Math 078 + 178

Math 078 – 9993: Foundations for Calculus for Business social & Behavioral Sciences
Math 187 – 9994: Calculus for Business, Social and Behavioral Sciences
Spring 2021: February 01 to June 7, 2021 (Remote Instruction)

Table of Contents

Hello Student!

I am aware that this syllabus is VERY LONG (10 pages). But every piece of information on here is very important! So please do take the time to read it and make sure you that do understand the policies and the requirements you need to complete this class successfully. You will have a quiz on this syllabus and it is due on Tuesday (February 2 @11:59 PM). This quiz is mandatory and you may use the syllabus as you are taking it. By taking this first quiz you acknowledge, understand and accept the policies of the class.

Please note: You must access Canvas and register with Knewton systems by the end of the first week (Sunday, February 7). If not, you may be dropped from the class.

Instructor Contact Information

- **Instructor:** Victoria Phung
- **Email:** Canvas Inbox (preferred method of contact) or victoria.phung@gcccd.edu
    - I will respond to your message within 24 hours, Monday through Thursday. If you do not get a response after 24 hours, please resend or let me know during our Zoom sessions.
- **Zoom Meetings:** Access Zoom room by selecting "ConferZoom" in Canvas
    - **Set Meeting Times (Required):**
        - Monday from 6:00 PM to 8:50 PM
        - Wednesday from 6:00 PM to 8:80 PM
    - **Virtual Office Hours (Optional):** Monday and Wednesday from 5:30 PM to 6:00 PM

Course Location & Technical Support

This course is taught in Canvas. To access our course, login to Canvas.
Questions about Canvas are best handled by the Online Learning Center and Canvas Support (1-844-629-6835), although I will try to assist you with technical questions when possible. The Canvas Guides are an excellent resource for you as well.

Prerequisites and Recommended Preparation

- Math 078: Appropriate placement
- Math 178: "C" grade or higher or "Pass" in MATH 110 or equivalent

Course Description

Math 078 - FOUNDATIONS FOR CALCULUS FOR BUSINESS SOCIAL & BEHAVIORAL SCIENCES	Math 178 - CALCULUS FOR BUSINESS, SOCIAL AND BEHAVIORAL SCIENCES
Support for this course focuses on the skills and concepts needed for success in Calculus for Business, Social & Behavioral Sciences (Math 178). This course is for students concurrently enrolled in Math 178 at Cuyamaca College. Students will receive extra support in algebra, geometry, problem solving, technology, and study skills. Pass/No Pass only. Non-degree applicable.	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.*

Course Objectives

Math 078 - FOUNDATIONS FOR CALCULUS FOR BUSINESS SOCIAL & BEHAVIORAL SCIENCES	Math 178 - CALCULUS FOR BUSINESS, SOCIAL AND BEHAVIORAL SCIENCES
Students will be able to: 1) Practice specific skills from algebra, geometry, and technological skills needed to complete Calculus for Business, Social & Behavioral Sciences;	Students will be able to: 1) Find the derivatives of polynomial, rational, exponential, and logarithmic functions; 2) Find the derivatives of functions involving constants, sums, differences, products, quotients, and the chain rule;

2) Develop problem solving skills and gain confidence working with problems at the applied Calculus level; 3) Assess and improve their mathematical competency; 4) Use effective study skills.	3) Sketch the graph of functions using horizontal and vertical asymptotes, intercepts, and first and second derivatives to determine intervals where the function is increasing and decreasing, maximum and minimum values, intervals of concavity and points of inflection; 4) Analyze the marginal cost, profit and revenue when given the appropriate function; 5) Determine maxima and minima in optimization problems using the derivative; 6) Use derivatives to find rates of change and tangent lines; 7) Use calculus to analyze revenue, cost, and profit; 8) Find definite and indefinite integrals by using the general integral formulas, integration by substitution, and other integration techniques; and 9) Use integration in business and economics applications.

Student Learning Outcomes

Math 078: Upon successful completion of this course, students will be able to:
1) Solve multi-disciplinary application problems and interpret the results in context
2) Demonstrate relevant arithmetic, algebra, and technology skills in the context of Calculus for Business, Social & Behavioral Sciences
3) Apply study habits that promote success in Calculus for Business, Social & Behavioral Sciences

Math 178: Upon successful completion of this course, students will be able to:
1) Use graphical, numerical, and analytical methods to solve multidisciplinary problems at the Calculus for business, social, and behavioral sciences level (especially from business or the natural/social sciences).
2) Use integration in business and economics applications.

