CALCULUS 2 MTWF 2:00-2:50PM FALL 2007 STUART 309

Instructor:	Jonathan White
E-Mail:	JWhite@Coe.Edu
Web Page:	public.coe.edu/~jwhite
Office:	Stuart 316
Office Hours:	MTWF 9:00-9:50am and by appointment
Office Phone:	399-8280
Home Phone:	841-5111 (between 7am and 10pm)
Text:	*Calculus, Early Transcendentals, 5th Edition*, James Stewart
Problem Sets & Quizzes:	There will be several problem sets and quizzes during the semester, as well as online WeBWorK assignments. Together these will be worth 200 points (25% of the final grade).
Exams:	There will be four in-class exams administered during class time. 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 during finals week at the date and time indicated on the back side of this sheet. The final 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, and Calculus 2 addresses accumulations – the totals toward which changing quantities tend. 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.

Calculus 2 is a continuation of topics introduced in Calculus 1, but with a greater depth and sophistication. The problems get bigger, and the ideas get bigger as well. Some truly interesting questions become answerable, and more aspects of the world come within reach, but the techniques involved become substantially more difficult.

To enter this class, each student must pass (with a score of 80% or more) a computer-administered multiple-choice "gateway" exam. You may attempt this exam as often as desired, provided that you demonstrate understanding of previous mistakes before a retake. After 5pm Friday of the second week (September 7th) course grades will be lowered by 10% for each week or portion of a week without passing this exam.

The use of technology, particularly the software package *Mathematica*, will be an important component of the course. Ability to compute with pencil and paper will also be important, as will conceptual understanding of the topics treated. This combination of approaches and topics is likely to be challenging, partly because few will find that all of these aspects play to their strengths. Don't let that be overwhelming, though – remember that I'm around to help.

Tentative Schedule

Monday, August 27th §4.10 Antiderivatives	Tuesday, August 28th §5.3 The Fun. Theorem	Wednesday, August 29th §5.5 u-Substitution	Friday, August 31st §6.1 Area between Curves
Monday, September 3rd No Class – Labor Day	Tuesday, September 4th §6.2 Volumes by Washers	Wednesday, September 5th §6.3 Volumes by Shells	Friday, September 7th §6.4 Work
Monday, September 10th §6.4 Work	Tuesday, September 11th §6.5 Average Value	Wednesday, September 12th Review	Friday, September 14th **Exam 1**
Monday, September 17th §7.1 Integration by Parts	Tuesday, September 18th §7.2 Trig Integrals	Wednesday, September 19th §7.3 Trig Substitution	Friday, September 21st §7.3 Trig Substitution
Monday, September 24th §7.4 Partial Fractions	Tuesday, September 25th §7.5 Integration Strategy	Wednesday, September 26th §7.6 Tables and Computers	Friday, September 28th §7.7 Approximations
Monday, October 1st §7.8 Improper Integrals	Tuesday, October 2nd §8.1 Arc Length	Wednesday, October 3rd §8.2 Surface Area	Friday, October 5th §8.3 Physics Applications
Monday, October 8th §8.4 Econ & Bio Apps	Tuesday, October 9th §8.5 Probability	Wednesday, October 10th Review	Friday, October 12th **Exam 2**
Monday, October 15th No Class – Fall Break	Tuesday, October 16th No Class – Fall Break	Wednesday, October 17th §9.1 Differential Equations	Friday, October 19th §9.2 Euler's Method
Monday, October 22nd §9.3 Separable Equations	Tuesday, October 23rd §10.1 Parametric Equations	Wednesday, October 24th §10.2 Parametric Calculus	Friday, October 26th §10.3 Polar Coordinates
Monday, October 29th §10.4 Polar Calculus	Tuesday, October 30th §10.5 Conic Sections	Wednesday, November 31st Review	Friday, November 2nd **Exam 3**
Monday, November 5th §11.1 Sequences	Tuesday, November 6th §11.2 Series	Wednesday, November 7th §11.3 The Integral Test	Friday, November 9th §11.4 Comparison Tests
Monday, November 12th §11.4 Comparison Tests	Tuesday, November 13th §11.5 Alternating Series	Wednesday, November 14th §11.6 Absolute Convergence	Friday, November 15th §11.6 The Ratio Test
Monday, November 19th §11.7 Strategies	Tuesday, November 20th §11.8 Power Series	Wednesday, November 21st No Class – Thanksgiving Break	Friday, November 22nd No Class – Thanksgiving Break
Monday, November 26th §11.9 Series for Functions	Tuesday, November 27th §11.10 Taylor Series	Wednesday, November 28th §11.10 Taylor Series	Friday, November 30th §11.11 Binomial Series
Monday, December 3rd §11.12 Applications	Tuesday, December 4th Review	Wednesday, December 5th **Exam 4**	Friday, December 7th Review
Final Exam – Tuesday 12/11 at 2pm			

Any students with disabilities which might affect their performance in this class should contact me as soon as possible to arrange accommodations.

The faculty has adopted a policy on academic integrity. It is your responsibility to understand and follow it.

Diversity, in all its forms, is valuable.