Syllabus: Math 178 Section and 9378 Calculus for Business, Social, and Behavioral Sciences   Cuyamaca College Spring 2021

Instructor: Chris Navo

Course/Section/Units: Math 178/ 9378/ 4

Email: Chris.Navo@gcccd.edu

Classroom Location: Web online

Dates Classes Meet: February 1-June 7

Days & Times classes Meet: Access through the Zoom tab on the Canvas home page.

Mondays and Wednesdays 12:30-2:20 pm

Instructors Student Hours: Access through the Zoom tab on the Canvas home page

Monday 11:30 am-12:30 pm, Tuesday 1:30-2:30 pm, Wednesdays 11:30-12:30 pm & 9:00 pm – 10:00 pm,

and Thursdays 10:00-11:00 am

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. 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.

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 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 coordinated and up to date with the homework for whatever sections we have covered from class.

Group Work Activities 20%: Throughout the semester I will assign Group Work Activities using the breakout rooms in zoom, worth 30% 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 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 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 in-class cumulative final exam is worth 10% and a Group Project 10%: As part of the course, you will find 3 other members in the class and pick a topic that must involve Business Calculus. Your group is responsible for researching all the information related to a topic. The more you apply in your project the lessons from this class the better your grade. A handout will be given to you on this.

Final Exam Time and Dates:
JUNE 7ᵀᴴ MONDAY AT 11:35AM – 1:45PM. NOTE: CLASSES SCHEDULED FOR FINALS WEEK MEET AT DIFFERENT TIMES THAN USUAL.

<u>Grading Scale:</u>   A+ (97-100%); A (94-96%): A- (90-93%); B+ (87-89%); B (84-86%); B (80% - 83%); C+ (77% - 79.9%); C (70-76%); D (60% -69%); F (below 60).

To earn a grade of C or better in the class, the student must earn an overall grade of C or better AND either one of the following (whichever is best for the student):

1.   a D or better on the final assessment(s), OR

2.   an average grade of C or better on all exams including the final assessment(s) without dropping any exam scores.

<u>**"Required" Text and Supplies**</u>: All that I require is for access to Knewton.com, which is found on your Canvas shell for this course**,** and a graphing calculator *(see Cuyamaca's Calculator Loan Program a couple pages down ion this syllabus)*. Our Department highly recommends and supports the use of TI Graphing Calculators in our Mathematics classes. For this class, I recommend that you use a TI Calculator. Under assignments in Canvas, you will be automatically taken to th**e** Knewton site where you could begin the homework if you paid for registration.

Spring 2021 Academic Calendar

<u>School Calendar</u>

February 14 … Last day to add or drop classes without a 'W' on transcripts.	March 29 – April 3 … Spring Recess
February 12 – 15 … Holiday – President's Weekend	April 5 …Second 8-week session begin.
March 5 … Last day to apply for P/NP	May 2 … Last day to drop semester length classes
March 12 … Last day to apply for spring 2021 Degree/Certificate.	June 1 – 7 … Final Exams
	June 10 … Grades Due
March 27 … End of first 8-week session	June 10 …Commencement

Math 178 Class Calendar

Week	Dates	Lesson Plans
Week 1	2/1 & 2/3	Introductions, Relations and Functions, Domain and Rang Linear Equations and Functions-Solving, Finding /Graphing, Applying, Interpretations of Linear Equations Applications of Cost and Revenue Functions
Week 2	2/8 & 2/10	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, the Parabola, and Graphs of Basic Functions.
Week 3	2/15 & 2/17	HOLIDAY 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 1. Graph, 2. Table, and 3. Analytically from Continuous Piecewise Function. With Removable Discontinuities
Week 4	2/22 & 2/24	Secant and Tangent Lines, Instantaneous Velocity, The Definition of the Derivative, and Review
Week 5	3/1 & 3/3	On Monday we have exam **Exam 1** The Power, Sum, and Difference Formulas and their Explorations on the Tangent Line
Week 6	3/8 & 3/10	Marginal Average Cost, Revenue Part 1 Derivatives of Exponential Functions with base Derivative of the Logarithmic Functions
Week 7	3/15 & 3/17	Marginal Average Cost, and Revenue Part 2 The Chain Rule The Product and Quotient Rule.
Week 8	3/22 & 3/24	Logarithmic Differentiation, Review
Mar 29-Apr 2		**Spring Break**
Week 9	4/5 & 4/7	Catch up and Review!
Week 10	4/12 & 4/14	**Exam 2**

Critical numbers and the
First Derivative Test

Week 11   4/19 & 4/21   Progress Report on Project Due
                                  The First and Second DerivativeTests, and Optimization
Problems

Week 12   4/26 & 4/28   Optimization Problems

                                  Relative Rate of Change, Elasticity of Demand, and
                                  Related Rates

