

**MATH 172 Calculus I**  
**Dr. Boersma**  
**Spring 2010**

**Goals:** We will begin the study of *Calculus*. We begin the course with the introduction of the derivative, which forms the basis for our study. Because of their versatility, derivatives can be used to represent everything from fluctuations in interest rates to the rates at which fish populations vary and gas molecules move. Derivatives have applications throughout the sciences. We will learn differentiation techniques including the chain rule and implicit differentiation. Applications of the derivative which we will study include curve sketching, related rates problems, and identifying maxima and minima of functions. Along the way, we will learn how to use graphing calculators to enhance our understanding of calculus.

**Office:** Bouillon 107E, phone: 963-1395, email [boersmas@cwu.edu](mailto:boersmas@cwu.edu). Office hours will be announced in class shortly. You may of course drop by anytime. If I'm not busy I'll be glad to talk with you.

**Required  
Materials**

1. **Text:** *Thomas' Calculus: Early Transcendentals*, by Weir, Hass, and Giordano.
2. TI-83/84 Graphing Calculator

**Your Grade:** Your final grade in this course will depend on three fifty-minute exams, one final exam, and several short quizzes.

**Exams** Three fifty-minute exams will be given in class, thus making attendance mandatory on these dates. Exams 1 and 3 will be graded out of 100 pts, while Exam 2 will be graded out of 65 pts (see below). Make-up exams will only be given in extreme cases. If you anticipate a conflict, please see me at least one week **before** the date of the exam. The final exam (120 pts) is scheduled for Tuesday June 8th, 8:00 – 10:00 a.m. This time is scheduled by the registrar's office and cannot be changed!

**Exam 2** On May 4th you will take a Differentiation Skills Quiz. This quiz will cover the very basic differentiation techniques. Unless you are adept at these basic skills, the remainder of the course (as well as subsequent courses) will prove very difficult. There will be very little (if any) partial credit on this test and you will need a very high score to pass. It will be graded on a pass (65 points) or no pass (0 points) basis. You will have one opportunity for a re-take. The maximum you can receive on the re-take is 55 pts. No re-takes will be given after May 14th (the uncontested withdrawal deadline).

**Quizzes** There will be three to four short quizzes throughout the quarter. Each quiz will be weighted equally with the total counting 50 points towards your final grade.

**Homework** There will be **daily** homework assignments from the textbook. It is **your responsibility** to keep up with these assignments. Although these problems will not be collected or graded, they will be the basis for all of the exams and quizzes in the course. Keep up. Do well on these problems and you should do well in the course!

**Technology:** We will discover how the TI-83/84 graphing calculator can be used as an extremely powerful problem solving tool in calculus. I will be assuming that everyone is familiar with the basic arithmetic and graphical operations of the calculator. If this is not the case, you should come by and talk with me about your familiarity with the calculator.

**Attendance** I will assume that everyone attends every class meeting. If you happen to miss a day, be advised that you are still responsible for any assignments that were given or turned in. Feel free to come by my office to discuss the day's activities that you may have missed.

**Final Grades:** As mentioned in part above, your final grade will depend on

Quizzes	50 pts.
Three in-class exams	265 pts.
Final Exam	<u>120 pts.</u>
<b>TOTAL</b>	<b>435 pts.</b>

While I reserve the right to “curve” final grades as I deem appropriate, your grade will be no lower than:

A :435– 402	C+:344– 332
A-: 401– 389	C :331– 315
B+:388– 376	C-:314– 302
B :375– 358	D+:301– 289
B-: 357– 345	D :288– 271
	D- : 270– 258

Students who have special needs or disabilities that may affect their ability to access information or material presented in this course are encouraged to contact me or Robert Harden, ADA Compliance Officer and Director, ADA Affairs and Student Assistance on campus at 509-663-2171 for additional disability-related educational accommodations.

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### DATES TO REMEMBER

Exam 1: April 16	Exam 2 (Skills Quiz): May 4
Exam 3: May 26	Final Exam: June 8