



## Walters State Community College Course Syllabus

### Course Information

**Course Number and Name:** MATH 1830 Applied Calculus

**Section ID:** 81181.202380

**Semester and Year:** Fall 2023

**Credit Hours:** 3

**Start Date:** August 21, 2023

**End Date:** December 08, 2023

**Course Format:** CON - Conventional Methodology

**Catalog Course Description:** A one-semester course in the differential and integral calculus of algebraic, exponential, and logarithmic functions with applications. Prerequisite(s): MATH 1630 or 1710, ACT Score of 24, or permission of the Dean of Mathematics. **F, S, Su**

**General Education Course Designation:** General Education Course

**Meeting Details:** MW; 11:10AM - 12:35PM; MBSS 225

**Course Drop Deadline:** October 27, 2023

### Instructor Information

**Name:** Jill Romines

**Office Location:** MBSS 232

**Office Hours:** Posted on E-learn course home page. Office hours are times the professor is available in her office or on-line. It is recommended that students make an appointment.

**Office Phone:** 423-585-2635

**Email:** Jill.Romines@ws.edu

**Supervisor Name:** Chris Knight, Dean of Mathematics

**Supervisor Phone:** 423-585-6879

**Secretary Name:** Tammy Holt, Executive Aide

**Secretary Phone:** 423-585-6879

### Required Textbook(s) and Materials

**No Textbook is required.**

**Additional Information**

A TI-83 or 84 graphing calculator is required.

Students will need a MyOpenMath account for accessing homework.

## Supplemental or Optional Materials

Optional Textbook: Mathematical Applications for the Management, Life, and Social Sciences, 11<sup>th</sup> Edition by Ronald J. Harshbarger and James J. Reynolds

Students will need a MyOpenMath account for accessing homework.

Students may need to print handouts posted in eLearn.

## Student Learning Outcomes/Objectives

- 1. Find the limit of a function numerically, graphically, and symbolically.
- 2. Find and interpret average rates of change and slopes of secant lines.
- 3. Find and interpret instantaneous rates of change and slopes of tangent lines using a derivative.
- 4. Use the limit definition of derivative to find derivatives.
- 5. Find derivatives using derivative rules.
- 6. Demonstrate an understanding of the relationship between the behavior of a function and its derivatives.
- 7. Solve optimization problems.
- 8. Approximate area by using rectangles.
- 9. Find antiderivatives using antiderivative rules.

- 10. Apply the Fundamental Theorem of Calculus to evaluate definite integrals.
- 11. Use concepts of calculus and technology to investigate applied problems.

## Instructional Approach and Methods

Regular attendance is mandatory for your success in this course. Students will meet on Microsoft Teams during their regularly scheduled class meetings. Having a hard copy or electronic access to the handouts posted in e-learn will greatly help students stay involved in the lessons.

This course will require that you spend about six hours a week outside of class to review material and work on homework. Students will receive homework assignments each class meeting. Students are expected to do the assignments in preparation for discussion during the next class meeting.

The best way of emailing me is through Elearn, <https://elearn.ws.edu>, which I will use to communicate with you at times. You may also use [jill.romines@ws.edu](mailto:jill.romines@ws.edu).

## Assessment, Evaluation and Testing Procedures

1. Homework: Homework will be completed at the website [MyOpenMath.com](https://www.myopenmath.com). Homework assignments will have an unlimited number of attempts up to the deadline assigned. If a homework assignment is not completed by the deadline, it will receive a grade of 0. The homework grade is worth 100 points and will be based on the percent of problems completed correctly at the end of the semester.
2. Quizzes: Twelve quizzes will be assigned during the semester, each valued at 10 points. The lowest 2 quiz scores will be dropped at the end of the term. Some quizzes will be given during class and others are completed outside of class. A student must be present to take an in-class quiz. Take-home quizzes must be submitted on time for full credit, but will be accepted up to 1 class late with a 2 point penalty.
3. Exams: Four unit exams and a final exam will be given. In the event of an absence for an on-line exam, the final exam grade will count for that missed exam. If an exam will be missed due to a **documented school sponsored event**, the student must contact Mrs. Romines **before** the scheduled absence and make arrangements to take the exam early. Failure to do so will result in a zero on the exam and the final exam grade will count for the missed exam. Any further missed exams will receive scores of zero.

