Syllabus

Schedule : MTWRF (8:00 AM - 9:40 AM) Instructor : Dr. Sherwin G. Toribio Office : Cowley Hall 1023 Office hours : MTWRF (10:00 AM - 11:00 AM), or by appointment.

Course Description: A rigorous introduction to calculus. Topics include limits, rules for differentiation, derivatives of trigonometric, logarithmic and exponential functions, the Mean Value Theorem, integration, and the Fundamental Theorem of Calculus. In the area of applications, the course covers problems on related rates, extrema, areas, volumes, and Newton's Second Law. Prerequisite(s): Grade of "C" or better in MTH 151 or four years of high school mathematics, including trigonometry, and appropriate placement score.

Course Objectives : The objectives include a solid understanding of (1) the development of limits and derivatives, (2) derivatives of trigonometric, logarithmic, and exponential functions, (3) the development of definite integrals through Riemann sums, (4) the Fundamental Theorem of Calculus and its proof. Students will solve problems in optimization, related rates, areas, and volumes using calculus methods. Calculus I is the first course in the mathematics Writing in the Major sequence. This course prepares students for MTH 208, Calculus II.

 $\mathit{Textbook}$: "Calculus - Early Transcendentals", 8^{th} ed., by James Stewart.

Grading:

2 Exams	300 pts
1 Comprehensive Final Exam	200 pts
22 Short Quizzes @ 10 pts each (drop lowest 2)	200 pts
Homework	100 pts
Webwork Assessments	100 pts
2 Writing Assignments	$60 \mathrm{~pts}$
Attendance	20 pts
Class Participation	20 pts
Total points	1000 pts

To get a grade of

Tentative Exam Dates :

Exams	Dates	Time	Coverage
Exam #1	July 13	Class Time Chapters 2 and 3	
Exam $#2$	August 6	Class Time	Chapters 4, 5, and $6.1 - 6.2$
Final Exam	August 10	8 AM - 10 AM	Comprehensive

Classroom : Centennial 3302 email : storibio@uwlax.edu Office Phone : (608)785-6606 *Exams*: In order to finish these exams in the allotted time, you should be <u>well prepared</u> for them. That is, you should be familiar with all the material we covered in class and have practiced enough to know how to answer most of the problems in the exam at first glance.

Make-up Exam Policy: In order to be excused from a exam, you must have a valid reason and you must discuss the matter with me before the exam. In the event that you miss a long exam due to circumstances beyond your control, I may count your final exam for a larger part of your grade.

Recommended Exercises: Recommended exercises will be given at the end of each section. In this course it is really crucial that you fully understand the material we covered the previous class before the start of our next class. One way to achieve this is by doing the recommended problems. It is expected that you will complete all recommended exercises and will verify that your answers are correct using the back of the book. It is your responsibility to ask me when you do not understand a question. Doing the recommended exercises will also prepare you for the Webwork assessments, quizzes, and exams.

Webwork Assessments: Webwork assessments will be given for each section we cover in class. You will get 3 attempts for each assessment. This is to check that you are doing the recommended exercises. It is expected that you will complete all Webwork exercises by the due date.

Quizzes: Quizzes are meant to motivate you to do the recommended textbook exercises and to review the material we covered the previous meeting. There will be a total 22 10-point quizzes, but only your best 20 scores will be counted in your grade. Because you can drop your lowest 2 quizzes, there will be no make up quizzes until after you used up all 2 drop quizzes.

Attendance: Attendance will be taken every day. An excused absence (approved by me) does not count as an absence. At the end of the semester, points will be awarded as follows:

Absences	0-1	2-3	4-5	6-7	8 or more
Points	20/20	18/20	15/20	12/20	0/20

Classroom Courtesy : Please turn off your cellphones, tablets, or any other electronic device when you get into the classroom. If you have to leave early, please let me know at the beginning of class and make a quiet exit.

Academic Honesty Policy: Academic dishonesty will NOT be tolerated in this classroom. If you are caught cheating in an exam, it will result in an automatic F in that exam and a written reprimand to be included in the student's disciplinary file. Do not even let yourself come under suspicion of dishonesty.

Students with disabilities : Any student with a documented disability (e.g. ADHD, Autism Spectrum Disorder, Acquired Brain Injury, PTSD, Physical, Sensory, Psychological, or Learning Disability) who needs to arrange academic accommodations must contact The ACCESS Center (165 Murphy Library, 608.785.6900, ACCESSCenter@uwlax.edu) and meet with an advisor to register and develop an accommodation plan. In addition to registering with The ACCESS Center, it is the student's responsibility to discuss their academic needs with their instructors.

UWL's legal obligations to students : For other statements that reflect UWL's legal obligations to students regarding sexual misconduct, religious accommodations, and veterans and active military personnel, go to https://www.uwlax.edu/info/syllabus/

Final note : Mathematics/Statistics is not a spectator sport. It requires daily participation, both in the classroom and in the homework. This might be a difficult course for some of you, so find a study partner(s). Two heads are usually better than one and it makes the work a lot more fun.....

Good luck and I hope you will do well in this course!

University of Wisconsin-La Crosse MTH 207 - Calculus I

Outline of Course Content (the specific topics we cover)

- 1. Limits
 - **a.** Heuristics
 - **b.** Epsilon-delta definition with at least linear functions
 - ${\bf c.}$ One sided limits and limits at infinity
 - d. LHospitals Rule
- 2. Continuity
- **3.** Derivatives
 - a. Definition
 - **b.** Rules for differentiation
 - c. Derivatives of trigonometric functions
 - d. Related rates problems
 - e. Derivatives of exponential and logarithmic functions
 - f. Linear approximations and differentials
- 4. Extrema
 - a. Local and absolute extrema
 - **b.** First and second derivative tests for extrema
 - c. Concavity and inflection points
 - d. The Mean Value Theorem
 - e. Optimization problems
- 5. Integration
 - a. Riemann sums
 - **b.** The definite integral
 - c. The Fundamental Theorem of Calculus with proof
 - d. Change of variables in integration (substitution)
- 6. Applications of integration
 - **a.** Areas between curves
 - **b.** Volumes
 - ${\bf c.}$ Mean Value Theorem
 - d. Brief introduction to differential equations, e.g., linear and separation of variables