

**67-171 CALCULUS I
SPRING 2013**

Section 001: 8:00-9:00 MWF Swart 217 T Swart Lab 229
Section 002: 9:10-10:20 MWF Swart 13 T Swart Lab 229

INSTRUCTOR: Zoubir Benzaid

OFFICE: Swart 238

PHONE: 424-7354 (O) 236-9257 (H)

OFFICE HOURS IN TUTORING LAB: MT: 12:30-1:30 and WF: 11:30-12:30 (And by appointment)

TEXTS:

REQUIRED: *CALCULUS: Concepts and Contexts* by J. Stewart, Brooks/Cole, 4th Edition, 2010.

HIGHLY RECOMMENDED: *How to Prepare for the AP Calculus* by S. Hockett et al., Barrons Educational Series; 7th edition, 2002. (USEFUL FOR BOTH 171 and 172)

CALCULATOR: TI-83+ (If you already have a TI-86, that is OK) Graphics Programmable Calculator. The TI 89 or TI 92 (or similar calculator with symbolic capability) will not be allowed.

SOFTWARE:

UWO has a full site license for the Computer Algebra System Maple 17. This software can be accessed using any PC or Mac at any computer lab on campus. Maple17 is extremely user friendly and I expect you will be using it to complete your homework and assigned projects. I will be giving demonstrations of the software and assigning various Maple projects throughout the semester.

To make sure that everyone gains a facility with using Maple, the class will meet in the Swart lab on Tuesdays. Maple Homework assignments will account for 5% of your course grade.

D2L WEBSITE:

I will maintain a D2L website for this course. The site will contain the syllabus, homework assignments, solutions to tests, solutions to selected homework problems, Maple 16 worksheets, miscellaneous lecture notes and links to other interesting Calculus Sites.

TOPICS:

Chapter 1: Functions and Models: Linear, exponential, power, trigonometric, polynomial and logarithmic functions, composition of functions and inverses.

Chapter 2: Limits and Derivatives: The Tangent and Velocity problems, Limit of a function, Calculating limits, Continuity, Derivative of a function, Linear Approximations.

Chapter 3: Differentiation Rules: Product, Quotient and Chain Rules, Derivatives of Polynomial, Exponential, Trigonometric and Logarithmic Functions, Implicit Differentiation, Linear Approximations and Differentials.

Chapter 4: Applications of Differentiation: Related Rates, Maxima and Minima, Graphing with Calculus and Calculators or Maple, Optimization Problems, Applications to Economics, Newton's Method, Antiderivatives.

Chapter 5: Integrals: Areas and Distances, Definite Integral, Evaluating Definite Integrals, Fundamental Theorem of Calculus, The Substitution Rule.

EXAMS: There will be a series of three (3) one-hour exams and a comprehensive final examination. MAKE-UP TESTS will be given only in extraordinary circumstances. These written exams will count as 80% of your course grade.

QUIZZES: These will compose 10% of your grade. The lowest two scores will be dropped. **Make-up quizzes will not be given and late assignments will not be accepted.**

REGULAR HOMEWORK: Homework will be assigned daily but will not be collected. It is extremely important to complete the homework problems, as the quiz problems will be very similar to the assigned ones. We will be doing a lot of group work this semester, especially in the lab.

WEBWORK HOMEWORK: Homework through the WebWork online system will be assigned weekly and will count for 5% of your grade. I will give a short introduction to WebWork on the first day of classes.

GRADING:

TESTS = 80%, QUIZZES = 10%, WEBWORK HOMEWORK = 5%, MAPLE HOMEWORK = 5%.

A : [90,100], A^- : [88,90), B^+ : [86,88), B : [80,86), B^- : [78,80), C^+ : [76,78), C : [70,76)
 C^- : [68,70), D^+ : [66,68), D : [62,66), D^- : [60,62), F : [0,60)

ATTENDANCE: You will be expected to attend classes regularly. I will be taking attendance daily and will penalize borderline students with an excessive number of absences (4 or more). Students are responsible for all material covered in class.

IMPORTANT COMMENTS:

- Class participation is crucial to success in a math class. Please feel free to ask and answer questions. I will be doing the lecturing, but I expect all of you to actively participate in the learning process.
- Do not fall behind. As soon as I assign some homework problems, try a few of them the same day. To be successful in mathematics requires a consistent effort. Do not work in spurts or just cram before the exams. Reserve an hour or more everyday to reading the book and working problems. Give an honest effort and you will not be disappointed.
- Read the book and consult other books in the library. The following represent a recommended list of Calculus books:
 1. Anton, H: Calculus with Analytic Geometry
 2. Ash, C and Ash, R: The Calculus Tutoring Book
 3. Lax, P: Calculus with applications and computing
 4. Marsden & Weinstein: Calculus
 5. Simmons, G: Calculus with Analytic Geometry
 6. Strang, G: Calculus
 7. Thomas & Finney: Calculus and Analytic Geometry
- Get to know each other and work in groups when completing the homework assignments.

