

---

*Math 078 Section 9993 and Math 178 Section 9994 Calculus for Business, Social, and Behavioral Sciences Cuyamaca College Spring 2023 Syllabus*

---

**Instructors name and email:** Chris Navo

**Email:** Through Canvas or [chris.navo@gcccd.edu](mailto:chris.navo@gcccd.edu)

**Unit Description:** Math 078 Section #9993 /2 units & Math 178 Section 9994 /4 units

**Classroom Location:** Math 178 On Zoom    Math 078 will be on the WEB.

**Zoom Access and times for Math 178 Class and Office Hours:**

Math 078 all online

Math 178 meets on Zoom from 1/30/23-6/5/23 on Mondays and Wednesdays live on Zoom from 6:00 PM - 7:50 PM

Student Office Hours are Mondays and Wednesdays after class from 8:00 PM -9:00 PM.

You are required to attend class through zoom every Monday and Wednesday, and highly encouraged to See me during office hours after class whenever you are stuck. To access the course or office hours, use The following zoom link below:

<https://us06web.zoom.us/j/84103238043>

**Welcome:** It is my pleasure to have the opportunity to share this journey with you. This is going to be a rough 16 weeks, but I know that with hard work and persistence you will succeed. Please do not hesitate to ask for help for whatever reason you may have during class or student hours. Asking for help is not a weakness, it is necessary to keep from falling in the fast-paced world we live in. Good luck and remember to stay positive about the subject matter. This will help you retain the information easier as well as keep the learning environment a positive experience for your fellow classmates. Remember to strive for understanding throughout the semester.

## **Course Descriptions and Prerequisites:**

**Math 078: Intermediate Algebra for Math 78:** A review of the core prerequisite skills, competencies, and concepts needed in business calculus. Intended for majors in science, technology, engineering, and mathematics who are concurrently enrolled in MATH 178, Calculus for Business, Social and Behavioral Sciences at Cuyamaca College. Topics include: a review of computational skills developed in intermediate algebra, factoring, operations on rational and radical expressions, linear, exponential and logarithmic expressions and equations, an introduction to matrices, functions including composition and inverses, and an in-depth focus on quadratic functions. This course is appropriate for students who are confident in their graphing and beginning algebra skills. A graphing calculator is required for this course. Not open to students with credit in MATH 180. Pass/No Pass

**Prerequisites Math 078:** Appropriate placement

**Course Description for Math 178:** Presents a study of the techniques of calculus with emphasis placed on the application of these concepts to business and management related problems. The applications of derivatives and integrals of functions including polynomials, rational, exponential and logarithmic functions are studied. Not open to students with credit in MATH 180.

**PREREQUISITES Math 178:** "C" grade or higher or "Pass" in MATH 110 or equivalent (MATH 103 does not meet the prerequisite)

## **Student Learning Outcomes:**

**Math 078:** Upon successful completion of this course, students will be able to: =

- 1) Simplify or reorganize expressions
- 2) Solve equations and inequalities
- 3) Solve systems of two equations
- 4) Graph a function and identify its defining elements including domain and range

**Math 178:** Upon successful completion of this course, students will be able to:

- 1) Apply derivatives to solve application problems from business or the natural or social sciences.
- 2) Use graphical, numerical or analytical methods to solve real-world problems from business or the natural or social sciences.
- 3) Use integration in business and economics applications.

## **Evaluation:**

**Knewton Homework 20%:** The homework will be done online using Knewton.com through the canvas shell and is worth 20% of your grade in this course. Pay attention to deadline dates which are listed under each assignment. Keep in mind that some of the quizzes and exam questions could come from the homework. Therefore, it is important to stay in sync and up to date with the homework for whatever sections we have covered from class. No homework will be accepted after the final examination regardless of dates set on Knewton or Canvas.

**Group Work Activities 20%:** Throughout the semester I will assign Group Work Activities using the breakout rooms in zoom, worth 20% of your overall grade. You are to work together on the Group Activity and turn in one paper for the group. In addition to the homework, the activities will also help you prepare for the exams.

**Individual Quizzes 10%:** I will be assigning individual quizzes to be done on canvas worth 10% of your overall grade.

**Writing Assignments 5%:** This is a Math course I am aware, but after researching many methodologies myself and the department, we have found that many of these particular writing activities promote long term student success, and as an educator it is my responsibility to not only help you succeed in this course but for those that will follow.

