

CALCULUS 2 MTWF 1:00-1:50PM SPRING 2008 STUART 308

Instructor:	Jonathan White
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Office:	Stuart 316
Office Hours:	11:00-11:25 MWF, 2:00-2:50 T, 3:00-3:50 W, and by appointment
Office Phone:	399-8280
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Text:	<i>Calculus, Early Transcendentals, 5th Edition</i> , James Stewart
Problem Sets & Quizzes:	There will be several problem sets and quizzes during the semester, as well as online WeBWorK assignments. Combined 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 through Moodle at all times.
Makeups:	For the sake of fairness to those who follow the schedule, makeups for exams will generally 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 due to extenuating circumstances will generally be subject to a penalty of 20% of the possible points for each day past due. Late WeBWorK will not be accepted for credit.

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 “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 full week of the semester (January 25th) 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

			Friday, January 11 th §4.10 Antiderivatives
Monday, January 14 th §5.3 The Fun. Theorem	Tuesday, January 15 th §5.5 u-Substitution	Wednesday, January 16 th §6.1 Area between Curves	Friday, January 18 th §6.2 Volumes by Washers
Monday, January 21 st §6.2 Volumes by Washers	Tuesday, January 22 nd §6.3 Volumes by Shells	Wednesday, January 23 rd §6.4 Work	Friday, January 25 th §6.4 Work
Monday, January 28 th §6.5 Average Value	Tuesday, January 29 th Review	Wednesday, January 30 th Exam 1	Friday, February 1 st §7.1 Integration by Parts
Monday, February 4 th §7.2 Trig Integrals	Tuesday, February 5 th §7.3 Trig Substitution	Wednesday, February 6 th §7.3 Trig Substitution	Friday, February 8 th §7.4 Partial Fractions
Monday, February 11 th §7.5 Integration Strategy	Tuesday, February 12 th §7.6 Tables and Computers	Wednesday, February 13 th §7.7 Approximations	Friday, February 15 th §7.8 Improper Integrals
Monday, February 18 th §8.1 Arc Length	Tuesday, February 19 th §8.2 Surface Area	Wednesday, February 20 th §8.3 Physics Applications	Friday, February 22 nd §8.4 Econ & Bio Apps
Monday, February 25 th §8.5 Probability	Tuesday, February 26 th §8.5 Probability	Wednesday, February 27 th Review	Friday, February 29 th Exam 2
Monday, March 3 rd §9.1 Differential Equations	Tuesday, March 4 th §9.2 Euler's Method	Wednesday, March 5 th §9.3 Separable Equations	Friday, March 7 th §10.1 Parametric Equations
Spring Break			
Monday, March 17 th §10.2 Parametric Calculus	Tuesday, March 18 th §10.3 Polar Coordinates	Wednesday, March 19 th §10.4 Polar Calculus	Friday, March 21 st §10.5 Conic Sections
Monday, March 24 th §11.1 Sequences	Tuesday, March 25 th §11.2 Series	Wednesday, March 26 th Review	Friday, March 28 th Exam 3
Monday, March 31 st §11.3 The Integral Test	Tuesday, April 1 st §11.4 Comparison Tests	Wednesday, April 2 nd Student Research Symposium	Friday, April 4 th §11.5 Alternating Series
Monday, April 7 th §11.6 Absolute Conv.	Tuesday, April 8 th §11.6 The Ratio Test	Wednesday, April 9 th §11.7 Strategies	Friday, April 11 th §11.8 Power Series
Monday, April 14 th §11.9 Series for Functions	Tuesday, April 15 th §11.10 Taylor Series	Wednesday, April 16 th Review	Friday, April 18 th Exam 4
Monday, April 21 st §9.4 Exponential Growth	Tuesday, April 22 nd §9.5 The Logistic Equation	Wednesday, April 23 rd Review	
Final Exam – 11am on Tuesday, April 29 th			

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.