Master Course Syllabus

MATH 2412
Pre-Calculus (27.0101.58 19)

*****NOTE TO STUDENT*****

Student success is our number one priority at Coastal Bend College and we realize that prompt, effective communication plays a significant role in achieving that goal. It is vitally important that you have the proper contact information for your instructor. This should include their phone number, email address, and if applicable, their office number, and office hours. If you ever have any problems contacting your instructor, or do not receive a prompt response to your inquiries, please contact the Division Chair of STEM, or the Dean of Transfer and General Education, as soon as possible. Their contact information is provided below:

Mark L. Secord, Dean of General and Transfer Education *361-354-2408* *secordm@coastalbend.edu*	*Richard E. Cowart, EdD., Division Chair of STEM* *361-592-1615 ext. 4024* *recowart@coastalbend.edu*

We wish you all the best in your education and encourage you to contact us if you have any questions or concerns.
Keeping student success in sight, faculty in each of the courses will review with students, course information with specific reading schedules, assignments, and testing information during the first week of class. Additionally, the course information will be posted to Blackboard (THECB 60x30TX compliance).

Course Description:
  This course is an in-depth combined study of algebra, trigonometry, and other topics for calculus readiness.

Semester Hours Credit: 4

Lecture/Lab Hours: 4/1

Prerequisite: MATH 1314 with a grade of C or better. Students are responsible for reading and following all college course prerequisites to ensure that they have been met for continued enrollment, otherwise the student must meet with their advisor to drop the course and make immediate and necessary changes to their schedule.

Textbook(s): (Optional) Loose-leaf Textbook w/MML Access: Sullivan, M. and Sullivan III, M (2019). Precalculus: Concepts through Functions, A Right Triangle Approach, 4th ed. Pearson   ISBN: 9780134856513

MyMathLab(MML): (Required) MyMathLab Student Access Code. Pearson   ISBN: 9780134852188

Internet Access: (Required) Students are responsible for completing all assignments in MyMathLab, which requires an internet service provider that is compatible with MyMathLab. Students may use campus computer labs as needed, in order to meet the MyMathLab assignment deadlines, but the student's personal computer/laptop with home Internet access will be the primary means that is required for continuing in this course.

Calculator: (Required) TI-83/84 Plus Scientific Graphing Calculator. (No other graphing calculators allowed.)

Student Learning Outcomes:

Upon successful completion of this course, students will:
1. Demonstrate understanding and knowledge of properties of functions.
2. Recognize and apply algebraic and transcendental functions and solve related equations.
3. Apply graphing techniques to algebraic and transcendental functions.
4. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
5. Prove trigonometric identities.
6. Solve right and oblique triangles.

Course Outline: MATH 2412

Unit 1: (Ch1, Ch10) Functions and Systems of Linear Equations
- ✓ HW 1.3 Properties of Functions
- ✓ HW 1.4 Library of Functions; Piece-wised-defined Functions
- ✓ HW 1.5 Graphing techniques: Transformations
- ✓ HW 10.1 Systems of Linear Equations: Substitution and Elimination
- ✓ HW 10.2 Systems of Linear Equations: Matrices
- ✓ Unit 1 Practice Exam Quiz
- ✓ Unit 1 Exam   (Major Assignment)

Unit 2: (Ch2,Ch3) Quadratic, Polynomial, and Rational Functions
- ✓ HW 2.3 Quadratic Functions and Their Zeros
- ✓ HW 2.4 Properties of Quadratic Functions
- ✓ HW 2.7 Complex Zeros of Quadratic Functions
- ✓ HW 3.2 Real Zeros of Polynomial Functions
- ✓ HW 3.3 Complex Zeros; Fundamental Theorem of Algebra
- ✓ HW 3.4 Properties of Rational Functions
- ✓ HW 3.5 Graph of a Rational Function
- ✓ HW 3.6 Polynomial and Rational Inequalities
- ✓ Unit 2 Practice Exam Quiz

✓ Unit 2 Exam   (Major Assignment)

