***COURSE:***MATH 1414 – College Algebra

***TEXTBOOK:*** *College Algebra, 6th edition,* Dugopolski, M or *College Algebra, 9th edition* by M. Sullivan

***PREREQUISITE:***College Ready TSI status in Mathematics courses. Successful completion of MATH 0290 or MATH 0330 will allow one to enter the course.

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

***TOPICS:*** Topics include polynomial functions, rational functions, exponential functions, logarithmic functions, and matrices. Applications of these topics will be emphasized.

***CALCULATORS***: An inexpensive scientific calculator is sufficient. Graphing calculators are allowed but not required. It is imperative that every student uses his or her own calculator. NO CELL PHONE CALCULATORS WILL BE ALLOWED. Also, sharing calculators on an exam will not be allowed.

***COURSE GRADE***: Formative and summative assessments will be used to determine each student’s grade. These assessments may include (but not restricted to) videos, reading assignments, homework, quizzes, unit tests, projects, and/or written/oral presentations. A final exam will also be administered. Appropriate percentage of the final course grade will be assigned to each phase of assessment. Tests and quizzes will count about 60% of the course grade; the homework will count about 20% of the course grade; the final exam will count as 15% of the course grade; the attendance will count as 5% of the course grade. If a student misses a scheduled quiz/test there will be no make-up quiz/test given, once the quiz/test is returned. If the student has an excused absence, a missed test grade will be replaced with the final exam grade. If the absence is unexcused the test grade recorded will be a zero.

***GRADE DISTRIBUTION*:** A: 90-100 B: 80-89 C: 70-79 D: 60-69 F: 0-59

***HOMEWORK:*** Homework will be assigned for each section covered in the textbook. Online computer homework may be assigned via Blackboard, or WebWork – <https://webwork.utrgv.edu> or via publishers’ programs such as MyMathLab - <http://www.mymathlab.com>. Homework assignments are to be completed as assigned; otherwise a zero will be recorded. Each student should be prepared to ask and/or answer questions concerning the homework exercises.

***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. Take advantage of the free math tutoring offered on campus (Math Department or Learning Assistance Center) or contact your instructor during office hours or make an appointment with the instructor.

**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)

**College Algebra Student Learning Objectives**

After completing this course students will be able to demonstrate

1. Knowledge and understanding of the mathematical characterization of relationships (functions, equations, and inequalities included) and how mathematics provides structures for critical thinking, disciplined inquiry and the formulation of discoveries and applications to real-world situations.
2. Knowledge and understanding of the mathematical concept of function, the essentials regarding their domains, correspondences, and ranges; and how to perform addition, subtraction multiplication, division, composition, and inversion of functions which are basic operations in the algebra of functions.
3. Facility with multiple representations of algebraic relationships by coordinating the use of formulas, graphs, tables, verbal descriptions, and appropriate technology, noting interconnections and providing translations between these different modes of representation.
4. Knowledge and understanding of relationships expressed through systems of equations and inequalities, and an assortment of functions - linear and nonlinear, absolute value, greatest integer, exponential, logarithmic, polynomial, and rational - which are essential for mathematical modeling and problem solving in real-world situations.
5. An understanding of complex numbers and how they extend the real number system to provide roots for certain types of equations, and that they constitute the highest order characterization for the concept of number with the system of complex numbers including within it all of the other subsystems of numbers - real, rational, integers, whole numbers and natural numbers.
6. An understanding of the strengths and limitations of mathematically expressed models (e.g., simple and compound interest, law of gravity).
7. An appreciation of the contributions of mathematics to exceptional accomplishments in the sciences and humanities.

**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 and arithmetic problems form an abstract perspective using multiple representations of problems – geometric and algebraic. 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, 4, 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.  
  
Both summative and formative assessments may be used for student learning objectives 2, 3, 6, and 7. These assessments may include (but not restricted to) videos, reading assignments, homework, quizzes, unit tests, projects, and/or written/oral presentations.

* ***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.