Instructor: Mr. Thomas Luckner   **Email:** luckner@email.sc.edu
CRN: 70738   **Office:** 122B
Section: 103
Class Meeting Room &Time: MTWR 4:30-6:10pm   **Office Hours:** TR 1-2:30

COURSE DESCRIPTION AND OBJECTIVES

Prerequisites: C or better in MATH 111/111i or MATH 115 or placement through Algebra version of the Mathematics Placement Test

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

1) Recall basic mathematical terms related to elementary algebraic, exponential, and logarithmic functions, and derivatives and integrals of such functions and express these terms in correct context.
2) Apply the methods of calculus to solve applications involving maxima, minima, rates of change, motion, work, and area under a curve.
3) Verbally interpret data given as graphs, tables, and equations and put into words the relationship between a function and its derivative or integral given in these forms as well.
4) Utilize a graphing calculator to solve problems, locate maxima and minima of a function, analyze change in a function.

Bulletin Description: Derivatives and integrals of elementary algebraic, exponential, and logarithmic functions. Maxima, minima, rate of change, motion, work, area under a curve, and volume.

REQUIRED MATERIALS

- **Textbook:** The textbook for this course is *Applied Calculus* (6th Edition) by Hughes-Hallett, Gleason, Lock, Flath, et al. Students will also need a graphing calculator and access to a computer with internet access and a printer.

- **Online Materials:** You will also need an access code for http://www.wileyplus.com, the online homework software. To register for our class the Course ID is **704407**. Access to WileyPlus is required for this course. However, since the online system comes with an eBook, the textbook itself is optional.

- **Calculator**: A calculator will be allowed for use in class assignments such as worksheets, assessments, quizzes, exams, or any other assignment the instructor deems unacceptable.

COURSE POLICIES AND EXPECTATIONS

Attendance: Attendance is expected and will be recorded via attendance sheet passed out at the beginning of class. Note this means if you are late (NO MORE THAN 15 MINUTES) and miss the attendance sheet, it is YOUR responsibility to come to the instructor after class to sign in without penalty. Absences are broken down into 2 categories:

Excused-Athletic, military, illness, family illness or death, legal, professional obligation (WITH VALID DOCUMENTATION)

Unexcused-no documentation, does not include issues above

Absence from more than 10 percent of the scheduled class sessions, whether excused or unexcused, is excessive and the instructor will drop the final grade of a student one letter grade if this is the case (ex: A to B, B to C, etc.).

Participation: All members are expected to participate during class and may be called upon to respond to classroom discussions.
All participants are expected to show respect to other students, the instructors, and any guests who may be visiting the class during the year (Golden Rule).
If a grade is borderline, participation will be a key factor in determining the final grade (ex: good attendance and borderline C+/B will lend to a B).

Cell Phones: Cell phones are to be **off and away** during class. If one is caught with their phone out or in use, a warning will be given first. If the student is caught with their phone out a second time, the phone will be confiscated by the instructor after the student powers down the phone and left in the front of the classroom. The student can then have the phone after class is over

Laptops: Since math is a difficult subject to type notes for, I will expect all laptops to be **put away and not in use** during class. If a student has a laptop out, they will be asked to put it away. **However**, if a student demonstrates a need and/or an ability to use a laptop for notes to the instructor, an exception will be made.

Other Technology/Objects: Technology such as smart watches are to be taken off during assessment and are not to be used during class for anything other than necessities (such as time). If a student prefers to take notes via tablet, inform the instructor that this is your preferred way to take notes. During assessments, the instructor will ask for hats with bills to be removed and an I.D. be presented to deter cheating. This will be discussed in more detail in assessment part of syllabus. If you have any questions about what can or cannot be used during class, do not be afraid to ask the instructor.

Academic Integrity: I expect you to familiarize yourself with the Honor Code found in the current student handbook. Keep in mind that "Any student who violates this Honor Code or who knowingly assists another to violate this Honor Code shall be subject to discipline." Honor Code & Carolina Creed: https://www.sa.sc.edu/creed/

Students with Disabilities: Students who would like to request accommodations for disabilities must talk to me as soon as possible (after class or during office hours). Students must register with the Office of Student Disability Services (LC 112A) before I can make any accommodations.

Studying: This class meets four times a week for lecture for 50 minutes. It is **very** important that you study at least 2-3 hours out of class for every hour within class. Study techniques, but not all, include: reading the book or doing practice problems from WileyPlus or other online sources.