Unit 3: (Ch4) Exponential and Logarithmic Functions
- ✓ HW 4.1 Composite Functions
- ✓ HW 4.2 One-to-One Functions; Inverse Functions
- ✓ HW 4.3 Exponential Functions
- ✓ HW 4.4 Logarithmic Functions
- ✓ HW 4.5 Properties of Logarithms
- ✓ HW 4.6 Logarithmic and Exponential Equations
- ✓ HW 4.7 Financial Models
- ✓ HW 4.8 Exponential Growth and Decay Models; Newton's Law; Logistic Models
- ✓ Unit 3 Practice Exam Quiz
- ✓ Unit 3 Exam   (Major Assignment)

Unit 4: (Ch5) Trigonometric Equations
- ✓ HW 5.1 Angles and Their Measures
- ✓ HW 5.2 Right Triangle Trigonometry
- ✓ HW 5.3 Computing Values of Trigonometric Functions-Acute Angles
- ✓ HW 5.4 Trigonometric Functions of any Angle
- ✓ HW 5.5 Unit Circle Approach; Properties of Trigonometric Functions
- ✓ HW 5.6 Graphs of Since and Cosine Functions
- ✓ HW 5.7 Graphs of Tangent, Cotangent, Secant, and Cosecant Functions
- ✓ HW 5.8 Phase Shift; Sinusoidal Curve Fitting
- ✓ Unit 4 Practice Exam Quiz
- ✓ Unit 4 Exam   (Major Assignment)

Unit 5: (Ch6, Ch7) Analytic Trigonometry; Trigonometry Applications
- ✓ HW 6.1 Inverse Sine, Cosine, and Tangent Functions
- ✓ HW 6.2 Inverse Cosecant, Secant, and Cotangent Functions
- ✓ HW 6.3 Trigonometric Equations
- ✓ HW 6.5 Sum and Difference Formulas
- ✓ HW 6.6 Double-angle and Half-angle Formulas
- ✓ HW 7.1 Applications involving Right Triangles
- ✓ HW 7.2 Law of Sines
- ✓ HW 7.3 Law of Cosines
- ✓ HW 7.4 Area of a Triangle
- ✓ Unit 5 Practice Exam Quiz
- ✓ Unit 5 Exam   (Major Assignment)

Unit 6: (Ch11) Sequences and Series; Binomial Theorem
- ✓ HW 11.1 Sequences
- ✓ HW 11.2 Arithmetic Sequences

- ✓ HW 11.3 Geometric Sequences and Series
- ✓ HW 11.4 Mathematical Induction
- ✓ HW 11.5 Binomial Theorem
- ✓ Unit 6 Practice Exam Quiz
- ✓ Unit 6 Exam   (Major Assignment)

Practice Final Exam Quiz: (comprehensive Unit 1-Unit 6)
Final Exam: Major Assignment(comprehensive Unit 1-Unit 6)

Evaluation Methods: Please see departmental and individualized instructor policies for course evaluation methods. Students will be assessed on the same measure, across each discipline, as per CBC guidelines.

Technical Support:

Email Support:	helpdesk@coastalbend.edu
	cabrigo@coastalbend.edu
Telephone Support:	**866-722-2838 ext. 2508 (Toll Free)**
	361.354.2508 (Direct Line)
Live Chat:	**Fall/Spring Hours: Monday-Thursday 8 a.m. to 8 p.m.; Friday 8 a.m. to 5 p.m.**
	Summer Hours: Monday-Thursday 7 a.m. to 6 p.m.

Tutoring Services: Coastal Bend College offers free tutoring services to all CBC students who need academic assistance. Services include One-on-One, Group, and Online tutoring to all current CBC students. The Tutoring Coordinator's office is at CBC-Beeville in the Student Success Center (SSC), Room 140 which is in the R.W. Dirks building. The SSC's hours of operation are Monday -Thursday from 8 am – 8 pm. Tutoring services are also available at all the CBC site locations and students can visit the site's SSC. For questions regarding tutoring services, please contact the CBC Tutoring Coordinator at (361) 354-2838 ext. 2578 or visit us at our website at: http://coastalbend.edu/tutoring/.

Beeville	Alice	Kingsville	Pleasanton
3800 Charco Road	704 Coyote Trail	1814 Brahma Blvd.	1411 Bensdale
Beeville, TX 78102	Alice, TX 78332	Kingsville, TX 78363	Pleasanton, TX 78064
1-866-722-2838	1-866-891-2981	1-866-262-1615	1-866-361-4222

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Grady C. Hogue Learning Resource Center (Library): Located on the Beeville campus, the operation hours are Monday - Thursday 8:00 a.m. - 6:00 p.m.; Friday 8:00 a.m.- 5:00 p.m.

