



Calculus and Analytical Geometry I

WW-MATH 241

EagleVision

Course Syllabus

Worldwide 2026-05 May

Course Information

Term Dates: May 31, 2026 - Aug 1, 2026

Credit Hours: 4

Meetings: 18:00 PM - 21:30 PM Thursday Time Zone: CET

Location: *EagleVision Classroom

Delivery Method: EagleVision Classroom/Blended

Instructor Information

Name: Amal Sbeiti Clarke

Email: sbeitica@erau.edu

Office Hours: By appointment

Required Course Materials

Title: Thomas' Calculus: Early Transcendentals

ISBN: 978-0137886036 MyLab Math Canvas with Direct Integration for ERAU WW:
Ebook and digital access code

ISBN2: 978-0137885947 MyLab Math Canvas with Direct Integration for ERAU WW:
Ebook and physical access code

ISBN3: 978-0138290993 MyLab Math Canvas with Direct Integration for ERAU WW:
Print book and physical access code

Authors: Joel R. Hass

Publisher: Pearson Education, Inc.

Publication Date: 2018

Edition: 14th

Format: Textbook and Access Code

Notes

You must purchase the ebook and access code through the Worldwide Bookstore or Pearson via Canvas. If you purchase the access code through online retailers that specialize in used items, it will not be guaranteed by Pearson.

Catalog Course Description

Limits and continuity; differentiation and integration of algebraic and elementary transcendental functions; applications of first and second derivatives and integration.

Prerequisite(s): MATH 241 Prerequisite is MATH 142 or MATH 143 or qualifying score on the mathematics skills assessment or ALEKS.

Course Goals

Students will learn to calculate and apply left, right, two-sided, and infinite limits of functions at points of continuity, discontinuity, or at infinity. Students will learn to calculate and apply derivatives of polynomial, algebraic, and transcendental functions using appropriate derivative rules. Applications include Mean Value Theorem and its consequences, shapes of functions' graphs, rates of change, related rates, and optimization problems. Students will learn to calculate, estimate, interpret and apply definite integrals. Students will apply the Fundamental Theorem of Calculus given appropriate antiderivatives and will evaluate indefinite integrals, changing variables of integration when necessary. Students will solve problems using the definite integral to find a function's average value and the area between the graphs of two functions.

Student Learning Outcomes

1. Calculate limits using relevant laws.
2. Solve problems concerning approximation, continuity, and the shape of a graph.

3. Calculate derivatives according to local rate of change schemes and established computational rules.
4. Calculate integrals of functions according to accumulation schemes and established computational rules.
5. Solve applied problems in physical, social, geometric, and graphical contexts using appropriate tools from calculus.

Program Outcomes

PO1 - Apply knowledge of college level mathematics to defining and solving problems;

PO7 - Use digitally-enabled technology to organize and manipulate data, perform calculations, aid in solving problems, and communicate solutions, ideas, and concepts;

Grading

Scale	Grade
90 - 100	A (Superior)
80 - 89	B (Above Average)
70 - 79	C (Average)
60 - 69	D (Below Average)
Below 60	F (Failure)

Evaluation Items & Weights

Discussions	30%
MyLab Math Homework	20%
Mandatory Completion-Based Assignments	0%
Practice Tests Show Work	5%
Test Study Guides (Ungraded, Optional)	0%
MyLab Math Tests	15%
Tests Show Work	20%
Non-Graded Integrity Declaration	0%

In-class Activities	10%
Total	100%

Discussions

You will complete three types of discussion forum activities in this course. In the Modules 1-2 discussion, you will complete an individual discussion activity spanning two module weeks using the concepts of constant and average rates of change.

In Modules 3, 6, and 9, you will prepare for the MyLab Math Tests in a virtual study hall. The instructor will begin the discussion by posting a problem or question related to the material covered in the tests. These discussion forums are opportunities for you to resolve questions about the concepts and methods of solving problems. All students are encouraged to ask questions they usually would ask in a traditional classroom setting. So classmates can benefit from the questions and the solutions posted by the students and the instructor, you must make your post early in the module week.

You will also participate in group discussions that span two module weeks. The instructor will assign groups before the Modules 4-5 Group Discussion. You will work within groups to answer questions and carry out tasks related to the main ideas of the course. As a group, you will complete these activities as an opportunity to study together for the corresponding exam.

