

CALCULUS 2 2PM MTWF SPRING 2019 SH309

Instructor:	Jonathan White
E-Mail:	JWhite@Coe.Edu
Web Page:	http://public.coe.edu/~jwhite/
Office:	Stuart 316
Office Hours:	9:30-10:50am MWF and by appointment
Office Phone:	399-8280
Home Phone:	362-3350 (between 7am and 10pm)
Text:	<i>Essential Calculus, Early Transcendentals, 2nd Edition</i> , James Stewart
Daily Work:	There will be several problem sets and quizzes during the semester, as well as online WeBWorK assignments. Combined these will be worth 250 points.
Math Culture:	Each student has the option of including Math Culture Points in their grade. A slate of Math Culture activities is available on page 3 of this syllabus. 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 $[92.0\%, +\infty) \rightarrow A$, $[90\%, 92\%) \rightarrow A-$, $[87\%, 90\%) \rightarrow B+$, $[82\%, 87\%) \rightarrow B$, $[80\%, 82\%) \rightarrow B-$, $[77\%, 80\%) \rightarrow C+$, $[72\%, 77\%) \rightarrow C$, $[70\%, 72\%) \rightarrow C-$, $[67\%, 70\%) \rightarrow D+$, $[62\%, 67\%) \rightarrow D$, $[60\%, 62\%) \rightarrow D-$, $(-\infty, 60\%) \rightarrow F$ scale.
Makeups:	For fairness to those who follow the schedule, makeups for exams will be allowed only in extenuating circumstances, with documentation and advance notice when humanly possible. Late problem sets will be penalized 20% of points possible for each day late, and only accepted until others are returned.

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 – 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 continues topics introduced in Calculus 1, but with greater depth and sophistication. Ideas get bigger, and problems 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, you must pass a derivatives gateway exam. You may attempt this as often as desired, provided that you demonstrate understanding of previous mistakes. Success by 5pm Friday 1/25 will count as 20 points toward your WeBWorK score, but after 5pm Friday 2/1 course grades will be lowered by 50 points for each week or portion of a week without passing it. To exit this class successfully, you must pass a gateway exam over computing antiderivatives in order to earn a grade better than F in this course.

The use of technology, particularly CoCalc, will be an important component of the course. Ability to compute with pencil and paper will also be important, as will conceptual understanding. This combination of demands 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.

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Tentative Schedule

1/14 §4.7 Antiderivatives	1/15 §5.4 The FTC	1/16 §5.5 u -substitution	1/18 §5.5 u -substitution
1/21 No Class – MLK Day	1/22 §6.1 Integration by Parts	1/23 §6.2 Trig Integrals	1/25 §6.2 Trig Substitution
1/28 §6.3 Partial Fractions	1/29 §6.4 Tables & Comp.	1/30 §6.5 Approximation	2/1 §6.6 Improper Integrals
2/4 §6.6 Improper Integrals	2/5 Review	2/6 Exam 1	2/8 §7.1 Area
2/11 §7.2 Volume by Discs	2/12 §7.2 Volume by Washers	2/13 §7.3 Voume by Shells	2/15 §7.4 Arc Length
2/18 §7.5 Surface Area	2/19 §7.6 Work	2/20 §7.6 Work	2/22 §7.6 Center of Mass
2/25 §7.7 Diff. Eq.	2/26 §8.1 Sequences	2/27 App. to Economics	3/1 App. to Economics
No Class – Spring Break			
3/11 Probability	3/12 Probability	3/13 Review	3/15 Exam 2
3/18 §8.2 Series	3/19 §8.3 Integral Test	3/20 §8.3 Comparison Test	3/22 §8.3 Limit Comparison
3/25 §8.4 A.S.T.	3/26 §8.4 Ratio Test	3/27 §8.5 Power Series	3/29 §8.6 Functions as Series
4/1 §8.7 Maclaurin & Taylor	4/2 §8.8 Applications	4/3 Review	4/5 Exam 3
4/8 §9.1 Parametric Func.	4/9 §9.2 Parametric Calc.	4/10 §9.2 Parametric Calc.	4/12 §9.2 Parametric Calc.
4/15 §9.3 Polar Coordinates	4/16 Research Symposium	4/17 §9.4 Polar Calc.	4/19 Conic Sections
4/22 Conic Sections	4/23 Conic Sections	4/24 Review	4/26 Exam 4
4/29 More Diff. Eq.	4/30 Final Review	5/1 Reading Day	
Final Exam – 2pm Friday 5/3			

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

Coe's faculty has adopted an academic integrity policy. It is your responsibility to understand and follow it.

