

Syllabus
Math 122, Section 1
CRN 11300
Fall 2010

Instructor: Eric Gottlieb
Meetings: MWF 11:00 – 11:50 in 205 Kennedy
R 11:00 – 11:50 in FJ-A
Text: *Single Variable Calculus Early Transcendentals*, 6th ed., by Stewart
Office: 317 Ohlendorf
Office Hours: MWF 1 – 2
T 11 – 12
email: gottlieb@rhodes.edu

Material to be covered: We will cover the following material from the text.

- Chapter 5, Sections 3 – 5: Review of the fundamental theorem of calculus and integration by substitution, both of which you should have seen in Calculus I. Numerical integration. The natural logarithm as an integral. Integrals involving inverse trigonometric functions.
- Chapter 6, Sections 1 – 5: Applications of integration, including area between curves, volumes by several techniques, work, and average value of a function.
- Chapter 7, Sections 1 – 4, 7, 8: Techniques for integration, including integration by parts, trigonometric integrals and substitution, and partial fractions. Numerical integration and improper integrals.
- Chapter 8, Sections 1 – 5: More applications of integration, including arc length, area of surfaces of revolution, applications to physics, engineering, biology, and economics, and probability.
- Chapter 9, Sections 1 – 6: Differential equations. Modeling, direction fields, some solution techniques.
- Chapter 11, Sections 1 – 11: Infinite sequences and series. Tests for convergence, power series and their use in representing functions, Taylor and Maclaurin series.

Homework: I will assign homework for each section but I will not collect it. It is definitely to your advantage to do the homework, however, as questions on quizzes and exams will be similar (in some cases, identical) to questions from the homework. I will answer questions about the homework at the start of each class, time permitting.

Quizzes: There will be 12 take home quizzes over the course of the semester. They will be distributed over the weekend and due in class on Monday morning. The quizzes will normally consist of two problems which will be similar to those assigned as

homework and worth 5 points each. There will be no makeup quizzes. Quizzes that are missed for valid reasons may be omitted from the computation of the quiz average. Quizzes are scheduled to be turned in on 30 August; 8, 13, and 27 September; 4, 11, and 25 October; 1, 8, 22, and 29 November; and 6 December.

Exams: There will be three midterm exams and a final. The exams are scheduled to be given on the dates indicated below. The dates of the exams are fixed but the material to be covered is tentative and depends on our pace.

Exam	Date	Material to be covered (tentative)
MT 1	Friday 17 September	Sections 5.3 – 5.5, 6.1 – 6.5, 7.1 – 7.2
MT 2	Friday 15 October	Sections 7.3, 7.4, 7.7, 7.8, 8.1 – 8.4, 9.1 – 9.2
MT 3	Friday 12 November	Sections 9.3 – 9.6, 11.1 – 11.6
Final	Tuesday 14 December at 5:30	Comprehensive, with extra emphasis on material not covered on earlier exams

If you know you will miss an exam, notify me in advance. I am more sympathetic to requests to take an exam early than I am to requests to take it late. In either case, you must provide a compelling reason for missing the exam with supporting documentation.

Calculators are not permitted on exams.

Guest lecturers will, from time to time, present applications of class material to their own disciplines. The schedule for the guest lecturers is as follows. Please make every effort to attend class punctually on these days.

<u>Date</u>	<u>Topic</u>	<u>Presenter</u>
Wednesday 22 September	Numerical integrals	Prof. Deseree Meyer
Monday 27 September	Mathematical Finance	Prof. Jeff Hamrick
Monday 4 October	Applications to Phys. and Eng.	Prof. Deseree Meyer
Friday 8 October	Radiocarbon Dating	Prof. Jon Russ
Friday 22 October	DEs and quantum effects	Prof. Mauricio Cafiero

The Quantitative Learning Community (QLC) is a learning community for students interested in mathematics, computer science, physics, or quantitative aspects of biology, chemistry, and economics. Students in learning communities live on the same hall and take a common course. This class serves as the common academic experience for (all

but three of) the students in the QLC. There are many students in the class who are not in the QLC.

I have arranged some extracurricular programming as part of the QLC. QLC students will attend and submit a brief write-up, one to two pages in length, for seven of the scheduled extracurricular activities associated with the QLC. By submitting a write-up for an extracurricular event, you are stating, on your honor, that you attended that event. QLC students will also be required to submit an eighth paper on how participation in the QLC has changed their perspective on mathematics. These write-ups may be posted to a social media website. Non-QLC students are welcome to participate in most of the extracurricular activities associated with the QLC. I will provide advance notice of the times and dates for each extracurricular event.

In the spring, QLC students are expected to take another heavily quantitative course and to continue to participate in extracurricular programming.

Your Final Grade is determined as follows:

Midterm Exams:	19% each
Quiz Average:	19%
Final Exam:	24%

For QLC students, failure to submit eight write-ups of adequate quality will result in a 1% reduction in score per missing paper, up to 8%.

The letter equivalent of your number grade is determined as follows. These represent minimum grades in order to allow me some discretion. It is possible, for example, to receive a B while earning a total score of less than 83%. However, if you earn a score between 83% and 86%, you are guaranteed to receive a grade of B or better.

93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	<59
A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Attendance is not a formal part of your grade, but I will take attendance each day. If you miss more than five classes without a valid reason, I reserve the right to ask the Dean to drop you from the class.

If you get stuck, please take action. Peer tutoring is available in the Math Support Center (MSC), which is located one floor above ground level in Ohlendorf. The MSC

organizes study groups for Calculus II, a practice that I encourage. See the attached form. I am always happy to see you in office hours. Please take advantage of these services! Don't be shy.

The Honor Code: I take the Rhodes Honor Code seriously and I expect you to do the same. All graded work must comply with the Honor Code. If the Honor Council finds that there has been a violation of the Honor Code on a graded instrument, I reserve the right to award a grade of zero on that instrument.