**Exams 25% :** Expect three (3) in-class exams this semester. There are no makeups for exams because I will drop your lowest exam score at the end of the semester (this is the one you should save for a rainy day), but if you talk with me in advance or you have an emergency, send me an email immediately, and depending upon the nature of the situation I may allow you to make up the exam. You will be allowed to use a graphing calculator on exams and during group work. Cell phones have been misused during exams, so unfortunately cell phones may no longer be used, or any electronic device that has Wi-Fi capabilities The exams will consist of problems like our class discussions and the homework assignments as well as “concept” problems that require you to “synthesize” the material learned and relate it to the topics covered. I will average your best 2 of the 3 exams and weigh this as 25% towards your overall grade.

**Final Exam 10% and Group Project 10%:** The cumulative final exam is worth 10% of your overall grade..

The Group Project is worth 10% of the course grade. You will group yourselves in a discussion assignment in canvas with other members in the class and pick a topic that must involve Business Calculus. Your group can be no larger than 4 people and at least 3. It is your groups responsibility for researching all the information related to an applicable topic. This group project will be broken into 4 components: It will consist of two project Reports, a Synopsis and a Presentation. There is a module in canvas under the assignment tab that explains the Group Project in more detail.

### College Calendar

<b>Regular Day &amp; Evening Classes Begin</b>	<b>January 30</b>
<b><u>Program Adjustment</u></b>	January 30 - February 12
<b>Holiday (Martin Luther King Day)</b>	<b>January 16*</b>
Last Day to Drop without "W" (semester length classes)	February 12
Last Day to Apply for Refund (semester length classes)	February 12
Census Day(semester length classes)	February 13
<b>Holiday (Lincoln's Birthday Observed)</b>	<b>February 17 &amp; 18*(Friday &amp; Saturday)</b>
<b>Holiday (Washington's Birthday Observed)</b>	<b>February 20*</b>
Last Day to <a href="#">Apply for Spring 2023 Degree/Certificate</a>	March 10
Last Day to <a href="#">Apply for P/NP</a> (1st 8-weeks length classes)	March 25
End of First 8-Week Session	March 25
1st 8-Week Instructors Grade Deadline	March 30
<b>Spring Recess</b>	<b>March 27 - April 1</b>
<b>Spring Holiday</b>	<b>March 31 April 2* (Friday &amp; Saturday)</b>
Second 8 - Week Session Begins	April 3
Last Day to Drop Semester Length Classes	April 30
End of Second 8-Week Session	May 27
<b>Holiday (Memorial Day)</b>	<b>May 29*</b>
Final Examinations	May 30 - June 5
Last Day to <a href="#">Apply for P/NP</a> (2nd 8-week & semester length classes)	June 5
Spring Semester Ends	June 5
Grossmont Commencement	June 7 (Wednesday)
Cuyamaca Commencement	June 8 (Thursday)
<b>Instructor Grade Deadline</b>	<b>June 8</b>
<b>Summer 2023</b>	<b>June 12 - August 3</b>