MyLabMath Homework

You will complete MyLab Math Homework in each module. Assignments are due by the end of the module in which they are assigned. If your assignment is late, a 10% penalty is applied every day after the due date. The penalty is only applied to questions you have not answered before the due date.

Mandatory Completion-Based Assignments

Many assignments in this course are mandatory but formative assessments. This means you will be given credit for completing these assignments, regardless of your score. These assignments include the Pause and Ponder Videos, the MATLAB Onramp in Module 2, the Practice Exams in modules 2, 5, and 8, and the Practice Show Work assignments in Modules 2, 5, and 8. **The acknowledgment of**

completion and the associated grade for all Completion-Based Assignments will be attached to the Practice Show Work rubrics.

Pause and Ponder

Pause and Ponder activities are interactive. Each Pause and Ponder activity requires viewing a specific set of videos. The videos provide instructional insight targeting the main ideas assessed in the homework assignments.

MATLab Tutorial

MATLAB® is a programming language used to (among other things) efficiently make complicated calculations in STEM. You will be required to learn and progressively gain proficiency with MATLAB throughout the calculus sequence. You will likely use MATLAB, or a programming language like it, extensively in your field of study. For this assignment, you will complete Lessons 1 through 4 in the MATLAB tutorial program. Take notes on using the features, as you will need them as you go through this course. After completing the four lessons, take a screenshot of your course progress and submit it as proof of completion. Your screenshot should contain checkmarks beside the lessons that you have completed.

Practice Tests

The Practice Tests in Modules 2, 5, and 8 are a penalty-free check on your preparedness for the MyLab Math Tests. Complete each Practice Test after you have completed the module homework assignments. You will also need to practice submitting a Show Work document as described in each Practice Show Work (review the Practice Show Work page before beginning the test).

Practice Tests Show Work

The Practice Tests Show Work assignments give you the opportunity to practice the multiple steps necessary to submit the Show Work assignment. Negotiating the technical hurdles early without the pressure of a time limit and potential impact on a grade improves the execution of the task later! Within 30 minutes of completing the practice test, you will upload your "Show Work" document

demonstrating the mathematical processes and steps used to solve the applications or problems in the test. The answers on your document must match the practice test answers. In some cases, your instructor may award additional credit to the exam grade after reviewing your submitted work. Work the problems on paper and label them with the question number. After submitting the exam in MyLab Math, take legible photos or scan your scratch paper and insert them into a document. This assignment will only accept files with .pdf, .doc, or .docx extensions (not image files). Contact your instructor as quickly as possible if you encounter any technical difficulties.

Test Study Guides (Ungraded, Optional)

You can complete a Test Study Guide before completing each test. For each study guide, you will review problems you will see on the tests. You can also use the problem in the study guide when completing the Virtual Study Halls.

MyLab Math Tests

Students will complete MyLab Math Tests in Modules 3, 6, and 9. These tests are to be taken once you have completed the homework assignments for the three modules that correlate to the exam. You may only take each test once. You must show your work within 30 minutes of completing the exam. You will upload your "Show Work" document on the page following the test to demonstrate mathematical processes and steps used to solve the applications or problems in the exam.

Tests Show Work

Within 30 minutes of completing the exam, you will upload your "Show Work" document demonstrating the mathematical processes and steps used to solve the applications or problems in the exam. The answers on your document must match the exam answers. In some cases, your instructor may award additional credit to the exam grade after reviewing your submitted work. Work the problems on paper and label them with the question number. After submitting the exam in MyLab Math, take legible photos or scan your scratch paper and insert them into a document. This assignment will only accept files with .pdf, .doc, or .docx extensions (not image files). Contact your instructor as quickly as possible if you encounter any technical difficulties.

Non-Graded Assignments

Important Note | Integrity Declaration: There is a student integrity declaration activity before each Skills Check. You cannot access the Skills Check in Module 5 (Midterm) and Module 9 (Final) until you complete the integrity declaration activity. In the activity, you must "Agree" to the integrity statement. "By selecting 'Agree' to the integrity declaration statement, you declare that the work in the Show Work document is entirely your own and you have not shared it with anyone else.

Class Activities

Designated by each instructor for the work accomplished during class.

Additional Information

Please note that you may be able to see the course content up to 4 (four) days prior to the official term start date. However, you will not be able to actively participate in the course (e.g., submit assignments, participate in discussions, receive credit for an activity, etc.) until 12am on the official day of term start.

APA Format

Go to the [APA website](#) for additional information about the *American Psychological Association Publication Manual*.

