Math 1309 – May 2019
MTuWThF (9:00 am – 11:00 am; 12:00 pm – 2:00 pm)
Room 126 Clements Hall

Instructor: Ms. Carol Seets  Office: 216 Clements Hall  Office Hours: 8:00 am – 8:45 ; 2:00 pm – 3:00
Phone: 214 – 768 – 3651  e-mail: cseets@mail.smu.edu  Assignments: Canvas

*BE ADVISED: THIS CLASS WILL NOT BE ACCEPTED AS A PRE-REQUISITE FOR MATH 1338 (CALCULUS II)!

Math 1309 is a prerequisite to Business Statistics and Accounting I and satisfies the Quantitative Foundations requirement (University Curriculum 2012/2016)

- A student who does not complete this course before next fall will be unable to enroll in either statistics or accounting.
- As a result, the student will not be able to enter the Business School in the spring of the next year as expected.
- Taking the class during the May Term instead of summer school allows a student to pursue other opportunities in the summer such as a summer job, an internship or study abroad.


Calculator: Graphing calculators are required for work in this course (but you will not be given credit unless you show work appropriate to correct solution in a neat and logical manner).

Grading:
1. Quizzes (10%): These are group quizzes and you may use your books and notes.
2. Tests (60%): You must take each of the two tests in class on the scheduled date.
3. Final Exam (30%): Scheduled date is the last day of class: Friday, May 31.

Class Policies:
1. You are expected to be in class each day (and on time). Absences and tardiness are unacceptable. Please remain in class until you are dismissed.
2. Please stay focused on this course—do not read other material, sleep, or talk during class.
3. The academic work in this course will be subject to the guidelines of the SMU Honor Code.
4. There will be no make-up work of quizzes or tests. All work must be turned in on time!

Disability Accommodations: Students needing academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit [http://www.smu.edu/Provost/ALEC/DASS](http://www.smu.edu/Provost/ALEC/DASS) to begin the process. Once registered, students should then schedule an appointment with the professor as early in the semester as possible, present a DASS Accommodation Letter, and make appropriate arrangements. Please note that accommodations are not retroactive and require advance notice to implement.

Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue)

“Campus Carry” Law: “In accordance with Texas Senate Bill 11, also known as the “campus carry” law, following consultation with entire University community SMU determined to remain a weapons-free campus. Specifically, SMU prohibits possession of weapons (either openly or in a concealed manner) on campus. For more information, please see: [http://www.smu.edu/BusinessFinance/Police/Weapons_Policy](http://www.smu.edu/BusinessFinance/Police/Weapons_Policy).”

Test Dates (tentative): Both mid-term tests and final exam are scheduled for after the lunch break.
Test #1: Tuesday, May 21
Test #2: Tuesday, May 28
Final Exam: Friday, May 31

Course Description
Students will work with derivatives and integrals of algebraic, logarithmic, and exponential functions with applications to the time value of money, curve-sketching, maximum-minimum problems, and computation of areas. Students will concentrate on these topics as they apply to business and economics.

Prerequisite: Placement out of Math 1303 or a C- or higher in Math 1303.
Goals: This course satisfies the Quantitative Foundations Requirement

- **SLO #1:** Students will be able to solve problems using algebraic, geometric, calculus, statistical and/or computational methods.
- **SLO #2:** Students will be able to interpret and/or draw inferences from mathematical models, data, graphs, or formulas.

Unit I: Limits and the Derivative

- Introduction to Limits
- Limits
- One-sided Limits
- Continuity
- The Derivative
- Basic Rules of Differentiation
- Product and Quotient Rules
- Higher Order Derivatives

Unit II: Additional Derivative Topics

- The Chain Rule
- Differentiation of Exponential and Logarithmic Functions
- Marginal Functions in Economics
- Functions of Several Variables
- Partial Derivatives

Unit III: Graphing and Optimization

- Applications of the 1st Derivative
- Applications of the 2nd Derivative
- Curve Sketching
- Optimization

Unit IV: Integration

- Antiderivatives and Rules of Integration
- Integration by Substitution
- The Fundamental Theorem of Calculus
- Evaluating Definite Integrals
- Area Between Curves

Unit V: Math of Finance

- Compound Interest
- Annuities
- Amortization and Annuities
- Applications in Business and Economics

Grading:

- 93 – 100 A
- 90 – 92 A-
- 87 – 89 B+
- 83 – 86 B
- 80 – 82 B-
- 77 – 79 C+
- 73 – 76 C
- 70 – 72 C-
- 67 – 69 D+
- 63 – 66 D
- 60 – 62 D-
- Below 60 F

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You will need a graphing calculator for this class!