Required Materials

1) **Knewton Web Access Code (required)**: Knewton access code can be purchased from the campus bookstore or online
2) **Graphing Calculator (required)**: Our Department highly recommends and supports the use of TI Graphing Calculators in our Mathematics classes. For this class in particular, I recommend that you use a TI-84 PLUS.
3) **Textbook (optional)**: There is no textbook for this class. So we can use this book, Calculus Volume 1 by Edwin "Jed" Herman and Gilbert Strang from OpenStax (FREE) as reference.

Instructor Communication: Regular Effective Contact

I am looking forward to working closely with you this semester, and you can expect me to play an active role in our course. Every week I will post announcements, create discussion forums around exam times, and provide feedback on the written work assignments within one week of submission. In addition, almost every week we will have two Zoom meetings during our scheduled class time (see Course Calendar at the end of this syllabus) and an optional virtual office hours every Monday and Wednesday from 5:30 PM to 6:00 PM. Please join me and bring any questions that you may have regarding the course. If you cannot join the

virtual office hours, you may send your questions through the Canvas Inbox and I will answer them within 24 hours, Monday through Thursday.

Method of Evaluation

1. Grade Policy for Math 178

Your final grade is based on the percentage of the number of points you have acquired over the semester to the total number of points possible.

A+ = 99% to 100%; B+ = 88% to 89%; C+ = 78% to 79%; D = 60% to 69%; F ≤ 59%

A = 93% to 98%; B = 83% to 87%; C = 70% to 77%;

A- = 90% to 92%; B- = 80% to 82%,

Note: To earn a C or better in the class a student must earn an overall grade of C or better AND

1. *a D or better on the final assessment(s) where the instructor defines what constitutes the grades of C and D*

OR

2. *an average of a C or better on all exams which includes the final assessment(s) (without dropping any exam scores) where the instructor defines what constitutes the grade of C.*

The instructor reserves the right to add/change/delete points during the semester. Your course grade will be determined by the following grading system:

Assignment	% of Total
Class Work via Zoom	10%
Homework	20%
Quizzes	10%
Exams	40%
Final Exam	20%
Total Points Possible	**100%**

Assignments (Math 178)

- **Class Work via Zoom:** Weighted as 10% of the total grade. To ensure that you have the best chance to be successful in this course, we will be meeting on Zoom regularly during the scheduled class time, Monday and Wednesday from 6:00 PM to 8:50 PM (as scheduled on the Class Schedule). You can access the Zoom room by selecting the "ConferZoom" link from our Canvas course. During our meeting time, I will provide short lectures, go over problems and questions, and/or do some group activities. If you miss class, then you will earn a zero for that session on that day. You cannot make-up missed assignments during our class meeting on Zoom. However, you are allowed to miss up to four class meetings. *If you exceed the 4 absences allowed, then you may be dropped from the course.*

- **Homework:** Weighted as 20% of the total grade. You will be doing your homework online from Knewton.com website. HOWEVER, please access the assignments through a link in our Canvas course. All assignments and their due dates are posted well in advance; it is your responsibility to check your Canvas accounts regularly for the assignments. No late work will be accepted but the four lowest homework scores will be dropped at the end of the course.

How to Register Knewton (Knewton-Alta)

A. Login to your Canvas account
B. Select a Knewton assignment in Week 1 Module
C. Follow the instructions to complete the registration
D. If you would like to watch a video on how to register, here is the URL for it:
   - STUDENTS: Getting Started With Knewton Alta (LMS) - YouTube

- **Quizzes:** Weighted as 10% of the total grade. All quizzes (except for the Syllabus quiz) will be taken through Knewton. You can access these assignments through a link in our Canvas course. There are no make-up quizzes regardless of the reason but the lowest score will be dropped. More instructions will be provided later on the day of the quiz or exam.
  - Each quiz is worth 10 points and you will be given 40 minutes to complete it with one (1) attempt.
  - Quiz scores are based on the work submitted, not just the "score" earned in Knewton.
  - Before taking the online quizzes, I highly recommend that you take the practice quizzes. The questions from the online quizzes are very similar to the questions on the corresponding practice quizzes.
  - Syllabus quiz and the quizzes are listed in the Course Map section of this syllabus (pages 9) and Module page with the scheduled dates and times.

