Sample MATH 1210 (Calculus I) Syllabus

Classroom:
Instructor:
Office hours:

Required Text:
*Calculus* by James Stewart, 8th edition, Cengage. Note: This text is used for Calculus I, II, and III.

Prerequisites:
One or more of the following:
1. Math 1050 (College Algebra) and Math 1060 (Trigonometry), each with a grade of C or better
2. Math 1065 (Precalculus) with C or better
3. Recommended placement by the Accuplacer Exam

Note: Students who do not meet the course prerequisites may be administratively withdrawn from this course at any time.

Course content and overview of calculus:
Calculus begins with the concept of limit, which is the central idea behind calculus. From limit, we get continuity, derivative, and integral. We use derivatives to find slopes of tangent lines to curves and to find rates of change (for example, the velocity of a moving object is the rate of change of position with respect to time). With integrals we can find the area enclosed between a curve and the x-axis. We will cover chapters 1 through 6 of our text. The order we will follow is chapters 1, 2, 3, 6 (these four chapters cover derivatives) and then 4, 5 (these last two chapters cover integrals). The main topics are as follows: Chapter 1: limits, continuity; Chapter 2: derivatives, including derivatives of trigonometric functions; Chapter 3: maxima, minima, using derivatives in curve sketching; Chapter 4: integrals; Chapter 5: applications of integrals; Chapter 6: derivatives of exponential, logarithmic, inverse trigonometric, and hyperbolic functions; L'Hospital's rule.

Upon successful completion, students should be able to:
- Compute one and two-sided limits of functions;
- Determine if a function is continuous at a number or on an interval;
- Find the derivatives of polynomial, trigonometric, exponential, logarithmic, inverse trigonometric, and hyperbolic functions. Find the derivatives of the sum, difference, product, quotient, and composition of functions;
- Perform implicit differentiation and solve related-rate problems;
- Apply Newton's method;
- Apply knowledge of the first and second derivatives of a function to determine where the graph is increasing/decreasing and concave upward/downward; find local max/min points, inflection points
- Solve optimization problems using methods of calculus;
- Apply L'Hopital's Rule to solve limit problems;
- Compute indefinite and definite integrals; find integrals using the substitution method and the Fundamental Theorem of Calculus; find areas and volumes.

Exams and Quizzes:
There will be a total of 5 exams, which includes a comprehensive final exam. The final exam will count 25% of your grade and the other 4 exams will count a total of 60%. In addition to the exams, there will be 4 quizzes. The quizzes are like short exams and will help you prepare for the actual exams. Quizzes and homework combined will count 15%. No grades are dropped.
The quizzes, Exam 1, and the final exam are all in-class. The other exams will be given in the Classroom Testing Center (CTC), which is located in the Wolverine Services/Testing Services building at the north end of campus, on 800 South. There are no make-up exams. The exams that are scheduled for the CTC will run for a specific three-day period. Make sure you know what the CTC hours and policies are. For more information about the CTC you can go to the website www.uvu.edu/testingservices/.

The **Final Exam** is scheduled for ________________.

Note: All final exam dates and times can be viewed online at www.uvu.edu/asc/exam_schedule.html

**Academic Deadlines:**
The last day to drop/withdraw/audit is _______.  
Note: Students may withdraw online using UVLink. To change to audit, the student must complete an Audit Form.

**Student Honesty:**
Students are expected to maintain academic ethics and honesty in all forms, including cheating and plagiarism. In particular when using UVU Testing Services, using unauthorized materials, discussing or revealing exam questions and/or answers, and copying someone else's work, are all regarded as academic dishonesty and cheating. Classroom Testing Center policies concerning academic dishonesty and other issues can be found at www.uvu.edu/testingservices/do-dont/

**Accommodations for students with disabilities:**
Students who need accommodations because of a disability may contact the UVU Accessibility Services Department (ASD), located on the Orem Campus in LC 312. To schedule an appointment or to speak with a counselor, call the ASD office at 801-863-8747. Deaf/Hard of Hearing individuals, email nicole.hemmingsen@uvu.edu or text 385-208-2677.

**Homework and Attendance:**
Come to class regularly. If you miss class, it is your responsibility to find out what material was covered. Take notes and ask questions. Read the textbook. Don't wait until the last minute to study for a quiz or a test. **Attending class and working the homework (and turning it in on time) are two of the most important things for success in this course.** Problems on the exams and quizzes will be similar to those in the homework and to examples presented in class.

Homework is for your own practice and is essential in preparation for exams and quizzes. You can use the Math Lab as a place to work on homework and get help from tutors as needed. Some students like to form study groups.

Homework will be collected each week and points given for completeness. Show your steps and please be reasonably neat. **Please turn in your homework with sheets stapled together with sections and problems in order (please do not fold sheets).** Clearly indicate on top your name and which sections of the book the homework covers. I will look over everything that you hand in, but it is not feasible for me to grade every single problem. Instead, I will check for reasonable completeness, and I will look in more detail at your work in randomly selected problems. Normally each section is worth 4 points. At the end of the semester, I will add up all the points that you have accumulated on the homework.

**Getting Help:**
The UVU Math Lab provides free tutoring and other services for math students at UVU. The Math Lab is in LA 201. The hours are 8am - 8pm Mon - Thu, 8am - 5pm Fri, and 10am - 3pm Sat. There is a separate Statistics Lab in LC 301 specializing in helping statistics students. Note: All locations close at 4 PM on the first Friday of the month for staff training. You can visit their website at www.uvu.edu/mathlab/.
Grading Policies:
The grading scale is 90 - 100 A-/A, 80 - 89 B-/B/B+, etc. On tests and quizzes you will always be expected to show sufficient work to justify your answers. If you get the wrong final answer, partial credit will be awarded based on the work shown. Please get in the habit of writing your work in a neat and logical fashion, so that your teacher and others can easily follow your work.

In this class students are expected to:
(1) Perform basic algebraic and arithmetic operations using their knowledge of mathematical facts, rules, and properties.
(2) Recognize and use their knowledge of a wide variety of mathematical definitions, terms, symbols, expressions, statements, formulas, procedures, and methods taught or used in the course.
(3) Solve problems by selecting the most appropriate mathematical formula, procedure, or method from among several formulas, procedures, or methods known by the students.

Calculators:
I will assume you have a basic scientific calculator or a graphing calculator, which you can use when doing the homework, whenever a calculator is convenient or appropriate. However, all exams and quizzes will be designed to be worked WITHOUT a calculator.

While it is important to know how to use a calculator, the emphasis in this course is not on calculator or computer use, but rather on concepts and on what you should be able to (reasonably) do by hand. You will be expected to carry out simple arithmetic, work with fractions and radicals, evaluate trigonometric functions at standard angles, etc., without the aid of a calculator.