

Calculus

MATH 105–Spring 2014
MW 3–6pm

Instructor: Dr. Langville
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Office Hours: half hour before and after class

Course Description and Goals

Calculus for the Business and Social Sciences is a required course for many majors at the College of Charleston. In Math 105, you learn concepts such as derivative, limit, global extrema, and integrals, all of which enable the mathematician to solve some very interesting problems. For example, what is the most dangerous part of a racetrack? Given a rectangular piece of cloth, what are the dimensions of the octagon of maximal area?

As a graduate of this course you will be able to do the following:

- explain and define fundamental concepts of differential calculus.
- use class concepts to model real-world situations mathematically.
- solve problems using these models.
- apply models and establish conclusions.
- demonstrate an understanding of the theory underlying calculus concepts, apart from any particular application.
- work in groups efficiently and effectively. We will break into small groups when possible. You can learn a great deal by engaging with classmates around a key concept or problem.
- use the solid mathematical foundation developed in MATH 105 for success in later major courses.

These outcomes will be assessed on the final exam.

Text

Wright, Hurd, and New. *Essential Calculus*, Hawkes Learning Systems, 2th ed., 2008.

Course Requirements and Evaluation

- Course meets: MW 3:00-6:00pm
- Resources for Help with Course: professor's office hours, classmates, Math Lab (1st floor Addlestone Library—<http://www.cofc.edu/~csl/math/>) for free tutoring
- Attendance: Attendance correlates strongly with performance. Thus, it is in your best interest to attend and actively participate in every class. This is particularly true for this Express class. Students with good attendance (2 or fewer absences) will be rewarded by dropping their lowest three quiz grades. No distinction will be made between excused and unexcused absences.

- Homework: As this is an intensive, fast-paced course, Hawkes Software homework will be assigned daily.
- Make-up Tests: Make-up tests will not be given, instead your final exam grade will count as the percentage of weight associated with the missed test. Note that this is not recommended. Students generally struggle on the final exam due to its cumulative nature, so please plan accordingly and do everything possible to make it to every test.
- Grading scale: University plus/minus scale
- Grading breakdown:
 - Tests (4) 55%
 - Software Homework (15) 10%
 - Group Work 10%
 - Final 20 %
- Cell phones: Your course grade drops a letter grade each time your cell phone goes off (or is used) in class.
- Calculators: A calculator is not required for this class. If you have one, you may use it. However, you may not use a TI-89 or any machine with symbolic capabilities on any exam.
- Academic Integrity/Disability Services: University policies on academic integrity and disability services will be strictly enforced.

Course Organization

- **Week 1** (TR 3/11, 3/13) — 1.5-1.6, 2.1; 2.1-2.3
- **Week 2** (TR 3/18, **3/20**) — 3.1-3.3, Review; Exam #1 (Ch.1, 2, 3)
- **Week 3** (TR 3/25, 3/27) — 3.4-3.5, 4.1; 4.2, 4.5, 5.1
- **Week 4** (TR 4/1, **4/3**) — 5.2-5.5; Exam #2 (Ch.4+5);
- **Week 5** (TR 4/8, 4/10) — 8.1-8.2; 8.3, Review
- **Week 6** (TR **4/15**, 4/17) — Exam #3 (Ch.8); 6.1-6.5
- **Week 7** (T **4/22**) — Review, Exam #4 (Ch.6)
- **FINAL:** Tues. April 29th, 4:00-7:00pm