***COURSE:***MATH 2412 – Pre-Calculus

***TEXTBOOK:*** *Precalculus: 9th Edition*, 2011, by Michael Sullivan, published by Pearson, or

*Precalculus: 6th edition*, 2011, by James Stewart, Lother Redlin, and Saleem Watson, published by Cengage learning, or *Precalculus: Openstax College Pre-calculus* which can be obtained from <https://www.openstaxcollege.org/textbooks/precalculus/get>

***PREREQUISITE:***MATH 1313 or its equivalent with a grade of C or better, ACCUPLACER College Level Mathematics part score 80 or better, appropriate high school background and placement scores, or passing the College Algebra exemption test.

***INSTRUCTOR:***XXX, **E-Mail:** XXX@utrgv.edu, ***OFFICE:*** XXX, ***TELEPHONE:***XXX
***OFFICE HOURS:***XXX

***TOPICS:*** Topics include trigonometric functions, applications, graphs, equations, and identities; inverse trigonometric functions; vectors; sequences and series; the Binomial Theorem; conic sections; and parametric and polar equations.

***CALCULATORS***: Students are encouraged to obtain a TI-83 or TI-84 plus calculator. A project may be assigned using these calculators. Calculators will be permitted for the use on quizzes and exams, except for those models that have a type- writer (QWERTY) keypad or those models with built-in Computer Algebra Systems (the capability to simplify algebraic expressions, multiply polynomials). Examples of calculators not allowed included the Casio CFX-9970G, HP-40G, and TI-89/92/Voyage. Pocket organizers, handheld or laptop computers, electronic writing pads or pen-input devices, and phones will not be permitted during quizzes and exams. Let me know if you have any questions about your calculator (or one that you are thinking of purchasing.

***EXAMINATIONS/ASSESSMENTS***: There will be homework, quizzes, tests and a mandatory, comprehensive final exam. There are no make-up tests for any reason. Anyone missing a test receives a grade of zero.

***GRADE DISTRIBUTION***: The course grade will be assigned according to the following scale: A(90-100%), B(80-89%), C(70-79%), D(60-69%), F(below 60%).

***SUGGESTION:*** 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)

**Pre-calculus with Trigonometry Student Learning Objectives**

After completing this course students will be able to

1. Demonstrate an understanding and skill in the use of trigonometric functions, formulas, and fundamental identities.
2. Demonstrate knowledge of the exact values of certain trigonometric functions for particular angles in degrees and radians.
3. Demonstrate an understanding and be able to solve right triangle and non right triangle problems using trigonometric functions.
4. Graph and name the graph of a circular function.
5. Demonstrate an understanding and be able to solve trigonometric equations using the basic trigonometric identities.
6. Demonstrate an understanding of sequences and series, in general, and in particular the geometric sequences and series.
7. Demonstrate an understanding of the basic shapes in analytic geometry (in rectangular coordinates and polar coordinates): lines, parabolas, ellipses, hyperbolas, and conics.

**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 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, 3, 5, and 6 align with this core objective. They will be assessed through specific questions on the tests used in the course.
* ***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. Communication skills can be achieved by assigning written homework, asking open-ended questions on tests or projects, working together in small groups, or assigning oral presentations.

Student assessments (both summative and formative) used for student learning objectives 1, 2, 4, and 7 will address the development of students’ communications skills in the course.

* ***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 strongly 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.

**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.