
Semester/Year: Spring 2021

Units: 5

Location: ONLINE ONLY

Zoom Office Hrs: Mon & Fri 9am-10am,
Wed & Thurs 11am-12pm, Tues 1-2pm.

Length: 18 weeks (Jan. 11 – May 21)

Prerequisite: Math 3A or 4B and Math 4A

Basic Skills Advisory: Eligibility for
English 1A or 1AH

Final Exam: Due Wednesday, May 19

Instructor: Kelly Winter

Phone number: (559) 638-0300 ext 3471

Email: Canvas Inbox

Welcome to Calculus I

Are you ready for 18 weeks of Calculus! It is my desire to help each one of my students succeed and gain confidence in their calculus skills. I believe that all students can succeed if they stay organized, set aside consistent DAILY work time, complete all assigned work, ask questions, write good notes, and prepare for exams. I am here to guide you through the course, answer questions and encourage you to work hard.

There are many excellent resources available to you virtually through Reedley College. Other students in class are a good resource and I would encourage you to form small groups to study and do homework together virtually. You will be required to interact with each other in class discussions online. This can be a way for you to connect with other students and I encourage you to make study groups. If you have an unanswered question, please utilize the ZOOM sessions where I will be available to answer questions from homework and notes, and prepare for exams. You may also email me questions and I can either type a response or send a quick video explanation as well.

Other available resources are:

- The Math Center is functioning ONLINE this semester. You can meet one-on-one with a tutor. We have great tutors available for Calculus. Please utilize this incredible resource. More information will be available on Canvas.

Course Description

This course is an introduction to calculus, analytic geometry, differentiation and integration of polynomial, exponential, logarithmic and trigonometric functions. Topics include limits, curve sketching and applications.

Student Learning Outcomes

MATH-5A SLO1: Evaluate limits using graphical, analytical, and tabular techniques.

MATH-5A SLO2: Calculate and interpret the derivatives of algebraic, trigonometric, and transcendental functions.

MATH-5A SLO3: Translate problems from the physical, life, and social sciences into mathematical models and apply appropriate techniques to solve

Textbook Calculus, Early Transcendentals, 3rd edition, Briggs.

Other Course Materials/Technology

MyMathLab: We will be using MyMathLab for online assignments and exams. You can purchase a subscription to MyMathLab a few different ways: 18 week subscription that will get you through the fall course, 24 month subscription that will get you through this course plus Math 5B if you need this course as well. With the purchase of MyMathLab you can have access to the e-text for free. You can also purchase a package book/MyMathLab combo if you'd like a printed version of the text. This is your choice. Please email me if you have questions about this.

Desmos.com: We will utilize desmos.com for graphing. You may also use a graphing calculator to check work but you must be able to complete the work without one, and show your work for assignments and exams.

Scanning App: You must also be able to scan your work from exams. There are many free scanning options on most smart phones. I know iphones have a scanning option from the Notes app. I have also used the free app Genius Scan. Please make sure whatever scanning app you use that you can scan multiple pages into ONE document. It is very difficult to grade exams when I have to download multiple files for one assignment.

Screencast-O-Matic: This is a FREE video website that allows you to create a video of your computer screen. We will have a couple of assessments that require you to create a screen cast of your work. There are other websites that can do the same thing so if you are familiar with another video maker program you are welcome to use another.

Communication Policy: I will send a weekly video explaining the weeks assignments and expectations. These will be found in Canvas under **modules**. I will be available via **Zoom** for questions during the following dates/times(TBA). If you have questions outside of these times you can send me an email through Canvas inbox or set-up another time for a Zoom meeting. I will respond within 24 hours, and if I have not responded in this time, please re-send your email to make sure that I did receive it.

Attendance Policy: Your attendance is tracked by your participation and completion of materials online. By Friday, January 15 you must register for MyMathLab through Canvas and complete the first three assignments (1.1-1.3) or you may be dropped from the course. Please email me if you are having trouble and need additional time. You can join MyMathLab on a free trial for two weeks so please enroll immediately.

