

Math 1210-50 (#26414)
Calculus I (5)
Spring 2015 (Monday, 12 January – Wednesday, 29 April 2015)
TWH 5:15-6:45 PM SNOW 124

Instructor: Dr. Brent D. Albrecht
Office: SNOW 137
Office Hours: TH 12:00 NOON – 1: 00 PM
 & By Appointment
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Prerequisites: Math 1050 and Math 1060 Grade of C or Higher, Math 1065 Grade of C or Higher, ACT Math Score of 26 or Higher, or Placement Test.

Course Description: Fulfills General Education Mathematics requirement. Students will gain a basic understanding of calculus, the mathematics of motion and change, including limits and continuity, differentiation, applications of differentiation, integration, applications of integration, derivatives of exponential functions, logarithmic functions, inverse trigonometric functions, hyperbolic functions, and related integrals. Students must have a working knowledge of college algebra and trigonometry, and a graphing calculator is strongly recommended. Required for Utah Level 2, 3, and 4 Math Endorsements, and for students majoring in Computer Science. Satisfies prerequisite for Math 1220, as well as the Mathematics prerequisite for Engr 2010 and Phys 2210.

Objectives: To convey to the students the beauty and utility of calculus, and to illustrate some of its applications in modern society.

To convey, to the extent possible using the content of this course, the quantitative literacy skill set adopted by Dixie State University:

All mathematics courses at Dixie State University support the general education goal of the university, and will:

1. Employ mathematical techniques in solving computational problems.
2. Interpret mathematical models.
3. Construct quantitative and logical arguments.
4. Apply mathematical knowledge to solve real-world problems.
5. Communicate in the mathematical language through the proper use of notation and terminology.
6. Explore and analyze mathematical concepts, using technology to the appropriate extent.

Upon successful completion of this course, the students will demonstrate through testing the ability to:

1. Define and evaluate limits.
2. Define and identify continuity and differentiability.
3. Apply limits to graphing techniques.
4. Define the derivative.
5. Use formulas for differentiation.
6. Use the derivatives to find tangents to curves.
7. Apply the derivative in problems involving extrema and related rates.
8. Define the definite integral.
9. Use L'Hospital's Rule to evaluate limits.
10. Perform integration by various techniques (parts, substitution, and partial fractions).
11. Perform numerical integration.
12. Approximate area under curves.

“Philosophy is written in this grand book – the Universe – which stands continually open to our gaze, but it cannot be understood unless one first learns to comprehend the language and interpret the characters in which it is written. It is written in the language of mathematics, and its characters are triangles, circles, and other geometrical figures, without which it is humanly impossible to understand a single word of it.”

- Galileo Galilei

Text: Calculus: Concepts & Contexts, 4th Ed. by James Stewart.

Attendance: It is essential that students attend class, and roll is taken on randomly selected days in order to ensure student attendance. Tardiness is strongly discouraged. Attendance records may be used in determining borderline grades. Absences due to university-sponsored activities are handled as stated in Dixie State University Policy #5-23 (located at <http://www.dixie.edu/humanres/policy/sec5/523.html>).

Homework: Homework assignments are collected on a weekly basis and are graded predominately by completion. Students must show all of their work in order to receive credit, and they are encouraged to check their answers in the back of the text whenever possible. Students are required both to write neatly and to organize their work with chapter, section, and problem numbers. If desired, students may also purchase the associated Student Solution Manual.

Exams: All exams are administered in person either during class or in the Dixie State University Testing Center (located in the North Plaza Building). There will be five midterm exams and one comprehensive final exam. Exams are administered according to the following (tentative) schedule:

- Midterm I: 5:15-6:45 PM on Tuesday, 27 January 2015
- Midterm II: 5:15-6:45 PM on Tuesday, 17 February 2015
- Midterm III: 5:15-6:45 PM on Tuesday, 17 March 2015

Midterm IV: 5:15-6:45 PM on Tuesday, 7 April 2015
 Midterm V: 5:15-6:45 PM on Tuesday, 28 April 2015
 Final: 5:15-7:15 PM on Tuesday, 5 May 2015

Make-up exams are given only in extenuating circumstances, and only if prior arrangements are made. The instructor reserves the right to make evaluations on a case-by-case basis.