Library

Embry-Riddle Aeronautical University has one of the most complete library collections of aviation-related resources in the world. The Hunt Library is the library for all Worldwide students regardless of location. For help finding resources for your assignment, project, or topic, or to learn more about the library services available to you, please contact our librarians using the following information:

- [Hunt Library Worldwide: Information, Services, Help](#)
 - [Library Basic Training](#)
 - [Ask-a-Librarian](#)
 - [Library Hours](#)
- Contact Information
 - Email: library@erau.edu

TITLE IX

The Title IX Office oversees compliance of Title IX Sexual Harassment in accordance with Federal Regulations, as well as incidents falling under the University Sexual Misconduct policy. Policy violations can include sex discrimination, sexual harassment, or sexual violence, such as rape, sexual assault, relationship / dating violence, sexual misconduct, and stalking.

Anyone **may** report suspected or known violations to the Title IX Office and may be able to receive supportive measures. Please see the Title IX website for additional information.

WW Title IX Office

Email: wwtitle9@erau.edu

Website: <https://worldwide.erau.edu/administration/title-ix-compliance>

[Online Complaint Form](#)

Course Policies

1. **Plagiarism:** Presenting as one's own the ideas, words, or products of another. Plagiarism includes use of any source to complete academic assignments without proper acknowledgment of the source. All papers submitted for grading in this course will be submitted to Turnitin where the text of the paper is compared against information contained in the Turnitin database. Papers submitted will be included in the Turnitin database and become the source documents for the purpose of detecting plagiarism.

2. **Cheating:** A broad term that includes the following:

- Giving or receiving help from unauthorized persons or materials during examinations.
- The unauthorized communication of examination questions prior to, during, or following administration of the examination.
- Collaboration on examinations or assignments expected to be individual work.
- Fraud and deceit, that include knowingly furnishing false or misleading information or failing to furnish appropriate information when requested, such as when applying for admission to the University.

3. The most current **APA Edition** format is the ERAU Worldwide standard for all research projects

4. Course-Specific Policies:

- **Blended Learning Policy:** This course is offered in blended format; 70% of the required course will be conducted in-class and 30% will take place online in Canvas. Class meetings will be composed of lectures, audio-visual presentations, discussions, exercises (also in small groups), student presentations and other course activities. Online activities will include discussion with classmates, posting of your work, reviewing classmates' work, and feedback from the instructor on your work. During the first face-to-face session, we will thoroughly review the online Blended Course Activities.
- **Missed Class Policy:** You are required to attend each live class in its entirety. Grade penalties of 10% of the final grade will be incurred for each unexcused absence, and for each excused absence for which you do not complete the missed class make-up assignment. Notify the instructor as soon as possible if you will not be present or if you will miss part of class. Excused absences may require third party documentation. If you miss any part of class, you must review the EagleVision recording and complete the make-up work assigned to you by the instructor.
- **Late Work Policy:** All course work is expected to be completed on time and should be submitted before 11:59 PM ET on the date indicated in the Course Schedule below. Unless otherwise specified in this document, late work will be downgraded 10% for each day it is past due, up to 5 days beyond the deadline. After that, a permanent score of zero (0) will be entered in the Canvas Grades area. Please coordinate with the instructor as soon as possible if you know your assignment will be late. In some special cases, a penalty-free extension might be granted if you provide your expected date of submission in addition to the reason you cannot make the deadline (expect to provide supporting documentation). Keep in mind that you are always allocated a sufficient time to complete your assignments, so difficulties encountered less than 24 hours prior to the deadline will not be viewed in a favorable light.

Exceptions: Instructors may choose to develop and implement their own policies regarding the following:

1. Discussion boards (initial posts and replies to classmates)
2. Assignments submitted after the last class day
3. Assignments submitted using third-party integrations

Any such deviations must be clearly posted in the Instructor Bio & Policies page.

EagleVision Web-Conferencing and Technology

EagleVision courses utilize Zoom, web conferencing software that enables students and instructors to connect in real-time through the use of web cameras, microphones, file sharing, chat and more. Students are expected to participate using audio and/or video when requested by the instructor. Review the [Computer Requirements for Worldwide Courses](#) and run the [ERAU Computer Check](#) to verify your computer meets the technical specifications and system requirements prior to your first class.

Visit the [EagleVision](#) ERNIE page for details on using the application, to join a test meeting, and to confirm that your equipment meets the requirements.

Students not in compliance with equipment requirements can be withdrawn at the second class meeting.