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<th>Class #</th>
<th>Day</th>
<th>Date</th>
<th>Discussion Topic</th>
<th>Suggested Exercises</th>
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| 01      | Thurs | May 16 9 - 11| **First day of class**  
10.1: Introduction to Limits  
10.2: Infinite Limits and Limits at Infinity  
10.3: Continuity | Page 499 (13,21,25,29,35,51,55,59,83)  
Page 511 (9,13,17,21,31,33,39,43,45,47,53,59)  
Page 522 (19,21,27,33,37,49,53,69) |
| 02      | Fri   | May 17 9 - 11| 10.4: The Derivative  
10.5: Differentiation Properties  
10.7: Marginal Analysis | Page 537 (21,25,35,79(a,b), 81)  
Page 547 (7,13,17,21,25,35,37,41,45,47,51,55,57,59,77,79,81)  
Page 564 (33,35,37,41) |
| 03      | Mon   | May 20 9 – 11| 11.2: Derivatives of Exponential and Logarithmic Functions  
11.3: Derivatives of Products  
12.1: First Derivatives and Graphs | Page 588 (9,11,13,15,17,19,21,27,29,31,33,39,41,43,45,47,49,51,53)  
Page 599 (11,17,19,25,47,55,61,67)  
Page 605 (51,55,57,59,65,77,79,81) |
| 04      | Tues  | May 21 9 - 11| Review for Test #1 |                                                                 |
|         | Tues  | May 21 12 – 2| Test #1                                              |                                                                 |
| 05      | Wed   | May 22 9 – 11| 15.1: Functions of Several Variables  
15.2: Partial Derivatives | Page 825 (9,13,55,57,59)  
Page 833 (11,15,17,19,77,79,81) |
|         | Wed   | May 22 12 – 2| 12.1: First Derivatives and Graphs | Page 643 (35,37,43,57,59,61,63,65,85,89) |
| 06      | Thurs | May 23 9 – 11| 12.2: Second Derivatives and Graphs | Page 660 (17,21,31,35,37,39,41,43,92,93) |
|         | Thurs | May 23 12 – 2| 12.3: L'Hôpital’s Rule  
12.4: Curve Sketching | Page 673 (9,11,19,23,25,29)  
Page 683 (11,13) |
| 07      | Fri   | May 24 9 – 11| 12.5: Absolute Extrema  
12.6: Optimization | Page 693 (27,29,33,43,49,51,57,67,71)  
Page 704 (19,25,33,37) |
|         | Fri   | May 24 12 – 2| 13.1: Antiderivatives and Rules of Integration  
13.2: Integration by Substitution | Page 722 (9,15,21,23,29,35,55,58,59,60,69,81)  
Page 734 (9,13,17,23,27,33,35,39,43) |
<p>|         | Mon   | May 27       | <strong>No Class Today</strong> | <strong>Memorial Day Holiday</strong> |
| 08      | Tues  | May 28 9 – 11| Review for Test #2 |                                                                 |
|         | Tues  | May 28 12 – 2| Test #2                                              |                                                                 |</p>
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<td>09</td>
<td>Wed</td>
<td>May 29 9 - 11</td>
<td>13.5: The Fundamental Theorem of Calculus</td>
<td>Page 765 (13,19,21,33,37,41,57,59,69,77)</td>
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<td>Wed</td>
<td>May 29 12 - 2</td>
<td>14.1: Area Between Curves</td>
<td>Page 782 (15,21,27,43,47,55,65,67)</td>
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<td>11</td>
<td>Fri</td>
<td>May 31 9 - 11</td>
<td>Review for Final Exam</td>
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<td><strong>Final Exam</strong></td>
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