- **Exams:** Weighted as 40% of the total grade. There are 4 exams scheduled. which are available ONLY during our scheduled class time. I will be on Zoom during that time in case you have question(s) relating to the exams. You can access these exams through a link in our Canvas course. DO NOT miss a scheduled exam. A make-up exam will only be granted under documented extraordinary circumstances. In addition, you must notify the instructor in advance or as soon as you know (if the incident happened unexpectedly). If no documentation and no email notification are provided, then no make-up will be given.
  - Each exam is worth 50 points and you will be given 90 minutes to complete it with only one (1) attempt.
  - Exams will be taken online through Knewton.com with all work uploaded into Canvas. Your grade will also be based on the work you submit, not just the "score" you receive on Knewton
  - Before taking the online exams, I highly recommend that you take the practice tests. The questions from the online exams are very similar to the questions on the corresponding practice tests.
  - No external websites, no consulting with other students/friends and no other outside sources are allowed to be used during these exams. However, you will be allowed to use a sheet of notes if you submit it before the exams. More instructions will be provided before the exams.

- **Final exam:** Weighted as 20% of the total grade. Our final exam will be given on two (2) days. It will be taken online during the scheduled dates and times below. You can either access them through the links in our Canvas course.
  - **Our final exam will be given on two days:**
    - **June 2 (Wednesday): Final Exam (Part 1: 7:30 PM — 9:30 PM)**
    - **June 7 (Monday): Final Exam (Part 2: 6:30 PM — 8:30 PM)**
  - Final exam is worth 100 points total with only one (1) attempt to complete for each part.
  - No external websites, no consulting with other students/friends and no other outside sources are allowed to be used during these exams. However, you will be allowed to use a sheet of notes if you submit it before the exams. More instructions will be provided when that time comes.
  - Final exam will be taken online through Knewton.com, with all work uploaded into Canvas. Your grade will also be based on the work you submit, not just the "score" you receive in Knewton.

2. Grade Policy for Math 078

Math 078 is graded on a Pass/No Pass basis. In order to earn a "Pass" in Math 078, you must have satisfactory attendance in the course, and earn a "C" or better in the concurrent Math 178 course.

Late Work

Assignments for this class should be completed on time so that we are all moving through the course together. Sometimes, though, life gets in the way of learning. In unexpected situations leading to late work, please contact me as soon as possible to discuss a plan for success. The best way to plan for the unexpected is to get an early start on each assignment.

Attendance and Participation

Each student is expected to attend every class meeting on Zoom during the scheduled class time (Monday and Wednesday from 6:00 PM to 8:50 PM). During these sessions, I will provide short lectures, go over problems and questions, and/or do group activities. If you miss class, then you will earn a zero for that session on that day. You cannot make-up missed assignments during our class meeting on Zoom. However, you are allowed to miss up to four (4) class meetings. If you exceed the four absences allowed, then you may be dropped from the course.

In addition, student may also be dropped from the course if s/he does not maintain regular effective contact which is defined below.

- Each student must be registered into Knewton by Sunday (2/7), otherwise s/he may be dropped from the roster and her/his spot might be given to a waitlisted student.
- Log into Canvas/Knewton and complete homework assignments regularly: If a student accumulates six (6) or more 0% on assignments, then s/he can be dropped from the course due to inactivity. If you find that you have any trouble keeping up with the assignments or other aspects of the course, please make sure you contact your instructor as early as possible.

If you wish to drop this class, it is your responsibility to do so. Do not simply stop logging in and assume that the instructor will drop you from the course.

Academic Integrity

While I encourage all of you to work and study online together with your fellow classmates, and to actively participate in the online discussion forum, **all work you submit must be your own**. By enrolling in this remote instruction course, you agree that you are the person accessing and completing the work for this course and will not share your username and password with others. In addition, you will not refer to any outside sources when engaged in a quiz or exam (no external websites, no consulting with other students, no other outside sources) other than those expressly permitted. All submitted written work will be written by you, and will represent only your work, and not the work of any other.

- Cheating and plagiarism are serious offenses and will be treated seriously.

- Academic cheating and plagiarism. Academic dishonesty of any type by a student provides grounds for disciplinary action by the instructor or college. In written work, no material may be copied from another without proper quotation marks, footnotes, or appropriate documentation. Students (both the giver and the receiver) involved in cheating and/or plagiarism will receive a zero on that assignment or exam and referral to the office of the Dean of Student Affairs. Again, academic dishonesty of any type such as cheating and plagiarism can result in one or all of the following: a failing grade on the assignment, a failing grade in the class, and/or formal disciplinary action by the college.

- Disruption of instructional activities or administrative procedures. Continued disruptive behavior, continued willful disobedience, habitual profanity or vulgarity, or the open and persistent abuse of college personnel.

- For more information, please refer to Cuyamaca College catalog under Academic Policies and Procedures.

