MATH 191: PRECALCULUS I

1. Course Information

Subject
MATH - Mathematics

Course Number
191

School
Science, Technology, Engineering, Mathematics

Course Title
Precalculus I

2. Hours

Semester Hours
3.00000

Lecture
3

Lab
0

Practicum
0

3. Catalog Description

For display in the online catalog
Polynomial, rational, exponential and logarithmic functions are studied from an algebraic, analytic and graphical perspective. Functions, the Fundamental Theorem of Algebra, complex numbers, mathematical modeling and other algebraic concepts are studied. Students cannot earn more than a total of six (6) graduation credits for any combination of MATH 191, MATH 192 and MATH 195. Prerequisite: MATH 165 OR MATH 161 or appropriate placement score.

4. Requisites

Prerequisites
MATH 165 or MATH 161 or appropriate Placement Score

Corequisites
None

5. Course Type

Course Fee Code
1

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

6. Justification

Describe the need for this course
This course is the first of a two-course sequence which prepares a student for the study of calculus. It is designed to provide students with the mathematical knowledge needed to successfully integrate mathematics into their chosen area of study or career path.

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 to solve problems, and demonstrate intellectual agility in mathematics.

9. Related Courses at Other Institutions

Comparable Courses at NJ Community Colleges

Institution

Atlantic Cape CC

Course Title

College Algebra

Course Number

MATH 122

Number of Credits

3

Institution

Middlesex County College

Course Title

College Algebra

Course Number

MATH 116

Number of Credits

3

Institution

Salem CC

Course Title

College Algebra

Course Number

MATH 137

Number of Credits

3

Transferability of Course

Georgian Court University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MA 109 College Algebra, 3	GE	

Kean University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 1000, Algebra for College Students, 3	GE	

Monmouth University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MA101 College Algebra, 3	Not Specified	

Rowan University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MAT01123, College Algebra, 3	Elective	

Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
01640115, MATH191 & 192	GE	

Stockton University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
TRCREC	Elective	

10. Course Learning Outcomes

Learning Outcomes

	Students who successfully complete this course will be able to:
CLO1	Apply critical thinking skill to more advanced algebraic problems
CLO2	Critique different types of graphs
CLO3	Apply the function concept, including operations, graphing, inverses and applications.
CLO4	Analyze polynomial, rational, exponential and logarithmic functions.
CLO5	Display proficiency in the use of a graphing utility and/or computer software.

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	Functions a. Notation and operations b. Graphs c. Inverses d. Mathematical Models	Homework	Quizzes/Exams	CLO1, CLO2, CLO3, CLO5

TO2	Polynomial Functions a. Graphs b. Complex Numbers c. Fundamental Theorem of Algebra	Homework	Quizzes/Exams	CLO1, CLO2, CLO3, CLO4, CLO5
TO3	Rational Functions a. Graphs b. Partial fraction decomposition	Homework	Quizzes/Exams	CLO1, CLO2, CLO3, CLO4, CLO5
TO4	Exponential and Logarithmic functions a. Evaluating expressions b. Solving equations c. Graphs d. Applications, including growth and decay models	Homework	Quizzes/Exams	CLO1, CLO2, CLO3, CLO4, CLO5

12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?
Lecture
o Class discussion
o Group discussion
o Computer applications
o Graphing calculator applications

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)
Individual Student Exam

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14. Needs

Instructional Materials (text etc.):
Appropriate textbook and online resources

Technology Needs:
Access to graphing utilities and Internet for instruction

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

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
Board of Trustees Approval Date: January 26, 2016

Reviewer Comments
Fallon Cynthia (cfallon) (Fri, 05 Mar 2021 20:32:53 GMT): Rollback: This is the original copy.