Late/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. If a student misses an in-class assignment with an excused-absence (quiz, in-class assessment, etc.), then the above also applies.

ASSIGNMENTS

Homework: HOMEWORK IS THE MOST IMPORTANT PART OF THIS CLASS!!!! Homework will be assigned on a regular basis, and due regularly. All assignments will be completed online in WileyPlus. The homework sets for the week will be put up at the beginning of the week and will be due by the end of the week. It is my recommendation you do the assigned sections before the next session is taught. You will be provided with multiple attempts and problem-solving resources on the problems. This will help you not fall behind as the course will move quickly. However, keep in mind that these resources will not be available on quizzes and tests. It is your responsibility to work through the homework problems in their entirety in order to gain mastery of the material. Students are encouraged to work together on homework, but each student must personally submit his or her own solutions in WileyPlus. Late homework will **NOT** be accepted.

Quizzes: Quizzes will be given every Thursday in the last 15-20 minutes of class unless there is an exam the day of or day before the quiz, extra work is needed on the section being assessed (decided by instructor), or the instructor deems it necessary. If there are more than 10 quizzes, your 2 lowest will be dropped. If there are between 8-10 quizzes, your lowest is dropped. No in-class assessment will be given the last week of classes.

Exams: There will be three exams, whose dates will be announced in class at least one week in advance. Calculators will be allowed on exams unless otherwise stated by instructor.

Final Exam: The final exam is cumulative and will be taken in-class. ***Final Exam, Friday, JUNE 21, 2019, in LeConte 101 from 4 pm to 6:30 pm.*** Do not plan on leaving town before this day.

EVALUATION

Homework and Participation… 20%

Quizzes 15%
Exam 1..15%
Exam 2..15%
Exam 3..15%
Cumulative Final 20%

Final Grades will use the following scale

A	B+	B	C+	C	D+	D	F
100-90%	89-86%	85-80%	79-76%	75-70%	69-66%	65-60%	<60%

USEFUL WEBSITES:

- Blackboard Website: https://blackboard.sc.edu
- www.wileyplus.com COURSE ID: 704407
- Software Support for Calculations: http://www.wolframalpha.com/ or http://www.khanacademy.org/
- Good app to use for notes and handouts, "Notability"

SUPPORT:

- My Office Hours (top of page 1)
- FREE TUTORING In LC 105 - *Check room, but usually Monday-Thursday 10am-3pm.*
- Student Success Center – Offers FREE tutoring and FREE 1 on 1 ONLINE tutoring. (http://www.sa.sc.edu/ssc/)

Hint for making learning easier: *Get to class 15 minutes early, read the book's description of today's lesson (Can determine this by looking at homework or can ask instructor). By seeing the material ahead of time, you can help make the learning curve with the new material manageable.*

Hint for making studying for exams easier: *When you complete a homework problem or a problem in class, don't simply move on to the next problem, but ask yourself two questions: (1) How could this show up on an exam? (2) What common mistake might I make with this problem on an exam? Do this with EVERY homework problem.*

Important Dates:

- 05/14/2019 Last day for students to DROP without a grade of "W".
- 06/01/2019 Last day for students to DROP or withdraw without a grade of "WF".

I. **Schedule is tentative and subject to change**

Sections Covered	Topics
1.1-1.3	Functions, linear functions, rates of change
1.4-1.6	Applications in economics, exponential functions, natural logarithm
1.7-1.9	Exponential growth and decay, function transformations, proportions, polynomials
2.1-2.2	Instantaneous rate of change, the derivative function
	Test 1: May 21, 2019 (1.1-1.9)
2.3-2.4	Interpretations of the derivative, second derivative
2.5, 3.1-3.2	Marginal cost and revenue, power rule, derivatives of ln(x) and exponentials
3.3-3.4	Chain rule, product and quotient rules, local maxima & minima
4.1-4.5	Local maxima & minima, inflection points, global maxima & minima, applications to economics
	Test 2: June 5, 2019 (2.1-2.5, 3.1-3.4, 4.1-4.5)
5.1-5.3	Distance and accumulated change, the definite integral
5.4-5.5, 6.1-6.2	Interpretations of the definite integral, Fundamental Theorem of Calculus, antiderivatives, indefinite integrals
6.6, 6.3	Integration by substitution, definite integrals by the FTC, definite integrals with substitution, areas between curves
	Test 3: June 18, 2019 (5.1-5.5, 6.1-6.3, 6.6)
6.4	Average value, consumer and producer surplus Review for final exam