Math 2413.003: Calculus I
COURSE SYLLABUS: Spring 2020

Instructor: Joshua Patterson, PhD
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COURSE INFORMATION

Materials

Textbook(s) Required: Calculus, 8th Edition, by James Stewart. ISBN 978-1-2857406-2-1. Material covered during the session will be Sections 1.4-1.8, Chapters 2, 3, and 4, and 6.2, 6.3, and 6.4. We may occasionally cover additional activities not in the textbook.

Optional: How to Ace Calculus/How to Ace the Rest of Calculus by Adams et al. Calculus II is sometimes split between the two books; used copies can generally be found for < $5 on Amazon.

Course Description: This course examines differential and integral calculus of functions of one variable, as follows. Topics include limits; continuity; derivatives; curve sketching; applications of the derivative; the definite integral; derivatives and integrals of trigonometric functions ; and use of computer technology. Prerequisite Two years of high school algebra and trigonometry or Math 142.

Student Learning Outcomes

1. Students will demonstrate proficiency in the use of mathematics to structure their understanding of and investigate questions in the world around them.
2. Students will demonstrate proficiency in treating mathematical content at an appropriate level.
3. Students will demonstrate competence in the use of numerical, graphical, and algebraic representations.
4. Students will demonstrate the ability to interpret data, analyze graphical information, and communicate solutions in written and oral form.
5. Students will demonstrate proficiency in the use of mathematics to formulate and solve problems.
6. Students will demonstrate proficiency in using technology such as handheld calculators and computers to support their use of mathematics.

Student Assessment Outcomes

1. Critical Thinking: The above learning objectives will be assessed for critical thinking in labs and other classroom activities.
2. Written, Oral, & Visual Communication: Students will be assessed on written, oral, and visual communication skills on their quizzes, exams, labs, and lab jigsaw activities.
3. Empirical and quantitative reasoning: All assessments in this course will contain a quantitative reasoning and empirical computation component.

COURSE REQUIREMENTS

Course Activities

Labs: Calculus is an experience best shared by your fellow students, accordingly: we will work in small groups on on Fridays completing activities that develop the central concepts in the course. Attendance and participation is especially crucial on these days. You will turn in individual write-ups of these labs activities. It is important to ask questions if you do not understand the lab assignment.

Prelabs/Postlabs: The purpose of these assignments is to help me determine how much time we should spend on a particular topic. Prelabs are expected to be completed before class on Tuesdays, and Postlabs will be completed at the end of class on Friday. These assignments will be graded on completion.

Attendance: Attendance will be taken each class period—we will use my attendance portal found at http://faculty.tamuc.edu/jpatterson/attend/ for taking attendance. It is your responsibility to log-in each class day to claim your attendance credit for the day. That said, attendance will be graded by both attendance and participation, so I reserve the right to revoke your attendance at any time. Additionally, there may be topics covered in class that are not in the text. You are responsible for all material covered. There is a strong correlation between attendance and final grades. Missing class more than once or twice during the semester is likely to affect your grade, either directly or indirectly. If you do miss class, you should get notes and/or handouts from your classmates and see me during office hours.

Homework: There will be suggested problems assigned for each section. The answers to most of these problems are in the text, so I will not collect them. However, you will see some of these problems (verbatim or with slight variations) on tests, so completing the problems is strongly encouraged!

The key to success in this course is regularly working with other students in the class, doing the homework early and asking questions when you have them!!! We will discuss homework problems in class, but there will often not be enough time to discuss all of them. Please come to office hours or visit the math tutoring lab Binnion 328 if you have additional questions about the homework.

Quizzes: There will be 11 take home quizzes based upon the suggested homework problems throughout the semester. Your best 10 scores will count for your final grade.

Exams: We will have four in-class exams and a comprehensive final exam. The data and time of the final exam is TBD at the moment. Make-up exams are possible **only with documentation of a University excused absence.**

Workload and Assistance: You should expect to spend **8 to 12 hours each week**, outside of class, on the course material. This includes reading, homework, and studying for quizzes and exams. Some weeks (those in which an exam is scheduled, for instance) may require more of your time, other weeks may require less, but *on average*, budget 8 to 12 hours each week. **I can't stress enough that in order to be successful in this class you should spend much of this time working with other students in the class!** Please ask questions and seek assistance as needed. You may email me at any time, and I encourage you to make use of my office hours

GRADING

This class will be graded on a points system. 1000 total points are possible. Assignments are weighted in the following manner:

Assignment	Total Points Possible
Lab Write-ups	120
Pre-labs, Post-labs	50
Attendance	80
Best 10 Quizzes	200
Tests	100 each, 400 total
Final	150

All point totals will be rounded to the nearest whole points before grades are assigned. Point ranges for final grades will be as follows:

A: 900 – 1000 points
B: 800 - 899 points
C: 700 - 799 points
D: 600 - 699 points
F: 0 - 599 points

TECHNOLOGY REQUIREMENTS

Use of a graphing calculator having at least the capabilities of the TI-83 will be helpful throughout the course. TI-89 is highly recommended. A computer algebra system will be used for some problem exploration, enhanced conceptual understanding, and to engage students as active participants in the learning process.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement

My primary form of communication with the class will be through Email and Announcements. Any changes to the syllabus or other important information critical to the class will be disseminated to students via your official University Email address available to me through MyLeo and in Announcements. It will be your responsibility to check your University Email and Announcements regularly.

myLeo Support

Your myLeo email address is required to send and receive all student correspondence. Please email helpdesk@tamuc.edu or call us at 903-468-6000 with any questions about setting up your myLeo email account. You may also access information at https://leo.tamuc.edu.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures

Academic Honesty

Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including (but not limited to) receiving a failing grade on the assignment, the possibility of failure in the course and dismissal from the University. Since dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. In **ALL** instances, incidents of academic dishonesty will be reported to the Department Head. Please be aware that academic dishonesty includes (but is not limited to) cheating, plagiarism, and collusion.

Cheating is defined as:

- Copying another's test of assignment
- Communication with another during an exam or assignment (i.e. written, oral or otherwise)
- Giving or seeking aid from another when not permitted by the instructor
- Possessing or using unauthorized materials during the test
- Buying, using, stealing, transporting, or soliciting a test, draft of a test, or answer key

Plagiarism is defined as:

- Using someone else's work in your assignment without appropriate acknowledgement
- Making slight variations in the language and then failing to give credit to the source

Collusion is defined as:

- Collaborating with another, without authorization, when preparing an assignment

If you have any questions regarding academic dishonesty, ask. Otherwise, I will assume that you have full knowledge of the academic dishonesty policy and agree to the conditions as set forth in this syllabus.

Late Policy: Late work/Make-ups will not be accepted without documentation of a University Recognized excused absence.

Examples of documentable and valid excuses include:

*illness w/ doctor's note (you or your child)
*athletic or other mandatory extra-curricular travel
*field trip for another class
*being detained upon entering the country by Homeland Security

University Specific Procedures

ADA Statement

Students with Disabilities
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamuc.edu

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*

COURSE OUTLINE / CALENDAR

WEEKLY SCHEDULE:

1). 1.4, 1.5, 1.6
2). 1.8, 2.1, 2.2
3). 2.3, 2.4, 2.5
4). Test I, 2.6
5). 2.7, 2.8, 2.9
6). 3.1, 3.2, 3.3
7). 3.4, Test II
8). 3.5, 3.6, 3.7, 3.8
9). 3.9, 4.1
10). 4.2, Test III
11). 4.3, 4.4
12). 4.5, 6.2
13). 6.3, 6.4, 1.7
14). Test IV
15). Review
16). FINAL WEEK