# Class Calendar Spring 2023

Dates	Learning Material/ Exams and Project Due Dates
1/30 & 2/1	Introductions, Relations and Functions, Domain, and Range. Linear Equations as Functions, Equations of lines and graphing, Linear Equations and their applications to Business Linear Regression
2/6 & 2/8	Exponentials- Evaluating, Writing and Graphing Logarithms-Relating as Exponents, Evaluating, Solving, Writing and Graphing, and Applications of Exponential Functions with base e. Transformations of Graphs, Quadratic Functions and the Parabola, and the Graphs of Basic Functions.
2/13 & 2/15	Piecewise-Defined Functions, Polynomials: Polynomials-End Behavior, Local Behavior, Rational Functions Graphs and Applications. Finding Limits (Finite or Infinite) by using the following three methods: Graph, Table, and analytically.
2/20 & 2/22	Holiday Monday-no class Wednesday-Secant Lines and Average Rate of Change, Tangent Lines, and Instantaneous Velocity The Definition of the Derivative. Review for exam 1
2/27 & 3/1	Review and Exam 1 is Wednesday  The Power, Sum, and Difference Formulas and their Explorations on the Tangent Line.
3/6/ & 3/8	Marginal Average Cost, and Revenue Part 1 Derivatives of Exponential Functions with base e, Derivatives of the Logarithmic Functions.
3/13 & 3/15	Marginal Average Cost, and Revenue Part 2 The Chain Rule The Product and Quotient Rule.
3/20 & 3/22	Logarithmic Differentiation and Review
3/27-4/1	<i>Spring Recess/Holiday no class this week</i>
4/3 & 4/5	Review Exam 2 April 5 <sup>th</sup>
4/10 & 4/12	Critical numbers, and the First and Second Derivative Tests.
4/17 & 4/19	Optimization
4/24 & 4/26	Relative Rate of Change and Elasticity of Demand
5/1 & 5/3	Related Rates and Review
5/8 & 5/10	Exam 3 The Indefinite Integral
5/15 & 5/17	The Fundamental Theorem of Calculus and its connection between the Reimann Sum and Definite Integrals. Calculating Definite Integrals Geometrically, Areas of Compound Regions, and Applications for Finding the Area Between Curves.
5/22 & 5/24	U-Substitution for Integrals and Review Project Presentations and Synopsis Due May 24th Live in class
5/29 & 6/5	May 29 <sup>th</sup> is Memorial Day No class, Finals week begins this week as well, so no class this week our final is on the 5 <sup>th</sup> of June. Final Examination Monday June 5 <sup>th</sup> from 6:30-8:30 PM Note the time difference for finals week.

## **Classroom Policies:**

**A.** Cheating: To help promote the best learning environment and education for your future courses keep your own student integrity. Cheating only hurts us in the end. Any software or use of a cell phone to access the internet for information covered by exams is not allowed during exams. Any outside chat rooms that allow students to communicate is not allowed during exams. You can show your student integrity by doing your own work on exams, and not helping others with answers when it comes to any exam. If caught you will be given a 0 on that exam, and I must report the incident to the Student Affairs Office, (This may prevent a student's transferring to SDSU or other colleges). In addition, using notes when not allowed or using unauthorized notes during an exam, copying another student's work, getting test information from another student in another class is obviously cheating. I hate catching students cheat because when a student does cheat, I have to be the one to take action which can be interpreted as me being "Mean Guy". Please don't put me in that position, as I am a nice guy not a mean one.

**B.** Attendance: Math is not a spectator's sport you need to be here to participate even though the course is taught on zoom. You need to be present live during class time. This means that one can't just watch the zoom lecture latter and skip our designated class time of M W 6-7:50 pm. A student *may* be dropped in this course for 12 hours or more of absences. However, it is the students ultimately responsible for officially withdrawing from the course. See me if this becomes a problem.

**C.** If absent, have a classmate lend you their class notes and ask me if there were any schedule changes or other announcements on days missed from the class. Any changes and announcements will be posted on Canvas or sent via email and updated in the class syllabus. Also when absent you can watch the uploaded zoom video of the class on canvas to keep from getting lost in class. You are expected to attend each class, arrive on time, and remain for the entire class. If this is not possible it is your responsibility to discuss with the instructor, the reasons for arriving late or leaving early. *Please let me know at the beginning of class if you will need to leave early.*

**D.** During group activities be expected to collaborate actively with your peers, sharing, taking and giving, listening and explaining, questioning and answering. You should be prepared for participation in class discussions and in group work. Assist your peers to come to an understanding mathematics. For this to happen you must stay current with the course material

**E.** Be courteous to the instructor. The community college experience is one in which you will be exposed to many diverse individuals. Your success in this world depends on how well you can work in groups as well as individually with other people. Respect each other and your instructor. I am here to help you, not make your life difficult. Never be afraid to stop in for student hours for help or ask questions in class if something is not clear to you. Calculus is tricky but can be fun of approached with the right mindset.

## **SUCCESS TIPS FOR LEARNING MATHEMATICS**

- Read ahead in the text the sections(s) to be covered in class on a particular day.
- Take notes on the lecture and attempt to understand "why" as well as "how" problems are solved. Ask questions during the lecture on points you do not understand.
- Complete homework assignments before the next class. If time does not allow you to complete the assignment, at least try some of the problems and ask questions about the ones you don't understand.
- Begin reviewing and studying for a test at least one week before the scheduled test date.
- Do not attempt to learn math by yourself. Team up with another classmate and work together. Share ideas and help each other understand the material. Ask your instructor questions during office hours.
- To support your efforts to succeed in this class, it is highly recommended that you utilize the free math tutoring services available in the STEM Tutoring Center.

