

# SYLLABUS

## MTH 111 – Calculus I, Sections C and D – Fall 2018

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

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**Class Meetings:**

- **Section C:** MTWRF 10:00-10:50am, room SLC 405
- **Section D:** MTWRF 1:00-1:50pm, room SLC 411

**Office Hours:** room SLC 410, MWF 11:00-11:50am, R 8:00-9:50am 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 assignments, so 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 7th.** Failure to do so may result in removal from the class roster and dismissal from the course.

**Prerequisites:** Student must have completed MTH 100 *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>.

**Suggested Practice Problems:** For your practice, I offer a number of *suggested* homework problems for each section from the textbook, see the last page the syllabus. This homework will not be collected, but you are encouraged to do it to develop your calculus skills.

**MyMathLab (Online) Homework and Quizzes:** There will be regular MyMathLab (MML) online homework assignments and quizzes. The lowest three homework scores will be dropped, and the rest will be added together and will count 5% toward your final grade. (Note that the orientation MML assignment is not graded, but you are recommended to go through it to learn how to use MyMathLab.) The lowest three quizzes scores will be dropped, and the rest will be added together and will count 10% toward your final grade. *Note: No makeups will be given for any missed homework or quiz.*

**Exams:** There will be four midterm exams, 100 points each (tentatively scheduled for 9/21, 10/19, 11/9, and 12/7), they will count 55% toward your final grade (13.75% each). There will be a final exam (200 points), 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 midterm 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 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:

$$\boxed{5\% \text{ (Homework)} + 10\% \text{ (Quizzes)} + 55\% \text{ (Midterms)} + 30\% \text{ (Final)} = 100\%}$$

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

<i>Percentage</i>	<i>Grade</i>
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
0 – 59%	0.0

**However, there is an additional restriction for a failing grade on the final exam: if a student does not score at least 50% on the final (i.e., at least 100 out of 200 possible points), the highest grade they are eligible for is a 1.5.**

**Expectations:** In addition to good attendance, you should plan to study 2-3 hours outside of class for each hour in class. You are expected to *read the textbook for comprehension*. It gives a detailed account of the material of the course. *Note that 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 submission **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 exam 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. **Put simply: do not cheat. I have no patience for academic dishonesty.**

**Cell Phones:** should be switched to silent mode (or turned off), and put out of sight during class time. **NOTE: THE USE OF CELL PHONES DURING EXAMS IS EXPRESSLY FORBIDDEN AND WILL RESULT IN A GRADE OF 0.**

**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.

***Tentative* Schedule of Lectures (Sections), Assignments, and Exams  
for Calculus I Fall 2018 (Dates are Subject to Change)**

Week of	Monday	Tuesday	Wednesday	Thursday	Friday
1. Aug 27th	Syllabus, 1.1	1.1, 1.2	1.3	1.5, 1.6	Group work
2. Sep 3rd	<i>Labor Day</i>	1.6	2.1	2.2	Group work MML0 and MML1 Due
3. Sep 10th	2.2	2.3 (briefly), 2.4, Quiz 1 due	2.4	2.5	Group work MML2 Due
4. Sep 17th	2.5	2.6 Quiz 2 due	2.6	Review	<b>Exam I</b> MML3 Due
5. Sep 24th	3.1	3.1, 3.2 Quiz 3 due	3.2	3.3	Group work
6. Oct 1st	3.3	3.4 Quiz 4 due	3.4, 3.5	3.5	Group work MML5 Due
7. Oct 8th	3.6	3.6, 3.7 Quiz 5 due	3.7	<i>Fall Break</i>	MML6 Due
8. Oct 15th	3.8	3.8, 3.9 Quiz 6 due	3.9	Review	<b>Exam II</b> MML7 Due
9. Oct 22nd	3.10	3.10 Quiz 7 due	3.11 (briefly), 4.1	4.1	Group work MML8 Due
10. Oct 29th	4.1, 4.2	4.2 Quiz 8 due	4.3	4.4	Group work MML9 Due
11. Nov 5th	4.4	4.5 Quiz 9 due	4.5, 4.6	Review	<b>Exam III</b> MML10 Due
12. Nov 12th	4.6	4.6 Quiz 10 due	4.7 (briefly), 4.8	4.8	Group work MML11 Due
13. Nov 19th	5.1	5.1, 5.2 Quiz 11 due	<i>Thanksgiving Recess</i>		MML12 Due
14. Nov 26th	5.2	5.3 Quiz 12 due	5.3	5.4	Group work MML13 Due
15. Dec 3rd	5.4, 5.5	5.5 Quiz 13 due	5.6	Review	<b>Exam IV</b> MML14 Due
16. Dec 10th (Final exams)	5.6, Review	<i>Final Exam and Review Sessions: TBA.</i>			MML15 Due

***Suggested Practice Problems from University Calculus, 3rd edition, by Hass,  
Weir, and Thomas - Not Graded (MTH 111 Calculus I)***

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		