**MATH 2413.08 Calculus I**  
**Spring 2019**

**Instructor**  
Dr. Cristina Villalobos  
Office: EMAGC 3.718  
Phone: 956-665-2123  
Email address and Skype for Business

**Class Meetings**  
Tuesday/Thursday 9:25am-10:40am in STAC 1.102  
Friday 9:25am-10:15am in STAC 1.102

**Office hours**  
Tuesday/Thursday 10:45am-11:45am (after class)  
Wednesday 10am-11am or by appointment

**Textbook & Materials**  
"Calculus, Volume 1", by G. Strang and E. Herman. The e-book is an opensource book and thus it is free for download at [www.openstax.org](http://www.openstax.org) > Subjects > Math and select the textbook. The online homework is provided through Knewton Alta at $44/student for 3 semesters and is accessible through Blackboard (BB).

It is advised to obtain a ½-inch or 1-inch 3-ring binder to include your class lecture notes. Notes will be available in BB for you to print/download so that you may follow during class.

**Course Description**  
Topics include limits, the derivative and its applications, antiderivatives, definite integrals, and the derivatives and integrals of transcendental functions. *(Chapters 2, 3, 4, 5)*

**Prerequisite**  
MATH 2412 Precalculus 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 Knewton Alta. Each homework assignment is adaptive to the student's understanding and therefore it is suggested not to guess on problems but to understand concepts and study notes.

**Discussion Worksheets**  
On most Fridays, students will work on worksheets with the guidance of the instructor or Learning Assistants and submit them at the end of the class. No late submissions.

**Quizzes/Guided Practice**  
Quizzes may be given to test course material. Guided Practice assignments may be used to prepare students for the upcoming lecture. No late submissions.

**Examinations**  
There will be three exams and a comprehensive final exam. All students are expected to take the examinations at the announced time. Basic calculators may be permitted.

**Final Exam**  
The comprehensive common final exam is on Wednesday, May 8, 3:30pm – 5:15pm. Room will be announced later.

**Grading policy**  
Three one-hour exams: 45% (at 15% each); Discussion Worksheet 15%; Homework 15%; Final 25%. Quizzes and Guided Practice assignments will count with the Discussion Worksheet grade.
Calculated

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

Grade Distribution

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>70-79%</td>
<td>C</td>
</tr>
<tr>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>60-69%</td>
<td>D</td>
</tr>
<tr>
<td>0-59%</td>
<td>F</td>
</tr>
</tbody>
</table>

Tutoring

Math tutoring is available on campus: EMAGC 1.106 and ELCTR 100.

Attendance

Attendance is mandatory. You are required to come to all class-meetings; please arrive 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.

Makeup Policy

In case of illness and in rare cases of other conflicts, students with documented excuses may be allowed to take a makeup exam. In all cases, a makeup exam must be requested before the regularly scheduled exam. Makeup exams will be administered within 48 hours of the missed exam.

In addition, Discussion Worksheets, HW, Quizzes or Guided Practice assignments will not be allowed for make-ups.

Calendar of Activities

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 17</td>
<td>Last day to add a course or register for classes</td>
</tr>
<tr>
<td>January 21</td>
<td>MLK holiday. No classes</td>
</tr>
<tr>
<td>January 30</td>
<td>Last day to drop without it appearing on the transcript</td>
</tr>
<tr>
<td>March 11-16</td>
<td>Spring Break. No classes</td>
</tr>
<tr>
<td>April 10</td>
<td>Last day to drop/withdraw a course</td>
</tr>
<tr>
<td>April 19</td>
<td>Easter holiday. No classes</td>
</tr>
<tr>
<td>May 1</td>
<td>Last day of classes</td>
</tr>
<tr>
<td>May 3-9</td>
<td>Final Exams</td>
</tr>
</tbody>
</table>

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.

Pregnancy, Pregnancy-related, and Parenting Accommodations

Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

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.

### 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 email account for all future correspondence with UTRGV faculty and staff.

### Mandatory Course Evaluations

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 on or about:

<table>
<thead>
<tr>
<th>Module</th>
<th>Date Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 1</td>
<td>February 13 – 19</td>
</tr>
<tr>
<td>Module 2</td>
<td>April 10 – 16</td>
</tr>
<tr>
<td>Full Spring Semester</td>
<td>April 10 – May 1</td>
</tr>
</tbody>
</table>

### 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 (including self-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](http://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 that is free from sexual misconduct and discrimination. If students, faculty, or staff would like confidential assistance, or have questions, they can contact OVAVP (Office for Victim Advocacy & Violence Prevention) at 665-8287, 882-8282, or OVAVP@utrgv.edu.
Student Services

Students who demonstrate financial need have a variety of options when it comes to paying for college costs, such as scholarships, grants, loans and work-study. Students should visit the Students Services Center (U Central) for additional information. U Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions.

Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)

Course SLO’s (Student Learning Outcomes) for Calculus 1

After completing this course students will
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.

Major SLO’s (Student Learning Outcomes)

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.

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 UTRGV’s SLOs 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.

Note: The syllabus is subject to change.