

MATH 141: Calculus I – Summer 17

Instructor: Joseph C Foster

CRN: 76981

Class Meeting Room & Time: LeConte 405 MTWR 10:15-11:40

TA: Tracy Huggins

Recitation Meeting Room & Time: LeConte 102 MTWR 13:45-14:40

Email: josephcf@math.sc.edu

Office: 104A

Office Hours: MTW - 11:40-12:30

R - 12:30-14:30 (LC 105)

TA Email: hugginm@math.sc.edu

TA Office Hours: 14:40-15:30

COURSE DESCRIPTION AND OBJECTIVES

Prerequisites: C or better in MATH 112, 115, 116, or placement through Pre-calculus version of the Mathematics Placement Test

Learning Outcomes: Upon successful completion of the course, students should be able to:

- Demonstrate understanding of the following concepts: Limits and Continuity of Functions, the Derivative of a Functions, Applications of the Derivative, Minima-Maxima, the Mean Value Theorem, the Integral, and the Fundamental Theorem of Calculus.
- Compute derivatives and basic integrals.
- Apply these concepts to modelling real life problems at the usual level of first semester calculus.

MATERIALS

- **Online Materials:** Blackboard: Here I shall post handouts, homework assignments and solutions, and more.
- **Textbook:** Thomas' Calculus: Early Transcendentals, 13th Edition. Pearson, 2014.
- **Calculator:** No calculators will be allowed during exams. As such, you will not require one for other parts of the class.

COURSE POLICIES AND EXPECTATIONS

Attendance: You are expected to attend EVERY class and also arrive on time. Daily quizzes will be given so missing class will have an effect on your final grade.

Participation: You are STRONGLY encouraged to participate during class. This includes both asking and answering questions. If something is not clear, ASK A QUESTION. I am here to help you learn, something I cannot do if you do not communicate with me. If a question is asked during class, ANSWER. Also remember that 'I'm not sure' is a perfectly acceptable answer for reasons already stated.

Classroom Rules: During class meetings you will treat both your fellow classmates and myself with respect. This includes, but is not limited to; not talking while others are talking, being cooperative during group tasks and listening when others contribute to the class.

Electronic Devices: You may use your laptops during class to take notes only. If you are seen on your laptop on anything not pertaining to the class you will be asked to put your laptop away. Mobile phones should be on silent and placed in your pocket on bag. No phones on desks. If you are asked to put something away and refuse, an immediate 5% will be deducted from your final grade. We have a lot of material to cover in a short amount of time, so I will not waste any arguing.

Exam Rules: During exams you are required to place all electronic devices, including smart watches, into your bags or out of reach. Headwear such as hats and hoods must be removed during exams, unless you have a religious reason as to why they cannot be removed. Calculators are not allowed.

Academic Integrity: I expect you to familiarise yourself with the Honour Code found in the current student handbook. Keep in mind that "Any student who violates this Honour Code or who knowingly assists another to violate this Honour Code shall be subject to discipline."

Students with Disabilities: If you require additional accommodations due to disabilities, you MUST register with the Office of Student Disability Services (LC112A). You must also talk to me as soon as possible near the start of the semester.

MATH 141: Calculus I – Summer 17

Studying: It is expected as a MINIMUM that you match every hour we spend in class with an hour of independent study. Note that this really is a lower bound. The more time you spend the better. It will not be enough to simply attend lectures and attempt to regurgitate what you see on the board. Collaboration with your fellow classmates is strongly encouraged. You are not expected to learn everything by yourself. Maths at this level is very different to what it is like at high school, talking about it is one of the best ways you can digest it.

Late Policy: Late homework will be subject to a 30% grade penalty if submitted before the Friday immediately following the due date. After this late homework will not be accepted as solutions will be made available on this day for students to study with.

Make-Up Policy: Exams can be made up ONLY in the case of an emergency, and ONLY if you request a make-up exam BEFORE the scheduled time. It is your responsibility to contact me within a reasonable time to request a make-up exam.”

ASSIGNMENTS

Mini-quizzes: We will have a closed book mini-quiz at the start of every class meeting. You will be given approximately five minutes to answer a short question based on the material covered in the previous class. These will range from recalling a definition, a true or false question, or a simple calculation. It is important you arrive on time to take this quiz.

