Syllabus for Math 141, Section H01
Fall 2024

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Course Description
MATH 141
Credits: 4
Functions, limits, derivatives, introduction to integrals, the Fundamental Theorem of Calculus, applications of derivatives and integrals. Three classroom hours and one laboratory hour per week.
Prerequisite: Qualification through either (a) a Math Assessment of Prerequisites (MAP) score of 142 or higher https://sc.edu/study/colleges_schools/artsandsciences/mathematics/study/math_placement/ or (b) a grade of C or better in Math 115.

Class Meetings: This is an in-person class. We will meet in person for lectures on Mondays, Wednesdays, and Fridays, recitation on Tuesdays, and lab on Friday. If you are unable to attend lecture because of quarantine or isolation, you may attend remotely via Microsoft Teams. (If you are well, you are expected to attend in person.)

Schedule:
Class Meetings — MWF 12:00pm-12:50pm in LeConte 422
Recitation   T   1:15pm-2:05pm in LeConte 107
Skills Lab   F   9:40am-10:30am in LeConte 122
Online — Microsoft Teams: Team Code **qjt8c54**

Online: Class meetings will be streamed on MS Teams (http://teams.microsoft.com). Students are expected to attend class in person when they are well. Remote learning is available for emergency situations but should NOT be considered an alternate option for regularly attending class. **Students are strongly encouraged to maintain a notebook for the course.** You should take notes on important definitions, keep an organized copy of example problems, etc. Class handouts, worksheets, solutions, and printable fill-in notes will be posted on Blackboard (http://blackboard.sc.edu) in the Fill-In Notes folder. Completed notes can be found in the Class Notebook in MS Teams or OneNote (http://onenote.com) in the Content Library. **Note:** Class lectures will not be recorded.

Text: Thomas, Weir, and Hass, *Thomas' Calculus, Early Transcendentals*, 15th Edition, Pearson, 2023.
Sections: 1.1-1.3, 1.6, 2.1-2.6, 3.1-3.3, 3.5-3.10, 4.1-4.6, 4.8, 5.1-5.6, 6.1-6.2 (If time allows)
MyMathLab will NOT be used for this course.

Attendance and Participation: Regular attendance and participation is expected. In accordance with University policy, a letter grade may be deducted for each 10% of classes missed (unexcused). **Withdrawal:** Any student wishing to withdraw from the class should do so by Wednesday, November 6. Students dropping after this date will receive a WF for the course.

Absences: Excused absences will require documentation. The University allows for students to petition for an excused absence due to any of the following circumstances: medical conditions or illness or injury, death or severe illness of an immediate/dependent family member, military duty, legal obligation, religious holiday, or participation in an authorized university activity. In order for an absence to be recognized as "excused", the student must submit the appropriate form on the website of the office of the Undergraduate Student Ombuds. Additionally, in the case of absences due to religious observance or participation in authorized university activity, the student must notify the instructor in advance.

Cell Phones/Laptops/Smart Watches: In accordance with CAS policy, I will ask that all cell phones be turned off (or at the very least be put on vibrate) during class. Also, please refrain from texting during class – it is disrespectful and distracting. **Your cell phone should not be out at any time during a test or quiz.** The use of any laptop during class is discouraged. Smart watches should not be worn on test or quiz days.

Calculators: Calculators may NOT be used on tests and quizzes unless otherwise noted.

Learning Outcomes: Upon successful completion of this course, students should be able to:
- Recall basic mathematical terms related to elementary algebraic, trigonometric, exponential, and logarithmic functions and express these terms in correct context.
- Evaluate basic limits and limits involving infinity. Recognize and evaluate limits that require L'Hopital's Rule.
- Apply the methods of calculus to solve derivatives involving power rule, exponential rule, logarithm rule, chain rule, product rule, quotient rule, trigonometric functions, inverse trigonometric functions, and implicit differentiation.
- Apply the methods of calculus to solve basic integrals and integrals involving integration by substitution.
- Employ knowledge of limits, derivatives, integrals, and the Fundamental Theorem of Calculus to describe functions, analyze graphs, and interpret data, and to solve applications involving maxima, minima, rates of change, and motion.
- Master applications of integration including area, volume by disks or washers, and volume by cylindrical shells. (If time allows.)

