

CATALOG INFORMATION

Dept and Nbr: MATH 9

Title: FINITE MATH

Full Title: Finite Mathematics

Last Reviewed: 3/13/2023

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 or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:
Sets, matrices, and systems of equations and inequalities, linear programming, combinatorial techniques and probability, mathematics of finance, Markov chains, game theory.

Prerequisites/Corequisites:
Math 155.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Sets, matrices, systems of equations and inequalities, linear programming, combinatorial techniques, probability, mathematics of finance, Markov chains, game theory. (Grade or P/NP)
Prerequisites/Corequisites: Math 155.
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;UC. (CAN MATH12)

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

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area B	Communication and Analytical Thinking	Effective: Fall 1981	Inactive:
CSU GE:	MC Transfer Area B4	Math Competency Math/Quantitative Reasoning	Effective: Fall 1981	Inactive:
IGETC:	Transfer Area 2A	Mathematical Concepts & Quantitative Reasoning	Effective: Fall 1981	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:

CID:

CID Descriptor: MATH 130 Finite Mathematics
SRJC Equivalent Course(s): MATH9

Certificate/Major Applicable:

Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:

1. Define sets, matrix operations.
2. Apply matrix methods of solving systems of equations, Apply permutations and combinations.
3. Apply the fundamental counting principle, permutations, and combinations applied to probability. Expected value, conditional probability and Markov chain.
4. Apply graphical and simplex linear programming methods.
5. Apply compound interest, annuities, present value, sinking funds, amortization formulas.
6. Apply fundamentals of game theory.

Topics and Scope:

1. Discrete Methods.
Introduction to sets, matrix operations, matrix methods of solving systems of equations, permutations and combinations. Binomial Theorem.
2. Probability.
The fundamental counting principle, permutations, and combinations applied to probability. Expected value, conditional probability and Markov chain.
3. Linear Programming.
Graphical and simplex methods.

4. Mathematics of Finance.
Compound interest, annuities, present value, sinking funds, amortization.
5. Game Theory.
Introduction to fundamentals of game theory with applications of matrices and linear programming.

Assignment:

1. The student will have daily outside reading, problem set assignments from required text(s), or instructor chosen supplementary materials.
2. Instructional methodology may include, but not limited to: lecture, demonstrations, oral recitation, discussion supervised practice, independent study, outside project or other assignments.

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
25 - 75%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams

Skill Demonstrations
20 - 40%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice

Exams
5 - 25%

Other: Includes any assessment tools that do not logically fit into the above categories.

PROJECT - ORAL OR WRITTEN

Other Category
0 - 15%

Representative Textbooks and Materials:

Text(s) required of each student will be selected by the department, a committee of the department, or the responsible instructor from the

books currently available. Choices in the past have included:

FINITE MATHEMATICS, (3rd) by Karl Smith, California: Brooks/Cole, 1996.

FINITE MATHEMATICS,(6th) Lial Miller, Greenwell 1997.