

DIXIE STATE COLLEGE - - Spring 2019
MATHEMATICS DEPARTMENT

Course Number: MATH 1210**Section Number:** 3**Room Number:** SNOW 151**Instructor:** Ross Decker**Contact Info:** 862-0688, decker@dixie.edu**Text:** Calculus Volume 1 (openstax)**Prerequisites:** C or better in MATH 1050 and MATH 1060, C or better in MATH 1080, or ACT Math score of 26 or higher.**Course Title:** Calculus 1**Meeting Time:** MTuWTh from 11:00 – 11:50 AM
Jan 7 to May 1**Office Room Number:** SNOW 134B**Office Hours:** 10 to 11 daily, or by appointment**Authors:** Herman and Strang

Exam dates and points possible are as follows:

| | | |
|----------------------|------------------------|-------------------|
| Exam 2 | January 23-27 | 100 points |
| Exam 3 | February 19-24 | 100 points |
| Exam 4 | Mar 28-Apr 1 | 100 points |
| Exam 5 | April 18-22 | 100 points |
| Final Exam | May 1 (11:00-12:50) | 200 points |
| Homework | (5 points each) | <u>180 points</u> |
| TOTAL POINTS: | | 780 points |

GRADES: Your semester grade will be based on the following scale: A(92-100%), A-(89-92%), B+(86-89%), B(82-86%), B-(79-82%), C+(76-79%), C(72-76%), C-(69-72%), D+(66-69%), D(62-66%), D-(59-62%), F(0-59%)

COURSE OBJECTIVES

All mathematics classes at Dixie State College will help students to:

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

Upon successful completion of MATH 1210, a student will demonstrate through testing, the ability to:

1. Evaluate limits algebraically, numerically, graphically, and through L'Hospital's Rule.
2. Apply the definition of a derivative and derivative rules to differentiate functions, and then apply the derivative in solving real world problems.
3. Perform integration by various techniques.
4. Compute the area under a curve through approximation techniques, and through proper use of the definite integral.

College Resources: If you need help understanding the content of your course, please get help from our tutors in the Math eLab downstairs in SNOW 002.

The tutoring hours are Mon 8 AM – 7 PM, Tue-Thu 8 AM – 8 PM, Fri 8 AM – 7 PM, Sat 11 AM – 6 PM.

Information for our eLab can be found at the following website: <https://math.dixie.edu/elab/>

If you need to use a computer to do schoolwork on campus, go to the Holland Building or the Smith Computer Center.

The Testing Center is in the North Plaza. You can get additional information on their website at <http://new.dixie.edu/testing/>

Classroom Expectations: It is the responsibility of an instructor to manage the classroom environment to ensure a good learning climate for all students. This means not talking when the teacher is talking, following instructions, and speaking and acting respectfully to the professor and fellow students. If your behavior is disruptive, I will first let you know verbally that you are behaving inappropriately. If it continues, I will send you written notice that your behavior must change. As a last resort, I will drop you from the class. For more details, please see the disruptive behavior policy at: <http://www.dixie.edu/humanres/policy/sec3/334.html>

Catalog Description: MATH 1210 fulfills General Education Mathematics requirement. Students will gain a basic understanding of Calculus, including limits and derivatives, differentiation rules, applications of differentiation and integrals. Students must have a working knowledge of Algebra and Trigonometry. Required for Utah Level 2, 3, and 4 Math Endorsements, and for students majoring in Computer Science, CIT-Software Development Emphasis, Biology, Mechanical Engineering, and Physical Science Composite Teaching. Successful completion fulfills prerequisite for MATH 1220, and math prerequisite for ENGR 2010, and PHYS 2210.

Class Structure: We will be using the free online textbook described above. It can be accessed at:

<https://openstax.org/details/books/calculus-volume-1> (a pdf copy can also be downloaded to your computer from this site).

Printed textbooks are available for purchase through "Amazon" for \$33.50 at the following link:

https://www.amazon.com/Calculus-1-OpenStax/dp/193816802X/ref=sr_1_13?m=A1540JPBB13E06&s=merchant-items&ie=UTF8&qid=1546735963&sr=1-13

There are new homework problems assigned nearly every day of the semester. They should be turned in during class as soon as you complete the assignment (hopefully within 1 to 3 days). The graded assignment will be returned in class the next day.

Respect for Others: Please plan to arrive on time and be prepared to work (i.e., have your pencil, eraser, book, paper, homework, and calculator). Additionally, please feel free to offer your opinions and questions to the class, but do not carry on side discussions. **Cell phones should be turned off during class and please refrain from text messaging.** In general, students may not engage in an activity which the instructor deems disruptive or counter-productive to the goals of the class. Instructors have the responsibility to remove offending students from the class. Repetition of offensive behavior may result in expulsion from the class.

Dishonesty: Dishonesty will not be tolerated in any form. Any student cheating on a test will receive a zero. Giving as well as receiving information is dishonest, so be aware of those around you while taking tests. <http://www.dixie.edu/humanres/policy/sec3/334.html>. Instructors are required, by college policy, to report dishonesty to the student conduct committee.

