Math 122 – Y04 Calculus for Business Administration and Social Sciences
Fall 2017
COURSE SYLLABUS

Course and Contact Information:

Instructor: Ann Clifton
Office: LeConte 400G
E-mail: aclifton@math.sc.edu; Note: email is frequently the best way to contact me. I will do my best to respond to emails within 24 hours (48 on the weekends).
Class Meeting Info: MWF 9:40 am-10:30 am in Gambrell 152
Office Hours & Help Sessions: I will hold open office hours and help sessions in my office (LeConte 400G) TR 1:00pm-2:30pm. Feel free to drop by with your questions! Other times are available by appointment.
Web Page: The syllabus, course outline, notes, handouts, and course announcements will be posted on the course webpage at http://people.math.sc.edu/aclifton/courses/122/Fall17/teaching.html.

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

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

Required Materials:

Calculator: All students will need a graphics calculator for this class which will be utilized in class, on the homework assignments, and on portions of the exams. ***The TI-83 or 84 is highly recommended***. No calculator with a computer algebra system will be allowed on exams or quizzes. These include the TI-89 and TI-Nspire CAS, amongst others.

Text and Wiley Plus: *Applied Calculus* (5th ed), Hughes-Hallett, Gleason, Lock, Flath, et al., Wiley, 2014. A hard copy of the text is not required since an eBook comes with the purchase of Wiley Plus, which we will use for the online homework.

Option 1 – Textbook (3-Hole Punched) plus Wiley Plus Access Code (includes eBook) or
Option 2 – Just the Wiley Plus Access Code (includes eBook).

If you don't mind using the eBook instead of a hard copy of the text, then Wiley Plus is all you need. You can purchase Wiley Plus online by going to www.wileyplus.com. On the home page, enter the six-digit code announced in class or search for your section by typing "University of SC Columbia." You will need to use your university email address. Then you will have multiple options for purchasing access.

Exam Schedule and Grading Policy:

Tests: There will be three in-class exams worth 100 points each plus a final exam worth 200 points. The final exam is cumulative and will include topics from throughout the semester. There will be parts of

every test that require a graphing calculator, including the final exam. Students are required to bring their Student ID to class on the day of each exam. The dates of the tests and final exam are as follows:

Exam #1: Monday, September 25
Exam #2: Wednesday, October 25
Exam #3: Monday, November 20
Final Exam: Wednesday, December 13, 9:00am

Wiley Plus Homework: Online homework will count for a total of 50 points. This homework will be assigned over each section covered. You will use Wiley Plus to do the online homework. The online system gives you immediate feedback and you can see the solution and/or helpful hints. You also have as many attempts as you need to get each problem correct.

The problems are chosen to highlight the core concepts on each exam and mastery of these homework sets serves as a good indicator for exam performance. As such, you should ensure that you fully understand the material on these homework sets; that is, upon completion of the homework set, you should be capable of completing similar problems without the aid of the text or the various tools provided by WileyPlus.

It is important that you create a WileyPlus account and register for the course as soon as possible.

Quizzes: There will be in-class (and possibly take-home) quizzes that will be worth a total of 50 points once the lowest quiz grade is dropped. I do NOT allow makeup quizzes! If you miss an in-class quiz, you will receive a zero for that quiz. These quizzes may or may not be announced.

Points Summary:

In-Class Exams	300 points (100 points each)
Final Exam	200 points
Wiley Plus Homework	50 points
Quizzes	50 points
Total	**600 points**

Grading Scale: Your final grade will be determined by the percentage of these points you have received.

A	90.0-100%	C	70.0-77.9%
B+	88.0-89.9%	D+	68.0-69.9%
B	80-87.9%	D	60.0-67.9%
C+	78.0-79.9%	F	below 60%

Late Work and Exam Makeup Policy:

Students are obligated to complete all assigned work promptly, to attend class regularly, and to participate in whatever class discussion may occur.
The following events or circumstances are potentially excusable absences:

- Participation in an authorized University activity (such as musical performances, academic competitions, or varsity athletic events in which the student plays a formal role in a University sanctioned event),
- required participation in military duties,
- mandatory admission interviews for professional or graduate school which cannot be rescheduled,
- participation in legal proceedings or administrative duties that require a student's presence,

- death or major illness in a student's immediate family,
- illness of a dependent family member,
- religious holy day if listed on www.interfaithcalendar.org,
- illness that is too severe or contagious for the student to attend class,
- weather-related emergencies.

