Syllabus - MATH 120 - Calculus I, Fall 2015

Course Information

Instructor: Dr. Justin T. Webster

Lecture/Auxiliary Day: M, W / R
Sec. 06 - 16:00–17:15, Bellsouth 412;

Text: J. Stewart, Early Transcendentals, 6th Ed. (WebAssign code required)

Contact Information

Phone: 843/953-1040
Email: websterj@cofc.edu
Office: RSS 333
Course Website: http://websterj.people.cofc.edu/JustinsHomepageForStudents.html

Office Hours: M, 10:30–11:30; W, 14:30–15:30; R, 11:30–13:30, and by appt.*

This is a four credit-hour course which is the first of three semesters in the calculus sequence for students in mathematics and the natural sciences. It includes the calculus of algebraic, trigonometric, inverse and hyperbolic trigonometric, exponential and logarithmic functions. It will cover limits (including some \( \varepsilon - \delta \) proofs), continuity, derivatives, the Mean Value Theorem, applications of derivatives, the Riemann integral, and the Fundamental Theorem of Calculus. For more details, see the list of student outcomes below. Students are expected to display a thorough understanding of the techniques of these topics and, to some extent, the theory behind them.

Prerequisites: A command of precalculus, including complete fluency with trigonometric, exponential, and logarithmic functions.

The following are the course policies. These policies may be changed at any time; changes will be announced in class.

Contacting Me: I will typically be in my office during office hours. If I am not, I will post a note on my door. The best way to contact me is via email. I will respond within 24 hours, but do not expect an immediate response. *Please schedule all appointments outside of office hours through e-mail, with at least 24 hour notice. Students are responsible for all announcements made in class, and any e-mail sent to the primary CofC email account! Announcements and files to download will be posted on the course website (listed above), and sometimes on OAKS (the College’s central information system, via MyCharleston). Please check these sources often. (I recommend checking the course website—via my homepage—every other day.)

Assignments: Weekly online homework will be assigned, worked, and graded via WebAssign [https://www.webassign.net/login.html](https://www.webassign.net/login.html). To use WebAssign you need to purchase an access code online with a credit card. The best way to do this is to purchase the bundle with your textbook. Use the following information to locate your course section:

Section 06 - cofc 1914 6581
No extensions will be granted and nothing late will be accepted under any circumstance.

Suggested Exercises: Each week I will post a handful of “optional” HW problems (from the text or written by me) on the course website. The problems will often be involved, multi-part, and/or conceptual in nature. These will not be handed in and I will not post solutions. (Students can certainly bring their work to office hours and I will check; additionally, resources certainly exist online and otherwise to check solutions.) I will draw heavily from these questions when writing my quizzes and tests.

Quizzes/Activities: A quiz or activity (in-class or take-home) will happen (approximately) weekly. Once material is covered in class, it is valid for quizzes, assignments, and exams. No make-ups will be granted under any circumstance, though I will drop your lowest quiz/activity score.

Tests: There will be three 75 minute, in-class, mid-term tests. These tests can vary in format and will include both computational and conceptual questions. If a student must miss a test, a week’s notification is necessary and required—seven full days—including the reason for the absence. The request will be honored at my discretion (typically only in exceptional cases), with the details of the makeup exam to be determined at that time. I will allow the possibility of replacing your lowest exam score with your final exam score, if the latter is higher.

Test 1 - Monday, Sep. 21st  Test 2 - Wednesday, Oct. 21st
Test 3 - Thursday, Dec. 3rd  Final Exam - Saturday, Dec. 12th, 12–3pm
Enrichments: Three writing (research/expository) assignments (referred to as enrichment assignments) will also be given throughout the semester. Two will be mandatory, one will be optional. The point of these assignments is to give students opportunities to work on their mathematical expositional and research skills. Approximate due dates:

Enrichment 1 - Thur., Oct. 8th; Enrichment 2 - Thur., Nov. 12th; (Optional) Enrichment 3 - Sat., Dec. 12th

Final Exam: There will be a comprehensive final exam with a date and time determined by our class meeting time (see below). The date and time of the final are absolutely fixed, and only in the most extreme cases will arrangements be made to reschedule. This exam is co-written by all MATH 120 instructors (unlike the midterms). It’s content will be much more focused, representing a bird’s eye view of the course.

Calculator and Notes Policy: Calculators and books are not allowed for any quizzes, tests, or the exam unless explicitly stated otherwise. (You will not need them on my exams.) However, the use of calculators and technology is not prohibited (and sometimes encouraged/recommended) on homework.

Grading: Grades will be assigned based on raw percentages in the standard 100 percent scale, with the top and bottom three percent of each 10% grade range given a ‘+’ or ‘−’, respectively. During the semester, grades will not be rounded, and there will be no curve for tests or work. However, I reserve the right to adjust final grade based on factors such as attendance, participation, and demonstrated effort towards understanding the material. I also reserve the right to perform a “mean-shift” to the the final course distribution (always “upward”, if at all). The final grade breakdown is as follows:

Tests – 30% Final Exam – 25% WebAssign – 15% Quizzes/Activities – 15%
Enrichment I and II – 15% Optional Enrichment III – +5%

In this course I will assign midterm grades (which have no ultimate bearing) based on the following breakdown:

Test I and II – 40% WebAssign – 20% Quizzes/Activities – 20% Enrichment I – 20%

General Education Student Learning Outcomes: Students are expected to display a thorough understanding of the topics covered. In particular, upon completion of the course, students will be able to:

- Model phenomena in mathematical terms,
- Solve problems using these models,
- and Demonstrate an understanding of the supporting theory behind the models apart from any particular application.

These outcomes will be assessed on the final exam.

