MATH 171: FINITE MATHEMATICS

1. Course Information

Subject
MATH - Mathematics

Course Number
171

School
Science, Technology, Engineering, Mathematics

Course Title
Finite Mathematics

2. Hours

Semester Hours
3.00000

Lecture
3

Lab
0

Practicum
0

3. Catalog Description

For display in the online catalog
This is a mathematics course for liberal arts students. The topics covered include solving linear functions and inequalities, graphing, matrices with applications, and linear programming including the Simplex Method. Computers and/or graphing calculators will be utilized by the students.

4. Requisites

Prerequisites
MATH 023 with a grade of C or higher, ENGL 095/098 with a grade of C or higher

Corequisites
None

5. Course Type

Course Fee Code
2

Course Type for Perkins Reporting
non-vocational (not approved for Perkins funding)

6. Justification

Describe the need for this course
This course is designed to provide students with the mathematical knowledge
needed to successfully integrate mathematics into their chosen area of study or career path. It is a traditional liberal arts mathematics course offered at most colleges and universities.

7. General Education

Will the college submit this course to the statewide General Education Coordinating Committee for approval as a course, which satisfies a general education requirement?

Yes

General Education Category

Mathematics

General Education Status

Approved

8. Consistency with the Vision and Mission Statements, the Academic Master Plan, and the strategic initiatives of the College

Please describe how this course is consistent with Ocean County College's current Vision Statement, Mission Statement, Academic Master Plan, and the strategic initiatives of the College:

	Add item
1	This course helps to prepare students to become intentional learners who will be able to understand and employ quantitative analysis, and demonstrate intellectual agility in mathematics.

9. Related Courses at Other Institutions

Comparable Courses at NJ Community Colleges

Institution

Brookdale CC

Course Title

Finite Mathematics

Course Number

MATH 137

Number of Credits

3

Institution

Bergen CC

Course Title

Finite Mathematics

Course Number

MAT 155

Number of Credits

3

Transferability of Course

Georgian Court University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MA 103, Modern Math Concepts II, 3	GE	

Kean University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 1013, Finite Math with Applications, 3	Non-majors, transfers as Elective	

Monmouth University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MA 100, Quantitative Reasoning and Problem Solving, 3	GE	

Rowan University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 01075, 3cr	GE	

Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 01640EC, 3cr	Elective	

Stockton University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
Quantitiative Reasoning, 3cr	Elective	

10. Course Learning Outcomes

Learning Outcomes

	Students who successfully complete this course will be able to:
CLO1	Analyze functions from algebraic, numerical, and graphical viewpoints
CLO2	Apply and develop mathematical models for application problems, such as in business, biological sciences, or social sciences
CLO3	Solve systems of linear equations using algebraic methods and matrices
CLO4	Evaluate matrices and perform basic operations, including finding the inverse of a matrix
CLO5	Apply computer software/graphing calculators for computations involving matrices
CLO6	Apply linear programming techniques, including Graphing and Simplex Methods

11. Topical Outline

(include as many themes/skills as needed)

	Major Themes/ Skills	Assignments (Recommended but not limited to)	Assessments (Recommended but not limited to)	Course Learning Outcome(s)
TO1	1 Functions a. Graphing b. Modeling or Applications c. Solving Systems Algebraically	Relevant problems from the textbook will be assigned.	Quizzes/Tests	CLO1, CLO2, CLO3
TO2	Matrices a. Matrix Algebra b. Solving Systems of Equations Using Matrices and Using Computer Software c. Applications	Relevant problems from the textbook will be assigned.	Quizzes/Tests	CLO2, CLO3, CLO4, CLO5
TO3	Linear Programing with two variables a. Solving System of Linear Inequalities by Graphing b. Applications	Relevant problems from the textbook will be assigned.	Quizzes/Tests	CLO2, CLO6

TO4	Simplex Method with three or more variables a. Creating Initial Tableau, Pivoting, and Solving b. Standard Maximization c. Mixed Constraints d. Minimization e. Applications	Relevant problems from the textbook will be assigned.	Quizzes/Tests	CLO2, CLO6

12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?

o Lecture
o Class discussion
o Group work
o Computer software / graphing calculators
o Support services may be provided depending on available college resources, e.g. Center for Academic Success, Mathematics Tutoring Center.

13. General Education Goals Addressed by this Course (this section is to fulfill state requirements)

Information

_____

Quantitative Knowledge and Skills

Yes

Related Course Learning Outcome

All

Related Outline Component

All

Assessment of General Education Goal (Recommended but not limited to)

Quizzes/Exams

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14. Needs

Instructional Materials (text etc.):

An appropriate textbook will be selected. Please contact the department for the current adoption.

Technology Needs:

Access to the Internet to use the web site that is linked to the text will be required for use during and between classes for some of the chapters. Classroom ceiling projectors are used regularly by instructor(s) to demonstrate examples, solutions, and supplementary documents.

Human Resource Needs (Presently Employed vs. New Faculty):
Presently Employed

Facility Needs:
None

Library needs:
None

15. Grade Determinants

The final grade in the course will be the cumulative grade based on the following letter grades or their numerical equivalents for the course assignments and examinations

A: Excellent

B+: Very Good

B: Good

C+: Above Average

C: Average

D: Below Average

F: Failure

I: Incomplete

R: Audit

For more detailed information on the Ocean County College grading system, please see Policy #5154.

16. Board Approval

History of Board approval dates
Reviewed/Revised: December 1990; February 27, 1996; April 30, 1996; December 1998;
May 4, 2004; December 2004; February 28, 2006; March 8, 2006; June 2006
Board of Trustees Approval Date: November 6, 2006
Board of Trustees Approval Date: March 26, 2012
Board of Trustees Approval Date: November 3, 2016