MATH 2413.09 Calculus I (tentative)
Fall 2017

Instructor: Dr. Anahit Galstyan
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Office hours: Tuesday, Thursday 3:05pm – 4:05 pm, Friday 11.45am-12.45pm or by appointment

Meeting time and place Tuesday, Thursday - 1.40pm -2.55pm at MAGC 1.202,
Friday 1.40pm-2.30 pm room will be announced

Textbook “Essential Calculus: Early Transcendentals”, by James Stewart, 2nd edition. The e-book is a part of WebAssign, which will be required for HW. The discounted access code for multi term access can be purchased at http://www.cengagebrain.com/course/2045643

Course Description Topics include limits, the derivative and its applications, antiderivatives, definite integrals, and the derivatives and integrals of transcendental functions.
Chapter 1 (Sec 1.3 – 1.6) Chapter 2 (Sec 2.1 – 2.8) Chapter 3 (Sec 3.3 – 3.7)
Chapter 4 (Sec 4.1 – 4.7) Chapter 5 (Sec 5.1 – 5.5)

Prerequisite MATH 2412 with a grade of C or better, or ACCUPLACER College Level Mathematics part score 100 or better, or appropriate high school background and placement scores.

Homework: The online homework will be assigned using WebAssign. Each homework assignment will consist of approximately 10-15 problems. The quizzes and exams are based on the homework problems. It is strongly recommended that students work all those problems.

Discussion Sessions: On Friday, the section will be divided into 3 smaller groups and students will work on the given worksheets with the guidance of instructor or teaching assistant and submit them at the end of the class.

Quizzes: The quizzes are based on the homework problems

Examinations: There will be three one-hour exams and a comprehensive final exam. All students are expected to take the examinations at the announced time. On all problems, you must show your work. Write clearly and show all your work; a correct answer alone may not receive any credit.

Final Exam: The comprehensive common final exam is on (Date and Location will be announced later.

Grading policy Three one-hour exams: 45% (=3x15%) ; Discussion Sessions 15%; Comprehensive final 20%; Homeworks and Quizzes 20%.

Calculators: The use of graphing/programmable calculators or computers is recommended but not required. On some tests graphing/programmable calculators will be prohibited.

Grade Distribution:

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<tr>
<th>Grade Distribution</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>F</th>
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<tr>
<td>90-100%</td>
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<td>80-89%</td>
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<td>70-79%</td>
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<td>60-69%</td>
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<td>0-59%</td>
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Tutoring: There are all kinds of math tutoring available on campus. Math Lab I, II (MAGC 1.106, MAGC 1.308) and the Math Learning Center in the LEAC Building room 114.

Attendance Attendance is mandatory. You are required to come to all class-meetings; please come on time. Please turn off your cell-phones during the class. 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.

Students with disabilities: Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services. 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 ability@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 ability@utrgv.edu.

Drop Policy 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.

Makeup Policy In the case of illness and in rare cases of other conflicts, students with documented excuses may request to take a makeup exam after scheduled exam. In all cases, makeup must be requested before the regularly scheduled exam.

Calendar of Activities Some important dates for Fall 2017 include:

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<tr>
<th>Date</th>
<th>Event</th>
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<tr>
<td>August 28</td>
<td>First day of classes</td>
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<td>August 31</td>
<td>Last day to add a course or register for fall 17</td>
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<tr>
<td>September 4</td>
<td>Labor Day – NO classes</td>
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<tr>
<td><strong>November 15</strong></td>
<td><strong>Last day to drop a course</strong>; will count toward the 6-drop rule</td>
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<td>November 23 – 26</td>
<td>Thanksgiving Holiday – NO classes</td>
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<td>December 6</td>
<td>Last day of classes</td>
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<td><strong>December 7</strong></td>
<td><strong>Study Day – NO class</strong></td>
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<td>December 8 -14</td>
<td>Fall 2017 Final Exams</td>
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<td>December 15-16</td>
<td>Commencement Ceremonies</td>
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Electronic Communication Policy: The university policy requires all electronic communication between the University and students be conducted through the official University supplied systems. Therefore, please use your UTRGV assigned e-mail for all future correspondence with UTRGV faculty and staff.

Mandatory Course Evaluations Mandatory Course Evaluations Period (November 15 – December 6). 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. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available Nov. 15 – Dec. 6, 2017.

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.

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.

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 from 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.

**Major SLO’s (Student Learning Outcomes)**

**Math w/o and wi Certification SLO’s:**

Students completing the **B.S. program in Mathematics** will

1. Demonstrate in–depth knowledge of Mathematics, its scope, application, history, problems, methods, and usefulness to mankind both as a science and as an intellectual discipline.
2. Demonstrate a sound conceptual understanding of Mathematics through the construction of mathematically rigorous and logically correct proofs.
3. Identify, formulate, and analyze real world problems with statistical or mathematical techniques.
4. Utilize technology as an effective tool in investigating, understanding, and applying mathematics.
5. Communicate mathematics effectively to mathematical and non–mathematical audiences in oral, written, and multi–media form.