Policy for Absences Related to College Functions: <http://www.dixie.edu/humanres/policy/sec5/523.html>

Disability Resource Center (DRC): If you are a student with a medical, psychological, or learning disability or think you might have a disability and would like accommodations, contact the Disability Resource Center (652-7516) in the North Plaza. The Disability Resource Center (<http://dixie.edu/drcenter/>) will determine eligibility of the student requesting special services and determine the appropriate accommodations related to their disability.

Dmail: You are required to frequently check your Dmail account. Important class and university information will be sent to your Dmail account, including DSU bills, financial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at DSU and in your courses. To access your Dmail account, visit go.dixie.edu/dmail. If you do not know your Dmail username or you have forgotten your PIN, visit go.dixie.edu/mydixie and follow the respective instructions.

Withdrawing from or dropping a class: If you never attend a class, the instructor may withdraw you from it. If you attend even one day, the instructor cannot withdraw you from the class. Since not all instructors will withdraw you for non-attendance, you should take care of that transaction for yourself by going to the registration window. If you quit attending and do not withdraw from the class, you will receive an F or WF which averages into your GPA as an F.

Changing your schedule: It is your responsibility, as the student, to ensure the accuracy of your class schedule. Be sure to check at the beginning of the semester and after every change you make to your schedule. Run a hard copy and keep it!

Complete Withdrawal: Dropping all classes by phone or online does not withdraw you from the college and you may receive all F's. You must contact the Advisement Center, complete a withdrawal form, and surrender your student ID card

Changes: Although unlikely, this syllabus and/or the assignment schedule may be changed if deemed necessary by the instructor. All changes will be announced in class and/or sent to you via CANVAS.

Important Dates: <https://academics.dixie.edu/academic-calendar/>

Calculus 1 (MATH 1210) – openstax

Appendix Pages

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| GEOMETRY, ALGEBRA, TRIGONOMETRY (Appendix C) | 771-774 |
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| 1.5 | 1/10 | Exponential & Logarithmic | 96-116 | 233-239, 245, 247 | 785-787 |
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| 2.4 | 1/17 | Continuity | 179-193 | 131-141o, 145-146, 150-151, 154-157 | 794-795 |
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| 3.2 | 1/29 | Derivative as a Function | 232-246 | 55, 57, 63, 69-73, 77-78, 80, 90-91, 96 | 800-803 |
| 3.3 | 1/30 | Differentiation Rules | 247-265 | 107-129o, 137-143o, 144 | 804-806 |
| 3.4 | 1/31 & 2/4 | Rates of Change | 266-276 | 151-161o, 164 | 806-807 |
| 3.5 | 2/5 | Trigonometric Derivatives | 277-286 | 175-185, 187-203o, 205-207, 211 | 807-809 |
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| 3.8 | 2/12 | Implicit Differentiation | 309-318 | 301-321o, 316, 320, 325-330 | 811-812 |
| 3.9 | 2/13 | Exponential & Log Derivatives | 319-333 | 331-361o | 812-813 |
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| MON | TUE | WED | THUR |
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| 4/08 5.3 | 4/09 5.4 | 4/10 5.5 | 4/11 5.5(cont.) |
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- 1.3** 117, 119, 125, 129, 137, 143, 145, 151, 157, 162, 163, 171
- 1.4** 186, 193, 198, 200, 208, 212, 217
- 1.5** 233-239, 245, 247
- 2.1** 1-3, 7-9, 16-17
- 2.2** 32-35, 38, 43, 46-54, 77, 79
- 2.3** 85, 91-107o, 111, 119, 123, 126-127
- 2.4** 131-141o, 145-146, 150-151, 154-157
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- 3.2** 55, 57, 63, 69-73, 77-78, 80, 90-91, 96
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- 3.6** 215-239o, 238, 243-247o
- 3.7** 261-281o, 287-293o, 299
- 3.8** 301-321o, 316, 320, 325-330
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- 3.R** 371-385
- 4.1** 1-9o, 10-11, 17-23o, 25-27, 31, 35-41o
- 4.2** 51-61o, 69-85o
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- 4.4** 161-167, 171-181o, 182-184
- 4.5** 201-213o, 217-229o
- 4.6** 261-273o, 277, 281, 287, 297-301o
- 4.7** 315-318, 320, 322, 326-329, 333, 335-337, 341-353o
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- 4.10** 465-503o, 509-510
- 4.R** 525-529, 531-550, 552
- 5.1** 2-7, 13, 17, 20, 25, 27
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- 5.3** 149-161o, 171-197o
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- 5.5** 257-287o, 293-301o, 307, 315

- 5.6** 321-341o, 347-361o, 373, 375
- 5.7** 391-401o, 411-431o
- 5.R** 439-441, 443-458, 462-463

Testing Center Hours

Monday - Friday
9 AM to 10 PM

Saturday
2 PM to 10 PM

Sunday
4 PM to 10 PM