SYLLABUS

MTH 111 - Calculus I, Sections C and D

Spring 2016

Instructor: Sofya Chepushtanova (http://chepusht.mathcs.wilkes.edu/)

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Class Meetings:

- **Section C:** MWF 10:00-10:50am, room SLC 403 and Th 9:00-10:50pm, room SLC 405
- **Section D:** MWF 9:00-9:50am, room SLC 403 and Th 1:00-2:50pm, room SLC 424

Office Hours: SLC 410, MW 1:00-3:00pm, F 1:00-2:00pm or by appointment.

Course Description and Objectives: Calculus of functions of one variable. Topics include functions, limits and continuity, derivatives and integrals. Course will focus on applying conceptual aspects of calculus to modeling and solving problems from across the sciences and engineering.

We will study the basic concepts of differential calculus which includes the study of some fundamental properties of real-valued functions. Students successfully completing this course should:

- Understand the notions of limit, derivative, and integral and their applications in understanding the graphs of functions and computing areas.
- Be able to effectively compute limits, derivatives and some antiderivatives.
- Be able to apply limits and derivatives to determine the concavity and extrema of functions and sketch the graphs of functions.
- Be able to estimate limits, derivatives and some definite integrals and sketch the graphs of functions using a graphing calculator.
- Be able to apply limits, derivatives and integrals to solve problems in the sciences and engineering.

Text (*optional*):
(WITHOUT MYMATHLAB ACCESS CODE) University Calculus, Early Transcendentals, 2nd edition, by Hass, Weir, and Thomas; Addison/Wesley Publishing, Inc. ISBN13: 9780321694591.
(WITH MYMATHLAB ACCESS CODE) University Calculus, Early Transcendentals, plus MyMathLab with Pearson etext, 2nd edition, by Hass, Weir, and Thomas; Addison/Wesley Publishing, Inc. ISBN13: 9780321759900

Required **MyMathLab access:** We will be using the publisher's online MyMathLab as a resource and as a source for required online homework. As outlined in the preclass email I sent out, you will need to purchase an online access code. This code will give you access to an online electronic copy of the text for the duration of the class. The ISBN for the access code is 9780321199911. **You must register for the online MyMathLab course by midnight on Friday, January 29th.** Failure to do so may result in removal from the class roster and dismissal from the course.

Prerequisites: Student must have completed MTH 100 or meet Department of Mathematics and Computer Science placement criteria.

Attendance: Attendance in this class IS MANDATORY. Attendance at all classes is expected, and repeated absence is sufficient grounds for failure from the course. I will adhere to the Wilkes University Policy regarding class attendance policies (see the Wilkes Student Handbook). In particular, after five consecutive instructional hours of unexcused absences from a class, students may be readmitted to the class only by action of the Office of Student Affairs and the department chairperson concerned.

Calculator: We will make extensive use of the graphing calculator as a tool to help analyze these functions. The TI-89 graphing calculator is REQUIRED of all students in this course. Some of the hand-in homework problems and examination questions which you will be assigned in this course will require the use of a graphing calculator. Check, e.g., this website for a calculator tutorial: http://www.prenhall.com/divisions/esm/app/graphing/ti89/.

Written Homework and Quizzes: There will be at most 14 written homework assignments and quizzes. Late homework assignments *will not be accepted for any reason.* If classes are canceled or put on a compressed schedule due to the weather on a HW due day, the HW will be collected at the next regular class. Note that *no makeups* will be given for missed quizzes. The best 10 of your HW and quizzes grades will be added together and will count 15% toward your final grade. For your practice, I offer a number of suggested HW problems for each section from the textbook, see page 5 of the syllabus. This HW will not be collected, but you are encouraged to do it to develop your calculus skills.

MyMathLab (Online) Homework: There will be at most 14 MyMathLab (MML) online homework assignments. The best 10 of your MML grades will be added together and will count 10% toward your final grade. Note that the introductory MML assignment is not graded, you are recommended to go through it to learn how to use MyMathLab.

Exams: There will be four full period midterm exams (tentatively scheduled for 2/12, 3/4, 4/8, 4/29), each of which will count 12.5% or 50% total toward your final grade. There will be a final exam, given during finals week, which will count 25% of your grade. No makeups will be given for exams unless there is a documented justification on why the student was unable to take the exam on the specified date. The justification must be approved by me in consultation with the student and the Dean of Student Affairs (if necessary). The student should make

every effort to contact me IN ADVANCE if he/she is unable to attend an examination to make such a request.