## Grading Scale

A	630 - 700 points
B	560 - 629 points
C	490 - 559 points
D	420 - 489 points
F	0 - 419 points

## Assignments

4 Exams	100 points each
10 Best Quizzes	10 points each
Homework	100 points total
Final Exam	100 points

## Online/Web-Enhanced Course Supplementary Information

[MyOpenMath](#) is the website at which all exams and homework will be completed.

## Additional Course Requirements/Details/Information

Course Content:

UNIT 1		
	Lesson 1	Introduction to Change
	Lesson 2	Limits and Continuity
	Lesson 3	Defining the Derivative
	Lesson 4	The Power Rule for Derivatives
	Lesson 5	The Product and Quotient Rules
	Lesson 6	Business and Economics Applications of the Derivative
UNIT 2		
	Lesson 7	The Chain Rule
	Lesson 8	The Chain Rule with Products and Quotients
	Lesson 9	Higher Order Derivatives
	Lesson 10	Finding Relative Extrema
	Lesson 11	Concavity and Inflection Points
UNIT 3		

	Lesson 12	Finding Absolute Extrema
	Lesson 13	Optimization Applications
	Lesson 14	Derivatives of Logarithmic Functions
	Lesson 15	Derivatives of Exponential Functions
	Lesson 16	Related Rate Applications
UNIT 4		
	Lesson 17	The Anti-derivative
	Lesson 18	Integrating with U-Substitution (Power Rule)
	Lesson 19	Integrating with U-Substitution (Logarithms and Exponentials)
	Lesson 20	Applications for Integration in Business and Economics
	Lesson 21	Approximating Area Using Rectangles
	Lesson 22	The Definite Integral: The Fundamental Theorem of Calculus

## Academic Honesty

Faculty expect all students to refrain from acts of academic misconduct including but not limited to:

1. Plagiarism - refers to using another person's ideas or writing without giving proper credit to the original source. Indulging in this type of conduct will subject the student to disciplinary sanctions, which may be imposed through the regular institutional procedures of Walters State Community College as outlined in the Student Handbook. Plagiarism will result in a grade of "0" for the paper/exam/presentation. Student Conduct and Disciplinary Sanctions contained in the college Catalog/Student Handbook apply (see policy 04:18:02 Disciplinary Sanctions).  
Plagiarism includes, but is not limited to the following:
  - a. Using cut/paste tool from original document with no references given.
  - b. Copying another student's work and submitting it as one's own.
  - c. Forging or otherwise altering signatures.
  - d. Giving or falsifying academic documents or materials.
2. Cheating - construed as attempting to deceive or mislead which includes, but is not limited to the following:
  - a. Utilizing old tests, projects, notes or written papers.
  - b. Providing unauthorized information to a fellow student about exam content.
  - c. Receiving unauthorized aid from any source with quizzes, examinations, or other assignments.

- d. Seeking information in an unacceptable manner during/preceding an exam or other assigned work (cheat sheet, verbal exchange, looking at another person's paper or electronic device, utilizing headphones, using textbook when the test/quiz is not an open book test/quiz, using textbook test bank etc.).
  - e. Consulting with a classmate or others when taking a computerized test.
  - f. Disregarding other specific policies and procedures outlined for a particular class.
  - g. Utilizing unapproved technology/electronic equipment during testing (i.e.: mobile devices such as cell phones, smart devices, or tablets, etc.).
  - h. Using the same Internet Protocol network address (IP address) as another student for testing without approval from the course faculty.
3. The use of any generative artificial intelligence (AI) tool, such as OpenAI's ChatGPT, Google's Bard, or any other pre-trained language model (commonly referred to as "chatbot"), must be cited for any assignment where it has been used and may not be used unless specifically allowed by your instructor. Please see your instructor or the course policies within the syllabus if you have questions.