Disciplinary Action Procedures:

1. When a student conduct violation has occurred, the first attempt to resolve the misconduct will be an informal consultation between the student and the instructor (or college staff member).
2. If the situation is unresolved, the Dean will meet with the instructor and the student(s) involved.
3. If the situation remains unresolved, the instructor will complete a report of student misconduct and file the report with the Dean of Student Services.
4. In situations involving safety or if the College Police have become involved, steps 1 and 2 need not be adhered to.

Modifications may occur due to unforeseen circumstances.

DSPS Services

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 online Test Accommodations Registration form on the Test Proctor Website or contact the Test Proctor directly at Roberta.Gottfried@gcccd.edu.

Student Support Services

Student support services are available at Cuyamaca College. For a complete list of services, including the library, tutoring, and counseling, visit the Student Support webpage.

Free online tutoring is available to all currently enrolled Southwestern College students through SWC's Online Writing Lab (OWL) and the Western eTutoring Consortium.

When you have questions about Canvas and online learning at SWC, the Online Learning Center is ready to assist you.

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

Tutoring

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 (during hours, leave a message and they will call you right back) or email cuyamacatutors@gmail.com with the course and time you would like to meet with a tutor."

Netiquette

Netiquette is a set of guidelines for respectful behavior in an online environment. It is etiquette for the Internet, and knowing these social rules can help you have a more rewarding semester. The netiquette guidelines here are ones that are especially important in our online classroom.

1. **Participate.** Reading the posts of others is helpful for you, but you must also do your part to be helpful for the group. Share your ideas to strengthen our discussion, and don't wait until the last minute to

contribute. Encourage others to participate by responding to their ideas. Be involved, but do not dominate a discussion with too many posts.

2. **Remember the human.** This common Internet mantra means that even though we may not be face to face, there is a real person behind each discussion post. Do not write something that you would not feel comfortable saying in a face-to-face classroom setting. Discuss ideas, not people. In other words, do not attack a classmate for expressing his or her opinion; instead, discuss your position on the *ideas* that have been presented. Be kind and understanding with your classmates to keep our environment positive and productive.

3. **Help others.** We will be working together all semester, so let's try to be a good team. If you can help a classmate with a question, please do! Your efforts will be appreciated by both students and instructor.

4. **Respect other people's time.** Your posts should be focused, organized, and clear so that your classmates can quickly see your point and evidence. Another way to respect people's time is to look for answers before asking for help. For example, if you can't find something or you don't remember when an assignment is due, look through the syllabus and other course documents for the answer. Only ask for help when you truly need it.

5. **Edit and proofread before posting.** We have lots of posts to read, so yours needs to be as clear as it can be. It should be organized and written in standard English. Unfamiliar abbreviations or easily fixed misspellings may tell your readers that you don't value their time, and this does not build good will.

6. **Don't shout.** TYPING IN ALL CAPITALS MEANS YOU ARE SHOUTING AT US! Don't do it. The same can be said of repeated exclamation marks!!!!!!!!!

7. **Use emoticons sparingly.** Social networking and texting have given us lots of fun keyboard shortcuts to add tone to a message. Because a smiley face or wink can help to establish the intended tone of a comment, you are welcome to use common emoticons occasionally. Too many emoticons can make your writing look more casual than academic, so don't overdo it. :-)

8. **No flaming.** "Flaming" is an angry message, often directed at another person. When another person responds in anger, we have a "flame war" taking over the discussion. Personal attacks are unacceptable in the classroom, whether in person or online. If you see a conflict developing, try to calm things down if you feel comfortable doing so. If you feel attacked, contact your instructor rather than responding to the flaming student. We all have biases, and sometimes we are not aware of how what we say may be viewed by others, so let's all try to be generous and kind in our responses to one another. Everything we do in Canvas is permanent, so please think very carefully about your tone before submitting a post. If you don't, that mistake might haunt you for the rest of the semester.

In conclusion, please be kind to one another and be mindful of our actions. In our Zoom/online 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 so take a moment to think about what you want to say or post in the chat/discussion board.

