

Spring 2009 Syllabus for MTH U141

Instructor/office/contact info/office hours:

Steven Olson 781-826-6560 Office: NI 540A Office Hours: Thursday 11-1
Website: www.math.neu.edu/~olson Email: s.olson@neu.edu Final Exam: TBA

Required Materials:

Text: Applied Calculus, Third Edition, by Hughes-Hallett et.al. 2006 (green cover)

Calculator: graphing calculator (recommend TI83 or TI-84 – There will be times that a TI-89 or similar calculator will not be allowed on a test or a quiz)

Prerequisites

Knowledge of basic algebra at the level of MTH U121, including an introduction to functions and their graphs.

Final Exam

The two-hour final exam is cumulative and must be taken at the scheduled time unless you meet the University requirements for a schedule conflict. **Do not make travel plans that conflict with this exam.**

Course Web Page (not Blackboard)

www.math.neu.edu/~olson

Class announcements, hand-outs, solutions to weekly quizzes can be found here. Bookmark this site and check it each day.

Course:

This serves as both the first half of a two semester calculus sequence and as a self-contained one semester course in differential and integral calculus. Basic concepts and techniques of differentiation and integration are introduced and applied to polynomial, exponential, log and trigonometric functions. The derivative as rate of change and integral as accumulator are emphasized. Applications include optimization, growth and decay, area, volume and motion.

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. Free tutoring is available at the Math Tutoring Center in 540B NI . All tutoring is done on a first come first served basis. Students must come in person to schedule appointments, no appointments can be made by phone. The tutoring schedule will be posted when it becomes available. Schaum's Outlines and other study aids are available in the library.

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. The schedule of what will be covered each class and the dates for quizzes and the Mid-term exam are subject to change. Announcements of changes will be given in class and posted at the class website.

Homework and Quizzes:

Homework should be done on a regular basis. Homework will be checked every Thursday. It is your responsibility to have your homework with you on these days. The homework you present for checking may be in a notebook, only if it is easy for me to locate the assignments to be checked. You may choose to turn in loose sheets containing only the assignments to be checked. The homework that you turn in should represent your work, **no copying allowed**. You may get help from others, and I encourage you to work on assignments together. However, after working with others you should write up your own solutions.

There will be 10 quizzes as shown on the schedule. The best 8 quizzes will be used to determine your quiz average. That is, you have the opportunity to miss 2 quizzes with no penalty. There are no make-up quizzes except in extreme cases, such as medical emergencies and court appearances for which you have documentation. If you must miss the mid-term or a quiz let me know at the earliest time possible.

Grading:

The final exam will count as 40% of your grade for the course. Homework will count 5% of your grade for the course. The average of your best 8 quizzes will count 30% and the mid-term exam will count 25% of your grade for the course.

Class:

Cell phones, portable computers, etc. should be off while in class; if there is some emergency needing an exception, please let me know in advance.

To talk to someone else: If you have a concern about the course that cannot be resolved by speaking to me, the next step is to speak with the course coordinator, Professor Frampton (527 Nightingale Hall, j.frampton@neu.edu). If the matter is still unresolved, you may contact the Undergraduate Director, Professor Martsinkovsky (471 Lake Hall, x5510, alexmart@neu.edu).

Academic Honesty :

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 quiz or test, talking to other students during a quiz/test, looking at notes during a quiz/test (unless it is specifically announced that you may), copying other students’ work outside of class, and obtaining help from others on take-home tests. In this class, working together on homework is **NOT** considered cheating; however, you **MUST** write up your homework individually. Please be aware that this policy on working together outside of class varies greatly from one course to the next; the policy on what is allowed, that has been described in this paragraph, may well be considered cheating in your other classes. 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 Judicial Affairs. These incidents are investigated and adjudicated. The judicial process is a fair one with procedures for appealing decisions, and leads to substantial consequences: a deferred suspension and a fine of up to \$200 for the first offense, expulsion from the University for a second offense.

