MATH 122 Calculus for Business Administration and Social Sciences   Summer II 2021

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Department of Mathematics
University of South Carolina
Course Syllabus

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Office Hours and Contact Information

INSTRUCTOR	EMAIL	OFFICE	OFFICE HOURS
Chase Fleming	`cf17@email.sc.edu`	COL 3004	Wednesday 12:30 - 1:30, Friday 11:00 - 12:00

Course Details

CRN	SEC	TIME	DAYS	ROOM
70901	202	10:30 AM - 12:10 PM	MTWTh	Online

Prerequisite: Qualification through the Math Placement Test or through a grade of **C** or better in MATH 111, 111I, or 115.

Textbook and Materials:

Textbook: *pplied Calculus* (6$^\text{t}$ ed), Hughes-Hallett, Gleason, Lock, Flath, et al., Wiley, 2018. ISBN: 978-1-119-39935-3.

Online Homework: Given and submitted through the course Blackboard page.

Calculator: Students will need a scientific calculator that can evaluate exponentials and logarithms. The TI-83/84 is highly recommended. But in most cases, these calculations can be done using your phone or web based calculator. Use of the TI-89, TI-Nspire, or other calculator with a built-in CAS (computer algebra system) is prohibited.

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

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.

Apply the methods of calculus to solve applications involving maxima, minima, rates of change, motion, work, and area under a curve.

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 a well.

Utilize a graphing calculator to solve problems, locate maxima and minima of a function, and analyze change in a function.

Course Structure, Expectations, and Policies

Structure: This is an online course. All lectures will be given virtually, and, moreover, each lecture will be recorded and uploaded to Blackboard Collaborate Ultra. All lecture notes will also be posted through the course Blackboard page.

Office Hours: Office hours will take place virtually using Blackboard Collaborate Ultra. I can also be reached during Math Tutoring Center hours. I will post this information as soon as it becomes available to me. Also, I am available by appointment. If you insist on in person office hours we may arrange it, but I recommend that all appointments be made for online. For appointments, just email me and ask me.

Attendance: Attendance will be taken daily. Note that streaming the class lectures online via Blackboard Collaborate Ultra allows students to participate in class virtually. Attendance will be recorded via submission of daily problems posed on the Blackboard page. If there are more than 4 unexcused absences, I reserve the right to to deduct a full letter grade students' final grade. For university wide attendance policy, see: `http://bulletin.sc.edu/content.php?catoid=52&navoid=1280 Attendance_Policy`

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

Unexcused - No documentation, does not include issues above.

Participation: You will be expected to participate in all class activities. Participation includes paying attention during class, participating in classroom discussions, completing written assignments, and asking relevant questions. Participation outside of the classroom, i.e. reading the chapter, doing homework, etc., is also expected. You will be expected to respect the instructor, your fellow students, and any guests throughout the semester by listening respectfully when they are speaking.

Make-Up Policy: Quizzes and exams can be made up **ONLY** in the case of an emergency and **ONLY** if you request a make-up exam or quiz **before** the scheduled time. It is your responsibility to contact me within a reasonable time to request a make-up exam.

Late Policy: Late homeworks will be accepted within one week a reduced score of 75%. Submissions beyond that will not be honored. Late submission of any other work without prior authorization from the instructor will not be accepted.

Academic Integrity: I expect you to familiarize yourself with the Honor Code found in the current student handbook. All students will be expected to hold to the Honor Code. 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: `http://www.sa.sc.edu/creed`.

Students with Disabilities: Students who would like to request accommodations for disabilities must register with the Student Disability Resource Center (Close-Hipp 102) before I can make any accommodations. Also, students requesting accommodations must talk with me as soon as possible about their request.

Student Well-Being Any student who has difficulty a ording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live and believes this may a ect their performance in the course, is urged to contact the Division of Student A airs and Academic Support. If you are comfortable doing so, please notify me as the professor so that we can find resources that may be helpful. Students do not learn when they do not feel safe. If you feel unsafe on campus at any time in any place, please contact Police Dispatch at 803-777-4215 (in an emergency, please call 911) and reach out to the Division of Student A airs and Academic Support. Again, if you are comfortable doing so, please notify me as the professor, and I will do my best to make appropriate accommodations.

Privacy: Note that instructors cannot provide the name, identifying characteristics such as age or gender, or the number of students in their classes who test positive for COVID-19.

Assignments

Homework: Homework is vital to understanding the material in this class. Homework will be posted on Blackboard and will be assigned Monday of each week and will be due by midnight of the following Sunday. This should give students ample time to ask questions. Collaboration on homework is not prohibited, however, if you do work with another individual, you should submit to me the names of individuals you worked with and any and all external sources you used.

