

CATALOG INFORMATION

Dept and Nbr: APTECH 90A Title: APPLIED MATHEMATICS
Full Title: Applied Mathematics
Last Reviewed: 10/4/2010

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	3.00	17.5	Lecture Scheduled	52.50
Minimum	3.00	Lab Scheduled	0	6	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	3.00		Contact Total	52.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 105.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly: CET 90A

Catalog Description:
An investigation of intermediate algebra topics with emphasis on the investigation and application of polynomials and rational expressions, rational exponents, equations and inequalities, functions and relations, exponential and logarithmic functions, sequence and series and binomial theorem, theory of equations, and an introduction to numerical trigonometry involving trigonometric functions, tables, and applications of the right triangle to problems encountered in surveying, civil engineering, construction technology, electronic and related engineering technologies.

Prerequisites/Corequisites:

Recommended Preparation:
Standard 1st year HS algebra course with grade of "C" or better or successful completion of Math 150B or Math 151, completed within the last four years. If the student has not completed this recommendation then must take the Applied Math Assessment Test prior to the first class meeting.

Limits on Enrollment:

Schedule of Classes Information:

Description: An investigation of intermediate algebra topics with applications to problems encountered in surveying, civil engineering, construction technology, electronic & related engineering technologies. (Grade Only)

Prerequisites/Corequisites:

Recommended: Standard 1st year HS algebra course with grade of "C" or better or successful completion of Math 150B or Math 151, completed within the last four years. If the student has not completed this recommendation then must take the Applied Math Assessment Test prior to the first class meeting.

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area		Effective:	Inactive:
	B	Communication and Analytical Thinking	Fall 2009	Spring 2016
	B	Communication and Analytical Thinking	Fall 1981	Fall 2009
CSU GE:	MC	Math Competency		
	Transfer Area		Effective:	Inactive:
IGETC:	Transfer Area		Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
				Spring 2016
UC Transfer:		Effective:		Inactive:

CID:**Certificate/Major Applicable:**

Certificate Applicable Course

COURSE CONTENT**Outcomes and Objectives:**

The student will demonstrate their knowledge of the theories, concepts and skills of intermediate algebra by successfully applying the appropriate concept(s) in solving selected problems related to surveying, civil engineering, construction technology, electronic and related engineering technologies.

Topics and Scope:

Theories, concepts and skills of intermediate algebra with application in solving selected problems in surveying, civil engineering, construction technology, electronic and related engineering technologies.

1. Review of technical mathematics skills involving computation, algebra and geometry.
2. Polynomials and Rational Expressions of an Algebraic Fraction.
3. Rational Exponents.

4. Equations and Inequalities.
5. Functions and Relations.
6. Exponential and Logarithmic Functions.
7. Sequence and Series, and Binomial Theorem.
8. Theory of Equations.
9. Introduction to Numerical Trigonometry involving trigonometric functions, tables, application of the right triangle.

Assignment:

Application and problem solving of:

1. Review of technical mathematics skills involving computation, algebra and geometry (Computational skills, ratio and proportion, measurement, power and roots, polygon, triangle, circle, other geometric solids).
2. Polynomials and Rational Expressions of an Algebraic Fraction (Complex fraction, complex factoring, solution of rational and literal equations).
3. Rational Exponents (Simplification of expressions (radicals into fractional exponents), complex numbers, pythagorean theorem).
4. Equations and Inequalities (Solution of linear and non-linear (one variable) equations, determinants and matrices).
5. Functions and Relations (Linear and quadratic equations, polynomials).
6. Exponential and Logarithmic Functions (Graphing, solution of exponential and logarithmic equations).
7. Sequence and Series, and Binomial Theorem (Finite and infinite geometric sequence and series, arithmetic progressions, geometric progressions, sigma and factorial notation, binomial theorem).
8. Theory of Equations (Synthetic division, rational roots of polynomial equations).
9. Introduction to Numerical Trigonometry involving trigonometric functions, tables, application of the right triangle (Trigonometric functions, trigonometric tables, and trigonometric applications to the right triangle).

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Exams	Problem solving 60 - 70%
Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.	
Performance exams	Skill Demonstrations 25 - 35%
Exams: All forms of formal testing, other than skill performance exams.	
NONE	Exams 0 - 0%
Other: Includes any assessment tools that do not logically fit into the above categories.	
None	Other Category 0 - 0%

Representative Textbooks and Materials:

Technical Mathematics, Author: Linda Davis Publisher: Merrill
Applied Technical Mathematics, Author: Merwin Ling Publisher: WCB