Instructor:	Jonathan White
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Web Page:	public.coe.edu/~jwhite
Office:	Stuart 316
Office Hours:	11:00-11:25 MWF, 3:00-3:25 MW, and by appointment
Office Phone:	399-8280
Home Phone:	841-5111 (between 7am and 10pm)
Text:	*Calculus, Early Transcendentals, 6th Edition*, James Stewart
Problem Sets, Quizzes, WW:	There will be several problem sets and quizzes during the semester, as well as online WeBWorK assignments. Combined these will be worth 150 points.
Math Culture Points:	Each student has the option of including Math Culture Points in their grade. A slate of Math Culture activities is available on a separate sheet. If included, this component will be worth 50 points.
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 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.
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. Success by 5pm Friday, January 24th will count as 5 points toward a student's WeBWorK score, but after 5pm Friday, January 31st 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

		Wednesday, January 14th §4.9 Antiderivatives	Friday, January 16th §5.3 The Fun. Theorem
Monday, January 19th **No Class – MLK Day**	Tuesday, January 20th §5.5 u-Substitution	Wednesday, January 21st §5.5 u-Substitution	Friday, January 23rd §6.1 Area between Curves
Monday, January 26th §6.2 Volumes by Washers	Tuesday, January 27th §6.2 Volumes by Washers	Wednesday, January 28th §6.3 Volumes by Shells	Friday, January 30th §6.4 Work
Monday, February 2nd §6.4 Work	Tuesday, February 3rd §6.5 Average Value	Wednesday, February 4th Review	Friday, February 6th **Exam 1**
Monday, February 9th §7.1 Integration by Parts	Tuesday, February 10th §7.2 Trig Integrals	Wednesday, February 11th §7.3 Trig Substitution	Friday, February 13th §7.4 Partial Fractions
Monday, February 16th §7.5 Integration Strategy	Tuesday, February 17th §7.6 Tables and Computers	Wednesday, February 18th §7.7 Approximations	Friday, February 20th §7.8 Improper Integrals
Monday, February 23rd §8.1 Arc Length	Tuesday, February 24th §8.2 Surface Area	Wednesday, February 25th §8.3 Physics Applications	Friday, February 27th §8.4 Econ & Bio Apps
Monday, March 2nd §8.5 Probability	Tuesday, March 3rd §8.5 Probability	Wednesday, March 4th Review	Friday, March 5th **Exam 2**
Spring Break			
Monday, March 16th §9.1 Differential Equations	Tuesday, March 17th §9.2 Euler's Method	Wednesday, March 18th §9.3 Separable Equations	Friday, March 20th §10.1 Parametric Equations
Monday, March 23rd §10.2 Parametric Calculus	Tuesday, March 24th §10.3 Polar Coordinates	Wednesday, March 25th §10.4 Polar Calculus	Friday, March 27th §10.5 Conic Sections
Monday, March 30th §11.1 Sequences	Tuesday, March 31st §11.2 Series	Wednesday, April 1st Review	Friday, March 3rd **Exam 3**
Monday, April 6th §11.3 The Integral Test	Tuesday, April 7th §11.4 Comparison Tests	Wednesday, April 8th **Student Research Symposium**	Friday, April 10th §11.5 Alternating Series
Monday, April 13th §11.6 Absolute Conv.	Tuesday, April 14th §11.6 The Ratio Test	Wednesday, April 15th §11.7 Strategies	Friday, April 17th §11.8 Power Series
Monday, April 20th §11.9 Series for Functions	Tuesday, April 21st §11.10 Taylor Series	Wednesday, April 22nd Review	Friday, April 24th **Exam 4**
Monday, April 27th §9.4 Exponential Growth	Tuesday, April 28th §9.5 The Logistic Equation	Wednesday, April 29th Review	
Final Exam – 8am on Tuesday, May 5th			

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.

CALCULUS 2   MTWF 10:00-10:50AM   SPRING 2009   STUART 308

Math Culture Points

A significant portion of the grade for this course will take the form of Math Culture Points. These will be earned through activities outside of class including, but not necessarily limited to, those listed below:

Activity	Points	Max #
Colloquium Attendance	5	–
Colloquium Presentation	5-15	2

Meeting Attendance
   Midwest Undergraduate Mathematics Symposium (April 3rd - 4th)
   Nebraska Conference for Undergraduate Women in Mathematics (Jan. 30th - Feb. 1st)
	15	2

Mathematics Competition Participation
   Iowa Collegiate Mathematics Competition (Feb. 28th)
   Mathematical Contest in Modeling (Feb. 5th - 9th)
	10	2

Math Culture Reading
   Some weeks specific readings will be posted on the course web page
   With approval, any column on MAA.org
   With approval, an article from *Math Horizons*, *CMJ*, etc.
	5	–
		5
		5

Math Club Activities (when appropriate) Winter Break Book, Movies, Pi Day celebration, Speakers, etc.	5	5
Volunteer Math Outreach Working with students at Polk Elementary, etc.	5	3

Other Appropriate Coe Activities
   Attending a Quantitative Research Symposium Presentation
   Poverty Simulation
   Psychology Experiment Participation
   Contemporary Issues Forum
	5	–

Generally Math Culture Points can be earned for at most two activities in any given week, so you should plan to spread your participation throughout the semester. In each case above, credit assumes both full participation and posting a brief summary/response on Moodle. These reflections should generally be between 100 and 300 words, and include both a brief summary and your personal thoughts on the event, and must be submitted within one week of the event.