**Calculator Loan Program** You can reserve a calculator for the semester on a first come first serve basis by following the guidelines given below:

- Run in collaboration with the library so students can check out a calculator for the entire semester; we added in the classroom calculators so there are more to lend
- Students MUST be enrolled in a Math course at Cuyamaca.
- Students can go to the backdoor of the library for two weeks.
- Usual hours of operation re on Monday & Tuesday 9:00 am – 6:00 pm; and on Wednesday & Thursday 9:00 am – 5:00 pm.
- Students must abide by the marks to keep socially distanced.
- Students must be wearing a mask, have a photo ID (any will do), know their student ID number, and have proof they are taking a math class at Cuyamaca (this can be done on their phone).
- Students will have to make an appointment by sending an email to [cuyamaca.circulation@gcccd.edu](mailto:cuyamaca.circulation@gcccd.edu)

**Tutoring:** Information about tutoring services at Cuyamaca College can be found at the following URL <https://www.cuyamaca.edu/student-support/tutoring-center/index.php>

You have several ways you can access a tutor. In person on campus, or you can request a Zoom Video Tutoring session, an Email Tutoring session, or an In-person tutoring session right from your Canvas container by clicking the blue “Tutoring” link on the left side of your course container and completing the request form. You may also email [Cuyamaca.Tutoring@gcccd.edu](mailto:Cuyamaca.Tutoring@gcccd.edu), visit their website at [www.cuyamaca.edu/tutoring](http://www.cuyamaca.edu/tutoring) or leave a message with your callback information at (619) 660-4525 for more information.”

**DSPS:** Academic accommodations are available for students with disabilities. If you suspect that you have a disability, or require services for any other type of disability, please contact Disabled Student Programs & Services in the One Stop Center (A-113) or call at 619-660-4239.

If you have a documented disability and need accommodations for this class, please send me your DSPS Academic Accommodation form as early as possible. You must complete the [Student Registration for Test Proctoring](#) form on the [Test Proctor Website](#) or contact the Test Proctor directly at [cuyamaca.dspstesting@gcccd.edu](mailto:cuyamaca.dspstesting@gcccd.edu).”

**Cuyamaca Cares Program:** Cuyamaca College believes that food, housing, and mental wellness are basic rights that you deserve to have. If you need assistance securing these basic rights, please contact the Cuyamaca Cares Basic Rights Center at 619-660-4203 or visit our website at [www.cuyamaca.edu/cuyamaca-cares](http://www.cuyamaca.edu/cuyamaca-cares).”

**Additional Suggestions:** You have a Canvas account for Math 280 with links to the syllabus and all handouts, and videos, and websites like youtube. In addition, I encourage you to have discussions within Canvas for collaborating with each other. You can access Canvas through the school homepage at <https://www.cuyamaca.edu>

### **Hate Free Zone Climate:**

In our classroom, each student should feel free to express their own opinion and ideas in a respectful manner. Students should be open to listen to and appreciate differences in opinions, life experience, worldviews, values/beliefs, etc. **Our class is a hate-free zone.** Please be mindful of how you communicate your values, beliefs, ideas, opinions, etc. While we will often disagree with other people, it does not give anyone the right to intentionally hurt others with words or to discriminate against them. Words matter. [This is especially important in a remote or virtual environment.] Therefore, take a moment to think about what you want to say or post in the chat/discussion board.”

### **Project Presentation and Report Information**

You and your group are responsible for researching all the information related to your topic. Everyone in the group will receive the same grade. Your grade on this project is dependent on the following factors: The Presentation is worth 60%, The Synopsis 20%, and the Progress reports  $2 \times 10\% = 20\%$ . This is your opportunity to research something that could potentially be what you do for a living one day. I am hoping it brings you some insight on where this could end up, and what I have found is that most students get excited about seeing a glimpse of the future, while some may want to rethink what they are truly in for. People ask all the time where are they ever going to use math in the real world? Here is your chance to connect Mathematics to your own world.

**The details regarding the project can be found in a module titled Project Information on the home page of Canvas**

**Note: This syllabus is subject to change with prior notice.**