Tests: There will be three tests and cumulative final exam. The *tentative* dates for these are:
- Test 1:   Friday, September 20 on Sections 1.1-1.3, 1.6, 2.1-2.6, 3.1-3.2
- Test 2:   Friday, October 25 on Sections 3.3, 3.5-3.10, 4.1-4.4
- Test 3:   Friday, November 22 on Sections 4.5-4.6, 4.8, 5.1-5.6, 6.1-6.2
- Final: Monday, December 9 at 12:30PM

Note: Friday, November 22 is the Friday before Thanksgiving Break. Travel plans that have not been finalized before the first day of class will not be considered with regard to this test. Make-up exams will be available in the event of **documented** illness/family emergency/quarantine. Those with acceptable excuses must contact me within 24 hours of the scheduled exam time to schedule a make-up. **Tests given in class must be made up in person.**

Testing: All tests will be administered in class.
- **Test Description:** All three tests and the final exam will be a combination of short answer questions and applications where you will work out math problems. You will be graded based on a completely correct solution – not just the final answer. All steps must be correct for full credit.

Suggested Problems: Suggested problems from the textbook will be given at the end of every section. Solutions to these problems will be posted on Blackboard in the Homework Solutions folder. Homework from the textbook will not be collected.

Worksheets: Graded worksheets will be assigned once a week and posted on Blackboard in the Worksheets folder. It is the student's responsibility to print the worksheet, complete it, and turn it in at the beginning of class on Wednesday. If you are not in class, you can email your worksheet as a pdf before 5pm on the due date. **Once solutions have been posted, late worksheets will not be accepted for any reason.**
- **Worksheet Description:** A typical worksheet is 4 pages. Questions are a combination of short answer questions and applications where you will work out math problems. You will be graded based on a completely correct solution - not just the final answer. All steps must be correct for full credit.
- **Worksheet Collaboration:** We will work together on worksheets during recitation on Tuesdays, but you should complete the worksheet **before** recitation. You are welcome (and encouraged!) to work together on the worksheets and seek out help from tutors, SI, and your instructor, however, you should NEVER copy another person's work or share your completed worksheet via email, Zoom, GroupMe, etc. If you are helping a fellow student, you should look at their work and try to help them find their errors. **The sharing**

of completed solutions is not working together – you are not helping! Students who are working too closely with one another will be reminded, warned, and then reported to Academic Integrity.
- **Worksheet Submission:** You should turn in your worksheet at the beginning of class on Wednesday. If you are late, please drop your worksheet at the front before taking your seat. If you are not in class, you may email it as a pdf to sanders@math.sc.edu. No worksheets will be accepted after solutions are posted.

Usage of Artificial Intelligence: As a partner in your learning, it is important to both of us that any assignment submission is a pure reflection of your work and understanding. The introduction of artificial intelligence options to complete academic work jeopardizes my ability to evaluate your understanding of our course content and robs you of the ability to master the subject matter. Suspicions of use of artificial intelligence aids will be referred to the Office of Academic Integrity as alleged violations of Cheating, defined as "unauthorized assistance in connection with any academic work" and/or Falsification, which includes "Misrepresenting or misleading others with respect to academic work or misrepresenting facts for an academic advantage". Students found responsible for using AI will receive a 0 for the assignment.

In-Class Quizzes: Quizzes will be given weekly during class and will be based on the homework. **The lowest 2 quiz or worksheet scores will be dropped regardless of excuse.** Make-up quizzes will only be available for excused absences. Any student requesting a make-up must have a **documented excuse** and take the make-up as soon as possible. **Quizzes given in class must be made up in person.**
- **In-Class Quiz Description:** Quizzes will be given once a week during class and will be based on the most recent worksheet. Quizzes will be 3-5 problems and should take between 10-15 minutes at the end of class. Questions will be a combination of short answer questions and applications where you will work out math problems. You will be graded based on a completely correct solution – not just the final answer. All steps must be correct for full credit.

Skills Lab: The accompanying skills lab on Fridays will complement the material provided in the lectures. Students will work together in groups to complete lab assignments. If you are not in lab on Friday, you can find a copy of the Skills Lab on Blackboard. Do not forget to turn in your lab before 5pm on Friday if you are not in class!
- **Skills Lab Description:** A typical Skills Lab is 3-4 pages. Questions are a combination of short answer questions and applications where you will work out math problems. The lab is designed to give you extra practice on course topics. You will be graded based on completeness, so problems do NOT have to be completely correct to receive full credit.
- **Skills Lab Submission:** You should turn in your skills lab at the end of lab on Friday. If you are not in class, you may email it as a pdf to sanders@math.sc.edu

Typical Weekly Schedule: A typical week will look like this:
- **Tuesday**   Recitation – time to work together on worksheets.
- **Wednesday**   Worksheet due at the beginning of class.
                         Solutions posted at 5pm in Blackboard.
                         New Worksheet distributed via Blackboard.
- **Friday (Lab)**   Skills Lab – time to work together on skills.
- **Friday**   Quiz during class.

