MATH 10 Course Outline as of Fall 1999

CATALOG INFORMATION

Dept and Nbr: MATH 10 Title: NATURE OF MATH
Full Title: Nature of Mathematics
Last Reviewed: 10/20/2025

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:
Mathematical reasoning with four additional topics selected from number systems, computers, probability, statistics and mathematical modeling. Recommended for liberal arts and elementary education students.

Prerequisites/Corequisites:
Math 155.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Mathematical reasoning with additional topics selected from number systems, number theory, computers, probability, statistics, mathematical modeling. Recommended for liberal arts and elementary education students. (Grade or P/NP)
Prerequisites/Corequisites: Math 155.
Recommended:
Limits on Enrollment:

Transfer Credit: CSU;UC. (CAN MATH2)
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 2025	
	L2	Mathematical Concepts & Quantitative Reasoning		
	MC	Math Competency		
	B	Communication and Analytical Thinking	Fall 1981	Fall 2025
	MC	Math Competency		
CSU GE:	**Transfer Area**		Effective:	Inactive:
	B4	Math/Quantitative Reasoning	Fall 1981	
IGETC:	**Transfer Area**		Effective:	Inactive:
	2A	Mathematical Concepts & Quantitative Reasoning	Fall 1981	

CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:
UC Transfer:	Transferable	Effective:	Fall 1981	Inactive:

CID:

Certificate/Major Applicable:
Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:
1. Apply inductive reasoning to patterns and sequences.
2. Apply deductive reasoning, including logic and sets.
3. Define early numeration systems, natural numbers, integers, rationals and reals.
4. Define primes numbers, divisibility, and factorization with applications of prime factorization.
5. Apply software such as spreadsheets, programming interpreters, or computer algebra or geometric systems.
6. Apply counting techniques, permutations, combinations, probility models.
7. Define frequency distributions, measures of central tendency and dispersion, and normal distribution.
8. Apply types of mathemical models such as linear or quadratic models.
9. Apply linear programming or matrices.

Topics and Scope:

1. Mathematical Reasoning.
   Inductive reasoning including patterns and sequences, deductive

reasoning including logic and sets.
2. Number Systems.
   Early numeration systems, natural numbers, integers, rationals and reals.
3. Number Theory.
   Primes, divisibility, and factorization with applications of prime factorization.
4. Computers.
   Hands-on experience with software selected by the instructor, might include use of spreadsheets, programming or software exploring geometric concepts.
5. Probability.
   Counting techniques, permutations, combinations, probability models.
6. Statistics.
   Frequency distributions, measures of central tendency and dispersion, introduction to the normal curve.
7. Mathematical Modeling.
   Types of models to be selected by the instructor, but might include linear and quadratic models, linear programming or matrices, models may be discrete or continuous.

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 deparment, or the responsible instructor from the books currently available. Choices in the past have included:
MATHEMATICS, A PRACTICAL ODESSEY, Johnson/Mowry (3rd) Brooks/cole. 1997
MATHEMATICAL PALETTE, Staskow (2nd) Harcourt Brace 1998