Math 1210 - 004	Calculus I	Spring 2015
5 Credit Hours	**MTWRF 1:00 - 1:50 pm**	**LA 020**

Instructor:	Don Faurot	**E-mail:**	faurotdo@uvu.edu
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Office Hours:	MWF 10 - 11 am, TR 9 - 10 am, and by appointment.		

Textbook: *Calculus*, 7th Edition, by James Stewart

Prerequisite: Math 1050 and 1060, each with a grade of C or higher, Math 1065 with a grade of C or higher, or ACCUPLACER placement. If you have not satisfied the prerequisite, you may be dropped at any time.

Course Description: This course introduces the student to differential and integral calculus of one variable and serves as preparation for calculus-based science courses and further study in math. The concept of the derivative of a function is introduced after a clear understanding of limits and continuity is attained. Then applications of the derivative are examined and formulas for the derivatives of some common functions are developed. Using the rules of differentiation, the derivatives of more complicated functions can be found. Finally, the concept of the integral of a function is studied with applications to a variety of problems. This course emphasizes understanding and communication of mathematical ideas, logical reasoning, and problem-solving.

Attendance: You are expected to attend each class meeting and are responsible for all material covered. If you are absent on a particular day, you are responsible for obtaining the missed lecture notes, assignments, and any changes to the class schedule or syllabus. For this purpose, write the names and phone numbers of two students in the space below. Also, the syllabus and information on assignments, quizzes, and exams are posted on Canvas.

Drop Dates: Jan 20 - Last day to drop a class with no record on transcript.
Feb 17 - Last day to drop a class(with a "W").
AUDIT grades must be requested in person at the Registration and Records windows.

Attention Students with Disabilities: Students who need accommodations because of a disability should contact the UVU Accessibility Services Department (ASD), located on the Orem Campus, in LC 312. To schedule an appointment, or speak with a counselor, call the ASD office at 801-863-8747, or for Deaf/Hard of Hearing individuals, use the video phone number, 886-760-1819.

Academic Dishonesty Information: The following definitions are from the UVU "Students Rights and Responsibilities Code", Section VII-D: "Each student is expected to maintain academic ethics and honesty in all its forms, including but not limited to, avoiding cheating and plagiarism defined hereafter:

1. *Cheating* is the act of using or attempting to use or providing others with unauthorized information, materials, or study aids in academic work. Cheating includes, but is not limited to, passing examination answers to or taking examinations for someone else, or preparing or copying others' academic work.

2. *Plagiarism* is the act of appropriating any other person's or group's ideas or work (written, computerized, artistic, etc.) or portions thereof and passing them off as the product of one's own work in any academic exercise or study."

Students caught cheating on an exam will receive a score of zero for that exam.

Grading: The course grade is based on written assignments, quizzes, five one-hour exams, and a final exam. The percentage contribution of each component is as follows:

Assignments - 12%	One-Hour Exams - 55% (11% each)
Quizzes - 8%	Final Exam - 25%

Grading Scale: The final course grade is determined using the following scale:

100 - 93%	A		76 - 73%	C
92 - 90%	A−		72 - 70%	C−
89 - 87%	B+		69 - 67%	D+
86 - 83%	B		66 - 63%	D
82 - 80%	B−		62 - 60%	D−
79 - 77%	C+		59 - 0%	E

Assignments: To succeed in this course, it is essential to keep up with the written assignments. To encourage this, I will normally collect assignments three times per week and no late assignments will be accepted. To allow for illness or other circumstances that cause you to miss class, I will drop the two lowest scores during the term.

Assignments must be neat and organized. If more than one page is required, you must staple or paperclip the pages together. Indicate the textbook section for the problems you are working on. Number each problem and write down the problem statement. (Long problem statements may be paraphrased, giving the essential information.) Show all of your work and aim to communicate clearly. This will help when you go back to study your completed assignments. Your score will be based upon your following the above instructions and, perhaps, your solutions to selected problems.

Quizzes: Another key to success in this course is coming to class fully prepared. This includes reading, ahead of time, the topics to be covered in class that day and reviewing your notes from previous class meetings. To encourage this, I will periodically give a short quiz based upon the reading assignment given during the previous class meeting or on material previously covered. Also, it is important to thoroughly understand the solutions to the exam problems given during the semester. Therefore, shortly after an exam is returned, you will turn in the solutions to those problems that you did not complete correctly. Credit will be given only for those solutions that are <u>completely</u> correct. You may discuss these problems with other students or the instructor prior to turning in your work.

