



MATH 113 - DL2, Fall 2021  
Analytic Geometry/ Calculus I  
ONLINE Lectures

Instructor: Dr. Sarah Khankan

Email: [skhankan@gmu.edu](mailto:skhankan@gmu.edu)

Office: Exploratory hall room 4417

Office Hours: W 9:30 am-10:30 am or by appointment (in office).

Online office hours: M W 10:30 am - 11:30 am on Blackboard Collaborate.

GTA: Mara Hashuga, [mhashuga@gmu.edu](mailto:mhashuga@gmu.edu)

GTA Office hours: M 2pm to 3pm, and T 1pm to 3pm in the GTA lab (exploratory hall, 4th floor).

**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 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.

The Blackboard Collaborate sessions will be running during the weekdays.

### Online Exams:

- Exam 1: 09/22/2021 at 8:30am on MML
- Exam 2: 11/03/2021 at 8:30am on MML
- Final Exam: 12/11/2021 at 10:30am in Lecture Hall 1 (IN PERSON)

### Grade Distribution:

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

**MyMathLab Course ID:** the MyMathLab course is accessible from the course blackboard page

Instructions: Click on the MyMathLab link in Blackboard, then make a pearson account. You will need the access code you obtained when you purchased your book.

**Bi-Weekly Quizzes:** 10-15 minutes online on MyMathLab. Available every other Wednesday from 8:30 to 10:30 AM, unless announced otherwise on Blackboard.

### Course Policies:

- Lectures will be recorded and posted on Blackboard twice weekly as a series of videos. Students are expected to watch the videos the same day they are made available and prepare any questions for the office hours.
- A PDF document of each lecture will also be posted on Blackboard.
- Weekly synchronous recitation sessions are available. Attendance is HIGHLY recommended.
- No makeup exams/quizzes will be given.
- Students are responsible for all missed work, regardless of the reason for absence. All class related notes will be posted on Blackboard.

### Tentative Course Outline:

The weekly coverage might change as it depends on the progress of the class.

<b>Week</b>	<b>Content</b>	<b>Sections covered</b>
1 (week of 08/23)	<ul style="list-style-type: none"> <li>• Functions and their graphs</li> <li>• Combining functions, shifting and scaling graphs</li> </ul>	1.1, 1.2
2 (week of 08/30)	<ul style="list-style-type: none"> <li>• Trigonometric functions</li> <li>• Exponential functions</li> </ul>	1.3, 1.5
3 (week of 09/06)	<ul style="list-style-type: none"> <li>• Labor Day</li> <li>• Inverse functions and Logarithms</li> </ul>	1.5, 1.6
4 (week of 09/13)	<ul style="list-style-type: none"> <li>• Rate of Change and tangent lines</li> <li>• Limit Laws</li> </ul>	2.1, 2.2
5 (week of 09/20)	<ul style="list-style-type: none"> <li>• One-Sided Limits</li> <li>• EXAM 1 on 09/22/2021 at 8:30 am</li> </ul>	2.4
6 (week of 09/27)	<ul style="list-style-type: none"> <li>• Continuity</li> <li>• Limits involving infinity; asymptotes</li> <li>• Tangent lines and derivative at a point</li> </ul>	2.5, 2.6, 3.1
7 (week of 10/04)	<ul style="list-style-type: none"> <li>• Derivative of a function</li> <li>• Differentiation rules</li> <li>• Derivative as a rate of change</li> </ul>	3.2, 3.3, 3.4
8 (week of 10/11)	<ul style="list-style-type: none"> <li>• Derivatives of Trigonometric functions</li> <li>• Chain Rule</li> </ul>	3.5, 3.6
9 (week of 10/18)	<ul style="list-style-type: none"> <li>• Derivatives of inverse functions and logarithms</li> <li>• Inverse trigonometric functions</li> <li>• Linearization and Differentials</li> </ul>	3.8, 3.9, 3.11
10 (week of 10/25)	<ul style="list-style-type: none"> <li>• Extreme Values</li> <li>• Mean Value Theorem</li> <li>• Monotonic function</li> </ul>	4.1, 4.2, 4.3
11 (week of 11/01)	<ul style="list-style-type: none"> <li>• EXAM 2 on 11/03 at 8:30 am</li> <li>• Indeterminate forms and L'Hopital's rule</li> </ul>	4.5
12 (week of 11/08)	<ul style="list-style-type: none"> <li>• Applied optimization</li> <li>• Antiderivatives</li> </ul>	4.6, 4.8
13 (week of 11/15)	<ul style="list-style-type: none"> <li>• Definite integrals</li> <li>• The fundamental theorem of calculus</li> </ul>	5.3, 5.4
14 (week of 11/22)	<ul style="list-style-type: none"> <li>• Indefinite integrals and the substitution method</li> <li>• Thanksgiving break</li> </ul>	5.5
15 (week of 11/29))	<ul style="list-style-type: none"> <li>• Definite integrals and the substitution method</li> <li>• Review</li> </ul>	5.6
16 (12/11/2021)	<ul style="list-style-type: none"> <li>• FINAL EXAM (cumulative) at 10:30 am in Lecture Hall 1</li> </ul>	