Walters State Community College Course Syllabus

Course Information

Course Number and Name: MATH 1910 Calculus I
Section ID: 81188.202380
Semester and Year: Fall 2023
Credit Hours: 4
Start Date: August 21, 2023
End Date: December 08, 2023
Course Format: TWY - Two-Way Video/Audio (ITV)
Catalog Course Description: Calculus I - A standard first-semester course in single variable calculus and analytic geometry especially for students of science, engineering, mathematics, secondary mathematics education, and scientific computer science. Differential and integral calculus with applications. Prerequisite(s): Two years of algebra and half a year of trigonometry in high school and ACT math score of 26; or MATH 1710 and MATH 1720 or permission of the Dean of Mathematics **F, S, Su**
General Education Course Designation: General Education Course
Meeting Details: TR; 09:00AM - 11:00AM; MBSS 244
Course Drop Deadline: October 27, 2023

Instructor Information

Name: John Knight
Role: Instructor
Office Location: MBSS 220
Office Hours: 8:30 to 9:30 MTWR
Office Phone: 423-585-6879
Email: Chris.Knight@ws.edu
Supervisor Name: Chris Knight
Supervisor Phone: 423-585-6879
Secretary Name: Tammy Holt
Secretary Phone: 423-585-6864

Required Textbook(s) and Materials

The material for this course is from an open educational resource which is provided to the students for free.
Additional Information
All open educational resource material will be posted in eLearn.

Supplemental or Optional Materials

A TI-83 or TI-84 calculator is required for this course. Discuss with the instructor if you own a different calculator.

Student Learning Outcomes/Objectives

- Evaluate limits of functions including one-sided limits, two-sided limits, limits involving infinity, and limits using l'Hospital's Rule.

- Identify where a given function is continuous. Use the definition of continuity to show a function is continuous at a point.

- Use the definition to find derivatives. Understand the conceptual meaning of derivative.

- Differentiate power functions, exponential, logarithmic, trigonometric, and inverse trigonometric functions

- Differentiate sums, products, and quotients of functions. Use chain rule to differentiate composite functions. Use implicit differentiation to find derivatives.

- Use derivatives to identify where functions are increasing, decreasing, concave up, and concave down. Use derivatives to find local extrema, find points of inflection, and to graph functions.

- Use derivatives to solve applied problems.

- Find antiderivatives (indefinite integrals) of linear combinations of power functions, basic trigonometric functions, and exponential functions.

- Approximate signed areas (definite integrals) using right-hand, left-hand, and midpoint rectangles.

- Use Fundamental Theorem of Calculus to find and signed area and construct antiderivatives.

Instructional Approach and Methods

This is a lecture base course. Class participation (through attentive note taking, attention to professor, participation in group discussion etc.) is encouraged for success. The class is a hybrid format; daily attendance is expected either in person or virtually through Microsoft TEAMS. Attendance will be taken each class. Please note that on test days attendance is required in person.

If you choose to attend class virtually, we will be using Microsoft TEAMS. Here are some instructional videos and our class code for Microsoft TEAMS.

1. How to Download the TEAMS App on Your Phone

2. Student Introduction to TEAMS

3. How to Join a Live Class Meeting in TEAMS

Assessment, Evaluation and Testing Procedures

I am excited to be your guide on this calculus journey! I expect we will work hard, make mistakes, fix those mistake, learn a lot and apply that learning. It's going to be a fabulous semester.

Here are a few logistical details on the course.

Homework will be assigned through MyOpenMath Due dates will be announced in class and posted in eLearn. You may continue to work on homework after the due date, but all work completed after the due date will incur a 30% penalty. Your homework average will count 10% of your final grade.

Quizzes may be administered in class, take-home, or posted in eLearn. Due dates will be announced in class and posted in eLearn. Quizzes not submitted by the due date will receive a score of zero. Your two lowest quiz grades will be dropped. Your quiz average will count 15% of your final grade.

Tests will be administered in class and must be taken in person There will be four unit tests. In the event that a test is missed, the final exam grade will serve as the replacement for the missed test. If all four unit tests are taken, then the final exam grade could be used to replace your lowest unit test

grade (only if the final exam grade is higher than your lowest unit test grade). Unit tests will count 15% each for a total of 60% of your final grade.

A comprehensive final exam will be given at the end of the course. For financial aid purposes, students should plan to attend the final exam. The final exam will count 15% of your final grade.

