

**College of Central Florida**  
**MAC2233 Calculus for Business and Social Science (3 credits)**  
**Section 01 (MW 9:30AM- 10:45 AM)**  
**FALL 2022**

Instructor: Kirby Brown  
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**Office Hours**

<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>
8:00AM-9:30AM	8:00AM- 9:30 AM	8:00 AM -9:30AM	8:00 AM -9:30AM	8:00AM-10AM
	11:00AM-1:00PM	11:00AM-12:30AM		
				8PM-9PM Online

**TEXTBOOK: Calculus for Business, Economics, life Sciences, and Social Sciences (14<sup>th</sup> Ed.)**

**Authors: Barnett, Ziegler, Byleen, Stocker**  
**ISBN: 978-0-13-466857-4**  
**0-13-466857-X**

**Required Materials: A graphing calculator is needed for this course. I fully recommend the TI83/84 calculator**

**DESCRIPTION: An introduction to calculus with applications to business and the social sciences. The course includes the study of functions, limits, continuity, differentiation and integration of algebraic, logarithmic and exponential functions, rates of change and curve sketching. Emphasis is on modeling and practical applications in solving business, economic and social science problems. Graphing calculator and/or algebraic system work is required in this course.**

**PREREQUISITE MAC 1140 with a grade of “C” or better or a CLM score of at least 103**

**Homework:** Homework will be assigned for each section covered in class. Each student is expected to complete their assignments. If a student encounters difficulties with a problem(s), then the **student should refer his or her problem (s) to the instructor during class time or visit the instructor during office hours or get additional help at the Math Center.**

The hours of the Math Center are listed as follows:

### Math Center Hours (Room 7-106)

Monday	Tuesday	Wednesday	Thursday	Friday
8:00 am – 6:00 pm	8:00 am – 6:00 pm	8:00 am – 6:00 pm	8:00 am – 6:00 pm	8:00 am – 3:00 pm

**All exams must be done in class.**

**EXAMS:** Students are required to take all in class exams. **NO MAKE-UP EXAMS WILL BE GIVEN UNDER ANY CIRCUMSTANCES. STUDENTS MUST SHOW WORK ON THE EXAMS FOR EACH QUESTION IN ORDER TO RECEIVE FULL CREDIT**

THERE WILL BE THREE IN CLASS EXAMS AND A FINAL EXAM

The grading breakdown is weighted as follows:

<b>Homework:</b>	<b>10%</b>
<b>Exams :</b>	<b>60%</b>
<b>Final :</b>	<b>30%</b>

**\*FINAL EXEMPTION FACTOR: THERE WILL BE THREE IN CLASS EXAMS AND A FINAL EXAM. IF STUDENTS ARE SATISFIED WITH THE OVERALL AVERAGE OF THEIR THREE EXAMS, THEY CAN CHOOSE NOT TO TAKE THE FINAL EXAM AND WILL EARN THE EQUIVALENT LETTER GRADE THAT IS ALIGNED WITH THE OVERALL AVERAGE OF THE THREE EXAMS, OTHERWISE, THEIR AVERAGE WILL BE CALCULATED ON THE GRADING BREAK DOWN ABOVE.**

NOTE: THE FINAL EXAM MAY RELACE THE LOWEST GRADE ON THE IN-CLASS EXAMS

Grades: Grades are calculated based on the following procedure:

A	Excellent	90% and above	4.0 quality points
B+	Very Good	87%-89%	3.75 quality points
B	Good	80%-86%	3.0 quality points
C+	High Average	77%-79%	2.75 quality points
C	Average	70%-76%	2.0 quality points
D	Poor	60%-69%	1.0 quality points
F	Failure	59% and below	No quality points

**NOTE: Homework will be given at the end of each lecture. The homework will be selected exercises from the textbook. Every student should attempt the homework. Exams will be based off the homework**

### MAC2233 WEEKLY SCHEDULE

Week	Assignments	Comments
Week 1	Introduction. Sections 2.1, 2.2, 2.3	
Week 2	Sections 2.3, 2.4, 2.5	
Week 3	Sections 2.6, 2.7	<b>HOLIDAY: Monday, Sept 5 (LABOR DAY). College Closed</b>
Week 4		<b>Exam 1 will cover up to Section 2.6</b>
<b>Week 5</b>	<b>EXAM 1:</b> Sections 2.1-2.6	
Week 6	Section 2.7, 3. 1	
Week 7	Sections 3.2, 3.3, 3.4	<b>Tuesday October 4. Faculty Professional Development Day. No classes</b>
Week 8	Sections 3.5, 3.6	
Week 9	Sections 3.6, 3.7	
Week 10	<b>EXAM 2</b> Section 2.7-Section 3.7	<b>Exam 2 covers up to Section 3.7</b>
Week 11	Sections 4.1 , 4.2	
Week 12	Sections 4.4, 4.5	
Week13	Section 4.6	<b>November 11. Veterans Day Holiday. College Closed</b>
Week 14		
Week 15	<b>EXAM 3</b> Sections 4.1-4.6	<b>November 23-27, College Closed Thanksgiving Break</b>
Week 16		
Week 17	Last week of classes	<b>Review for Final</b>
	<b>FINAL EXAM Wednesday December 7, 9:30AM -10 :45AM</b>	