One-Hour Exams: No make-up exams will be given. If you have a serious and well-documented reason for missing an exam, your final exam will be weighted to compensate. Otherwise, you will receive a score of zero. The tentative dates of the one-hour exams are as follows:

Thursday, January 22	Monday, March 2	Friday, April 3
Monday, February 9	Wednesday, March 18	

Final Exam: The final exam is comprehensive and will be given on Wednesday, April 29 from 1:00 pm - 2:50 pm in LA 020. You may take the final exam only at this time.

Math Dept.
Policy: 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.

Course
Objectives: Upon successful completion of this course, students should be able to

1. Compute the limits of rational functions and trigonometric functions.

2. Determine if a function is continuous at a given point.

3. Find the derivatives of polynomial, trigonometric, exponential, logarithmic, inverse trigonometric, and hyperbolic functions, and find the derivatives of products, quotients, and compositions of such functions.

4. Perform implicit differentiation and solve problems involving related rates.

5. Apply Newton's method.

6. Apply the First Derivative Test and the Second Derivative Test to aid in graphing functions.

7. Solve optimization problems by using methods of calculus.

8. Apply L'Hopital's Rule to solve limit problems involving the indeterminate forms $\frac{0}{0}$ or $\frac{\infty}{\infty}$.

9. Compute indefinite and definite integrals; find areas and volumes.

Helpful Hints

- You will be able to participate more effectively in classroom discussions if you read the text in advance and review your notes from the previous class.

- It is often helpful to do more problems than those assigned.

- Another good way to learn mathematics is to "teach" it. Try explaining a concept to another student or show someone in your study group how to solve a particular problem. If you can do so, you most likely have a good, solid understanding of the material.

- Try not to fall behind. If you start to have difficulty, get help by seeing the instructor in his office, by studying with other students, or by meeting with a tutor at the Math Lab in LA 201. Free drop in tutoring at the Math Lab is available Monday - Thursday 8 am to 9 pm, Friday 8 am to 5 pm, and Saturday 10 am to 3 pm. Additionally, live online tutoring with a UVU Math Lab Tutor is available Monday - Thursday 3 pm to 9 pm, Friday 1 pm to 5 pm, and Saturday 10 am to 3 pm at www.uvu.edu/mathlab. Other Math Lab resources include video lectures, workshops on selected math topics, and a group study room. Furthermore, tutoring is also available at the Calculus Lab, located in LC 301, from 10 am to 5 pm, Monday through Friday.

- Before working problems in an assignment, study the text and your notes as if you were taking an exam. Then work through the problems without the aid of your text and notes. You may struggle and it may take more time, but what you figure out on your own will stick with you much better than if you just look it up in your notes or book. Remember, you won't have your notes or text available during an exam, so this is excellent practice. Of course, use your notes and the text when necessary.

- Strive to understand the concepts that are developed and recognize the patterns that arise. Do not think of math as simply memorizing formulas.

Remember: MATHEMATICS IS NOT A SPECTATOR SPORT.

Note: Any changes to this syllabus will be announced in class.

Tentative Schedule

(Space is provided for recording the assigned problems from each section.)

Week of

Jan 5 : Sec 1.1
          1.2
          1.3

Jan 12 : Sec 1.4
          1.5
          1.6

Jan 19 : Sec 1.8
          2.1

Jan 26 : Sec 2.2
          2.3
          2.4

Feb 2 : Sec 2.5
          2.6

Feb 9 : Sec 2.8
          2.9

Feb 16 : Sec 3.1
          3.2

Feb 23 : Sec 3.3
          3.4
          3.5

Week of

Mar 2 : Sec 3.7
          3.8

Mar 9 : Sec 6.1
          6.2
          6.3

Mar 16 : Sec 6.4
          6.6
          6.7

Mar 23 : Sec 6.8
          3.9
          4.1

Mar 30 : Sec 4.2
          4.3
          4.4

Apr 13 : Sec 4.5
          5.1
          5.2

Apr 20 : Sec 5.3
          5.4
          5.5