***COURSE:***MATH 2413 – Calculus

***TEXTBOOK:*** *Essential Calculus, Early Transcendentals,* Enhanced Edition by James Stewart, Thomson Brooks/Cole, 2007, ISBN 9780538497398. It is recommended that you buy the e-book that comes with the required software.

***PREREQUISITE:***MATH 2412 with a grade of 'C' or better; or passing the Precalculus exemption test administered by the mathematics school.

***INSTRUCTOR:***XXX, **E-Mail:** XXX, ***OFFICE:***MAGC XXX, ***TELEPHONE:***665-XXX   
***OFFICE HOURS:*** *XXX*

***TOPICS:*** Topics include limits, the derivative and its applications, antiderivatives, definite integrals, and the derivatives and integrals of transcendental functions.

Chapter 1—Functions and Limits (1.3-1.6), Chapter 2— Derivatives (2.1- 2.8), Chapter 3 -Inverse Functions (3.3-3.7), Chapter 4—Applications of Differentiation (4.1-4.7), Chapter 5—Integrals (5.1-5.5)

***HOMEWORK:*** Homework will be assigned on a weekly basis either as written work or through an online system such as WeBWorK.

***QUIZZES:*** The quizzes will be based on the homework problems.

***EXAMINATIONS:*** There will be midterms and a comprehensive final exam. In general, there are no make-up exams, and during exams no calculators or other electronic devices are allowed. In the event of a university-sanctioned absence for an exam, appropriate arrangements will be made.

***CALCULATORS:*** The use of graphing/programmable calculators or computers is recommended. On some tests graphing/programmable calculators will be prohibited. Other calculators may be suitable, but the student bears the responsibility for knowing how to program and operate them. *Calculators will not be allowed on exams unless otherwise stated.*

***GRADING POLICY:***  The grade will be based on performance on the midterms, final exam, homework and quizzes. Midterms: 60% (=3x20%) ; Homework and Quizzes: 20%; Comprehensive Final 20%.

***GRADE DISTRIBUTION:*** Course grades are expected to be approximately: A: 90% - 100%; B: 80% - 89%; C: 70% - 79%; D: 60% - 69%; F: 59% - 0%. Cut-offs may be slightly lower, but this will not be determined until the end of the semester.

***IMPORTANT DATES: (FOR FALL 2015)***

**September 7** Labor Day Holiday; university closed

**September 16** Last day to drop a class before it appears on the transcript and counts toward the “6-drop” limit. Last day to receive a 100% refund for dropped classes (other policies apply when a student is withdrawing from all classes).

**November 18** Drop/Withdrawal Deadline; last day for students to drop the course and receive a DR grade. After this date, students will be assigned a letter grade for the course that will count on the GPA.

**November 26-27** Thanksgiving Holiday; university closed

**December 10** Study Day; no classes

***ACADEMIC RESPONSIBILTY:*** To do well in this course, it is essential that you read covered sections of the book and watch the corresponding videos, participate in class, and do the assigned homework. It may be helpful to form study groups. The course moves fast, please do not get behind. If you do, contact me without delay.

***SUGGESTIONS:*** You are strongly encouraged to form a study group with two or three of your classmates. The group should have no more than 4 students. The group will serve to help each other in doing homework, studying for tests, and whenever possible, teaching each other. The idea is to help each other keep up with the class and hopefully, be successful.

**The following are ways to get free help outside of class:**

1. Contact your instructor during their office hours or make appointment.
2. Get free Math tutoring from Learning Assistance Center (LAC) building in  Room 114 phone # 665-2532. (Edinburg Campus)
3. Get free Math tutoring from Math Lab in Math building (MAGC) in room  MAGC 1.106 (Edinburg Campus)
4. Visit the Math Tutoring Lab at SETB 1.408 (Brownsville Campus)
5. Visit the Math and Natural Sciences Learning Center at Cavalry Hall; Phone number: (956) 882-7058, (956) 882-8208 (Brownsville Campus)

**Calculus I Student Learning Objectives**

After completing this course students will be able to

1. Understand limits and be able to evaluate them numerically, graphically, and symbolically.
2. Understand derivatives and be able to evaluate them numerically, graphically, and symbolically.
3. Understand definite and indefinite integrals and be able to evaluate them numerically, graphically, and symbolically.
4. Use the ideas of limits, derivatives, and integrals to solve applied problems. In particular, you will become skilled in using these ideas to solve related rate problems, optimization problems, curve-sketching problems, and area problems and in identifying and modeling the physical situations in which these ideas are useful.
5. Use graphing calculators and/or computer programs to evaluate limits, derivatives, and integrals.

**NEW UTRGV Core Objectives**

Students finishing a core curriculum course will be able to demonstrate the following objectives:

* ***CRITICAL THINKING (CT)*** is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. This definition meets the THECB’s direction that critical thinking includes creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information; and is aligned with the UTRGV’s SLO for critical thinking skills.   
    