For more information, see the University Attendance Policy. Note that "absence from more than 10 percent of the scheduled class sessions, whether excused or unexcused, is excessive, and the instructor may choose to exact a grade penalty for such absences."

Missing In-Class Tests: I expect you to take all the in-class tests. If an excused absence causes you to miss a test, your final exam score will replace the zero for the missed test. This policy is intended only for exams missed due to illness, accidents, etc. It does **NOT** mean that your lowest exam grade will be dropped. Any further missed exams will receive a grade of zero.

Final Exam: The final exam is 9:00am-11:30am Wednesday, December 13, 2017. Taking the final exam is mandatory. Having the final rescheduled is extremely rare and is not permitted for reasons such as a plane ticket that was purchased earlier or attendance at weddings. If a makeup is requested, you must make arrangements beforehand, if possible.

Late Online Homework: Technical difficulties are always possible when working with computers so plan ahead and get your online homework done early! Late work will not be accepted, and you are solely responsible for ensuring that these assignments are completed on time. Do not leave these assignments until the last minute.

Academic Integrity: Students are expected to act in accordance with the *University of South Carolina Honor Code*, which can be found here: https://www.sa.sc.edu/academicintegrity/honor-code-policy-information/. **Any breach of the Honor Code will result in an F for the course.**
I encourage students to work together on homework. However, it is expected that you turn in your own work expressed in your own words. Never copy someone else's work and do not allow someone else to copy your work. If there are duplications of portions of homework/quizzes where it is obvious that copying has occurred, then both parties will receive a zero on the entire assignment.

Where to Get Additional Help: There are Teaching Assistants available to answer your questions in the Math Tutoring Center in LeConte College room 105. The hours will be posted on the door. This is an excellent resource! Try to form a study group to study to learn with; it really works for some people. We have a Supplemental Instructor for this course. They will hold weekly review sessions based on our class lectures. Don't forget about me! I am available during office hours and by appointment to answer any question you may have. The Academic Success Resources website also has additional information on resources available to students.

Tentative Course Outline

Class #	Section	Topic
1	1.1	Functions
2	1.2	Linear Functions
3	1.3	Rates of Change
4	1.4	Applications of Functions to Economics
5	1.5	Exponential Functions
6	1.6	The Natural Logarithm
7	1.7	Exponential Growth and Decay
8	1.8	Function Transformations

9	1.9	Power Functions & Proportionality
10	2.1	Instantaneous Rate of Change
11	2.1/2.2	Instantaneous Rate of Change / The Derivative Function
12	2.2	The Derivative Function
13		Review
Sept. 25 14		**Test 1**
15	3.1	Power Rule
16	3.2	Derivatives of logs and exponentials
17	3.3	Chain Rule
18	2.4	The Second Derivative
19	4.1	Local Maxima and Minima
20	4.2	Inflection Points
21	4.3	Global Maxima and Minima
22	2.5	Marginal Cost and Revenue
23	4.4	Profit, Cost, and Revenue
24	4.4	Profit, Cost, and Revenue
25		Review
26		Review
Oct. 25 27		**Test 2**
28	5.1	Distance and Accumulated Change
29	5.2	The Definite Integral
30	5.5	Fundamental Theorem of Calculus
31	6.1	Antiderivatives
32	6.2	Antiderivatives & Indefinite Integrals
33	6.3	Using FTC to Compute Integrals
34	6.6	Integration by Substitution
35	6.6	Integration by Substitution
36	5.3	Area Between Curves
37		Review
Nov. 20 38		**Test 3**[1]
39	5.6	Average Value
40	6.4	Consumer and Producer Surplus
41		Review
42		Review
12/13 9:00am		**Final Exam**

NOTE: I will try not to make changes to the syllabus during the course of the semester. However, if changes are necessary then they will be announced both in class and on Blackboard/course webpage and the revised syllabus will be posted on Blackboard/course webpage.