## Student Resources

### TUTORING SERVICES

Students in need of tutoring assistance are encouraged to contact the Office of Student Tutoring located as follows:

- Morristown Campus - Student Services Building Room L107 - (423) 585-6920
- Niswonger Campus - GRNV 226 - (423) 798-7982
- Sevierville Campus - MMH Room 210 - (865) 286-2787
- Claiborne Campus - Room 123A - (423) 851-4761

Specific tutoring assistance in mathematics and writing is available in-person and online as follows:

- Morristown Campus - English Learning Lab - HUM 120 - (423) 585-6970

[Walters State English Learning Lab \(opens in new window\)](https://ws.edu/academics/humanities/writing-lab)  
[ws.edu/academics/humanities/writing-lab](https://ws.edu/academics/humanities/writing-lab)

- Morristown Campus - Mathematics Lab - MBSS 222 - (423) 585-6872

[Walters State Mathematics Learning Lab \(opens in new window\)](https://ws.edu/academics/mathematics/learning-lab)  
[ws.edu/academics/mathematics/learning-lab](https://ws.edu/academics/mathematics/learning-lab)

## TECHNOLOGY SUPPORT

Students who need assistance with computing and technology issues should contact the IET Helpdesk by phone at Morristown: (423) 318-2742; Niswonger: (423) 798-8186; or Sevierville: (865) 286-2789 or on-line access.

[Walters State Helpdesk \(opens in new window\)](#)  
[helpdesk.ws.edu](http://helpdesk.ws.edu)

## STUDENTS WITH DISABILITIES SUPPORT SERVICES

Students with disabilities must register with Student Support Services each semester in the Student Services Building, Room U134 (phone (423) 585-6892) if they need any special facilities, services, or consideration.

[Walters State Student Support Services \(opens in new window\)](#)  
[ws.edu/student-services/disability/](http://ws.edu/student-services/disability/)

## SUICIDE PREVENTION STATEMENT

Walters State is committed to and cares about all students. Support services are available for any person at Walters State who is experiencing feelings of being overwhelmed, hopelessness, depression, thinking about dying by suicide, or is otherwise in need of assistance. For immediate help, contact the National Suicide Prevention Lifeline by calling or texting 9-8-8 or the Trevor Lifeline at 1-866-488-7386. Veterans may also contact the Veterans Crisis Line at 1-800-273-8255 (press 1) or Text 838255.

Walters State has a relationship in place with the following community agencies to provide services (may include crisis referral services, prevention screenings, etc.):

- Cherokee Health Systems 423-586-5032
- Frontier Health 423-467-3600

## College Policies

### STUDENTS HANDBOOK AS OFFICIAL GOVERNING DOCUMENT

This class is governed by the policies and procedures stated in the current Walters State Community College Student Handbook. All students attending Walters State Community College, regardless of the time, location, or format of the class, must abide by the rules and regulations outlined in the current Walters State Catalog/Student Handbook and the current Walters State Timetable of Classes.

[Walters State Catalog.\(opens in new window\)](#)  
[catalog.ws.edu/](http://catalog.ws.edu/)

[Walters State Timetable of Classes \(opens in new window\)](#)  
[ws.edu/admissions/registration/](http://ws.edu/admissions/registration/)

## **PURPOSE, LIMITATIONS AND MODIFICATION OF SYLLABUS**

This syllabus sets forth the expectations for the course content, work, and grading as well as expectations for student performance and conduct. The syllabus does not constitute a contract between the student and the instructor or the College. The information contained here is subject to change at any time. The instructor reserves the right to modify this syllabus at any time with written notification to the students. Though changes are possible, it is expected that the course will be conducted as described in this syllabus for the semester/year specified in the Course Information section of the syllabus. This syllabus is only valid for the semester/year specified and course requirements are not guaranteed for future semesters.