Readings: Along with actively learning in the classroom and doing homework, reading your notes and/or texbooc is an integral part of learning mathematics. There is an expectation of reading the assigned chapters of your text weekly.

Exams: There will be three exams throughout the semester. The dates for each exam is as follows

$$\begin{array}{ll}
\text{July 1st} & (1.1 - 1.9) \\
\text{July 15th} & (2.1 - 2.5, 3.1 - 3.4, 4.1\ ) \\
\text{July 29th} & (4.2\text{-}4.4, 5.1 - 5.5, 6.1 - 6.3)
\end{array}$$

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Final Exam: The final exam is cumulative and will be taken online. The date of the final exam is July 31st, 2021. More information will be made available about the final later in

the course.

Grading: Your grade in this course will be based on attendance, participation, homework, three (3) mid-term exams, and a cumulative final exam. The weights assigned to each of these components will be:

Attendance/Participation	15%
Homework	20%
Exam 1	15%
Exam 2	15%
Exam 3	15%
Cumulative Final	20%

Course grades will be determined according to the following scale:

A	B+	B	C+	C	D+	D	F
100-90%	90-87%	87-80%	80-77%	77-70%	70-67%	67-60%	Below 60%

Important Dates

Date	Event
June 22nd, 2021	Last day for students to DROP without a grade of "W" being recorded.
July 18th, 2021	Last day for students to DROP without a grade of "WF" being recorded.
July 31st, 2021	Cumulative Final Exam

Additional Student Aid

Math Tutoring Center: The Math Tutoring Center (MTC) is a tutoring center sta ed by mathematics graduate students which provides group tutoring sessions for MATH 111, 115, 122, 141, 142, and 170. No appointment is necessary. This semester, the MTC will be online through Blackboard Collaborate Ultra and is open Monday through Friday from 10 AM - 3 PM. Current information about the MTC is located `https://www.sc.edu/study/colleges_schools/artsandsciences/mathematics/study/tutoring/index.php`

Student Success Center: The Student Success Center (SSC) provides a comprehensive array of programs, resources, and services that advance academic goal-setting, skill development, personal transition to and within the university setting and e ective decision making. This semester, the SSC is o ering a combination of virtual and face-to-face services. The

face-to-face services can occur by appoint only in the SSC Main Office in Thomas Cooper Library Monday - Friday from 9:00 AM - 5:00 PM. The virtual services can occur Monday - Thursday from 9:00 AM - 10:00 PM, on Friday from 9:00 AM - 5:00 PM, and on Sundays from 12:00 PM - 10:00 PM.

To make an appoint, you can click **here**. You are allowed to cancel any appointment that is not within 12 hours with no penalty. If you do not show up for an appointment or if you cancel an appointment within 12 hours, you will be charged $15 to your Self Service Carolina account.

Disclaimer: in any event, this syllabus is subject to modi cation .

Day	Section/Topic
6/21	Introduction, (1.1) Functions
6/22	(1.2) Linear Functions, (1.3) Rates of Change,
6/23	(1.4) App. of Functions to Econ, (1.5) The Exponential Function
6/24	(1.6) The Natural Logarithm, 1.7) Exponential Growth and Decay
6/28	(1.8) Function Transformations, (1.9) Power Functions
6/29	(2.1) Instantaneous Rate of Change
6/30	(2.2) The Derivative
7/1	**Exam 1**
7/5	(2.3) Interpretations of the Derivative, (2.4) The Second Derivative
7/6	(2.5) Marginal Cost and Revenue, (3.1) Power Rule
7/7	(3.2) Derivative of Exponential and Logarithm, (3.4) Product and Quotient Rule
7/8	(3.3) Chain Rule
7/12	(4.1) Local Maxima and Minima
7/13	(4.2) Inflection Points, (4.3) Global Maxima and Minima
7/14	(4.3) (cont.), (4.4) Pro t Cost and Revenue
7/15	**Exam 2**
7/19	(5.1) Distance and Accumulated Change
7/20	(5.2), (5.3) De nite Integral & Area
7/21	(5.4) Interpretations of the De nite Integral, (5.5) Fundamental Theorem of Calculus
7/22	(6.1) Antiderivatives, (6.2) Antiderivatives & the De nite Integral
7/26	(6.3) Using the FTC
7/27	(6.6) Integration by Substitution
7/28	(5.6) Average Value, (6.4) Consumer and Producer Surplus
7/29	**Exam 3**