Schedule For MTH U141

Day	Date		Section	
Mon	1/5/09		1.1 & 1.2: Functions, Linear Functions	p.4: 2,8,15,22; p.11: 2,7,15,20,24,26-29
Wed	1/7/09		1.3: Rates of Change	p.19: 5-8, 11-15, 22-25, 27-28,30-32
Thurs	1/8/09		1.5 & 1.6: Exponential & Logarithmic Functions	p.38:1-4,6,9,11,13,15,26,27; p.43:11,12,21,31,33
Mon	1/12/09		1.7: Exponential Growth and Decay	p.50:1,3,5,8,10,11,18,21,27
Wed	1/14/09		1.8 & 1.9: Composition & Proportionality	p.55:1,3-5,8-10,11,17-22,30; p.61:1-6,13,14,19, 21,28,36
Thurs	1/15/09	Quiz 1	1.10: Periodic Functions	p.68:1-5,8,12,13,15,19-22,28,34
Mon	1/19/09		No Class –Martin Luther King Day	
Wed	1/21/09		2.1: Instantaneous Rate of Change	p.103:1-4, 6-9, 11, 13-17, 19, 21, 23, 26
Thurs	1/22/09	Quiz 2	2.2: Derivative Function	p.109:1-8, 9-12, 13, 15, 19-26, 27, 29, 30
Mon	1/26/09		2.3: Interpretations of Derivatives	p.116:1-7, 9-13, 15, 18, 23, 25, 27-30, 31-35, 37
Wed	1/28/09		2.4: Second Derivative	p.122:1-7, 8-9, 10-12, 15-16, 23, 26, 28.
Thurs	1/29/09	Quiz 3	3.1: Derivatives of Powers and Polynomials	p. 147 # 5-7, 9-19, 23, 27, 40, 43-45, 47-48, 51, 59.
Mon	2/2/09		3.2: Exponential & Logarithmic Functions	p.152: 1-25 odd, 36
Wed	2/4/09		3.3: The Chain Rule	p.157:1-35 odd,42,44,45,49,51, 53,54
Thurs	2/5/09	Quiz 4	3.4: Product and Quotient Rules	p.161: 3-31 odd, 39, 41, 43
Mon	2/9/09		3.5: Derivatives of Periodic Functions	p.165 :1-19 odd, 22, 23, 26
Wed	2/11/09		Chapter Three Review	p.166:1-38, 47-49, 54-57, 58-63, 67-69, 71-75
Thurs	2/12/09	Quiz 5	4.1: Local Extrema	p.180:1-5, 7, 8-10, 14-18, 20-22, 23, 27-29
Mon	2/16/09		No Class –President's Day	
Wed	2/18/09		4.2: Inflection Points	p.186:1-6, 8, 9-10, 11-15, 26-31, 33
Thurs	2/19/09	Quiz 6	4.3: Global Extrema	p.191:1-3, 5-9, 14-16, 17-20, 28-30, 31-39, 41, 43-44, 45-47
Mon	2/23/09		More Extreme Value Problems	
Wed	2/25/09		Review for Mid-Term Exam	
Thurs	2/26/09	Test		
Mon	3/2/09		No Class –Spring Break	
Wed	3/4/09		No Class –Spring Break	
Thurs	3/5/09		No Class –Spring Break	
Mon	3/9/09		4.4: Extrema In profit/cost	p.199: 4,16,17, 20-22
Wed	3/11/09		4.7: Logistic Growth	p.219:1, 2, 7, 9, 10, 13, 14-19.
Thurs	3/12/09	Quiz 7	5.1: Accumulated Change	p.240:1-7, 8-11, 14-18, 20.
Mon	3/16/09		5.2: Definite Integral	p.247:1-7, 8-9, 10-13, 15-17
Wed	3/18/09		5.3: Integral and Area	p.253: 2 (use R-sum), 3-11, 16, 19-22, 23-30 (Use §7.1).
Thurs	3/19/09	Quiz 8	5.4: Using the Integral	p.258:1-14 (calculator),15,16,23-33 (no calculator)
Mon	3/23/09		5.5: Fundamental Theorem of Calculus	p.264:11-13; Handout
Wed	3/25/09		7.1: Constructing Antiderivatives	p.303:1-49 odd, 63-66
Thurs	3/26/09	Quiz 9	7.3: Calculating Definite Integrals	p.312: 1-19 odd, 27,30,35,36
Mon	3/30/09		Motion Problems	Worksheet
Wed	4/1/09		10.1: Setting Up A Differential Equation	p.400:1-11, 14-15
Thurs	4/2/09	Quiz 10	10.2: Solutions of a Differential Equation	p.404:1-5, 7-10, 12, 13-21, 22
Mon	4/6/09		10.2: Solutions of a Differential Equation	p.444:1-3, 10-12, 13, 16, 17, 19.
Wed	4/8/09		10.4: Exponential Growth & Decay	p.416:1-3, 9-16, 17-18
Thurs	4/9/09		10.5: Applications & Modeling	p.424:1-5, 13, 16-18, 25-26, 28.
Mon	4/13/09		Review for Final Examination	
Wed	4/15/09		Reading Day	
			Final Examination – TBA	