

College of Central Florida
MAC2312 Calculus II with Analytical Geometry (5 credits)
Section 01(MTWH 4:30PM- 5:55 PM) HYBRID-FLEX
Zoom Link: <https://cfpatriots.zoom.us/j/7502071571>
SUMMER C 2023

Instructor: Kirby Brown
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Office Hours

Monday	Tuesday	Wednesday	Thursday	Friday
1:00 PM –2:30PM		1:00 PM -2:30 PM		

TEXTBOOK: CALCULUS, Early Transcendental Functions (7th Edition)

Authors: Larson, Edwards

ISBN: 978-1-337-55251-6

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

DESCRIPTION An introduction to single variable calculus with applications. The course includes the study of functions, limits, continuity, differentiation and integration of algebraic, logarithmic and exponential functions, rates of change and curve sketching. Graphing calculator and/or algebraic system work is required in this course.

PREREQUISITE: MAC2311 WITH A GRADE OF “C” OR BETTER.

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

MAC2312

Weekly Schedule
Section 01
Summer 2023

Week	Assignments	Comments
Week 1	Introduction Sections 7.1, 7.2	
Week 2	Sections 7.2, 7.3	
Week 3	Sections 7.3, 7.4, 8.1	HOLIDAY: Monday, May 29 (MEMORIAL DAY). College Closed
Week 4	Sections 8.1, 8.2	Exam 1 will cover up to Section 8.2
Week 5	EXAM 1	
Week 6	Sections 8.3, 8.4	
Week 7	Sections 8.4, 8.5	
Week 8	Sections 8.5, 8.6	
Week 9	Sections 8.6, 8.8	
Week 10	EXAM 2	Exam 2 covers up to 8.8
Week 11	Sections 9.1, 9.2, 9.3, 9.4	Tue July 4 (Holiday). Independence Day. College Closed
Week 12	Sections 9.5, 9.6, 9.7	
Week 13	Sections 9.8, 9.9, 9.10	
Week 14	EXAM 3	Exam 3 covers up to 9.10
Week 15	Sections 10.1, 10.2, 10.3, 10.4	
Week 16	Section 10.5 EXAM 4	
Week 17	Last week of classes IN CLASS FINAL EXAM REVIEW	Review for Final
	FINAL EXAM Wednesday August 09 4:30 PM-5:55PM	

THE FINAL EXAM :Wednesday, AUGUST 09, 2022 4:30 PM- 5:55 PM

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: ALL EXAMS WILL BE TAKEN IN THE CLASSROOM IN ROOM 7-111 OR ON ZOOM IN A LIVE PROCTORED ENVIRONMENT USING A WEBCAM

Calculus II Homework Summer C 2023 Larson, Edwards 7th Edition

Section	Homework Problems
7.1	5-25, 27, 57, 58, 61, 62
7.2	13-21, 23, 25, 27-29, 33, 35, 57, 61, 62, 73, 74
7.3	3-12, 13, 15, 17, 19, 21, 23-25, 29
7.4	5, 6, 11, 12, 15, 16, 25, 26
8.1	5-14, 17, 18, 23-37, 46
8.2	15-22, 27, 29, 31, 33
	EXAM 1
8.3	3-13, 15-18, 21-23, 27, 28, 31, 33, 34
8.4	3-10, 12, 13, 15, 18, 19, 20, 21, 22, 23
8.5	3-13, 15, 21, 23
5.6	15, 16, 19, 20, 23-30, 33, 35, 36-39, 43-53
8.8	5-11, 17-21, 23, 25-28, 30, 31
9.1	5-8, 21-28, 29-44
	EXAM 2
9.2	19-24, 45-58
9.3	3-9, 11-21, 29-38
9.4	5-24, 26
9.5	9-18, 21-24, 31-33, 35-40, 41-55, 71-80
9.6	39-43, 46-49, 53-63, 65-68
9.7	17-31, 59
9.8	9-14, 15-20, 23-30, 32-34
9.9	3-15, 19, 21
9.10	5-13, 15, 21-23, 27-32, 35, 36
	EXAM 3
10.1	11-15, 17-20, 25, 27, 29, 30, 35, 37, 39, 40, 41
10.2	5-9, 11, 15, 17, 19-22, 23, 25, 29, 30, 31
10.3	9-15, 17, 43, 44, 47
10.4	5-10, 17-20, 22, 25-32, 35-40
10.5	7-15, 19-23, 41-43
	EXAM 4

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 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

MAC 2312 Calculus I With Analytical Geometry
Institutional Learning Outcomes and Course Objectives

Institutional Learning Outcomes

Learning Outcome	Quiz	Exam	Project	Classroom Activity
Quantitative and Analytical Reasoning: The student will understand and apply mathematical and scientific principles and methods.				
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 2312 Learning Objectives:

1. The student understands the concept of integration by using it to find the volumes of solid by revolving around specific axis
2. The student states, understands, and applies the definite integral by solving the area between two curves and various shapes of solid.
3. The student understands and develops many different techniques of solving an integral including integration by parts, the concepts of partial fractions and trigonometric substitutions.
4. The student finds the solutions integrals involving inverse functions.
5. The student finds an equation for the tangent line to a curve at a point involving parametric equations.
6. The student finds the arc length of a curve by using a basic geometric formula and also using a method of integration.
7. The student learns about sequences and series; the convergence and divergence of sequences and series
8. The student understands the different types of tests, Ratio Test, Comparison Test, Limit Comparison Test, Integral Test, Divergence Test, p-series test, Alternating Series Test, Absolute Convergence Test use to determine if a series converges or diverges.
9. The student calculates the values of limits if they exist by using L' Hopital's Rule.
10. The student understands how to convert from rectangular coordinate to polar coordinate and vice versa; also using the formula for finding the arc length of a curve including polar coordinates
11. The student uses the separation of variables involving Newton's law of cooling to solve applications involving differential equations.
12. 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

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

13. The student understands the use of slope fields to sketch integral curves and also determining whether a function is a solution of a differential equation
14. The student applies integration to model and solve problems in physical, biological, and social sciences, especially in solving differential equations
15. The student uses the application of Hooke's law and a method of integration to find the work done on a compressed spring
16. The student understands the expansion of polynomials involving Taylor polynomials
17. The student understands the use of power series to find the radius and interval of convergence.
18. The student understands the McLaurin series and also finding errors
19. The student understands how to use the method of integration in calculating fluid pressure and fluid force
20. The student understands the concepts of improper integrals and to find the solution of divergence or convergence