MATH 113 section 005, Fall 2019

Analytic Geometry/ Calculus I

MW, 8:30-10:20 am, Robinson Hall B104

Instructor: Dr. Sarah Khankan

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Office: Exploratory Hall 4219
Office Hours: T 10:30-11:30 and F 11:15-12

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

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 is located in the Johnson Center Room 344. Help is available on a walk-in basis. For hours of operation see http://math.gmu.edu/tutorcenter.php University Honor Code: You are expected to follow the GMU Honor Code http://oai.gmu.edu/the-mason-honor-code/.

Exams:

- Exam 1: 9/25/2019
- Exam 2: 11/11/2019

- Final Exam: TBA

Grade Distribution:

Quizzes	20%
Exam 1	25%
Exam 2	25%
Final Exam	30%

Weekly Quizzes: 10 minutes. During recitation. Similar to practice problems.

Course Policies:

- Exams are closed book, closed notes.
- No makeup exams will be given.
- Attendance is expected.
- Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

Tentative Course Outline:
The weekly coverage might change as it depends on the progress of the class.

Week	Content	Sections covered
1 (08/26-08/28))	• Functions and their graphs • Combining functions, shifting and scaling graphs	1.1, 1.2
2 (09/02-09/04))	• Labor Day • Trigonometric functions • Exponential functions	1.3, 1.5
3 (09/09-09/11))	• Exponential functions • Inverse functions and Logarithms	1.5, 1.6
4 (09/16-09/18))	• Rate of Change and tangent lines • Limit Laws	2.1, 2.2
5 (09/23-09/25))	• One-Sided Limits • EXAM 1	2.4
6 (09/30-10/02)	• Continuity • Limits involving infinity; asymptotes • Tangent lines and derivative at a point • Derivative of a function	2.5, 2.6, 3.1, 3.2
7 (10/07-10/09)	• Differentiation rules • Derivative as a rate of change	3.3, 3.4
8 (10/15-10/16)	• Derivatives of Trigonometric functions • Chain Rule	3.5, 3.6
9 (10/21-10/23)	• Derivatives of inverse functions and logarithms • Inverse trigonometric functions • Linearization and Differentials	3.8, 3.9, 3.11
10 (10/28-10/30)	• Extreme Values • Mean Value Theorem • Monotonic function	4.1, 4.2, 4.3
11 (11/04-11/06)	• Indeterminate forms and L'Hopital's rule • Applied optimization • Newton's Method • Antiderivatives	4.5, 4.6, 4.7, 4.8
12 (11/11-11/13)	• EXAM 2 • Area and Estimating with finite sums • Limits of finite sums	5.1, 5.2
13 (11/18-11/20)	• Definite integrals • The fundamental theorem of calculus • Indefinite integrals and the substitution method	5.3, 5.4, 5.5
14 (11/25-11/27)	• Indefinite integrals and the substitution method • Definite integrals and the substitution method • Thanksgiving break	5.5, 5.6
15 (12/02-12/04)	• Review	