Grade Distribution: To summarize, your grade in this course is calculated as follows: 100% = MyMathLab (10%) + Written HW and Quizzes (15%) + 4 Midterm Exams (50%) + Final Exam (25%), and your final grade will be computed from the total points you earn as follows:

$A = 4.0$	$90 - 100\%$
$B+ = 3.5$	$85 - 89\%$
$B = 3.0$	$80 - 84\%$
$C+ = 2.5$	$75 - 79\%$
$C = 2.0$	$70 - 74\%$
$C- = 1.5$	$65 - 69\%$
$D = 1.0$	$60 - 64\%$
$F = 0.0$	59% and lower

Work Load: Expect to study 8-12 hours outside of class each week. Work smart, study the textbook. Do all homework. Ask questions. Go to office hours. Form a study group of classmates who are also committed to mastering calculus. Mathematics is not a spectator sport, you must practice the skills yourself to learn the material.

Tutoring Resources: Peer tutoring service by the Wilkes University Learning Center is available via tutortrac.wilkes.edu. I will inform you later about the Department of Mathematics tutoring service once it is scheduled.

Drop Policy: If you wish to drop from the course, I will give my permission during the first ten weeks of the semester. Thereafter you will need the permission of the Dean. Be aware that poor performance in the course will not be a sufficient reason for the Dean's permission to be granted.

Academic Honesty: By handing in homework, quizzes, and exams you certify that this is your own work. You are encouraged to discuss homework solution strategies with fellow students but the final write-up must be your own. Misrepresenting someone else's work as your own (plagiarism) or doing MyMathLab problems with the aid of a computer algebra system are examples of cheating. If there is evidence that work you hand in is not your own, the first time you will receive a zero on the exam and the second time you will receive an F in the course. Appropriate deans will also be notified.

Tentative Schedule of Lectures and Assignments for Calculus I
Spring 2016 (Dates are Subject to Change)

Week	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
Jan 18 - 22	Syllabus	-	1.1, 1.2	1.3, 1.4 group work	1.5 MML0 (not graded)
Jan 25 - 29	1.6	-	2.1	2.2 Group work HW1 Due	2.2 MML1 Due
Feb 1 - 5	2.3	-	2.4 HW2 Due	2.4 Group work	2.5 MML2 Due
Feb 8 - 12	2.5, 2.6	-	2.6 HW3 Due	Review Group work	Exam I MML3 Due
Feb 15 - 19	3.1	-	3.1, 3.2	3.2 Group work	3.3, Quiz 1 MML4 Due
Feb 22 - 26	3.3, 3.4	-	3.4 HW4 Due	3.5 Group work	3.5, 3.6 MML5 Due
Feb 29 - Mar 4	3.6	-	3.7 HW5 Due	3.7, Review Group work	Exam II MML6 Due
Mar 7 - 11	*SPRING BREAK*				
Mar 14 - 18	3.8	-	3.9	3.9, 3.10 Group work	3.10, Quiz 2 MML7 Due
Mar 21 - 25	3.10, 3.11	-	4.1 HW6 Due	*HOLIDAY RECESS*, MML8 Due	
Mar 28 - Apr 1	*RECESS CONT'D*	-	4.1, 4.2 HW7 Due	4.3 Group work	4.3, 4.4 MML9 Due
Apr 4 - 8	4.4	-	4.5 HW8 Due	4.5, Review Group work	Exam III MML10 Due
Apr 11 - 15	4.6	-	4.6	4.7, 4.8 Group work	4.8, Quiz 3 MML11 Due
Apr 18 - 22	5.1	-	5.1, 5.2 HW9 Due	5.2, 5.3 Group work	5.4 MML12 Due
Apr 25 - 29	5.4, 5.5	-	5.5 Quiz 4	5.6, Review Group work	Exam IV MML13 Due
May 2 - 6	5.6, Review	-	Review HW10 opt.	*FINAL EXAM: TBA*, MML14 opt.	