Diversity, in all its forms, is valuable.

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Math Culture Points

A 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. Note that none of these are mandatory – there are far more opportunities than necessary to earn full credit. You should be able to select activities that are particularly relevant to you.

Activity	Points	Max #
Colloquium Attendance	5	
Colloquium Presentation	5-15	2
Meeting Attendance		2
Midwest Undergraduate Mathematics Symposium (4/13)	15	
Nebraska Conference for Undergraduate Women in Mathematics (1/25-27)	15	
SIGCSE Technical Symposium (2/28-3/2)	15	
ISU Hack-a-thon (?)	15	
Math Culture Reading		
Some weeks specific readings will be posted on Moodle	5	–
Articles from <i>Math Horizons</i>	5	3
With approval, articles from <i>Math. Magazine</i> , <i>The College Math. Journal</i> , etc.	5	3
Math Club Activities (when appropriate)	5-10	5
Winter Break Book Discussion, Movies, Pi Day Celebration, Workshops, etc.		
Other Appropriate Coe or Outreach Activities		
Contemporary Issues Forum (1/29)	5	–
Chess Club Meeting	5	3
Attending a Quantitative Research Symposium Presentation	5	3
Job Shadowing in any relevant field	10	1
Volunteering with students at McKinley Middle School, etc. (see Jon)	5	5

You should plan to spread your participation through the semester. In each case, credit assumes both full participation and posting a brief summary/response on Moodle **in a timely manner**. 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**, or within the specified time window for other activities. Up to three units of credit may be submitted after normal deadlines in the “Math Culture – Late” category on Moodle, but otherwise exceptions will not be made without serious extenuating circumstances.

The Provost has mandated that the material below this line appear on all syllabi:

Academic Integrity ? At Coe College, we expect academic integrity of all members of our community. Academic integrity assumes honesty about the nature of ones work in all situations. Such honesty is at the heart of the educational enterprise and is a precondition for intellectual growth. Academic dishonesty is the willful attempt to misrepresent ones work, cheat, plagiarize, or impede other students academic progress. Academic dishonesty interferes with the mission of the College and will be treated with the utmost seriousness as a violation of community standards. ? Please refer to the Coe College Academic Catalog for complete information regarding Academic Integrity or this weblink www.coe.edu/academics/academic-resources/provosts-office/academic-integrity-policy FERPA ? Students should be aware of their rights regarding the privacy of their educational records. Detailed information about your rights can be found under the FERPA (Family Educational Rights and Privacy Act of 1974) section in the Academic Catalog and online here: www.coe.edu/academics/academic-resources/registrar/ferpa ? In line with FERPA restrictions, students should be aware that their instructor cannot publicly post grades by student name, institutional student identification number, or social security number without first having obtained students written permission. Students with Disabilities ? If you have a hidden or visible disability which may require classroom or test accommodations I encourage you to visit my office during Office Hours or email to schedule an appointment at a mutually suitable time so we can discuss ways to support your learning. ? Coe College, in compliance with equal access laws, will make reasonable accommodations for persons with documented disabilities. Students are required to meet with Kim Pierson, the Accessibility Services Coordinator to verify disability. The Accessibility Services Office is located in the Learning Commons on the lower level of Stewart Memorial Library. This office is responsible for coordinating accommodations and services for students with disabilities. Please call 319-399-8844 or x8844 to schedule an appointment. For details on Coes Accessibility Services, see: www.coe.edu/application/files/4615/3140/6378/disability-handbook.pdf ? Reporting of Sexual Misconduct ? As an instructor, one of my responsibilities is to help create a safe learning environment on our campus. I also have a mandatory reporting responsibility related to my role as a faculty member. It is my goal that you feel able to share information related to your life experiences in classroom discussions, in your written work, and in any one-on-one meetings. I will seek to keep information you share with me private to the greatest extent possible. However, I am required to share information regarding sexual misconduct or students who may be in danger to themselves or to others. Students may speak to someone confidentially by contacting Student Development at 319-399-8843 or Safety and Security at 319-399-8888. ? The Definition of a Course Credit, Expected Workload and Grade Basis: ? One course credit at Coe College constitutes 150 hours (This is a 60 minute hour) worth of student work over the course of the term. This figure includes both the time spent in class and the time spent out of class completing course work. In other words, students are expected to devote a considerable amount of time outside of class to this course. For courses that meet in a standard M-W-F or T-Th slot, students should be expected to work nine hours a week outside of the three hours in class. You must also explain in the syllabus students how final grades will be determined in the course.