Gateway exams: These short 30-minute exams help you achieve mastery over basic calculus skills and assure you are prepared for future material. You are allowed unlimited proctored attempts for Gateway1 and Gateway2 until the closing date of the exam. Proctored attempts can be made during designated lab sections, in office hours with your graduate instructor, or the Mathematics Tutoring Center on a first-come-first-served basis. You are allowed at most one attempt per day. Practice gateway exams do not count towards passage of the corresponding gateway exam. To assure that students are adequately prepared, Gateway exams are part of your course grade. Failure on the first Gateway can be waived, at the instructor's discretion, if you enroll in and successfully complete Math 151.

Grading:

Skills Lab	40 pts (~6%)
Gateway Exams	60 pts (~9%)
Quizzes/Worksheets:	100 pts (~15%)
3 Tests:	100 pts each (~15% each)
Final Exam:	150 pts (~23%)
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Total:	650 pts

Letter grades will be given according to the following scale:

A : 90-100%
B+: 85-89%
B : 80-84%
C+: 75-79%
C : 70-74%
D+: 65-69%
D : 60-64%
F : below 60%

Additional Help: For (free!) additional assistance, visit the Math Tutoring Center in LeConte 102. Tutoring in the tutoring center is open to all students enrolled in a 100-level MATH class. For more information about availability of tutors check the website https://sc.edu/study/colleges_schools/artsandsciences/mathematics/study/tutoring/ You do not need an appointment – you can drop in whenever the lab is open. In addition, look for peer tutoring resources, including online tutoring, at the Student Success Center http://www.sc.edu/success/ Finally, you are always welcome to come ask me questions. My office is LeConte 433 (on the 4th floor) when the building is open. If you cannot make it during office hours, just send me an email to request an appointment. The university offers many options for help. Do not wait until you are completely lost to seek assistance!

Academic Integrity

All students must review the Office of Academic Integrity sanctions. This information may be found at https://www.sc.edu/about/offices_and_divisions/student_conduct_and_academic_integrity/index.php One or more of the following sanctions may be imposed for Academic Integrity violations: 1) Expulsion from the University; 2) Suspension from the University for a period of no less than one semester; and/or Probation. A combination of the above sanctions may be implemented. It should be noted that submitting someone else's work is cheating and against the Carolina Code. Cheating, or any other Academic Integrity violations, will result in failure of the course for all involved parties. All parties will also be referred to the Office of Academic Integrity for additional retribution.

Student Disability Services

Students with disabilities should contact the Office of Student Disability Services. Students with special test accommodations should request that tests be proctored by SDS at least a week before the test date.
MAIN OFFICE: Close-Hipp, Suite 102   **Phone:** 803-777-6142
Email: sadrc@mailbox.sc.edu   **Web:** http://www.sa.sc.edu/sds/

Tentative Course Schedule

Week	Sections	Topics
1	1.1-1.3	Functions, combinations of functions, and trig functions
2	1.6, 2.1-2.2	Exponential functions, inverse functions, rates of change, tangents, limits of a function
3	2.3-2.6	Definition of Limit, limit laws, one-sided limits, continuity, and limits involving infinity
4	3.1-3.2	Derivative at a point, Derivative as a function
5	3.3	Derivative rules
6	3.5-3.7	Derivatives of trig functions, chain rule, implicit differentiation
7	3.8-3.10	Derivatives of inverse functions, logarithms, and inverse trig functions, related rates
8	4.1-4.3	Extreme values, Mean value theorem, first derivative test
9	4.4-4.5	Curve sketching, indeterminate forms and L'Hopital's rule
10	4.6,4.8, 5.1	Optimization, antiderivatives, area and estimating with finite sums
11	5.3-5.5	Riemann sums, the definite integral, FTC, indefinite integrals, and the substitution method
12	5.6, 6.1	Definite integral substitutions, area between curves, Disk&Washer methods
13	6.2	Shell method
14		Review for the Final Exam