Late Assignments: Due dates are designed to keep you on track for completing the material on time. However, it is important that all assignments be completed even if late. Therefore, late work can be turned in until the day of the test for full credit. Exams must be completed by the due date. Only rare exceptions will be granted. Please contact me.

Exams and Final Exam: There will be online tests in MyMathLab, however, you must complete the test on paper with pencil, and work must be uploaded to the appropriate Canvas assignment using scanning apps such as Genius Scan or CamScanner. I will use your work to assign partial credit for the exams. There are no make-ups or re-takes. The test must be completed by the due dates. Test corrections can be done for partial credit as allowed by instructor. When you upload your work for the exam you may add a note for the questions that you missed and re-do them for partial credit.

Assignment Point Values

Assignment	Value
Homework & Quizzes	25%
Chapter Exams	75%

Final Grades

Letter Grade	%
A	89.5 -100
B	79.5 - 89.4
C	69.5 - 79.4
D	59.5 - 69.4
F	0-59.4

Grading Policies/Rubrics

Please monitor your grade on Canvas. It is your responsibility to make sure that your grade is accurate. If there is a discrepancy, please email me ASAP.

ACADEMIC DISHONESTY

Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very serious offense and will incur serious consequences.

Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

Plagiarism is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on the particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

NOTE: If you have a verified need for an academic accommodation or materials in alternate media (i.e, Braille, large print, electronic text, etc.) per the Americans with Disabilities Act or section 504 of the Rehabilitation act please contact me as soon as possible.

Please refer to SCCCDD polies for guidance on all matters relating to this course.

Objectives: In the process of completing the course, the student will:

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- I. Analyze and sketch the graphs of simple functions.
- II. Determine the domain and range of compound and composite functions.
- III. Calculate limits and determine the continuity of functions.
- IV. Find the derivative of a function as a limit.
- V. Differentiate polynomial, trigonometric, rational, exponential, and logarithmic functions.
- VI. Solve related rates and extrema problems using the derivative.
- VII. Evaluate a definite integral as a limit.
- VIII. Perform calculations using the Fundamental Theorem of Calculus.
- IX. Perform indefinite and definite integration including the use of substitution.

Course Outline

- A. Functions
 1. Algebra and trigonometry review
 2. Functions and the analysis of graphs
 3. Properties of functions
 4. Compound functions and composite functions
 5. Applications of linear functions
- B. Limits and Continuity
 1. Intro to limits (intuitive)
 2. Computational techniques
 3. Theory of limits
 4. Continuity
 5. Squeezing theorem and limits involving trig functions
- C. Derivatives
 1. Secant lines, tangent lines, rate of change
 2. The definition of the derivative
 3. Find the derivative of a function as a limit
 4. Techniques of differentiation
 5. Derivatives of trig functions
 6. The Chain Rule
 7. Find the equation of the tangent line to a function
 8. Differentials
- D. Logarithmic and Exponential Functions
 1. Inverse functions
 2. Logarithmic and exponential functions
 3. Implicit differentiation
 4. Derivatives of logarithmic and exponential functions
 5. Derivatives of inverse trigonometric functions
 6. Related rates
 7. L'Hopital's Rule
- E. Analysis of Functions and their Graphs
 1. Increasing, decreasing functions and concavity
 2. Relative extrema; First and Second Derivative Tests
 3. Producing graphs of functions
- F. Applications of the Derivative
 1. Absolute maxima and minima
 2. Applied maxima and minima problems
 3. Applications to rectilinear motion
 4. Rolle's Theorem
 5. Mean Value Theorem for Derivatives
- G. Integration
 1. Finding areas under curves

2. The indefinite integral
3. Integration by substitution
4. Riemann Sums
5. The definite integral
6. Evaluate the definite integral as a limit
7. The Fundamental Theorem of Calculus