MATH 1337: Calculus & Analytical Geometry  
Section 006: TTh 8:00-9:20, Dedman Life Sciences 110

Instructor: Dr. Thomas Carr  
Contact Information: office- Clements 233, phone- 768-3460, email- tcarr@smu.edu

Office Hours: Tuesday & Thursday, 9:30am-11:00pm  
Except in unusual circumstances I guarantee that I will be in my office during the designated office hours. You are always welcome to stop by or call at other times to see if I am available.


Grading Policy: Quizzes = 20%  
Two in-class exams = 2x25% = 50%  
Final exam = 30%

**Homework** will be assigned in class but will not be collected or graded. However, completing and understanding the homework assignments are critical for success in the class. Solutions to the homework assignment are posted on the web. You should check your work against the posted solutions. If after checking your work against the solutions you have questions, please come see me in my office.

A **Quiz** will be given in every class based on the assigned homework. The lowest 4 quiz scores will be dropped when determining the final quiz average. Because of the large number of allowed drops, quizzes will not be rescheduled and missed quizzes cannot be taken late, except as specified below under **Official SMU Notices** pertaining to religious observances or university-sanctioned extracurricular activities.

**Exam Dates** are listed below. Under certain circumstances and given sufficient advanced notice, students may be permitted to reschedule an exam.

- Exam 1: Thursday, September 22
- Exam 2: Tuesday, November 1
- **Final Exam:** Wednesday, December 14, 11:30am-2:30pm. The final exam date and time can not be changed. Plan your travels accordingly.

Please note the following policies:

- The lowest four quiz grades will be dropped.
- Exams and quizzes may not be rescheduled or made up, with exceptions as specified below under **Official SMU Notices**
- There is no extra credit work.
- Cell phones and calculators are not permitted during quizzes and exams.

**Other Important Dates:**
• Friday, November 4: Last day to drop class.
• Thursday, December 1: Last day of class.

Web Page: faculty.smu.edu/tcarr - A section of my web page is devoted to providing additional resources for Math 1337. In there you will find: (i) A copy of this syllabus. (ii) Homework assignments and solutions. (iii) Solutions to this semester’s quizzes and exams. (iv) Old exams without solutions.

Help sessions: In addition to my office hours students are encouraged to take advantage of the Math Dept.‘s help sessions. They are Monday through Thursday, 4:30-7:30pm, Clements 225.

Honor Code: Please review the Honor Code documented in the SMU Undergraduate Bulletin. The highest level of academic honesty and integrity will be expected.

Official SMU notices:
• Disability Accommodations: Students needing academic accommodations for a disability must first contact Disability Accommodations & Success Strategies (DASS) at 214-768-1470 or www.smu.edu/aec/dass.asp to verify the disability and to establish eligibility for accommodations. They should then schedule an appointment with the professor to make appropriate arrangements. (See University Policy No. 2.4; an attachment describes the DASS procedures and relocated office.)

• 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)

Course Outline

University Curriculum Student Learning Outcomes for Quantitative Foundation

• Students will be able to interpret mathematical models described by formulas, graphs, tables, or schematics.
• Students will be able to solve problems using algebraic, geometric, calculus, statistical and/or computational methods.
• Students will be able to determine correctness, reasonableness, identify alternatives, and select optimal results in mathematical problems.
• Students will be able to draw inferences from mathematical models in the various forms listed above.

• Students will be able to present calculations and results in a clear and concise manner.

Department of Mathematics Student Learning Outcomes

• Students can demonstrate the ability to understand, critique, and draw conclusions from numerical arguments and data.

• Students can differentiate polynomials, exponentials, logarithms, products, quotients, and trigonometric and composite functions and integrate simple functions or composite functions using the substitution rule.

• Students can solve optimization problems including setting up the equations, solving them and analyzing the results.

• Students can determine the shape of a graph (increasing, decreasing, and concavity) from first and second derivatives and sketch graph.

The chapters of the text that will be covered are:

• Chapter 1 and Appendix D: Review material on algebra and trigonometry. Knowledge and competent application of this material is assumed.

• Chapter 2: LIMITS & DERIVATIVES: tangents, velocities, limits, continuity and the derivative.

• Chapter 3: DIFFERENTIATION RULES: derivatives, rules for taking derivatives, derivatives of trigonometric, exponential and natural-log functions, implicit differentiation, higher derivatives and related rates.

• Chapter 4: APPLICATIONS OF DIFFERENTIATION: max, min, and mean values, mean value theorem, monotonic functions, concavity, asymptotes, curve sketching, derivatives applied to max/min problems, antiderivatives.

• Chapter 5: INTEGRALS: summation notation, areas, definite integral, fundamental theorem of calculus, substitution rule.

Pedagogical goals:

• Skill: There are manipulation skills and techniques you must be able to do proficiently as preparation for further math and science class. You must be able to use the basic tools.

• Abstract problem solving: You must continue to develop your ability to solve multistep problems, on your own, choosing the appropriate tools.

• Applications: You will use the skills/tools that you have learned to address “real world” problems.