## **COURSE GROUND RULES**

- Students must attend the first day of on-ground class or contact the instructor prior to the first class. Failure to do this may result in being dropped from the class. Excessive absences may substantially lower the course grade.
- Regular class attendance is a student's obligation for any course regardless of format. (See the Walters State Catalog/Student Handbook). If a student misses class, it is his or her responsibility to contact the instructor regarding missed assignments and/or activities and to be prepared for the next class assignment.
- Students enrolled in web courses must follow the course attendance policy defined for online attendance during the first week of class and throughout the term. Failure to do this may result in being dropped from the class during week one OR may result in the accrual of absences which may negatively impact the student's grade in the course.
- Students who have not paid fees on time and/or are not correctly registered for this class and whose names do not appear on official class rolls generated by the Walters State student information system (MyWS) will not be allowed to remain in class or receive credit for this course.
- Electronic devices must not disrupt the instructional process or college-sponsored academic activity. Use of electronic devices is prohibited unless use of the device is relevant to the activity and use is sanctioned by the faculty member in charge. Electronic devices that are not relevant to the activity or sanctioned by the faculty member in charge should be set so that they will not produce an audible sound during classroom instruction or other college-sponsored academic activity.

## **FINANCIAL AID**



Students receiving any type of financial aid or scholarship should contact the Financial Aid Office before making any changes to their schedule. Schedule changes without prior approval may result in loss of award for the current term and future terms.

All forms of student Financial Aid may be jeopardized or lost due to the lack of Satisfactory Academic Progress in one or multiple courses. Lack of Satisfactory Academic Progress may negatively impact a student's degree/certificate completion pace and further jeopardize Financial Aid eligibility.

### **CANCELLATION OF CLASSES AND ACADEMIC CONTINUITY**

For information related to the cancellation of classes due to inclement weather or other events, please check the Senators Emergency Text system or the college's Web site at:

[Walters State Homepage \(opens in new window\)](https://www.waltersstate.edu/home/)  
[ws.edu/home/](https://www.waltersstate.edu/home/)

[Walters State Facebook page \(opens in new window\)](https://www.facebook.com/WaltersState/)  
<https://www.facebook.com/WaltersState/>

[Walters State Twitter page \(opens in new window\)](https://twitter.com/waltersstate)  
<https://twitter.com/waltersstate>

or call the college's student information line, 1-800-225-4770, option 1; the Sevier County Campus, (865) 774-5800, option 7; the Niswonger Campus (423) 798-7940, option 7; or the Claiborne County Campus, 423-636-6200, option 7. Also, please monitor local TV and radio stations for further announcements.

When an event or disaster interrupts the scheduled operations of the college and the ability to proceed with the academic course activities as planned, the college and your instructor may alter the course plan outlined in the syllabus. Should an event occur, students should refer to their course e-Learn pages and/or class materials previously delivered to receive guidance from their instructor. Students should continue to monitor the official college channels of communication listed in the above paragraph. If you would like to sign up for the Senators Emergency Text system, please go to the following Web site:

[Senator Emergency Text System \(opens in new window\)](https://www.waltersstate.edu/set/)  
[ws.edu/set/](https://www.waltersstate.edu/set/)

Dual Enrollment students attending on a high school campus should refer to the high school inclement weather cancellations.

### **LEARNING MANAGEMENT SYSTEM**

Brightspace (commonly known as eLearn or D2L) is the college's Learning Management System (LMS).

Brightspace is committed to accessibility by "deliver[ing] a learning experience that meets the needs of all people, regardless of age or ability." [Brightspace Accessibility Standard \(opens in new window\)](#)

Brightspace is also committed to guarding student data and privacy. [Brightspace Privacy Policy \(opens in new window\)](#).