SYLLABUS

MTH 111 – Calculus I, Sections A and D – Fall 2017

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

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Class Meetings:

- **Section A:** MTWRF 8:00-8:50am, room SLC 411
- **Section D:** MTWRF 1:00-1:50pm, room SLC 405

Office Hours: SLC 410, MWF 11:00-11:50am and T 9:00-10:50am 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. 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. **You must register for the online MyMathLab course by midnight on Friday, September 8th.** Failure to do so may result in removal from the class roster and dismissal from the course.

Prerequisites: Student must have completed MTH 100 (*preferably with a grade 2.0 or better*) 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 5 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. *Remember that poor attendance is a major contributor to poor performance!*

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. For your homework, a useful online graphing calculator is Desmos: https://www.desmos.com/calculator.

Written Homework and Quizzes: There will be at most 14 written homework (HW) 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 10% toward your final grade. For your practice, I also offer a number of *suggested* HW problems for each section from the textbook, see the last page 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 (orientation) 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, 100 points each (tentatively scheduled for 9/22, 10/20, 11/10, and 12/8), they will count 50% toward your final grade (12.5% each). There will be a final exam, given during finals week, which will count 30% toward 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: 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

Expectations: In addition to good attendance, you should plan to study 2-3 hours outside of class for each hour in class. So, for our 5-hour class, this means you should spend from (at least) 10 to 15 (better!) hours per week *studying outside of class*. You are expected to *read the textbook for comprehension*. It gives a detailed account of the material of the course. *It is your responsibility to learn the material.* The instructor's job is primarily to provide a framework, to guide you in doing your learning of the concepts and methods that comprise the course. If you are experiencing difficulty, go to your instructor's office hours for extra help. 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.

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 a grade of 0 in the course. Appropriate deans will also be notified.

Email Etiquette: Please refer to the following tutorial on how to communicate with your instructor via email: `https://www.math.uh.edu/~tomforde/Email-Etiquette.html`. View an email to a professor as a professional interaction. How you choose to interact conveys your level of seriousness and professionalism.

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 I will inform you about tutoring sessions once they are scheduled.

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

Week of	Monday	Tuesday	Wednesday	Thursday	Friday
1. Aug 28th (Review week)	Syllabus, intro	1.1, 1.2	1.3	1.5, 1.6	Group work
2. Sep 4th	_Labor Day_	1.6	2.1 MML0 Due (not graded) HW1 Due	2.2	Group work MML1 Due
3. Sep 11th	2.2	2.2, 2.3 (briefly)	2.4 HW2 Due	2.4	Group work MML2 Due
4. Sep 18th	2.5	2.5, 2.6	2.6 HW3 Due	Catch up & Review	**Exam I** MML3 Due
5. Sep 25th	3.1	3.1, 3.2	3.2	3.3	**Quiz 1** Group work MML4 Due
6. Oct 2rd	3.3	3.4	3.4, 3.5 HW4 Due	3.5	Group work MML5 Due
7. Oct 9th	3.6	3.6, 3.7	3.7 HW5 Due	_Fall Break_	MML6 Due
8. Oct 16th	3.8	3.8, 3.9	3.9 HW6 Due	Catch up & Review	**Exam II** MML7 Due
9. Oct 23th	3.10	3.10	3.11 (briefly)	4.1	**Quiz 2** Group work MML8 Due
10. Oct 30st	4.1, 4.2	4.2	4.3 HW7 Due	4.4	Group work MML9 Due
11. Nov 6th	4.4	4.5	4.5, 4.6 HW8 Due	Catch up & Review	**Exam III** MML10 Due
12. Nov 13th	4.6	4.6	4.7 (briefly), 4.8 HW9 Due	4.8	Group work MML11 Due
13. Nov 20st	5.1	5.1, 5.2	_Thanksgiving Recess_ MML12 Due		
14. Nov 27th	5.2	5.3	5.3	5.4	**Quiz 3** Group work MML13 Due
15. Dec 4th	5.4, 5.5	5.5	5.6 HW10 Due	Catch up & Review	**Exam IV** MML14 Due
16. Dec 11th (Final exams)	5.6, Review HW11 Due	_Final Exam and Review Sessions: TBA_			

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