be determined. Do not make advance travel arrangements for any day during final exams period.

Attendance: you are expected to attend every class. You are responsible for knowing all topics covered in class and all announcements made in class. If you come in late, do not disrupt the class. As a courtesy to your classmates, keep your cell phones turned off during class.

Academic Honesty: cheating will not be tolerated. All incidents of cheating will be reported to the Office of Judicial Affairs. The University's cheating policy and related disciplinary actions are detailed in the Student Handbook.

Additional resources:

- Tutoring is available free of charge in the Mathematics Tutoring Center in 540B Nightingale Hall. Hours of operation (starting Sep. 20) are: M T W 10 AM - 9 PM, Th 10 AM - 6 PM, F 10 AM - 1 PM. This is walk-in tutoring; no appointment is necessary.
- www.firehoze.com has produced a collection of short video tutorials around topics from Worldwide Differential Calculus. Some of these videos are free but most cost $0.99 to view.

Be aware, if there is a discrepancy between how an online resource or a tutor present the material, you should follow your instructor's presentation but you should discuss the matter with your instructor.

Miscellaneous: it is your responsibility to be aware of any changes to the syllabus that are announced in class. You are also responsible for all announcements made via email (make sure your mailbox is not full and check your spam filters).
If you have issues with this course and/or instructor which you are not comfortable discussing with your instructor, you should contact the course coordinator, Prof. Massey, at d.massey@neu.edu, or the Director of Undergraduate Studies, Prof. D. King, at d.king@neu.edu.
It is University policy that no grade, including an incomplete, can be changed after one year. Exceptions must be authorized by the Academic Standing Committee.

Topics and Assignments: all information contained in this list is provisional and might change during the course of the semester. All changes will be announced in class.

Section	Homework problems
§1.1: Average Rates of Change	1, 3, 4, 8, 9, 12, 19, 21, 24, 27, 43
§1.2: Prelude to Instantaneous Rates of Change	1-4, 10-14, 21, 24, 33, 43-45
§1.3: Limits and Continuity	1-3, 12, 45-50
§1.4: IROC's and the Derivative	1-4, 12, 13, 16, 19, 25-27, 44, 52, 55
§2.1: The Power Rule and Linearity	1, 2, 13, 14, 17, 18-20, 32, 33, 37, 46
§2.2: The Product and Quotient Rules	1, 2, 5, 8, 22, 23, 27, 29, 35, 36, 48
§2.3: The Chain Rule and Inverse Functions	1, 2, 4, 6, 13, 15, 19, 23-24, 31-33, 41, 43, 49
§2.4: The Exponential Function	1, 2, 4, 5, 7, 12, 17, 25, 30, 31, 34, 39, 40, 42, 43, 52
§2.5: The Natural Logarithm	1-7, 13, 15, 17, 21, 23, 25, 26, 37, 39
§2.6: General Exponential and Logarithmic Functions	1-8, 16, 37, 39a, 42
§2.7: Sine and Cosine	1, 2, 4, 5, 8, 13, 14, 19, 25
§2.8: Other Trig. Functions	5, 7, 8, 11, 16, 18, 24, 30, 49
§2.9: Inverse Trig. Functions	1, 3-9, 27, 32, 48
§2.10: Implicit Functions	1, 3, 6-9, 11, 12, 26, 32, 36, 40
Appendix A: Parameterized Curves and Motion	1-6, 9-11, 13
§1.5: Extrema and the Mean Value Theorem	1-4, 6, 8-13, 28, 29, 45
§1.6: Higher-order Derivatives	6-8, 20-26, 32, 46
§3.3: Optimization	1, 2, 4, 5, 7, 16, 17, 19, 22, 31, 34, 39, 42, 43
§3.1: Related Rates	1, 3, 5, 11, 14, 15, 18, 19, 23, 24, 35, 37, 40, 41, 45
§3.5: l'Hôpital's Rule	2, 3, 5, 6, 8, 9, 12, 15, 39, 46, 48
§3.2: Graphing	1-7, 10, 11, 15-22
§3.4: Linear Approximation	1-4, 9-12, 16-17, 29, 49
§4.2: Anti-derivatives	1-5, 22-25, 35, 36, 69, 70
§4.2: Integration by Substitution	6, 7, 9, 11, 15, 19, 28, 29, 49, 71