

APPROVED COURSE

MATH 32

CATALOG INFORMATION

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Dept & Nbr: MATH 32 Title: COLLEGE ALGEBRA
Full Title: COLLEGE ALGEBRA

Units	Course Hours	Per Week	Nbr of Weeks	Course Hours	Total
Max: 3.0	Lecture	3.0	17 (18)	Lecture	54.0
Min: 3.0	Lab	0.0		Lab	0.0
	Contact DHR	0.0		Contact DHR	0.0
	Contact Total	3.0		Contact Total	54.0
	Non-contact DHR	0.0		Non-contact DHR	0.0

Title 5 Category: 01 AA Degree Applic
Grading: GR Graded
Repeatability: 00 Not repeatable except under Sec. #58161b
Also listed as:

CATALOG DESCRIPTION:

Presents a study of college algebra and analytic geometry with an emphasis on mathematical modeling. Covers such topics as algebraic equations and inequalities, functions and graphs, zeros of functions rational functions, exponential and logarithmic functions, conic sections, systems of equations, matrices and determinants.

PREREQUISITES:

MATH 27, MATH 27SI or equivalent with a grade of C or better

COREQUISITES:

RECOMMENDED PREPARATION:

No advisories.

LIMITS ON ENROLLMENT:

SCHEDULE OF CLASSES INFORMATION:

Prerequisites: MATH 27, MATH 27SI or equivalent with a grade of C or better
Presents a study of college algebra and analytic geometry with an emphasis on mathematical modeling. NOTE: Class requires a graphing calculator (TI-83 or TI-86 is recommended). (Graded)
Transfer Credit: CSU; UC.

ARTICULATION and CERTIFICATE INFORMATION

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ASSOCIATE DEGREE:	Effective: SPRING 2001	Inactive:
Area:	B	COMMUNICATN/ANALYTICL THINKING
CSU GE:	Effective: SPRING 2001	Inactive:
Transfer area:	B4	MATH/QUANTITATIVE REASONING

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IGETC: Effective: SPRING 2001 Inactive:
Transfer area: 2A Math/Quantitative Reasoning

CSU TRANSFER: TRANSFERABLE Effective: SPRING 2001 Inactive:

UC TRANSFER: TRANSFERABLE Effective: SPRING 2001 Inactive:

CAN:

CERTIF/MAJOR APPLICABLE: N NOT A CERTIFICATE-APPLICABLE COURSE

APPROVAL AND DATES

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Version 03 Submitted by: MATTHEW KNUDSEN Date: 02/06/2007
Department approved: Date:
Curriculum approved: 08/24/2001 Version approved: 05/04/2007
Prerequisites approved: 05/04/2007 Last reviewed: 05/04/2007
Term effective: SUMMER 2007 Last taught: Inactive: SUMMER 2009

COURSE CONTENT

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OUTCOME AND OBJECTIVES:

1. Identify and evaluate functions and perform operations with functions.
2. Sketch and interpret the graphs of functions.
3. Determine whether a relation is symmetric about the x-axis, y-axis, or origin.
4. Write the equation and sketch the graph of an inverse function.
5. Define, describe and sketch the graphs of various families of functions, including linear, polynomial, rational, exponential and logarithmic functions.
6. Solve linear, quadratic, polynomial, rational, exponential, and logarithmic equations.
7. Solve inequalities.
8. Solve systems of equations algebraically, graphically, and using matrix methods and Cramer's Rule.
9. Identify conic sections and sketch their graphs.
10. Use graphing calculator technology, when appropriate, as a tool in meeting the above objectives.

TOPICS AND SCOPE:

RELATIONS, FUNCTIONS, AND GRAPHS

Relations

Symmetry

Inverse Relations and Functions

Graphs of Functions

Using Graphing Technology to Analyze Functions

Operations with Functions

Families of Functions and Their Graphs, including:

Linear Functions

Power Functions

Polynomial Functions

Rational Functions

Exponential Functions

Logarithmic Functions

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Solving Equations and Finding Zeros of Functions
Remainder and Factor Theorem
Solving Inequalities
Functions as Mathematical Models
CONIC SECTIONS
The Parabola
The Ellipse
The Hyperbola
The Circle
SYSTEMS OF EQUATIONS
Systems of Linear Equations in Three Unknowns
Matrices and Gaussian Elimination
Determinants and Cramer's Rule
Applying Technology to Matrices and Determinants

ASSIGNMENTS:

Primarily College Level

Library has resources needed for assignment completion.

2 hours of independent work done out of class per each hour of lecture or class work, or 3 hours lab, practicum, or the equivalent, per unit.

A typical assignment will be taken from a full range of problems in the assigned exercise sets. Students will be asked to read material in the text that precedes the daily assignment.

The problems will involve:

1. developing manipulative skills
2. using mathematical skills to analyze and solve applied problems
3. development of graphing skills
4. using functions as mathematical models

Class participation and assignments require and develop critical thinking.

1. A business purchases a computer for \$8280. After 12 years, the computer will be obsolete and will have no value. Find a linear function that expresses the value V of the computer in terms of the number of years that it has been used.
2. Find a growth model for a town whose population was 22,600 in 1980 and 24,200 in 1985, assuming that the population grows exponentially. In what year will the population be double that of 1980?

METHODS OF EVALUATION:

The types of writing assignments required:
None

The problem-solving assignments required:
Homework problems
Quizzes
Exams
Other: Cumulative Final Exam

The types of skill demonstrations required:
None

The types of objective examinations used in the course:
None

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COURSE OUTLINE

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Other category:
None

REPRESENTATIVE TEXTBOOKS:

Primarily College Level

Dugopolski, Mark. "College Algebra."

Boston: Pearson Addison Wesley, Current Edition.

OR

"Plato Interactive Mathematics-College Algebra"

Plato Learning Inc, Current Edition.

REASON FOR REVISION

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RESOURCES REQUIRED

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MISCELLANEOUS

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Advisory generate desc: N NO
Area department: MATH Mathematics
Audit flag: N NOT AUDITABLE
Basic skills: X NOT BASIC SKILLS
Classification: A Liberal Arts and Sciences Education Cour
Cost level: 00 NOT USED
CVU/CVC status: X CVU/CVC UNKNOWN OR NOT DISTANCE ED
Disciplines: UNKNOW UNKNOWN
Division: 57 Math
Faculty service area: MAT80A MATH & STATISTICS (EXCEPT 41)
Fee: \$0.00
In-service: X NOT AN IN-SERVICE COURSE
Level below transfer: X NOT APPLICABLE
Matric-requiring: M Requires math assessment
Maximum class size: 0
Maximum wait list: 0
Method of instruction: 02 LECTURE
Non-credit category: X NOT APPLICABLE, CREDIT COURSE
Open entry/exit: N Not open entry/open exit
Pacs activity: 1701 Mathematics, General
Pacs program project: 0000 Unrestricted
Preq/coreq generate desc: N NO
Preq/coreq provisional: N NO
Preq/coreq reg check: Y PREREQUISITE RULES EXIST
Repeat group id:
Requires instructor sig: N INSTRUCTOR'S SIGNATURE NOT REQUIRED
SAM classification: E Non-occupational
Selected/special topic: N NOT A SELECTED TOPIC COURSE
Special class: X NOT A SPECIAL COURSE
TOP code: 1701.00 Mathematics, General
Work-based learning N DOES NOT INCLUDE WORK-BASED LEARNING
Workload: 0.0000