Homework: There will be two homework assignments every week, except weeks when there is a midterm, generally due Mondays and Thursdays. Each will consist of roughly five exam like questions.

Recitation: Your recitation grade will count for 10% of your final grade, and will be calculated at the discretion of your TA. See their syllabus for details.

Midterms: There will be three in-class midterm exams, given in recitations after lectures 8, 15 and 23. Each will be based on material covered from the class after the previous midterm until the class before the midterm.

Final Exam: The final exam will be cumulative and be given on Saturday June 24th at 9:00.

EVALUATION

Mini-quizzes.....	5%
Homework.....	10%
Recitation.....	10%
Midterm 1.....	17%
Midterm 2.....	17%
Midterm 3.....	17%
Final Exam.....	24%

Final Grades will use the following scale:

A	B+	B	C+	C	D+	D	F
100-85%	84-80%	79-70%	69-68%	68-60%	59-58%	57-50%	49% and below

USEFUL WEBSITES:

- Blackboard Website: <https://blackboard.sc.edu>
- Software Support for Calculations: <http://www.wolframalpha.com>
- Paul’s Online Calculus Notes: <http://tutorial.math.lamar.edu/Classes/CalcI/CalcI.aspx>
- PatrickJMT: <https://www.youtube.com/user/patrickJMT>
- Khan Academy: <https://www.khanacademy.org/math>
- Numberphile YouTube Channel: <https://www.youtube.com/user/numberphile> (Not really study material, but is full of fun and interesting maths videos!)

MATH 141: Calculus I – Summer 17

SUPPORT:

- My Office Hours – MTW 11:40-12:30, LeConte 104A, R – 12:30-14:30, LeConte 105
- Tracy's Office Hours – MTWR 14:40-15:30, LeConte 102
- FREE TUTORING in LeConte 105 – MTWR 10:30-14:30
- Student Success Centre – Offers FREE tutoring and FREE 1 on 1 ONLINE tutoring. (<http://www.sa.sc.edu/ssc/>)

CALENDAR

Important Dates:

- May 10, 2017 Last day for students to DROP without a grade of “W”.
- May 31, 2017 Last day for students to DROP or withdraw without a grade of “WF”.
- ***Schedule is tentative and subject to change***

Lecture	Date	Topics Covered	Notes
1	Monday, May 8, 2017	Precalculus Review	Continued in recitation.
2	Tuesday, May 9, 2017	Limits	Homework 0 'due'
3	Wednesday, May 10, 2017	Limits of functions and Continuity	
4	Thursday, May 11, 2017	Continuity and rates of change	Homework 1 due
5	Monday, May 15, 2017	The derivative and its properties	Homework 2 due
6	Tuesday, May 16, 2017	More on the derivative	
7	Wednesday, May 17, 2017	Rules of differentiation	
8	Thursday, May 18, 2017	Review for midterm 1	MIDTERM 1
9	Monday, May 22, 2017	Rules of differentiation	Homework 3 due
10	Tuesday, May 23, 2017	Implicit and logarithmic differentiation	
11	Wednesday, May 24, 2017	L'Hôpital's Rule and the Mean Value Theorem	
12	Thursday, May 25, 2017	Applications of the derivative	Homework 4 due
13	Tuesday, May 30, 2017	Applications of the derivative	Homework 5 due
14	Wednesday, May 31, 2017	Optimisation	
15	Thursday, June 1, 2017	Review for midterm 2	MIDTERM 2
16	Monday, June 5, 2017	Area under a curve and the Riemann Integral	Homework 6 due
17	Tuesday, June 6, 2017	The Riemann Integral and the definite integral	
18	Wednesday, June 7, 2017	Antiderivatives	
19	Thursday, June 8, 2017	The Fundamental Theorem of Calculus and U-Sub.	Homework 7 due
20	Monday, June 12, 2017	U-Substitution	Homework 8 due
21	Tuesday, June 13, 2017	Area between curves	
22	Wednesday, June 14, 2017	Applications of the integral	
23	Thursday, June 15, 2017	Review for midterm 3	MIDTERM 3
24	Monday, June 19, 2017	Volume of revolution	Homework 9 due
25	Tuesday, June 20, 2017	More applications of the integral	
26	Wednesday, June 21, 2017	More applications of the integral	
27	Thursday, June 22, 2017	Review for final	Homework 10 due
FINAL	Saturday, June 24, 2017	Everything	FINAL