Syllabus for Calculus and Analytic Geometry I - Math 225

Fall 2021 11:00 - 11:50 M-F in Room 233 at UWSP-Wausau Branch

Instructor

Paul Martin, Office 087-B, Ph 261-6272, email pmartin@uwsp.edu

Office Hours: At School 10:00 –10:50 on M, T, Th, F at my office I am also happy to meet virtually via ZOOM. This link will take you to my zoom meeting room https://wisconsin-edu.zoom.us/j/6721469784 . The meeting ID is 6721469784. The pass-code if needed is 3.14

Text

Calculus, Early Transcendentals, eighth ed., by James Stewart, ISBN: 978-1-305-27033-6, or the enhanced book that includes the chapters for Calc III with ISBN 978-1-285-74155-0.

Course Objectives

In this course we develop and bring together the two basic calculus concepts of **Differentiation** and **Integration.** In so doing we will:

- Develop the above calculus concepts using the **limit process** for functions given in mainly in terms of formulas, but also for functions described by tables, graphs and verbal descriptions.
- Gain competency at differentiation and integration of standard polynomial, radical, exponential, logarithmic, trigonometric, inverse-trigonometric, and rational functions.
- Enhance skills in mathematical formulation and analysis of functions describing relations between quantities. We will also utilize and hone skills from algebra and trigonometry.
- In the text, we'll cover chapters 1-6. A detailed list of topics follows on the next page.

Homework

Appropriate problems from the text will be assigned as concepts are covered. You should attempt all of these along with others of interest to you and bring any questions or comments for discussion at the start of the next class. I will also hand out a small set of problems to be turned in by Friday of non-exam weeks. You are allowed to seek assistance with these problems, but turn in your own work on these problems. The homework will count a total of 100 points towards your grade.

Exams

There will be four in-class hour-exams given on or near the dates listed in the course schedule on the opposite page. There will also be a two-hour comprehensive final exam on Dec. 16 from 2:45 – 4:45pm.

Grades:

The homework counts 100 points, the hour-exams are each worth 100 points and the final is worth 150 points. The final letter grades cut-offs will be close to 60, 70, 80, and 90% for grades of F, D, C, B, and A.

Homework	**100 pts**
Four Hour Exams	**400 pts**
Final Exam	**150 pts**
Total	**650 pts**

Policy on Missed Exams:

If a conflict prevents you from taking an exam, you should contact me prior to the exam if possible, and arrange for an early exam. In the event that you miss one exam for less than adequate reason or do poorly, you can substitute the percentage score on your final for any single 100 point component of your course total.

Tentative Schedule for the Semester

Week	Sections	Content
Sept. 2	Notes in Canvas	Preview of Calculus, and Review of Algebra and Trigonometry
Sept. 6	2.1-2.4	Tangent and Velocity Problems, Limit Concept
Setp 13	2.5-2.7	Analytical Evaluation of limits, continuity, tangents and rates of change.
Sept 20	2.7, 2.8, 3.1	The derivative as a function.
Sept. 27	**Ex I,** 3.2	Derivatives of polynomials, exponential functions, products and quotients.
Oct. 4	3.3-3.5	Derivatives of trig functions, chain rule, implicit differentiation.
Oct. 11	3.6-3.9	Differentiation of logarithmic functions, applications in natural and social sciences, exponential growth/decay, related rate problems,
Oct. 18	3.10, 3.11 **Exam II**	Differentials and linear approximations, hyperbolic functions.
Oct. 25	4.1-4.3	Max/Min of functions, Mean Value Theorem, Derivatives and shapes of graphs.
Nov. 1	4.4-4.6	L'Hospital's Rule and indeterminant limit forms, summary of curve sketching.
Nov. 8	4.7-4.9	Optimization problems, Newton's Method, Antiderivatives.
Nov. 15	**Exam III**, 5.1	Areas and distances, Riemann Sums.
Nov. 22	5.2 - 5.4	The definite integral. Fundamental Theorem of Calculus, Net Change Theorem,
Nov. 29	5.5, 6.1, 6.2	Integration by Substitution and finding areas between curves and volumes by disc slices.
Dec. 6	6.3 **Exam IV**	Volumes by shell slices, Exam IV and review for final. Last day of class is Friday Dec. 10
Dec. 14		**Final is on Tuesday December 14 from 12:30pm to 2:30pm.**

Face Coverings: At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the Disability and Assistive Technology Center to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course

Also to facilitate contact tracing in the event that someone contracts Covid-19, it is necessary that we sit in the same seats throughout the semester. I will record our seating arrangement as of day 2. If someone does test positive, they should complete the covid reporting form at www.uwsp.edu/coronavirus .