Week 13   5/3 & 5/5   Exam 3, The Antiderivative

Week 14   5/10 & 5/12   Left and Right Reimann Sums and

                                  Defining the Definite Integral

                                  Calculating Definite Integrals Geometrically,

                                  Areas of Compound Regions, and Applications

                                  for Finding the Area Between Curves

Week 15   5/17 & 5/19   Antiderivatives and the Integral, evaluating integrals,

                                  Using the Fundamental Theorem of Calculus

                                  The Substitution Rule and Review for the final

Week 16   5/24 & 5/26   Review Presentations and Synopsis due

Finals Weeks begins on Tuesday June 2

The Final Exam Math 178 Monday June 7th 11:45am -1:45 pm.

Classroom Policies:

Cheating: To help promote the best learning environment, please keep cell phones turned off during class time, and try to stay positive about the subject matter unlike the girl in the picture above. Cell phones are not allowed for calculators for exams. Any device that allows students to communicate or access the internet is not allowed during exams. If caught using a cell phone during an exam, you will be given a 0 on that exam, and I must report the incident to the Student Affairs Office, which 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 cheats I must be the one to act which can be interpreted as me being "Mean Guy" when I am not. Please Do not put me in that position.

Attendance: Math is not a spectator's sport you need to be here to participate. A student *may* be dropped in this course for 12 hours or more of absences. However, it is the students who are responsible for officially withdrawing. See me if this becomes a problem. When absent, have a classmate lend you their class notes and ask 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., as well as updated in the class syllabus. You are expected to attend each class, arriving 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.*You are expected to be courteous to each other and 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 a living hell. Ones attitude about a subject has an enormous impact on how they learn that subject. If you approach

moments in your life with stress you will only experience more stress, remember at those times to be calm, relax, and breath. I will have to ask you to leave the class for display of behavior I feel is disruptive or offensive to the classroom environment. Find a study partner, and/or form groups to help prepare for exams. 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. Food and Drink Policy: You may have drinks in class only if the drink is in a container that can be closed tightly and is not likely to spill if dropped. I encourage you to use your own reusable drink container for class. No food is allowed during class time. You may have food with you to snack on in the classroom during breaks, but I do not want the distraction of food during class Be aware that no drinks or food are allowed in any computer lab and upstairs in Science labs. In addition, only water is allowed in the STEM Achievement Center.

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 do not 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: Our Department highly recommends and supports the use of TI Graphing Calculators in our Mathematics classes. For this class, I recommend that you use a TI Calculator. You can reserve a calculator for the semester on a first come first serve basis through the *Cuyamaca Library* by following the guidelines given below on the following dates:

Checkout/Return Event

Feb 1st - 4th 9:00 a.m. – 2:00 p.m.

Feb 8th - 11th 9:00 a.m. – 2:00 p.m.

Calculators require Student ID number and proof of enrollment in a Cuyamaca math class (printed or smartphone).

Location: Enter the campus and follow signs to the top of "C" building. Ring the doorbell in the back of the library and we will assist you.

You must follow all safe distancing instructions while on Cuyamaca Campus. (Required temperature check, mask, and 6' apart while waiting).

If you are unable to attend during the event, please contact the library to make an appointment.

LIBRARY MATERIALS ONLY. We cannot accept BOOKSTORE rentals or items from other campus programs. https://cuyamaca.bncollege.com/shop/cuyamaca/home For questions contact Circulation Desk cuyamaca.circulation@gcccd.edu Or call (619) 660-4416 and leave a message.

Online Tutoring Available:

"*To support your efforts to succeed in this class, it is highly recommended that you utilize the free tutoring services available. The hours are Monday & Thursday 9:00 am – 6:00 pm; Tuesday & Wednesday 9:00 am – 7:00 pm; Friday 10:00 am – 2:00 pm. To make an appointment, please either call 619-800-2407 or email cuyamacatutors@gmail.com with the course and time, you would like to meet with a tutor. The college also offers additional online tutoring through Natator which can be accessed 24/7 through your Canvas course.*"

Cuyamaca Cares: *A program that offers many opportunities for help with food, housing, and personal counseling. Since the food bank on campus is currently closed, there will be drive through opportunities coming soon which will be shared. If you have a specific need, please email Kaylin Rosal (*cuyamaca.cares@gcccd.edu*).*

ACCOMODATIONS: Academic accommodations are available for students with disabilities. Please identify yourself to me (after class) and to Disabled Students Programs & Services staff so that the appropriate accommodations can be ensured. If you suspect you have a learning disability or need services for any other type of disability, contact the Disabled Students Programs & Services (DSP&S) Office, A-113, at the Student Services One-Stop Center or call (619) 660-4239.

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