

MAT 182 Calculus II
Course Syllabus
Siena Heights University

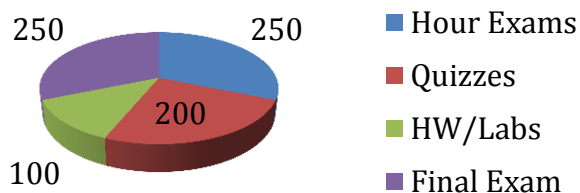
<i>Instructor:</i>	Dr. Jeff Kallenbach
<i>Phone:</i>	264-7641
<i>Office:</i>	SC29B
<i>Hrs:</i>	MWF 10:00-11:00, MWF 1:00-2:00
<i>Course Meets:</i>	M-F 12:00-12:50 Science Building Rm 23
<i>Prerequisites:</i>	Successful completion of Calc I, or AP Equivalence
<i>Text:</i>	<i>Calculus & Analytic Geometry, early Transcendentals</i> by James Stewart, 7 th Edition, Thompson, 2010; www.stewartcalculus.com
<i>Handheld:</i>	A TI-NSpire CAS or TI CX CAS will be the handheld model of choice.
<i>Course Management:</i>	Engrade will be used for this course. Other resources of use may be found at my web site .

The instructor reserves the right to make changes to this syllabus without notice

Course Description:

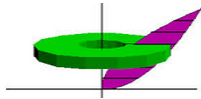
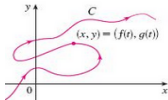
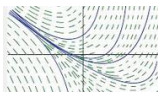
We begin with a review of Calc I, concentrating on integration and area concepts, and quickly cover/review integration by substitution. We then take up applications of the simple integrals - area between curves, volumes, and average value. This is followed by the standard treatment of techniques of integration, and then but further applications including arc length, surface area and topics in economics and physics. We then cover parametric and polar equation, and wrap up with sequences and infinite series, including all of the convergence tests, and Taylor and Maclaurin series representations of differential functions. If time permits we introduce simple differential equations. At present we use Stewart Early Transcendentals 7e, and cover chapters 6, 7, 8, 10, and 11, and chapter 9 if time permits. As with all of our SHU math courses, we use graphing calculators and other technology to enhance and enrich our presentation.

Grades



Grading Scale	
A	[90, +∞)
B	[80,90)
C	[70,80)
D	[60,70)
E	(-∞, 60)

Topics Covered

Applications of Integrals	
Techniques Of Integration	$\int u \, dv = uv - \int v \, du$ $\int xe^x \, dx = xe^x - \int e^x \, dx$
Parametric and Polar Graphs	
Sequences And Series	$s_n = \sum_{i=1}^n a_i = a_1 + a_2 + \cdots + a_n$
Differential Equations	

Method of Evaluation

- **Hour Exams** – 4 or 5 of them, whenever we get done with a unit. 50 minutes in length. Together will constitute 250 of your 800 grade points.
- **Homework quizzes** – A few times per week, we will have a quiz consisting of 2-3 problems directly from uncollected homework problems from the sections currently under discussion. All homework quizzes together will count for $\frac{1}{4}$ of your grade. No makeup quizzes will be given. To allow for the bad day/missed class, the two lowest HW quiz scores will be dropped.
- **Homework/TI labs** – From time to time during the semester I will assign some homework to be collected, and we may have an assignment/lab on the TI Calculator. Each collected assignment and lab will be graded on a scale of 1-10. I will from time to time also assign “challenge problems” which are extensions of the normal syllabus and will require extra time on your part. Your percentage on these homework & labs together will make up the 100 points of your grade.

Standards for graded homework:

- Work should be neat, organized, and legible – one column only
 - Use filler paper or remove ragged edges
 - Use pencil and eraser (not pen)
 - Number each problem
 - Show work so that I can follow your steps and so that you don't need to recreate your work when studying homework for the exam
 - Leave space for my comments
 - **STAPLE** your papers together
 - Late work will not be graded, but I will drop your lowest HW score for the semester in case you miss one.
- **Final Exam** – 250 points, comprehensive, time & location TBA

Practice Problems: Practice problems will be assigned for each section that we cover. They will be listed on board at the end of class, and on [Engrade](#) calendar entry for that date. I'll also try to keep a master problem list for the course up to date on [Engrade](#), working a couple weeks ahead if you

would like to try to keep up on things. In general these problems will NOT be collected, but will be covered on the homework quizzes we have frequently (see above).

Late Work:

Collected assignments are to be submitted at the beginning of the class session on the due date (unless otherwise specified). No late assignments will be accepted unless prior arrangements are made with the instructor.

Course Methods:

The focus of this class is on learning through daily activities. In this pursuit, we'll use technology: calculators (e.g., TI-NSpire) to enhance your understanding of the concepts being developed. **We will review and discuss daily assignments** to provide instant and interactive feedback on your learning. Students should keep a notebook of worked examples and written homework assignments. Students are expected to be active participants in class discussions. *Successful completion of this course requires a substantial amount of out of class study (At last 6 hours outside of class per week)*. Students are encouraged to form study groups and visit the Math Lab (Science 26). **Homework is assigned for every section, and you should plan to complete it once that section is covered in class unless otherwise stated. We will be discussing the assignment at the beginning of the next class, before proceeding to the next topic.** Mainly odd-numbered problems will be assigned, so you will be able to check to see if you've gotten to the correct answer.

On Getting Through the Course

- Come to class prepared: review notes, read book, do problems.
- You should not miss class if at all possible. However, if you must, a pdf of the notes for the missed class will usually be posted in Engrade. Be sure to make use of those postings when needed.
- **USE YOUR GRAPHING CALCULATOR** whenever possible (even if not assigned). Graphs & Numerical tables provide concrete visual representations of important concepts, patterns & abstract relationships. Technology gives you the freedom to explore realistic problems & examples, and to spend your time learning concepts, w/o getting bogged down by difficult and/or tedious hand calculations.
- **Ask** questions **DURING** class: if you're confused, seek clarification. One of the things I get paid for is answering your questions.
- **Answer** questions **DURING** class. Lead group discussions and help others: tell us what you've learned and let us learn from you.
- Study in groups as **SOON** after class as possible: help -- but don't copy from each other ...we call that plagiarism and the results of that are undesirable.

Learning Outcomes

The **Mathematics Department** has identified the following five learning outcomes to be achieved by majors and minors in its program.

1. Students will read and understand mathematics, differentiating between correct and incorrect mathematical reasoning. (Reading, listening, following my discussions).
2. Students will effectively communicate mathematics to others, both in writing and speaking. (Presentations and written work)
3. Students will demonstrate abilities to work independently and in-groups to develop mathematical models using appropriate technologies.
4. Students will demonstrate mastery of the content of the course. (Quizzes and exams)