SYLLABUS

MTH 111 - Calculus I, Sections C and D

Spring 2017

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

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Class Meetings:

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

Office Hours: SLC 410, MW 01:00-02:50pm and F 1:00-1:50pm 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 - purchase not required*):
University Calculus, Early Transcendentals, 3rd edition, by Hass, Weir, and Thomas; Addison/Wesley Publishing, Inc.; for hardcover ISBN-13: 9780321999580 (or ISBN-10: 0321999584), for paperback ISBN-13: 9780321999634 (or ISBN-10: 0321999630).

Required MyMathLab access: We will be using the publisher's online MyMathLab as a resource and as a source for required online homework. You will need to purchase an online

access code. The instructor's course ID *chepushtanova38966*. This code will give you access to an online electronic copy of the text for the duration of the class. **You must register for the online MyMathLab course by midnight on Friday, January, 27th.** 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: In this course, calculators can be used as a helpful tool to help analyze functions. However, standard graphing calculators (such as TI-83 or 84) and graphing calculators equipped with CAS (Computer Algebra System) (such as TI-89, TI-92, TI-Nspire, or equivalent) WILL NOT BE PERMITTED for use by students on any semester examinations. Only a standard scientific calculator, for instance, such as TI-30Xa, is permitted (but not required) for use on semester examinations.

MyMathLab (Online) Homework: There will be weekly MyMathLab (MML) online homework assignments. The best 10 of your MML grades will be added together and will contribute 10% to 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.

Written Homework and Quizzes: There will be weekly written homework (HW) assignments and/or 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 contribute 10% to your final grade. For your practice, I also offer a number of *suggested* HW problems for each section from the textbook, see page 5 of the syllabus. This suggested HW will not be collected, but you are encouraged to do it to develop your calculus skills.

Exams: There will be four full period midterm exams (tentatively scheduled for 2/10, 3/3, 4/7, and 4/28), they will contribute 50% (12.5% each) to your final grade. There will be a final exam, given during the final examinations week, which will contribute 30% to your final grade. ***Assuming your attendance in class is satisfactory, your final exam grade will be substituted in place of your lowest exam score if it is higher than your lowest exam score.*** 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 from the following components:

10% (10 best MML) + 10% (10 best HW and Quizzes) + 50% (4 Exams) + 30% (Final) = 100%

and your final grade will be assigned from the total percentage you earn as follows:

Percentage	Grade
$90 - 100\%$	4.0
$85 - 89\%$	3.5
$80 - 84\%$	3.0
$75 - 79\%$	2.5
$70 - 74\%$	2.0
$65 - 69\%$	1.5
$60 - 64\%$	1.0
$< 60\%$	0.0

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. The Department of Mathematics has its own tutoring service, and you will be informed about tutoring sessions once they are 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.

Cell Phones: As a courtesy to your classmates and instructor, please refrain from any cell phone activities (including texting) during class time. All cell phones should be silenced during class. Thank you for understanding.

Tentative Schedule of Lectures (Sections) and Assignments for Calculus I Spring 2017 (Dates are Subject to Change)

Week of	Monday	Tuesday	Wednesday	Thursday	Friday
1. Jan 16th	-	-	Course overview	1.1, 1.2 Group work	1.3
2. Jan 23rd	1.5 MML0 (not graded)	-	1.6	2.1 Group work	2.2 MML1 Due
3. Jan 30th	2.2, 2.3 HW1 Due	-	2.4	2.4, 2.5 Group work	2.5 MML2 Due
4. Feb 6th	2.6 HW2 Due	-	2.6	Review, Group work	Exam I MML3 Due
5. Feb 13th	3.1	-	3.1, 3.2	3.2 Group Quiz 1	3.3 MML4 Due
6. Feb 20th	3.3, 3.4 HW3 Due	-	3.4	3.5 Group work	3.5, 3.6 MML5 Due
7. Feb 27th	3.6 HW4 Due	-	3.7	3.7, Review Group work	Exam II MML6 Due
8. Mar 6th	*Spring Recess*				
9. Mar 13th	3.8	-	3.9	3.9 Group Quiz 2	3.10 MML7 Due
10. Mar 20th	3.10, 3.11 HW5 Due	-	4.1	4.1, 4.2 Group work	4.2 MML8 Due
11. Mar 27th	4.3 HW6 Due	-	4.3	4.4 Group work	4.4 MML9 Due
12. Apr 3rd	4.5 HW7 Due	-	4.5	Review Group work	Exam III MML10 Due
13. Apr 10th	4.6	-	4.6	*Holiday Recess*, MML11 Due	
14. Apr 17th	4.7, 4.8 HW8 Due	-	4.8	5.1 Group work	5.1, 5.2 MML12 Due
15. Apr 24th	5.2, 5.3 HW9 Due	-	5.4	5.4, Review Group work	Exam IV MML13 Due
16. May 1st	5.5	5.5, 5.6 (Thursday schedule) Group Quiz 3	5.6 (Friday schedule) HW10 Due	*Final Exam: TBA*, MML14 Due	

Suggested Practice Problems from University Calculus, 3rd edition, by Hass, Weir, and Thomas - Not Graded (Calculus I, Spring 2017)

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, 45, 47, 53, 59
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, 25, 31, 43
1.3	1, 7, 9, 11, 15, 21, 23, 27, 39, 43, 51, 53	3.11	linearization (optional): 1, 3, 5, 11, 13, 17
1.4	(playing with calculator/software) 3, 15, 17, 31, 33, 35	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, 81-105 odd, 115, 121
2.2	1, 3, 5, 9, 11, 21, 23, 27, 33, 37, 47, 51, 57, 59, 63	4.5	1, 3, 5, 9, 15, 19, 25, 27, 29, 33, 35, 37, 41, 49, 51, 55, 61, 63, 69, 71, 75, 77, 87
2.3	7, 11	4.6	1, 3, 5, 7, 9, 11, 25, 29, 33, 37, 39, 47, 51, 55, 57, 63
2.4	1, 3, 5, 9, 15, 21, 25, 27, 31, 37, 41	4.7	optional: 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, 45, 55, 65	4.8	1, 5, 9-69 odd, 73, 77, 81-89 odd, 93, 95, 99, 101, 105, 109, 113, 115, 119, 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, 99, 101	5.1	1, 5, 9, 19
3.1	1, 3, 5, 7, 11, 15, 21, 23, 25, 27, 31, 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, 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, 81, 83
3.4	1, 5, 7, 11, 17, 21, 25, 31	5.5	3, 5, 7, 11, 13, 15, 17, 21, 25, 29, 31, 35, 39, 43, 45, 47, 51, 55, 57, 61, 65, 67, 73, 79
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, 99		
3.7	1, 5, 11, 15, 17, 21, 25, 27, 29, 31, 35, 39, 41, 43, 51a		
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		