SOUTHEASTERN LOUISIANA UNIVERSITY
DEPARTMENT OF MATHEMATICS
MATH 175 COURSE INFORMATION
Effective June 2022

COURSE TITLE: Pre-calculus with Trigonometry   **CREDIT:** 5 semester hours

PREREQUISITE: MATH 161 or math ACT subscore of 25 or higher or ALEKS score of 61 or higher

CATALOGUE DESCRIPTION: A combined course on function properties and graphs; inverse functions; linear, quadratic, polynomial, rational, exponential and logarithmic functions with applications; trigonometric functions and graphs; inverse trigonometric functions; fundamental identities and angle formulas; solving equations, and triangles with applications.

COURSE OVERVIEW:
This course prepares students for success in the scientific calculus sequence typically required in STEM fields, including those majoring in Mathematics, Mathematics Education, Physics, Chemistry, Computer Science, Engineering Technology, and Pre-Engineering majors. The course covers topics in algebra and trigonometry essential for success in calculus.

TEXT: *Precalculus*, 11th Edition by Larson   **PUBLISHER:** Cengage

ESSENTIAL TOPICS COVERED: Based upon the current textbook, the following outline allows for 4–5 regular examinations and the final examination. The section numbers from the textbook are given after each topic:

Review of Fundamental Concepts in Algebra: (1 Week – Appendix A)
    Polynomials and Factoring (A.3)
    Rational expressions (A.4)
    Solving Equations (A.5)

Functions and Their Graphs: (3 Weeks – Chapter 1)
    Rectangular Coordinates (1.1)
    Graphs of Equations (1.2)
    Linear Equations in Two Variables (1.3)
    Functions (1.4)
    Analyzing Graphs of Functions (1.5)
    A Library of Parent Functions (1.6)
    Transformations of Functions (1.7)
    Composite Functions (1.8)
    Inverse Functions (1.9)

Polynomial and Rational Functions: (3 Weeks – Chapter 2)
    Quadratic Functions and Models (2.1)
Polynomial Functions of Higher Degree (2.2)
    Polynomial Division (2.3, 2.5)
    Inverse Functions (1.9)

SPECIFIC COURSE CONTENT – the section numbers in the textbook covering these topics are given after the topic:

Polynomials, factoring, and rational expressions (A.3, A.4)	Nonlinear Inequalities (2.7)
Solving Equations (A.5)	Exponential Functions (3.1)
Graphs of Equations (1.1, 1.2)	Logarithmic Functions (3.2)
Linear Equations in Two Variables (1.3)	Properties of Logarithms (3.3)
Functions (1.4)	Exponential and Logarithmic Equations and
Graphs of Functions (1.5)	Models (3.4, 3.5)
Library of Functions (1.6)	Radian and Degree Measure, Trigonometric Functions, and
Transformations of Functions (1.7)	Right Triangle Trigonometry (4.1, 4.2, 4.3)
Composite Functions (1.8)	Trigonometric Functions of Any Angle (4.4)
Inverse Functions (1.9)	Graphs of Sine and Cosine Functions (4.5)
Quadratic Functions (2.1)	Graphs of Other Trigonometric Functions (4.6)

Polynomial Functions of Higher Degree (2.2)
Polynomial Division (2.3, 2.5)
Rational Functions (2.6)

Inverse Trigonometric Functions (4.7)
Trigonometric Identities (5.1, 5.2)
Trigonometric Equations (5.3)
Sum and Difference Formulas (5.4)
Multiple-angle and Product-to-Sum Formulas (5.5)

NOTE: All sections of Math 175 will have 4–5 regular examinations and a final examination, in addition to quizzes and/or homework.

EMAIL REQUIREMENT: According to Southeastern Louisiana University policy, your Southeastern email address is the only acceptable email address that I may use in communicating with you.

OFFICE OF DISABILITY SERVICES: If you are a qualified student with a disability seeking accommodations under the Americans with Disabilities Act, you are required to self-identify with the Office of Disability Services, Student Union, Room 1304. No accommodations will be granted without documentation from the Office of Disability Services. The deadline for registering or making accommodation changes is two weeks prior to the start of the Final Exam period. Any requests received after the deadline will generally be considered for the following semester.

ACADEMIC INTEGRITY: Southeastern Louisiana University expects students to maintain the highest standards of academic integrity at all times. Behavior that violates these standards is not acceptable. In this class, examples of *cheating* include the use of unauthorized material or communication with fellow students during a quiz or exam, attempting to benefit from the work of another student, and similar behavior that defeats the intent of a quiz or exam. I consider cheating as a very serious offense, and it will be grounds for disciplinary action as outlined in the current General Catalogue.

FAMILY MEMBERS: According to Southeastern Louisiana University policy, students cannot bring children to any classroom for day care or baby-sitting.

VICTIMS OF SEXUAL MISCONDUCT: If you are the victim of a sexually oriented crime, please be aware that the University Policy regarding Victims of Sexual Misconduct is located online at

www.southeastern.edu/resources/policies/assets/sexual_misconduct.pdf

as well as at page 68 in the University Student Handbook at

http://www.southeastern.edu/admin/stu_affairs/handbook/index.html

The policy includes definitions of the various sexually oriented offenses prohibited by Southeastern as well as the reporting options for victims and the process of investigation and disciplinary proceedings of the university. For more information log onto

http://www.southeastern.edu/admin/police/victims_soc/index.html