MATH 122-20: CALCULUS II

Ramapo College of New Jersey
School of Theoretical and Applied Science

Summer 2026 Hybrid Course

Course and Instructor Information			
Course	Math 122-20: Calculus II	Instructor	Atul Anurag
Credits	4 Credits	Position	Visiting Assistant Professor
Semester	Summer 2026 Hybrid	Office	G128-H
Class Time	6:00 PM – 9:35 PM		
Classroom	ASB 225	Email	aanurag@ramapo.edu
Prerequisite	Math 121 Calculus I	Office Hours	5:00 PM – 6:00 PM
			By appointment via email
TAS Office	ASB 422	TAS Phone	(201) 684-7734
Tutoring	TBA	Tutoring Times	TBA

Course Description

A continuation of the Calculus sequence. This course covers the calculus of inverse trigonometric functions, methods of integration, sequences, series, parametric equations, polar coordinates, and polar curves.

Course Objectives

- Continue the study of the calculus sequence begun in Calculus I.
- Develop proficiency with advanced integration techniques.
- Study convergence of sequences and infinite series.
- Improve mathematical communication and problem-solving skills.
- Introduce parametric equations and polar coordinates.

Prerequisites

MATH 121 Calculus I

Students enrolled in this course should already know the basic rules of differentiation and integration involving algebraic, trigonometric, exponential, and logarithmic functions in one variable. It is the responsibility of each student to ensure familiarity with these topics.

WebAssign and Textbook

Required Platform: WebAssign (Cengage)

Textbook:
Calculus, 9th Edition
James Stewart

Website:
https://www.webassign.net

Class Key:
`ramapo 2526 5419`

Note 1: Students do not need a physical textbook because WebAssign includes an integrated eBook.

Note 2: "Cengage Unlimited" is not required for this course.

Note 3: Students planning to take multivariable calculus may benefit from multi-semester textbook access.

Assignments and Quizzes

Pre-Lecture Assignments

Optional pre-lecture assignments will be posted on WebAssign before each class meeting. These assignments are intended to preview course material and improve lecture comprehension.

Homework Assignments

Homework assignments will be assigned through WebAssign for each section covered in class. Assignments should be completed shortly after lectures to reinforce concepts.

Quizzes

Quizzes will be administered through WebAssign and will cover lecture material, homework, and pre-lecture assignments.

- Time Limit: 30 minutes
- No make-up quizzes
- Automatic extensions available within one week after the due date

Exams

- One in-person 100-minute midterm examination
- One cumulative in-person 200-minute final examination
- No make-up exams
- No extensions

Calculators

Calculators are permitted during exams.

To receive full credit, students must clearly show all work.

Grading Policy

Assessment	Weight
Participation	10%
Homework Assignments	10%
Quizzes	5%
Midterm Exam	25%
Cumulative Final Exam	50%

Letter Grade	Percentage
A	95–100
A-	90–94
B+	85–89
B	80–84
B-	75–79
C+	70–74
C	65–69
C-	60–64
D+	55–59
D	50–54
F	Below 50

Electronic Communication

All course-related communication will be conducted through Ramapo College email addresses (`@ramapo.edu`) and Canvas.

Academic Integrity

Students are expected to understand and follow Ramapo College's Academic Integrity Policy. Violations of academic integrity policies will result in disciplinary action.

Students with Disabilities

Students requiring accommodations due to documented disabilities should contact the instructor as early as possible and must be registered with the Office of Specialized Services.

Measurable Student Learning Outcomes

Outcome	HW	Discussion	Quiz	Midterm	Final
Students will develop understanding of convergence of sequences and infinite series.	X	X	X	X	X
Students will master computational skills involving limits, derivatives, and integrals.	X	X	X	X	
Students will communicate mathematics with precision, clarity, and organization.	X	X	X	X	X

Calculus II Schedule of Classes

Day	Date	Topics
1	Monday, July 6	Overview of the Course
		Calculus I Review
		§7.1 Integration by Parts
2	Monday, July 13	§7.2 Trigonometric Integrals
		§6.6 Inverse Trigonometric Functions
		§7.3 Trigonometric Substitution
		§7.4 Integration by Partial Fractions
		§6.8 L'Hôpital's Rule and Indeterminate Forms
3	Thursday, July 16	§7.8 Improper Integrals
		§8.1 Arc Length
		§8.2 Area of a Surface of Revolution
4	Monday, July 20	**Exam 1: Chapters 6–8**
		10 Questions
5	Monday, July 27	§11.1 Sequences
		§11.2 Series
		§11.3 Integral Test and Estimate of Sums
		§11.4 Comparison Tests
		§11.5 Alternating Series
		§11.6 Absolute Convergence, Ratio and Root Tests
6	Wednesday, August 5	§11.7 Strategy for Testing Series
		§11.8 Power Series
		§11.9 Power Series Representations
		§11.10 Taylor and Maclaurin Series
		§10.1 Parametric Curves
		§10.2 Calculus with Parametric Curves
		§10.3 Polar Coordinates
		§10.4 Areas and Lengths in Polar Coordinates
7	Thursday, August 6	**Final Exam (Cumulative)**
		20 Questions
		6:00 PM – 9:35 PM