



MATH 113 -005 spring 2022
Analytic Geometry/ Calculus I

Instructor: Prof. Sharis Ahmadi

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Office: Exploratory hall room 4408

Class time: M W 4:30-6:20 PM Horizon 1014

Office Hours: MW 6:20-7:20 or by appointment on Zoom .

GTA Office hours: W 10:30-11:30AM

Credit Hours: 4

Text(s): Thomas' Calculus: Early Transcendentals with Integrated Review, 14th Edition by Hass, Joel — Heil, Christopher — Weir, Maurice; Textbook ISBN-13: 9780134439020

MyMathLab Access Code needs to be purchased for completing the homework, quizzes, tests and also access the e-book.

MML Course ID: ahmadi85128

Prerequisites: C or better in MATH 104 or MATH 105 or specified score on math placement test.

Broad purpose of the course: Upon successful completion of this course, students will be expected to have an understanding and good working knowledge of the concepts of limits, derivatives and integrals of functions (polynomial, rational, exponential, logarithmic, trigonometric).

Disability statement: If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Resources at 703.993.2474. All academic accommodations must be arranged through that office.

Tutoring Center: The Math Tutoring Center will be offering online tutoring services to students currently enrolled in undergraduate Math courses at GMU.

To access the Math Tutoring Center online you need to login to Blackboard, click on the Organizations tab, locate the Math Tutoring Center Organization and self-enroll in this organization.

Students should post their questions in Piazza in the folder corresponding to their course. Please state your questions clearly, consider uploading a pdf file that contains your questions. Tutors will be answering your questions as soon as possible, expect to receive an answer by the following business day, although there might be delays. If you received answers for your

questions and need further clarifications, you can join an active Blackboard Collaborate session.

Exams:

- Exam 1: 2/28 at 4:30PM on MML in the classroom
- Exam 2: 4/13 at 4:30PM on MML in the classroom
- Final Exam: 5/11 at 4:30-7:15 **on paper** in the classroom

No Makeup exams will be given. Final exam grade will replace a missed exam.

Quizzes:

- Quiz 1: 2/16 at 4:30 on MML in the classroom
- Quiz 2 3/28 at 4:30 on MML in the classroom
- Quiz 3 4/11 at 4:30 on MML in the classroom
- Quiz 4 5/4 at 4:30 on MML in the classroom

No Make up quizzes will be given.

Students are responsible for all missed work, regardless of the reason for the absence.

Grade Distribution:

Homework-	10%
Recitation -	10%
Quizzes-	10%
Exams -	40%
Final Exam -	30%

A: 90-100% B: 80-89% C:70-79% D: 60-69% F: < 60%

TENTATIVE SCHEDULE (Subject to change)

Week	Content	Sections covered
1 (week of 1/24)	<ul style="list-style-type: none"> - Functions and their graphs - Combining functions, shifting and scaling graphs 	1.1, 1.2
2 (week of 1/31)	<ul style="list-style-type: none"> - Trigonometric functions - Exponential functions 	1.3, 1.5
3 (week of 2/7)	<ul style="list-style-type: none"> - Inverse functions and Logarithms - Rate of Change and tangent lines 	1.6, 2.1
4 (week of 2/14)	<ul style="list-style-type: none"> - Limit Laws - One sided limit - Continuity 	2.2, 2.4, 2.5
5 (week of 2/21)	<ul style="list-style-type: none"> - Limits involving infinity; asymptotes - Tangent lines and derivative at a point 	2.6, 3.1
6 (week of 2/28)	<ul style="list-style-type: none"> - Derivative of a function - Differentiation rules - Exam 1 	3.1, 3.2, 3.3
7 (week of 3/7)	<ul style="list-style-type: none"> Derivative as a rate of change - Derivatives of Trigonometric functions - Chain Rule 	3.4,3.5, 3.6
9 (week of 3/21)	<ul style="list-style-type: none"> - Derivatives of inverse functions and logarithms - Inverse trigonometric functions 	3.7, 3.8, 3.9
10 (week of 3/28)	<ul style="list-style-type: none"> - Linearization and Differentials - Related rates - Extreme values of functions 	3.10, 3.11, 4.1
11 (week of 4/4)	<ul style="list-style-type: none"> - Monotonic function - Mean Value theorem - Concavity and curve sketching 	4.2, 4.3, 4.4
12 (week of 4/11)	<ul style="list-style-type: none"> - Applied Optimization - Indeterminate forms and L' Hopital' s rule - Exam 2 	4.5, 4.6
13 (week of 4/18)	<ul style="list-style-type: none"> - Antiderivatives - The fundamental theorem of calculus - Indefinite Integrals and substitution method 	4.8 , 5.3, 5.4
14 (week of 4/25)	<ul style="list-style-type: none"> - Indefinite integral and substitution method - Definite integrals and the substitution method 	5.5, 5.6

15 (week of 5/2)	Review	