**THE FINAL EXAM WILL BE ON Wednesday, December 7, 2022 9:30AM- 10:45AM**

**Disclaimer:** The Instructor reserves the rights to make any changes to these policies and procedures as well as the course outline as deemed necessary.

**NOTE: IF THIS COURSE IS SWITCHED TO ONLINE MODALITY AT ANY GIVEN TIME ,RANDOM DISCUSSION BASED ASSESSMENTS WILL BE CARRIED OUT THROUGHOUT THE SEMESTER PERTAINING TO EXAMS UNDER THE CONSTRAINT OF ACADEMIC INTEGRITY WHICH INCLUDES THE INSTRUCTOR ASKING STUDENTS FOR VERIFICATION OF SOLUTIONS TO EXAMS**

### **College Policies FALL 2022**

**Academic Integrity** – Cheating and/or plagiarism will not be tolerated and may result in an “F” for the course as well as disciplinary action under the Code of Student Conduct. A student may be referred to an Academic Integrity Seminar. There will be a charge for this two-hour seminar, and attendance is required (see Student Handbook).

**Access Services for Students with Disabilities** – If you have a disability, serious medical condition or a learning disorder and want to request accommodations, it is your responsibility to register with the Office of Access Services and to provide verifiable documentation to Access Services as soon as possible. If eligible, Access Services will provide you with a notification of approved accommodations to give to your instructors at the beginning of the semester. For information see the Access Services webpage at <http://www.cf.edu/departments/sa/ss/access/>, contact [access@cf.edu](mailto:access@cf.edu) or call 352-854-2322, ext. 1580. Assistance for students is available at all CF locations, by appointment.

**Classroom Decorum** – Disruptive behavior will not be tolerated. Disruptive students will be asked to leave the classroom. Continuous disruptive behavior will result in withdrawal from the course and disciplinary action under the Code of Student Conduct (see Student Handbook).

Also please go on canvas to see the withdrawal dates and other college policies

**Zoom Link for appointments:** <https://cfpatriots.zoom.us/j/7502071571>

MAC 2233 Calculus for Business & Social Sciences  
 Institutional Learning Outcomes and Course Objectives  
Institutional Learning Outcomes

<b>Learning Outcome</b>	<b>Quiz</b>	<b>Exam</b>	<b>Project</b>	<b>Classroom Activity</b>
<b>Quantitative and Analytical Reasoning: The student will understand and apply mathematical and scientific principles and methods.</b>				
1. Perform accurate computations using order of operations with and without technology.	x	x		x
2. Identify and organize relevant information and complete the solution of an applied problem.	x	x		x
3. Interpret and communicate understanding of visual representations of data.	x	x		x
4. Demonstrate mathematical number sense and unit sense.	x	x		x

MAC 2233 Learning Objectives:

1. The student understands the concept of derivative geometrically, numerically, and analytically, and interprets the derivative as an instantaneous rate of change, or as the slope of the tangent line.
2. The student states, understands, and applies the definition of derivative.
3. The student finds the derivatives of functions, including algebraic, logarithmic, and exponential functions, their sums products quotients and compositions, including higher order derivatives.
4. The student finds the derivatives of implicitly-defined and inverse functions.
5. The student finds an equation for the tangent line to a curve at a point and a local linear approximation.
6. The student finds local and absolute maximum and minimum points, finds points of inflection of functions, understands the relationship between the concavity of  $f$  and the sign of  $f''$ , and understands points of inflection as places where concavity changes.
7. The student solves optimization problems.
8. The student models rates of change, including related rates problems.
9. The student calculates the values of Riemann Sums over equal subdivisions.
10. The student interprets a definite integral as a limit of Riemann sums.
11. The student interprets a definite integral of the rate of change of a quantity over an interval as the change of the quantity over the interval, that is

$$\int_a^b f(x)dx = F(b) - F(a) \text{ where } F \text{ is an antiderivative of } f.$$

12. The student uses integration by substitution (or change of variable) to find values of integrals.
13. The student applies integration to model and solve problems in physical, biological, and social sciences, especially in solving differential equations