Instructor: Dr. Karin Vorwerk

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Office hours:
W 10:30 – 11:30
TR 11:15 – 12:15
Others by appointment

Course description: A standard first semester course in calculus. Topics include limits and continuity, the derivative and its properties, applications of differentiation, introduction to anti-differentiation, the definite integrals, and the Fundamental Theorem of Calculus.

Prerequisites: Four years of High School Math, including Algebra I and II and Geometry or MATH 0104.

Course Objectives: Math 105 is a course in differential calculus and its applications. As such, the required topics in this course include:

- Multiple representations of a function (symbolic, numeric, graphic)
- Mathematical models (both using and inventing)
- Limits
- Continuity
- Tangents, velocities and rates of change
- The definition of the derivative
- The derivative as a function
- Multiple representations of the derivative (symbolic, numeric, graphic)
- Using graphical, numerical and symbolic representations of the first and second derivative to obtain information about the original function
- Using graphical, numerical and symbolic representations of the original function’s first and second derivative to obtain information about the first and second derivative.
- Derivatives of elementary functions. That is, derivatives of polynomial, rational, exponential, trigonometric, inverse trigonometric and logarithmic functions
- The product, quotient and chain rules
- Using the first and second derivatives to find maximum and minimum values
- Using the first and second derivatives to determine the shape of curves
- Using the first and second derivatives to solve optimization problems
- Anti-derivatives
Text

*Calculus* Hughes-Hallett et al., 6th edition, Wiley

Calculator

You will need a graphing calculator. Using a phone app is ok.

Exams

There will be five exams and a comprehensive final. Exams will be announced at least a week in advance. Make-up dates only by prior arrangement.

Extra Help

I am not a mind reader. It is your responsibility to let me know if I move too fast or if a concept is unclear to you. I am happy to arrange for extra help, either with me or through the tutoring center, or to help you find a (free) tutor. Do not allow yourself to fall behind; it will be really hard to catch up.

e-mail

You need to check your college email daily.

Academic Dishonesty

Academic honesty is expected of all members of the academic community. Academic dishonesty includes cheating on examination, plagiarism, fabrication, multiple submissions of a single paper, interference with use of materials, facilitating academic dishonesty, improper use of human and animal subjects, and failure to report incidents of academic dishonesty. Violations may result in failure of the assignment, failure of the course, or suspension or dismissal from the university.

If you are caught cheating during an exam, you will receive a zero for that exam and be reported to academic affairs.
So Just Don't!!!

Homework

You will be assigned homework on a daily basis. Please label your work with your name, page numbers, and the date.

Class Website

Course information, handouts, due dates, announcements can be found on my personal website. A link will be e-mailed out to you.

Grading

Exams: 45%
Final 20%
Homework 25%