It is in your best interest to become familiar with the application ahead of the first class, so you know how to interact with your instructor and classmates. Attend class in an area where there are no distractions (TV, kids, phones, etc.) to impede your learning, the instructor's teaching, or your classmates' attention.

Disability and Special Needs

Disability Services Support

ERAU-WW is committed to the success of all students. It is a University policy to provide reasonable accommodations to students with disabilities, who qualify for services. If you would like to request accommodations due to a physical, mental or learning disability, please visit the [Worldwide Student Accessibility Services page](#) or contact our office at 386-226-7334 or via email at wwsas@erau.edu. ALL DISCUSSIONS ARE CONFIDENTIAL.

Mental Well-Being Statement

ERAU recognizes that life stressors, such as depression, anxiety, alcohol/drug problems, relationship problems and various other experiences can hinder the learning process. All ERAU students have access to free, confidential counseling through TELUS Health. You can access a counselor 24/7 via phone, computer or chat in the Student Support app. Please download the app or add the link to your computer and consider using this valuable resource during your educational journey at ERAU. More information on TELUS can be found on the [WW Dean of Students ERNIE page](#).

Course Schedule

Module 1 Calculus Fundamentals: Linear Relationships

- Peer Introductions

- Pause and Ponder Videos: Interactive Activity, Part 1

- Resources Part 1

- Pause and Ponder Videos: Interactive Activity, Part 2

- Resources Part 2

- Module 1-2 Discussion: Torty and Harry's Race

- Conceptual Assessment: Constant Rates of Change

- Assignment: MML Homework

Module 2 Towards Instantaneous Rates of Change: Limits

- Resources Part 1

- Pause and Ponder Videos: Interactive Activity

- Resources Part 2

- Module 1-2 Discussion: Torty and Harry's Race

- Assignment: MATLAB Tutorial: Lessons 1-4

Conceptual Assessment: When Do Limits Exist?

Assignment: MML Homework

Module 3 Limits and Lines: Instantaneous Rates of Change - Advanced Rules

Pause and Ponder Videos: Interactive Activity

Resources

Discussion: Virtual Study Hall

Assessment: MML Homework

Assignment: MML Test 1

Assignment: MML Test 1 Show Work

Module 4 Instantaneous Rates of Change - Advanced Rules

Resources Part 1

Pause and Ponder Videos: Interactive Activity

Resources Part 2

Module 4-5 Group Discussion: Modeling with Derivatives

Conceptual Assessment: Local Linearity and the Chain Rule

Assignment: MML Homework

Module 5 Rates of Change: Advanced Functions and Applications

Pause and Ponder Videos: Interactive Activity

Resources

Module 4-5 Group Discussion: Modeling with Derivatives

Conceptual Assessment: Analyzing the Lamp Post Problem

Assignment: MML Homework

Module 6 Optimization: MVT and First Derivative Analyses

Resources

Discussion: Virtual Study Hall

Assessment: MML Homework

Assignment: MML Test 2

Assignment: MML Test 2 Show Work

Module 7 Optimization: Second Derivative Analyses and Antiderivatives

Resources

Module 7-8 Group Discussion: Prices and Power Lines

Conceptual Assessment: Gradient Ascent and Descent

Assignment: MML Homework

Module 8 Accumulation: Riemann Sums and Integrals

Resources Part 1

Pause and Ponder Videos: Interactive Activity, Part 1

Resources Part 2

Pause and Ponder Videos: Interactive Activity, Part 2

Module 7-8 Group Discussion: Prices and Power Lines

Conceptual Assessment: Modeling with Integrals - Kinetic Energy

Assignment: MML Homework

Module 9 Integrals: Change of Variables and New Uses

Pause and Ponder Videos: Interactive Activity

Resources

Discussion: Virtual Study Hall

Assessment: MML Homework

Assignment: MML Test 3

Assignment: MML Test 3 Show Work

Summary

Due Date	Name (link)	Event type	Points
	Module 1 Assignment: MyLab Math Homework	Assignment	100
	Module 1 Peer Introductions	Discussion	0
	Module 2 Assignment: MyLab Math Homework	Assignment	100