  Students will learn to approach symbolic, geometric and arithmetic problems form an abstract perspective using multiple representations of problems – geometric and algebraic; quantitative and qualitative. Furthermore, a significant portion of the course will focus students on the application of mathematical concepts to aid in critical analysis of a variety of problems from other subjects and areas.   
    
  Student learning objectives 1, 2, 3, and 4 align with this core objective. They will be assessed through specific questions on the tests used in the course or by a special assignment.
* ***COMMUNICATION SKILLS (COM)*** include the development, expression, and revision of ideas through the effective use of language (writing, reading, speaking, and listening) across a variety of forums. Communication involves learning to work in many genres and styles while using different technologies, can result in mixing texts, data, and/or images, and develops through diverse experiences across the curriculum. This definition meets the THECB’s direction that communication skills include effective written, oral, and visual communication; and is aligned with UTRGV’s SLO for communication skills.  
    
  A strong focus of this course is to develop in students the ability to discuss mathematical ideas with fluency to both experts in mathematics and those with less experience. For many problems the process of the solution is as or more important than the solution itself, making communication a natural skill developed by the course.  
    
  Student assessments (both summative and formative) used for student learning objectives 1, 2, 3, and 5 will address the development of students’ communications skills in the course. Communication skills will be assessed, for example through oral presentations/demonstrations, or pre-recorded video demonstrations or a special assignment.
* ***EMPIRICAL AND QUANTITATIVE SKILLS (EQS),*** which involve numeracy or quantitative reasoning, include competency in working with numerical data and mathematical reasoning. Individuals with strong mathematical skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They interpret data and results and can create conjectures and arguments supported by quantitative evidence and/or mathematical reasoning, which they can clearly communicate in a variety of formats (using words, tables, graphs, and/or equations as appropriate). This definition meets the THECB’s direction that empirical and quantitative skills include applications of scientific and mathematical concepts; and is aligned with UTRGV’s SLO for empirical and quantitative skills.  
    
  The course centers on the empirical and quantitative skills objective, which permeates almost every topic included in the course and course objectives. These will be assessed through specific questions on the tests used in the course or by a special assignment.

**UTRGV Policy Statements**

**Students with Disabilities**

If you have a documented disability (physical, psychological, learning, or other disability which affects your academic performance) and would like to receive academic accommodations, please inform your instructor and contact Student Accessibility Services to schedule an appointment to initiate services. It is recommended that you schedule an appointment with Student Accessibility Services before classes start. However, accommodations can be provided at any time. **Brownsville Campus**: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at accessibility@utrgv.edu. **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at accessibility@utrgv.edu.

**Mandatory Course Evaluation Period**

Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Online evaluations will be available Nov. 18 – Dec. 9, 2015. Students who complete their evaluations will have priority access to their grades.

**Attendance**

Students are expected to attend all scheduled classes and may be dropped from the course for excessive absences. UTRGV’s attendance policy excuses students from attending class if they are participating in officially sponsored university activities, such as athletics; for observance of religious holy days; or for military service. Students should contact the instructor in advance of the excused absence and arrange to make up missed work or examinations.

**Scholastic Integrity**

As members of a community dedicated to Honesty, Integrity and Respect, students are reminded that those who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism, and collusion; submission for credit of any work or materials that are attributable in whole or in part to another person; taking an examination for another person; any act designed to give unfair advantage to a student; or the attempt to commit such acts. Since scholastic dishonesty harms the individual, all students and the integrity of the University, policies on scholastic dishonesty will be strictly enforced (Board of Regents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic dishonesty incidents will be reported to the Dean of Students.

**Sexual Harassment, Discrimination, and Violence**

In accordance with UT System regulations, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and so must report any instance, occurring during a student’s time in college, of sexual assault, stalking, dating violence, domestic violence, or sexual harassment about which she/he becomes aware during this course through writing, discussion, or personal disclosure. More information can be found at www.utrgv.edu/equity, including confidential resources available on campus. The faculty and staff of UTRGV actively strive to provide a learning, working, and living environment that promotes personal integrity, civility, and mutual respect in an environment free from sexual misconduct and discrimination.

**Course Drops**

According to UTRGV policy, students may drop any class without penalty earning a grade of DR until the official drop date. Following that date, students must be assigned a letter grade and can no longer drop the class. Students considering dropping the class should be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped classes may affect their academic success. The 6-drop rule refers to Texas law that dictates that undergraduate students may not drop more than six courses during their undergraduate career. Courses dropped at other Texas public higher education institutions will count toward the six-course drop limit. The 3-peat rule refers to additional fees charged to students who take the same class for the third time.

**Electronic Communication Policy**

The university policy requires all electronic communication between the University and students be conducted through the official University supplied systems; namely UTRGV account for email or Blackboard for course specific correspondence. Therefore, please use your UTRGV assigned e-mail or Blackboard account for all future correspondence with UTRGV faculty and staff.