Course Specific Student Learning Outcomes: Students are expected to display a thorough understanding of the topics covered. In particular, upon completion of the course, students will be able to:

- Calculate a wide variety of limits, including derivatives using the limit definition and limits computed using l’Hopital’s rule;
- Demonstrate understanding of the main theorems of one-variable calculus (including the Intermediate and Mean Value Theorems, and the Fundamental Theorem of Calculus) by using them to answer questions;
- Compute derivatives of functions with formulas involving elementary polynomial, rational, trigonometric, exponential and logarithmic functions;
- Use information about the derivative(s) or antiderivative of a function (in graphical or symbolic form) to understand a function’s behavior and sketch its graph;
- Construct models and use them to solve related rates and optimization problems;
• Recognize functions defined by integrals and find their derivatives;

• Approximate the values of integrals geometrically or by using Riemann sums;

• Evaluate integrals by finding simple antiderivatives and by applying the method of substitution.

• Clearly communicate mathematical ideas and neatly present solutions to problems.

(The above list is representative, though not necessarily complete; there may be topics covered in class and on assessments which do not exactly fit a bullet point above.) These outcomes will be assessed in the quizzes/activities, tests, enrichments, and final exam.

Weekly Schedule: Monday and Wednesday will almost always be lectures. Thursday will be a designated “auxiliary day”. This will mean class is either a quiz/activity, lecture, review session, or exam. Early in each week I will announce the status of the upcoming Thursday (see the course homepage).

Etiquette, Please: Make sure your cell phone is silent, and do not use laptops or cell phones during class. If in attendance, please commit to sitting through the entire lecture. Lastly, please comment and ask questions during the lecture by raising your hand.

Attendance: Attendance will be taken during the first two weeks for administrative purposes. Attendance is not mandatory. Attendance will not factor into the overall grade, but there are obvious ramifications for missing more than a couple class sessions.

Getting Help: Do not wait to get help if you need it. The smallest confusion can compound and have dire effects on one’s understanding (and hence, grade). I strongly encourage each student to visit my office hours or make an appointment. Also, you can find information about the CofC Math Lab (and more generally, the center for student learning) at [http://csl.cofc.edu/labs/math-lab/](http://csl.cofc.edu/labs/math-lab/)(located in the Addlestone Library).

I encourage you to utilize the Center for Student Learning’s (CSL) academic support services for assistance in study strategies and course content. They offer free Learning: tutoring, Supplemental Instruction, study skills appointments, and workshops. Students of all abilities have become more successful using these programs throughout their academic career and the services are available to you at no additional cost. For more information regarding these services please visit the CSL website at [http://csl.cofc.edu](http://csl.cofc.edu) or call (843)953-5635.

Athletics and Special Needs: If you are a NCAA or club sports athlete, or have any special circumstances, you should inform me as soon as possible. Special accommodations can be made for scheduling and other specific needs on an individual basis. For disability related needs, documentation may be required. The College will make reasonable accommodations for persons with documented disabilities. Students should apply at the Center for Disability Services/SNAP, located in the Lightsey Center, Suite 104. See [http://disabilityservices.cofc.edu/](http://disabilityservices.cofc.edu/) Students approved for accommodations are responsibility for notifying me as soon as possible and for contacting me one week before accommodation is needed.

Important Dates: Please be aware of the following dates:

drop deadline - Monday, Aug. 30;

Fall break - Oct. 19–20; last day of classes - Dec. 7;

midterm grades due - Friday, Oct. 23; reading day - Dec. 8;

Thanksgiving holiday - Nov. 25–27; finals - Dec. 9–16;

Honor Issues: Do not cheat! If I find out, I will make it extremely embarrassing for you; and otherwise, cheating makes you a bad person. The academic environment is hallowed, and by cheating you are taking advantage of your institution, this class, and each of your fellow students. I do encourage students to work together, but do not copy from other students and read all directions on assignments and tests. Bear in mind that you are under the CofC Honor Code: [http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php](http://studentaffairs.cofc.edu/honor-system/studenthandbook/index.php)
Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code that, when identified, are investigated. Each instance is examined to determine the degree of deception involved. Incidents where the professor believes the student’s actions are clearly related more to ignorance, miscommunication, or uncertainty, can be addressed by consultation with the student. We will craft a written resolution designed to help prevent the student from repeating the error in the future. The resolution, submitted by form and signed by both the professor and the student, is forwarded to the Dean of Students and remains on file. Cases of suspected academic dishonesty will be reported directly to the Dean of Students. A student found responsible for academic dishonesty will receive a XF in the course, indicating failure of the course due to academic dishonesty. This grade will appear on the student’s transcript for two years after which the student may petition for the X to be expunged. The student may also be placed on disciplinary probation, suspended (temporary removal) or expelled (permanent removal) from the College by the Honor Board. It is important for students to remember that unauthorized collaboration—working together without permission—is a form of cheating. Unless a professor specifies that students can work together on an assignment and/or test, no collaboration is permitted. Other forms of cheating include possessing or using an unauthorized study aid (such as a PDA), copying from another’s exam, fabricating data, and giving unauthorized assistance. Remember, research conducted and/or papers written for other classes cannot be used in whole or in part for any assignment in this class without obtaining prior permission from the professor.

Students can find a complete version of the Honor Code and all related processes in the Student Handbook.

**Course Evaluations and Feedback:** I take course evaluations seriously, and as such, I would ask that you complete them. Please provide objective and honest feedback through the OAKS system. I will provide around 15 minutes on the final day of class for you to complete course evaluations (though you may certainly complete them on your own time outside of class). Additionally, polite feedback about the course (during the semester) is encouraged.