Due Date	Name (link)	Event type	Points
	Module 2 Assignment: MyLab Math Test 1 Practice	Assignment	100
	Module 3 Assignment: MyLab Math Homework	Assignment	100
	Module 3 Assignment: MyLab Math Test 1	Assignment	100
	Module 3 Assignment: MyLab Math Test 1 Study Guide (Optional)	Assignment	100
	Module 4 Assignment: MyLab Math Homework	Assignment	100
	Module 5 Assignment: MyLab Math Homework	Assignment	100
	Module 5 Assignment: MyLab Math Test 2 Practice	Assignment	100

Due Date	Name (link)	Event type	Points
	Module 6 Assignment: MyLab Math Homework	Assignment	100
	Module 6 Assignment: MyLab Math Test 2	Assignment	100
	Module 6 Assignment: MyLab Math Test 2 Study Guide (Optional).	Assignment	100
	Module 7 Assignment: MyLab Math Homework	Assignment	100
	Module 8 Assignment: MyLab Math Homework	Assignment	100
	Module 8 Assignment: MyLab Math Test 3 Practice	Assignment	100
	Module 9 Assignment: MyLab Math Homework	Assignment	100

Due Date	Name (link)	Event type	Points
	Module 9 Assignment: MyLab Math Test 3	Assignment	100
	Module 9 Assignment: MyLab Math Test 3 Study Guide (Optional)	Assignment	100
	Online Office	Discussion	0
	Student Lounge	Discussion	0
6/6/26	Module 1 Classwork	Assignment	100
6/6/26	Module 1 Pause and Ponder Videos: Interactive Activity, Part 1	Quiz	0
6/6/26	Module 1 Pause and Ponder Videos: Interactive Activity, Part 2	Quiz	0

Due Date	Name (link)	Event type	Points
6/13/26	Module 1-2 Discussion: Torty and Harry's Race	Discussion	100
6/13/26	Module 2 Assignment: MATLAB Tutorial: Lessons 1-4	Assignment	0
6/13/26	Module 2 Assignment: MyLab Math Test 1 Practice Show Work	Assignment	100
6/13/26	Module 2 Classwork	Assignment	100
6/13/26	Module 2 Pause and Ponder Videos: Interactive Activity	Quiz	0
6/20/26	Module 3 Assignment: MyLab Math Test 1 Show Work	Assignment	100
6/20/26	Module 3 Classwork	Assignment	100

Due Date	Name (link)	Event type	Points
6/20/26	Module 3 Discussion: Virtual Study Hall	Discussion	100
6/20/26	Module 3 MyLab Math Test 1 Integrity Declaration	Quiz	1
6/20/26	Module 3 Pause and Ponder Videos: Interactive Activity	Quiz	0
6/27/26	Module 4 Classwork	Assignment	100
6/27/26	Module 4 Pause and Ponder Videos: Interactive Activity	Quiz	0
7/4/26	Module 5 Assignment: MyLab Math Test 2 Practice Show Work	Assignment	100
7/4/26	Module 5 Classwork	Assignment	100

Due Date	Name (link)	Event type	Points
7/4/26	Module 5 Pause and Ponder Videos: Interactive Activity	Quiz	0
7/4/26	Modules 4-5 Group Discussion: Modeling with Derivatives (GRP)	Discussion	100
7/11/26	Module 6 Assignment: MyLab Math Test 2 Show Work	Assignment	100
7/11/26	Module 6 Classwork	Assignment	100
7/11/26	Module 6 Discussion: Virtual Study Hall	Discussion	100
7/11/26	Module 6 MyLab Math Test 2 Integrity Declaration	Quiz	1
7/18/26	Module 7 Classwork	Assignment	100

Due Date	Name (link)	Event type	Points
7/25/26	Module 8 Assignment: MyLab Math Test 3 Practice Show Work	Assignment	100
7/25/26	Module 8 Classwork	Assignment	100
7/25/26	Module 8 Pause and Ponder Videos: Interactive Activity, Part 1	Quiz	0
7/25/26	Module 8 Pause and Ponder Videos: Interactive Activity, Part 2	Quiz	0
7/25/26	Modules 7-8 Group Discussion: Prices and Power Lines (GRP)	Discussion	100
8/1/26	Module 9 Assignment: MyLab Math Test 3 Show Work	Assignment	100

Due Date	Name (link)	Event type	Points
8/1/26	Module 9 Classwork	Assignment	100
8/1/26	Module 9 Discussion: Virtual Study Hall	Discussion	100
8/1/26	Module 9 MyLab Math Test 3 Integrity Declaration	Quiz	1
8/1/26	Module 9 Pause and Ponder Videos: Interactive Activity	Quiz	0

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By: Dr. Zackery Reed