Course Calendar

- ***Tentative* Course Schedule (*Subject to Change*)**
- **Weekly announcement will be sent and posted on Canvas to remind of that week assignments (homework, quiz and/or exam) availabilities and due dates.**

Week	Date	Assignments	Homework & Assessments with Due Dates
1	February 1st to 7th	Introduction-Syllabus, 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	1. **Syllabus Quiz due on Tuesday (2/2)** 2. Homework Set 1 on Knewton due on Tuesday (2/9)
2	February 8th to 14th	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.	1. **Quiz 1 due on Wednesday (2/10)** 2. Homework Set 2 on Knewton due on Tuesday (2/16)
3	February 15th to 21st	Piecewise-Defined Functions, Polynomials: Polynomials-End Behavior. Local Behavior, Rational Functions -Graphs and Applications.	1. No Class - Holiday: Monday (2/15) 2. **Quiz 2 due on Wednesday (2/17)** 3. Homework Set 3 on Knewton due on Tuesday (2/23)
4	February 22nd to 28th	Finding Limits (Finite or Infinite) by using the following three. methods Graph, Table, and Analytically from. Continuous	1. Homework Set 3 on Knewton due on Tuesday (2/23) 2. Practice Exam 1 due on Tuesday (2/23) 3. **Exam 1 on Wednesday (2/24)** *Exam to be completed during scheduled class time*
5	March 1st to 7th	. Piecewise Function with Secant Lines and Average Rate of Change, Tangent Lines. and Instantaneous Velocity. The Definition of the Derivative	1. Homework Set 4 on Knewton due on Sunday (3/7)
6	March 8th to 14th	The Power, Sum, and Difference Formulas and their Explorations on the Tangent Line.	1. **Quiz 3 due on Monday (3/8)**
7	March 15th to 21st	Marginal Average Cost, and Revenue Part 1. Derivatives of Exponential Functions with base. Derivative of the Logarithmic Functions.	2. Homework Set 5 on Knewton due on Tuesday (3/23)
8	March 22nd to 28th	Marginal Average Cost, and Revenue Part 2 The Chain Rule The Product and Quotient Rule.	1. Homework Set 5 on Knewton due on Tuesday (3/23) 2. Practice Exam 2 due on Tuesday (3/23) 3. **Exam 2 on Wednesday (3/24)** *Exam to be completed during scheduled class time*
9	Marth 29th to April 4th	Spring Recess	Spring Recess – No Class

10	April 5th to 11th	Logarithmic Differentiation	1. Homework Set 6 on Knewton due on Tuesday (4/6) 2. **Quiz 4 due on Wednesday (4/7)**
11	April 12th to 18th	Critical numbers and the first Derivative Test	1. Homework Set 7 on Knewton due on Sunday (4/18)
12	April 19th to 25th	The First and Second Derivative Tests, Optimization Problems	2. Homework Set 8 on Knewton due on Sunday (4/25)
13	April 26th to May 2nd	Relative Rate of Change Elasticity of Demand, Related Rates	1. Practice Exam 3 due on Tuesday (4/27) 2. **Exam 3 on Wednesday (4/28)** *Exam to be completed during scheduled class time*
14	May 3rd to 9th	Left and Right Reimann Sums and Defining the Definite Integral	**1.** Homework Set 9 on Knewton due on Sunday (5/9)
15	May 10th to 16th	Calculating Definite Integrals Geometrically, Areas of Compound Regions and Applications for Finding the Area Between Curves	**1. Quiz 5 due on Monday (5/10)** **2.** Homework Set 10 on Knewton due on Sunday (5/16)
16	May 17th to 23rd	Antiderivatives and the Integral, Evaluating Integrals Using the Fundamental Theorem of Calculus	**3.** Homework Set 11 on Knewton due on Sunday (5/23) 4. Practice Exam 4 due on Sunday (5/23)
17	May 24th to 30th	Review for Exam 4 Review for Final Exam	1. **Exam 4 on Monday (5/24)** *Exam to be completed during scheduled class time* 2. Review for Final Exam on Wednesday (5/26)
18	May 31st to June 6th	Final Exam will be in two parts (for Math 078 and Math 178) - Final Exam Part 1	1. Holiday – No Class on Monday (5/31) **2. Part 1: Wednesday (6/2) from 7:30 PM — 9:30 PM**
19	June 7th	Final Exam will be in two parts (for Math 078 and Math 178) - Final Exam Part 2	**1. Part 2: Monday (6/7) from 6:30 PM — 8:30 PM**

Important Dates:

February 14: Last day to add classes.
February 14: Last day to drop from a class without receiving a "W" grade
February 12 & 13: Holiday (Lincoln's Birthday Observed)
February 15: Holiday (Washington's Birthday Observed)
March 29 - April 3: Spring Recess
May 2: Last day to drop semester length classes
May 31: Holiday (Memorial Day)
June 2 and 7: **Final Exam will be in two parts (for Math 078 and Math 178)**

1. **Wednesday (6/2) from 7:30 PM — 9:30 PM**
2. **Monday (6/7) from 6:30 PM — 8:30 PM**