

Marshall University Syllabus Department of Mathematics MTH 230 Section 101 Fall 2023

Course Title:	Calculus with Analytic Geometry II		
Course Number:	MTH 230 Section 101 CRN: 2796 Credit: 4 Hours		
Textbook:	Calculus, Early Transcendental by Stewart, Ninth Edition		
Sections Covered:	6.1-6.5, 7.1-7.5, 7.7, 7.8, 8.1, 8.2, 10.1-10.4, 11.1-11.10		
Course	Applications of the integral, techniques of integration, and infinite series. A		
Description:	study of conic sections, polar coordinates, and parametric equations.		
Calculator:	TI-83 or higher, graphing calculators may not be allowed for some problems in		
	exams.		
Prerequisites:	MTH 229 or MTH 229H with "C" or higher		
Meeting Time:	MTWR: 9.00 – 9:50 AM		
Classroom:	Smith Hall 513		
Instructor:	Dr. Basant Karna		
Office:	Smith Hall 715		
Office Hours:	MTWR 10:00-12:00 PM (Others by appointment)		
Phone/Email:	Phone: (304) 696-4332, Email: karna@marshall.edu		
Course Objectives:	MTH 230 students will learn various integration techniques. They will learn how to use these techniques in applications such as finding the area, volume, and work. Through the study of sequences and series students will learn how to recognize patterns and how to creatively manipulate expressions in order to arrive at familiar patterns. Students will also learn parametric equations and polar coordinates and their applications.		
Course Contents:	 Applications of Integration Techniques of Integration Further Applications of Integration Parametric Equations and Polar Equations Infinite Sequences and Series 		
Attendance Policy:	Attendance is required and you must come with your text. Having more than 25% absences may result in a course grade of F ! Absences which can be excused include COVID-19 related absences, illness, emergencies, or participation in another university activity. Excused absences must be approved by the office of the dean of students.		
Grading Policy:	 A. <i>Exams</i>: There will be 2 exams given in class during the semester. B. <i>Homework Problems</i>: Homework problems are assigned and will be collected. You are responsible for reading the text, working the exercises, coming to office hours for help when you're stuck, and being aware of the dates for the major exams. C. <i>Final Exam</i>: There will be a two-hour final exam on December 8 (Friday) at 8:00 AM. 		

The table below shows the following relationships: How each student learning outcome will be					
practiced and assessed in the course.					
Course student learning outcomes		How students will practice each outcome in this course	How student achievement of each outcome will be assessed in this course		
Students will learn about:		Homework assignments	Homework assignments		
- applications of Integrations		Class work	Major exams		
- techniques of integration		Major exams	Final exam		
- improper integrals	face of revolution	Final avam			
- calculus with parametric of	curves	Fillal exam			
- area and length in polar co	oordinates				
- infinite sequences and ser	ries				
- functions as power series	Attandanas/Ta	abir a Erral 201	Dta		
Points Distributions	Attendance/Tea	icning Eval 30	PIS Dta		
Distribution:	Homework Ass	agniments 100	PIS Dec		
	2 Exams	200	PLS Dta		
	Final Exam				
Class Grades:	The semester gi	ade will be based on the perce	ntage of the 430 total possible points,		
	using the follow	$\frac{1}{2} \frac{1}{2} \frac{1}$			
	A: 90 -100 %, B: 80 - 89 %, C: 70 - 79 %, D: 60 - 69 %, F: 0 - 59 %				
	Note: The class	score will be posted on Black	kdoard:		
M - 1	nups://www.ma	https://www.marshall.edu/design-center/			
Make-ups:	A. <i>Exams</i> : Making up a missed exam is possible only for serious and				
	unavoidable circumstances.				
	B. Final: If you	don't take final exam, you w	Ill feceive an "F" for the class.		
Exam Dates:	Exam 1-September 21, Exam 2-October 26 (Thursdays) Final Exam: December 8 @ 8:00 AM (Friday)				
Important Dates:	• August 28, Monday – "W" Withdrawal period begins				
_	• September 4, Monday – Labor Day – No Class				
	• November 17, Friday – Last day to drop				
	• November 20, Monday – November 24, Friday – Thanksgiving Break				
	• December 1,	Friday – Last class day			
Disruptive Actions:	If your actions become disruptive or distracting for me or another student, you will				
-	be asked to cease your behavior. If you choose to continue, you will be asked to				
	leave. These wi	Il count as unexcused absend	ces.		
University Policies	By enrolling in	By enrolling in this course, you agree to the University Policies. Please read the			
	full text of each	policy (listed below) by goin	g to MU Academic Affairs:		
	University Poli	cies. (URL: http://www.marsh	nall.edu/academic-affairs/policies/)		
	 Acader 	nic Dishonesty Policy			
	Acader	nic Dismissal Policy			
		nic Forgiveness Policy			
	Acader	nic Probation and Suspension	Delieu		
	Acadel	ative A stion Dalies	Folicy		
	Allim	anve Action Policy			
	• Dead v	veek Policy			
	• D/F Re	peat Kule			
	• Excuse	d Absence Policy for Underg	raduates		
	Inclem	ent Weather Policy			
	Sexual	Harassment Policy			
	• Studen	ts with Disabilities (Policies a	nd Procedures)		
	• Univer	sity Computing Services Acce	ptable Use Policy		

Free Tutoring:	In Smith Hall 625 https://www.marshall.edu/math/tutoring/
Coming Late:	Students should come on time and stay in the class for entire class. If you are late
	by more than 5 minutes, you will be considered absent.

Course	chedule
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Week	Sections	Topics Covered
1	6.1, 6.2	Area between curves and Volumes
2	6.3, 6.4, 6.5	Volumes, Work, Average value of a function
3	7.1, 7.2	Integration by part, Trigonometric Integrals
4	7.3, 7.4	Trigonometric substitution, Integration by Partial Fraction
5	7.5, Test Review	Integration strategy, Exam 1 on September 21
6	7.7, 7.8	Approximate integral, Improper Integrals
7	8.1, 8.2	Arc length, Area of Surface of revolution
8	10.1, 10.2	Parametric equations, Calculus of Parametric curves
9	10.3, 10.4	Polar curves, Area and length in polar coordinates
10	11.1, Test Review	Sequences, Exam 2 on October 26
11	11.2, 11.3	Series, Integral Test and Estimate of Series
12	11.4, 11.5	Comparison Test, Alternating Series
13	11.6, 11.7, 11.8	Ratio and Root Tests, Strategy for Testing Series, Power Series
14	No Class	November 23, Monday – November 28, Saturday - Thanksgiving Break
15	11.9, 11.10	Functions as Power Series, Maclaurin and Taylor Series
16	Final Exam	Final Exam on Dec 8, 8:00-10:00 AM