CALCULUS 1   MTWF 8:00-8:50AM   FALL 2007   STUART 308

Instructor:	Jonathan White
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Office:	Stuart 316
Office Hours:	9:00-9:50 MTWF, and by appointment
Office Phone:	399-8280
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Text:	*Calculus, Early Transcendentals*, 5th Edition, by James Stewart, Brooks/Cole.
Problem Sets and Quizzes:	Assorted Problem Sets will be given throughout the term to supplement class work. Many of these will benefit from the use of the software package *Mathematica*, which is available on the computers in the labs in Stuart and Peterson Halls. Some assignments will be made through the WeBWorK system, and quizzes will also be given frequently. Combined these will be worth 200 points (25% of the final grade).
Exams:	There will be four exams during the course of the semester. The dates of these are indicated in the schedule on the back side of this sheet. These exams will be worth 100 points (12.5% of the final grade) each. The final exam will be held at the scheduled time during finals week and will be worth 200 points (25% of the final grade).
Grading:	Grading will approximately follow a 90% A, 80% B, 70% C, 60% D scale. Current grade information will be available online through Moodle at all times.
Makeups:	For the sake of fairness to those who follow the schedule, makeups for exams will be allowed only under extenuating circumstances, with documentation and advance notice when humanly possible. Late problem sets and quizzes will generally not be accepted, and if accepted will generally be subject to a penalty of 20% of the possible points for each day past due.

The "Big Idea" of Calculus is using mathematics to deal with change. Calculus 1 deals primarily with rates of change, whether they be of quantities that change as time goes by or quantities that change as some other quantity is adjusted. These ideas cut across all quantitative disciplines – whether it's a falling stone, a falling stock, a declining population, or an endothermic reaction, there are mathematical commonalities, and those are what Calculus deals with.

In addition to regular exams, all students must successfully complete a computer-administered gateway exam over computing derivatives in order to pass this course.

Calculus is a demanding course in many ways. It requires both a level of computational proficiency and also a level of conceptual understanding beyond any prior mathematics course. Yet because of or despite these difficulties, students who have previously found math classes easy because of an aptitude for moving symbols around might find that there is more to this class than they expect, and students who have in the past felt they weren't good at math might find this class more suited to them. In either case, this class might not be quite what you're used to, and it might be unsettling at first. Give it some time, and feel free to take advantage of my office hours to help past the rough spots.

Tentative Schedule

Monday, August 27th §1.1-2 Functions & Models	Tuesday, August 28th §1.3 Tweaking Functions	Wednesday, August 29th §1.4 Technology	Friday, August 31st §1.5 Exponential Functions
Monday, September 3rd No Class – Labor Day	Tuesday, September 4th §1.6 Inverse Functions	Wednesday, September 5th §2.1 Tangents & Velocity	Friday, September 7th §2.2 Limits
Monday, September 10th §2.3 Limit Rules	Tuesday, September 11th §2.4 Limits Technically	Wednesday, September 12th §2.5 Continuity	Friday, September 14th §2.6 Limits at Infinity
Monday, September 17th §2.7 Rates of Change	Tuesday, September 18th §2.8-9 Derivatives	Wednesday, September 19th Review for Exam	Friday, September 21st **Exam 1**
Monday, September 24th §3.1 Derivative Rules	Tuesday, September 25th §3.2 Products & Quotients	Wednesday, September 26th §3.3 Applications	Friday, September 28th §3.4 Trigonometric Derivatives
Monday, October 1st §3.5 The Chain Rule	Tuesday, October 2nd §3.6 Implicit Diff.	Wednesday, October 3rd §3.7 Higher Derivatives	Friday, October 5th §3.8 Logarithmic Derivatives
Monday, October 8th §3.10 Related Rates	Tuesday, October 9th §3.9 Hyp. Derivatives	Wednesday, October 10th Review for Exam	Friday, October 12th **Exam 2**
Monday, October 15th No Class – Fall Break	Tuesday, October 16th No Class – Fall Break	Wednesday, October 17th §4.1 Optimization	Friday, October 19th §4.1 Optimization
Monday, October 22nd §4.2 Mean Value Theorem	Tuesday, October 23rd §4.3 Derivatives & Graphs	Wednesday, October 24th §4.4 L'Hôpital's Rule	Friday, October 26th §4.4 L'Hôpital's Rule
Monday, October 29th §4.5 Curve Sketching	Tuesday, October 30th §4.6 Curve Sketching	Wednesday, November 31st §4.7 Applications	Friday, November 2nd §4.8 Applications
Monday, November 5th §4.9 Newton's Method	Tuesday, November 6th §4.10 Antiderivatives	Wednesday, November 7th Review for Exam	Friday, November 9th **Exam 3**
Monday, November 12th §5.1 Areas & Totals	Tuesday, November 13th §5.2 Definite Integrals	Wednesday, November 14th §5.3 Fun. Theorem of Calculus	Friday, November 15th §5.3 Fun. Thm. of Calculus
Monday, November 19th §5.4 Indefinite Integrals	Tuesday, November 20th §5.5 u-Substitution	Wednesday, November 21st No Class – Thanksgiving Break	Friday, November 22nd No Class – Thanksgiving Break
Monday, November 26th §6.1 Area between Curves	Tuesday, November 27th §6.1 Area between Curves	Wednesday, November 28th Review for Exam	Friday, November 30th **Exam 4**
Monday, December 3rd §5.4 Total Change Theorem	Tuesday, December 4th §5.6 Logs as Integrals	Wednesday, December 5th Review for Final	Friday, December 7th Review for Final
Final Exam – 2pm Thursday, December 13th			