

<i>Course Code</i>	<i>Course Num.</i>	<i>Course Name</i>	<i>Credit Hours</i>	<i>Lec.</i>	<i>Lab.</i>	<i>Tut.</i>	<i>Pre-requisites</i>	<i>Course Level</i>
MAT	1122	Precalculus	5	4	0	2		1

Topics Outline

Equations and Inequalities: Linear Equations; Linear Inequalities; Absolute value, Equations and Inequalities involving Absolute value; Complex Numbers; Quadratic Equations and Factoring.

Functions and Graphs: The Coordinate Plane; Distance in the Plan; Circles; Equation of a Line; Functions; Graphs of Functions; Getting Information from the Graph of a Function; Transformations of Functions; Quadratic Functions; Combining Functions; One-to-One Functions and Their Inverses.

Polynomial and Rational Functions: Polynomial Functions and Their Graphs; Dividing Polynomials; Rational Functions; Polynomial and Rational Inequalities.

Exponential and Logarithmic Functions: Exponential Functions; The Natural Exponential Function; Logarithmic Functions; Laws of Exponents and Logarithms; Exponential and Logarithmic Equations.

Trigonometry: The Unit Circle; Angles and their measurements; Right Triangles Trigonometry; Trigonometric Functions and Their Graphs; Inverse Trigonometric Functions and Their Graphs.

Analytic Trigonometry and Applications: Trigonometric Identities; Addition and Subtraction Formulas; Double-Angle, Half-Angle, and Product-Sum Formulas; Trigonometric Equations; The Law of Sines and the Law of Cosines; Complex Numbers in Polar Form; Demoivre's Theorem.

Sequences and Series: Sequences and Summation notation; Arithmetic sequences and series; Geometric sequences and series; Mathematical Induction.

References:

1. **Precalculus**, Ron Larson and Robert P. Hostetler, Seventh Edition 7th Edition Brooks Cole; 7th edition 2006.
2. **Precalculus**, R. Barnett, M. Ziegler, K. Bylenn, D. Sobecky, McGraw Hill; 7th edition, 2010.
3. **Precalculus**, Robert F. Blitzer, Pearson; 6th edition, 2017.