Texas Southmost College

MATH 2412 – Pre-Calculus Mathematics Syllabus

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| **MATH 2412: Pre-Calculus Mathematics** | | | | |
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| **Professor:** | Roberto De La Garza | **Phone:** | | (956) 831-8700 (956) 698-1060 |
| **Email:** | redelagarza@bisd.us | **Office Hours:** | | By Appt |
| *I check emails every day. You can expect a response from me within 2 Days.* | | *Please note that I teach during the following days/times, and am thus unavailable:*  1st, 2nd,3rd, 4th, 7th, & 9th periods | | |
|  |  |  |  | |
| **Semester:** | Fall 2016 – Spring 2017 |  |  | |

# Course Description

In-depth combined study of algebra , trigonometry, and other topics for calculus readiness. (ACGM)

Lec 4 , Cr 4

# Course Prerequisites

# MATH 1314 with minimum grade of "C" or better, or equivalent as determined by the mathematics assessment test.

# Learning Outcomes

* Demonstrate and apply knowledge
* Apply the characteristics of polynomial and rational functions.
* Evaluate exponential and logarithmic functions.
* Apply basic properties of angles and trigonometric functions.
* Apply trigonometric functions to test identities and convert between equations.
* Describe geometry, complex numbers, and vectors with trigonometric formulas.
* Evaluate equations for conic sections.
* Apply properties of sequences.

# Course Materials

* Blitzer, R. F. (2010). *Precalculus* (5th ed.). Upper Saddle River, NJ: Pearson Education.

# Course Content

* 1.7 Combinations of Functions; Composite Functions
* 1.8 Inverse Functions
* 2.1 Complex Numbers
* 2.2 Quadratic Functions
* 2.3 Polynomial Functions and Their Graphs
* 2.5 Zeros of Polynomial Functions
* 2.6 Rational Functions and Their Graphs
* 3.1 Exponential Functions
* 3.2 Logarithmic Functions
* 3.3 Properties of Logarithms
* 3.4 Exponential and Logarithmic Equations
* 3.5 Exponential Growth and Decay; Modeling Data
* 4.1 Angles and Radian Measure
* 4.2 Trigonometric Functions: The Unit Circle
* 4.3 Right Triangle Trigonometry
* 4.4 Trigonometric Functions of Any Angle
* 4.5 Graphs of Sine and Cosine Functions
* 4.6 Graphs of Other Trigonometric Functions
* 4.7 Inverse Trigonometric Functions
* 5.1 Verifying Trigonometric Identities
* 5.2 Sum and Difference Formulas
* 5.3 Double-Angle, Power-Reducing, and Half-Angle Formulas
* 5.5 Trigonometric Equations
* 6.1 The Law of Sines
* 6.2 The Law of Cosines
* 6.3 Polar Coordinates
* 6.4 Graphs of Polar Equations
* 6.5 Complex Numbers in Polar Form; DeMoivre’s Theorem
* 6.6 Vectors
* 6.7 The Dot Product
* 7.3 Partial Fractions
* 9.1 The Ellipse
* 9.2 The Hyperbola
* 9.3 The Parabola
* 10.1 Sequences and Summation Notation
* 10.2 Arithmetic Sequences
* 10.3 Geometric Sequences and Series

# Course Components

* Reading and Resource (not graded)
* Homework: Each section
* Quizzes: Two per Chapter
* Exams: One per Chapter
* Final Exam: Comprehensive

# Course Grading

Grading Breakdown

|  |  |
| --- | --- |
| **Activity Types** | **Percentage** |
| Homework Assignments | 20% |
| Multi-Section Quizzes | 20% |
| Chapter Exams | 40% |
| Final Exam | 20% |
|  | Total: 100% |

Grading Conversion Table

|  |  |  |
| --- | --- | --- |
| **Letter Grade** | **Grade Point** | **Percentage** |
| A | 4.0 | 90-100 |
| B | 3.0 | 80-89 |
| C | 2.0 | 70-79 |
| D | 1.0 | 60-69 |
| F | .0 | 0-59 |

# Professor Expectations

InsertProfessorExpectationsHere

# Professor Communication Expectations

InsertProfessorCommunicationExpectationsHere

# College Policies

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| **Satisfactory Academic Progress (SAP)**  TSC monitors academic progress every fall and spring semester to identify those students who are experiencing difficulty with their courses.  Satisfactory Academic Progress (SAP) is based upon two components**:** GPA of 2.0 or higher and successful course completion of at least 67% of course work attempted.  Students remain in good standing with the College and Financial Aid when both criteria are met.  Students who do not maintain these required minimum standards will be placed on probation or suspension as appropriate.  The complete Satisfactory Academic Progress policy and the Undergraduate Satisfactory Academic Progress for Financial Aid policy can be found in the current Undergraduate Catalog.  **“Incomplete” Grades**  “Incomplete” grades are given only at the professor’s discretion, and *must be requested by the student*. If the professor grants the “Incomplete,” the student has until ninety (90) days after the beginning of the next regular semester to complete the course requirements. If the student does not complete the course requirements within the deadline, the grade of “Incomplete” will automatically convert into a grade of “F.” Please note that “Incomplete’s” are given only in an emergency or when there are extenuating circumstances. Refer to the catalog for additional details about receiving a grade of “Incomplete” in a course.  **Academic Integrity**  Students are expected to be above reproach in all scholastic activities. Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and expulsion from the College. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, and 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 College, policies on scholastic dishonesty will be strictly enforced.  All scholastic dishonesty incidents will be reported to the Vice President of Student Services. Do not allow your peers to pressure you to cheat. Your grade, academic standing, and personal reputation are at stake.  Some components of this course are designed to be highly interactive with students helping each other learn; however, all written assignments are designed to represent the efforts of each student individually and not to be shared. When students submit their efforts for grading they are attesting that they have abided by this rule.  Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct citation in the text and on the reference list, the published or unpublished works of another person. Students may NOT submit papers and assignments that they have previously submitted for this or other courses. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. Papers and other assignments may be submitted to an external agency for verification of originality and authenticity.  By enrolling in this course, the student expressly grants TSC a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes.  **Academic Responsibilities**  Students are expected to be diligent in their studies and complete class requirements. Students are responsible for all class work and assignments. On recommendation of the professor’s concerned and with the approval of the Dean, students may, at any time, be dropped from courses. This may result in a “W” or “F” on the student’s permanent record.  **Americans with Disabilities Act (ADA)**  Students with disabilities, including learning disabilities, who wish to request accommodations in this class should notify the Disability Support Services early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide documentation of his/her disability to the Disability Services counselor. |

*Note: Course content and schedule may vary from that specified by this syllabus (and related documents), to accommodate contingencies that may develop during the course. The professor will explain the rationale for any variance as it occurs.*