A Derivatives gateway will be administered as part of the course. A student must make 80% or better on this gateway exam to earn credit in the course. Multiple attempts will be allowed.

See the posted final exam schedule to see the time for this course.

If any assignment will be missed due to a scheduled absence, it is the student's responsibility to contact the instructor before the scheduled absence and make arrangements to complete the assignment early.

Grading Scale

A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	Below 60%

Math Tutoring Options

Mr. Noe is available to meet with students and answer questions either in-person during posted office hours, through email, or TEAMS messaging.

MATH LAB: Tutoring is available with Mrs. Dixon who is located in the Math Lab, Room MBSS 222 where both in person or virtual (through TEAMS) tutoring options are available. Appointments are recommended and are made through Bookings at https://outlook.office365.com/owa/calendar/WaltersStateMathLab@ws.edu/bookings/ . Contact Mrs. Dixon if you need help making appointments or for additional information at: phone number 423-585-6872 or email Beth.Dixon@ws.edu .

TUTORING BY CAMPUS: (NOTE: Virtual computer tutoring can be done on any campus.)

1.) Morristown Campus Tutoring: In-person or online tutoring is also available through the Office of Student Tutoring located in the Student Services Building Room L107, phone number 423-585-6920.

https://outlook.office365.com/owa/calendar/WaltersStateCommunityCollege9@ws.edu/bookings/

2.) Morristown Math Lab (Mrs. Dixon):
https://outlook.office365.com/owa/calendar/WaltersStateMathLab@ws.edu/bookings/

3.) Sevierville Campus Tutoring:
https://outlook.office365.com/owa/calendar/SeviervilleTutoringServices@ws.edu/bookings/

4.) Niswonger Campus (Greeneville) Tutoring:
https://outlook.office365.com/owa/calendar/TutoringServicesNiswongerCampusGreeneville@ws.edu/bookings/

5.) Claiborne Campus
https://outlook.office365.com/owa/calendar/ClaiborneTutoringServices@ws.edu/bookings/

6.) NetTutor is an online tutoring service that is available 24 hours a day in many subjects. It is a free service offered to WSCC students. To access NetTutor, go the course eLearn Home page and click on Resources link.

Assignments

All assignments and due dates will be announced in class and posted in eLearn.

Additional Course Requirements/Details/Information

Chapter 1 – Functions

Knowledge of materials presented in Chapter 1 is essential to be successful in the course. Students may not be prepared to start Calculus I without these basic pre-calculus concepts. If the material in Chapter 1 is unclear, the student may consider taking Math 1710 and Math 1720 instead.

Chapter 2 – Limits

1. The Idea of Limits *(C1)*
2. Definitions of Limits *(C3)*
3. Techniques for Computing Limits *(C1)*
4. Infinite Limits *(C1)*
5. Limits at Infinity *(C1)*
6. Continuity *(C2)*

7. Precise Definitions of Limits **Optional***(C3)*

Chapter 3 – Derivatives

1. Introducing the Derivative*(C3)*

2. The Derivative as a Function*(C4)*

3. Rules of Differentiation*(C4)*

4. The Product and Quotient Rules*(C5)*

5. Derivatives of Trigonometric Functions*(C4)*

6. Derivatives as Rates of Change*(C3)*

7. The Chain Rule*(C5)*

8. Implicit Differentiation*(C5)*

9. Derivatives of Logarithmic and Exponential Functions*(C4)*

10. Derivatives of Inverse Trigonometric Functions*(C4)*

11. Related Rates*(C7)*

Chapter 4 –Applications of the Derivative

1. Maxima and Minima*(C6)*

2. Mean Value Theorem*(C6)*

3. What Derivatives Tell Us*(C4)*

4. Graphing Functions*(C6)*

5. Optimization Problems*(C7)*

6. Linear Approximation and Differentials*(C7)*

7. L'Hospital's Rule(***C1)***

8. Newton's Method*(C3)*

9. Antiderivatives*(C8)*

Chapter 5 – Integration

1. Approximating Areas Under Curves*(C9)*

2. Definite Integrals*(C9)*

3. Fundamental Theorem of Calculus*(C10)*

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)](ws.edu/academics/humanities/writing-lab)
  ws.edu/academics/humanities/writing-lab

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

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

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

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

[Walters State Twitter page (opens in new window)](#)
[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)](#)
[ws.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)](#)