Grading:	Homework	10%	94 – 100%	A
	Midterm I	14%	90 – 93%	A-
	Midterm II	14%	87 – 89%	B+
	Midterm III	14%	83 – 86%	B
	Midterm IV	14%	80 – 82%	B-
	Midterm V	14%	75 – 79%	C+
	Final	20%	70 – 74%	C
			65 – 69%	C-
			60 – 64%	D+
			55 – 59%	D
			50 – 54%	D-
		0 – 49%	F	

Academic Integrity: Students are expected to uphold the highest standards of academic integrity. Section 4, Article XI of Dixie State University Policy #5-33 (located at <http://www.dixie.edu/humanres/policy/sec5/533.html>) outlines the standards of student academic conduct. While students are encouraged to collaborate on homework assignments, their submitted work should accurately reflect the results of their individual efforts. Students must do their own work during exams. Talking, having discussions, comparing papers, copying, and collaborating are not allowed on exams. The use of notes, unapproved calculators, and communication devices such as cell phones is also prohibited during exams. Academic dishonesty will result in the failure of written work and may lead to failure of the course and/or university disciplinary action.

Classroom Etiquette: Students are responsible for helping to maintain a respectful classroom learning environment. Academic discipline for instances of disruptive behavior are handled as stated in Dixie State University Policy #5-33 (located at <http://www.dixie.edu/humanres/policy/sec5/533.html>).

Accommodations: Any student seeking accommodations or services due to a disability must contact the Disability Resource Center (located in the North Plaza Building). Students may call the center at (435) 652-7516 or send an email to drc@dixie.edu. The Disability Resource Center determines eligibility for and authorizes the provision of accommodations and services. The center can arrange to provide materials (including this syllabus) in alternate formats if necessary.

Dmail: Important class and university information is sent to students' Dmail accounts. All Dixie State University students are automatically assigned a Dmail account. Students are responsible for knowing the information sent to their Dmail accounts.

Class Schedule: The Dixie State University Spring 2015 Semester Schedule is located online at <http://new.dixie.edu/reg/?page=spring2015>. The (tentative) schedule for the class is as follows:

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
January 12	13 1.1	14 1.1 & 1.2	15 1.3	16
19 <i>M.L.K. Day No Class</i>	20 1.5 & 1.6	21 1.6 & 1.7	22 Review	23
26	27 Midterm I (Chapter 1)	28 2.1 & 2.2	29 2.2 & 2.3	30
February 2	3 2.3	4 2.4 & 2.5	5 2.5	6
9	10 2.6 & 2.7	11 2.7 & 2.8	12 Review	13
16 <i>Presidents' Day No Class</i>	17 Midterm II (Chapter 2)	18 3.1 & 3.2	19 3.2 & 3.3	20
23	24 3.4	25 3.5 & 3.6	26 3.6	27
March 2	3 3.7 & 3.8	4 3.8 & 3.9	5 Review	6
9 <i>Semester Break No Class</i>	10 <i>Semester Break No Class</i>	11 <i>Semester Break No Class</i>	12 <i>Semester Break No Class</i>	13 <i>Semester Break No Class</i>

16	17	18	19	20
	Midterm III (Chapter 3)	4.1 & 4.2	4.2 & 4.3	
23	24	25	26	27
	4.3	4.5	4.5 & 4.6	
30	31	April 1	2	3
	4.6	4.7 & 4.8	Review	
6	7	8	9	10
	Midterm IV (Chapter 4)	5.1 & 5.2	5.2 & 5.3	
13	14	15	16	17
	5.4	5.5 & 5.6	5.6	
20	21	22	23	24
	5.7 & 5.8	5.9 & 5.10	Review	
27	28	29	30	May 1
	Midterm V (Chapter 5)	Review	<i>Reading Day No Class</i>	
4	5	6	7	8
	Final Exam 5:15-7:15 PM			