Suggested Practice Problems from Textbook (Calculus I, Spring 2016)

Section	Practice Problems	Section	Practice Problems
1.1	1, 3, 5, 7, 13, 21, 23, 25, 27, 31, 37, 41, 49, 55, 69, 71	3.9	1, 5, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 31, 33, 39, 41, 43, 47, 49, 55, 63
1.2	1, 3, 5 ,11, 15, 17, 23, 27, 33, 57, 65, 69, 77	3.10	1, 3, 5, 7, 9, 15, 21, 23, 27, 31, 43
1.3	1, 7, 9, 11, 15, 21, 23, 27, 39, 43, 51, 53	3.11	1, 3, 5, 11, 13, 17, 39, 43, 45, 49, 53, 57
1.4	3, 15, 17, 31, 33, 37	4.1	5, 7, 11-14, 21, 25, 29, 33-41 odd, 45-69 odd, 73, 77, 79, 83
1.5	1, 7, 15, 23, 29, 31	4.2	3, 7, 9, 11, 13, 15, 21, 23, 29, 31, 39, 43, 47, 51, 55, 63, 67
1.6	1, 3, 5, 7, 9, 11, 17, 19, 31, 45, 47, 51, 55, 63, 67, 69, 77	4.3	7, 13, 15, 17, 21, 27, 31, 33, 35, 39, 41, 43, 45, 53, 55, 57, 59, 61, 63, 67, 69, 73, 75, 77, 79
2.1	1, 7, 15, 21	4.4	1, 3, 5, 7, 9, 15, 19, 23, 27, 31, 33, 39, 43, 49, 51, 53, 55, 57, 81, 83-105 odd, 115, 121
2.2	1, 3, 5, 9, 11, 21,23, 27, 33, 37, 47, 51, 57, 59, 63, 69, 73	4.5	1, 3, 5, 9, 15, 19, 25, 27, 29, 33, 35, 37, 41, 49, 51, 55, 61, 63, 69, 71, 75, 77, 81, 87
2.3	7, 11	4.6	1, 3, 5, 7, 9, 11, 17, 23, 29, 33, 37, 39, 47, 51, 52, 55, 56,57, 63
2.4	1, 3, 5, 9, 15, 19, 21, 25, 27, 31, 37, 41, 47	4.7	1, 5, 7, 9, 10, 11, 13,19, 25
2.5	1, 3, 5, 7, 9, 11, 13, 19, 23, 25, 29, 31, 39, 43, 49, 51, 55, 65	4.8	1, 5, 9-69 odd, 73, 77, 81-89 odd, 93, 95, 99, 101, 105, 109, 113, 115, 119, 121, 125
2.6	1, 3, 9, 13, 15, 17, 23, 27, 33, 37, 41, 45, 47, 49, 51, 53, 57, 59, 61, 63, 67, 69, 71, 81, 83, 93, 99, 101	5.1	1, 5, 9, 19
3.1	1, 3, 5, 7, 11, 15, 21, 23, 25, 27, 33, 35, 37	5.2	1, 5, 7, 9, 13, 15, 19, 23, 25, 29, 31, 33, 39, 43, 45
3.2	1, 3, 5, 17, 23, 27-30, 31, 33, 37, 45, 47	5.3	1-19 odd, 27, 61, 73, 74, 75
3.3	3, 5, 9, 13, 19, 25, 29, 35, 39, 41, 51, 53, 55, 57, 63, 67, 69, 75	5.4	1, 5, 9, 13, 15, 19, 23-33 odd, 39, 43, 45, 53,57, 59, 65, 71, 75, 79, 81, 83
3.4	1, 5, 7, 11, 17, 21, 25, 29	5.5	3, 5, 7, 11, 13, 15, 17, 21, 25, 29, 31, 35, 39, 43, 45, 47, 51, 55, 57, 61,65, 67, 71, 77
3.5	3, 7, 11,15, 19, 23, 29, 33, 35, 37, 39, 43, 45, 49, 55, 57, 59, 61, 67	5.6	(substitution) 1, 3, 7, 11, 15, 17, 23, 25, 27, 29, 35, 39, 45; (area between curves) 47-67 odd, 73, 75, 77, 81, 85, 87, 89, 93-105 odd, 109
3.6	1, 5, 9, 13, 17, 23, 27, 31, 35, 41, 45, 51, 57, 63, 67, 69, 71, 75, 85, 87, 89, 91, 93, 95, 97		
3.7	1, 5, 11, 15, 17, 21, 25, 27, 29, 31, 35, 39, 41, 43, 51		
3.8	1, 5, 11, 15, 19, 23, 27, 31, 35, 39, 55, 59,63, 65, 67, 71,75, 81, 85, 89, 91, 93, 95, 99		