MATH 266: CALCULUS II

1. Course Information

Subject
MATH - Mathematics

Course Number
266

School
Science, Technology, Engineering, Mathematics

Course Title
Calculus II

2. Hours

Semester Hours
4.00000

Lecture
4

Lab
0

Practicum
0

3. Catalog Description

For display in the online catalog
A study of applications of the integral including area, volume, arc length, surface area, work; techniques of integration; improper integrals; infinite sequences and series; Taylor and Maclaurin series with applications; parametric equations; polar coordinates.

4. Requisites

Prerequisites
MATH 265

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 a continuation of the calculus sequence and contains topics required for a major in mathematics as well as concepts needed by those students majoring in computer science, engineering and the sciences.

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
Calculus II

Course Number
MATH 156

Number of Credits
4

Institution
Brookdale CC

Course Title
Calculus II

Course Number
MATH 172

Number of Credits
4

Institution
Mercer County CC

Course Title
Calcuus II

Course Number
MAT 152

Number of Credits
4

Transferability of Course

Georgian Court University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MA 116, Calculus II, 4	GE	

Kean University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 2416, Calculus II, 4	GE	

Monmouth University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MA 126, Calculus with Analytic Geometry II, 4	GE	

Rowan University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 01131, Calculus II,4	GE	

Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
01640152, 73, 4	GE	

Stockton University

Course Code, Title, and Credits	Transfer Catagory	If non-transferable; select status
MATH 2216, Calculus II, 4	GE	

10. Course Learning Outcomes

Learning Outcomes

	Students who successfully complete this course will be able to:
CLO1	Apply differential and integral calculus concepts and techniques to exponential, logarithmic, and inverse trigonometric functions with emphasis on theory as well as applications.
CLO2	Use parametric equations and polar coordinates.
CLO3	Classify and Analyze sequences and series

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	Applications of Integration	Homework from the textbook	Quizzes and Tests	CLO1
TO2	Techniques of integration	Homework from the textbook	Quizzes and Tests	CLO1
TO3	Sequences and series	Homework from the textbook	Quizzes and Tests	CLO3
TO4	Parametric equations and Polar Coordinates	Homework from the textbook	Quizzes and Tests	CLO4

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 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)
Exams

_____

_____

_____

_____

_____

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_____

14. Needs

Instructional Materials (text etc.):
Contact the department for current text book adoptions. Handouts

Technology Needs:
Graphing calculator, Computer software: Converge and/or Derive

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; March 2003; May 4, 2004; February 28, 2006; March 8, 2006; June 2006
Board of Trustees Approval Date: November 6, 2006
Board of Trustees Approval Date: August 24, 2009
Board of Trustees Approval Date: March 26, 2012
Board of Trustees Approval Date: January 26, 2016