(Summer semesters will observe the CBC campus operation hours.) For locations and hours of CBC library in Alice, Kingsville, and Pleasanton sites please visit the library web page links below.

Grady C. Hogue Learning Resource Center (Library): http://lrc.coastalbend.edu/about
Online Catalog : http://lrc.coastalbend.edu/catalog
Library Website: http://lrc.coastalbend.edu/about
Hours and Locations: http://lrc.coastalbend.edu/hours

Pleasanton Public Library: https://pleasanton.biblionix.com/
115 N. Main St., Pleasanton, TX 78064
Monday – Friday 9:00 a.m. – 6:00 p.m.
Saturday 9:00 a.m. – 1:00 p.m.

Financial Aid: Resources available for students for financial aid, work study, and veteran benefits. For additional information, visit our website at www.coastalbend.edu/finaid or contact us at 361-354-2238. Office hours: Monday-Thursday 7-6 and Friday 8-5 (THECB 60x30TX compliance.)

ADA Statement: No qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the College District, or be subjected to discrimination by the College District. Nor shall the College District exclude or otherwise deny equal services, programs, or activities to an individual because of the known disability of an individual with whom the individual is known to have a relationship or association. 42 U.S.C. 12132; 28 CFR 35.130(g).

See at: GA (Legal)

Student with Disabilities: Please notify your instructor of any modification/adaptation you may require to accommodate a disability-related need. You will need to provide documentation to the Director of Student Services so the most appropriate accommodations can be determined. Specialized services are available through the Office of Disability Services (SSB 4.104, 471-6259). For more information contact (361) 354-2300.

Scholastic Dishonesty: Each student is charged with notice and knowledge of the contents and provisions of Coastal Bend College's rules and regulations concerning student conduct. All students shall obey the law, show respect for properly constituted authority, and observe correct standards of conduct. Scholastic dishonesty shall

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constitute a violation of these rules and regulations and is punishable as prescribed by Coastal Bend College Policies FLB (Local) and FM (Local). Scholastic dishonesty shall include, but not be limited to, cheating on a test, plagiarism, and collusion.

See at: FLB (Local) and FM (Local).

Use of E-mail for Official Correspondence to students: All students should be familiar with the college's official email student notification policy. Students are expected to check their CBC email on a frequent and regular basis to stay current with college-related communications, recognizing that certain communications may be time-critical.

Copyright Law and Intellectual Property Rights Policy: Copyright is the right of an author, artist, composer or other creator of a work of authorship to control the use of his or her work by others. Protection extends to literary works, musical works, dramatic works, pantomimes and choreographic works, pictorial and graphic works, sculpture, motion pictures and other audiovisual works, sound recordings and architectural works. Generally speaking, a copyrighted work may not be reproduced by others without the copyright owner's permission. The public display or performance of copyrighted works is similarly restricted. Generally, the unauthorized reproduction, performance or distribution of a copyrighted work is copyright infringement and may subject the infringer to civil and criminal penalties. The Fair Use Doctrine outlines exceptions to this Law and is outlined in Coastal Bend College Policy, CT (Legal).

Coastal Bend College, its faculty, students and employees must comply with Copyright Law. Detailed information on Copyright Law and Intellectual Property Rights is available in Coastal Bend College Policy CT (Legal) and CT (Local).

Questions regarding this information should be directed to the Director of Library Services at: library@coastalbend.edu or the Office of Marketing and Public Relations at: socialmedia@coastalbend.edu.

Intellectual Property: Student /Third Party Works: Rights to copyrightable or patentable works created by a student or a third party, that is, not a College District employee, shall reside with the author/ creator. Detailed information on Copyright Law and Intellectual Property Rights is available in Coastal Bend College Policy CT (Legal) and CT (Local).

Questions regarding this information should be directed to the Director of Library Services at: library@coastalbend.edu or the Office of Marketing and Public Relations at: socialmedia@coastalbend.edu.

NOTE: The College website (www.coastalbend.edu) serves as the main source with the most current version of the Coastal Bend College Board Policies and the Coastal Bend College Catalog.