

Marshall University
MTH 230 Sec 101 Syllabus

Course Title	Calculus with Analytic Geometry II
Course Number	MTH 230- Section 101- CRN 3039
Semester/Year	Fall 2018
Days/Time	MTWR 9:00-9:50AM
Location	SH 516
Instructor	Dr. Michael Otunuga
Website for Past Question	http://science.marshall.edu/otunuga/ Password: otunuga990
Office	WAEC 3229 (Engineering building)
Office Hours	MTWRF 10-12pm; others by appointment. To make an appointment, email in advance when possible.
Phone	304 696-3049
E-Mail	otunuga@marshall.edu
Textbook	Calculus , Early Transcendental by Stewart, 8th edition
Course Description	A careful review of the main techniques of integrations and its applications, infinite series, polar coordinates and Parametric Equations.
Sections Covered	6.1-6.5; 7.1-7.5, 7.7, 7.8; 8.1-8.2; 10.1-1.4; 11.1-11.10
Prerequisites	MTH 229 or MTH 229H with "C" or higher or IST 230
Calculator	TI-83 or higher, graphing calculators may not be allowed for some problems in exam
University Policies	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy be going to www.marshall.edu/academic-affairs and clicking on "Marshall University Policies." Or, you can access the policies directly by going to http://www.marshall.edu/academic-affairs/?page_id=802 Academic Dishonesty/ Excused Absence Policy for Undergraduates/ Computing Services Acceptable Use/ Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment See the University Academic Calendar (http://www.marshall.edu/calendar/academic/) for course withdrawal dates.
Disable Students	Policy for Students with Disabilities: Marshall University is committed to equal opportunity education for all students, including those with physical, learning and psychological disabilities. University policy states that it is the responsibility of students with disabilities to contact the Office of Disability Services (ODS) in Prichard Hall 117 (304.696.2467) to provide documentation of their disability. Following this, the ODS Coordinator will send a letter to each of the student's instructors outlining the academic accommodation he/she will need to ensure equality in classroom experience, outside assignment, testing, and grading. The instructor and student will meet to discuss how the accommodation(s) requested will be provided. For more information, access the website for the Office of Disabled Student Services: http://www.marshall.edu/disabled

Course Goals:

1. An understanding of fundamental concepts of calculus and an appreciation of its applications
2. Developing critical thinking skills by applying calculus skills to real world problems
3. Obtaining an understanding of the theory in science and engineering mathematics
4. Being able to use technology to help solve problems.
5. Satisfying program requirements for mathematics, science, and engineering majors

Course Contents

Chapter 6	Creating applications of integrals: Area and Volumes of Revolutions
Chapter 7	Different Method/techniques of Integrations
Chapter 8	Further Application of Integrals
Chapter 10	Parametric Equations and Polar Coordinates
Chapter 11	Infinite Sequences and Series

How each student learning outcome will be practiced and assessed in the course

MTH 230 Student Learning Outcomes	How students will practice each outcome in MTH 230	How student achievement of each outcome will be assessed in MTH 230
Students will be able to identify definite and indefinite integrals and how to evaluate it	Students will complete homework, classwork, and quizzes to get practice and feedback.	Students' understanding of functions will be evaluated through questions on 3 in-class tests and the comprehensive final exam.
Students will be able to calculate definite and indefinite integrals and interpret them as limits of sample sums	Students will complete brief, low-stakes writing assignments as part of daily classwork and quizzes. Students will engage in peer review of written and oral explanations of concepts.	Students will be assessed on written communication through questions on 3 in-class tests, 1 project and the comprehensive final exam.
Students will be proficient at finding limits, derivatives and integrals of functions. Students will understand the concept of functions and their applications.	Students will complete homework, classwork, and quizzes to get Practice and feedback.	Students will be assessed on solving equations through questions on 3 in-class tests, and the comprehensive final exam.
Students will be able to apply integrals to solve real world problems.	Students will complete assigned mathematical projects on homework.	Students will be assessed on their modeling skills on 3 in-class tests
Students will be able to find infinite series expansion of functions	Students will complete homework, classwork, and quizzes to get	Students will be assessed on

	Practice on modeling questions.	Model analysis, derivation and verification through questions on homework.
Student will be able to test for convergence of infinite series	Students will complete homework, classwork, and quizzes to get Practice on modeling questions.	Students will be assessed on Model applications through questions on Exams
Students will be able to solve graph parametric equations, interpret & solve problems leading to differential equations	Students will complete projects, homework and quizzes to get practice and feedback	Students' understanding of applied calculus will be evaluated through questions on Exams.

Course Requirements / Due Dates

Attendance: Attendance is required and you must come with your text. Attendance will be taken every class day by sign-in-sheet. 2 points will be reduced for every missed class. Having more than **25%** absences (unexcused) may result in a course grade of F! Absences which can be excused include illness, emergencies, or participation in another university activity. Documentation from an outside source must be provided.

Homework: Homework problems are assigned below. Each Section is due the next Monday (or next day) the section is completed.

Quizzes: There will be quizzes given in class. The date will be announced in class.

Exams: There will be **3 in-class** tests during the semester. See tentative schedule for **TENTATIVE** Exam dates. Make-up exams will only be given in the event of a university-excused absence. I must be notified of this a week in advance (if possible).

Final Exam: The final exam will be on **Friday, December 14, 2018 from 8:00-10:00am**. Please make travel arrangements accordingly. Make-up/early tests will not be available to accommodate individual travel plans.

Grading Policy

Attendance	25 points
Quizzes	50 points
Homework	100 points
Three major exams	300 points
Final (comprehensive) exam	150 points
Total	625 points
The grading scale is rigid.	
90.00 – 100	A
80.00 – 89.99	B
70.00 – 79.99	C
60.00 – 69.99	D
Below 60.00	F
The class grade will be based on the percentage of the 625 points	
All class grades will be posted on MUOnline as soon as they are available	

Tentative Course Schedule:

Week	Sections	Topics
Aug 20 – 23	6.1-6.2	Area between curves and Volumes
Aug 27 – 30	6.3-6.4	Volumes and Work
Sep 4 – 6	6.5-7.1	Average value of a function, Integration by part
Sep 10 – 13	Test 1, 7.2	Trigonometric Integral
Sep 17 – 20	7.3-7.4	Trigonometric substitution, Integration by Partial Fraction
Sep 24 – 27	7.5, 7.7	Integration strategy, Approximate integral
Oct 1 – 4	7.8, 8.1	Improper integral, Arc length
Oct 8 – 11	8.2, Test 2	Area of Surface of revolution,
Oct 15 – 18	10.1-10.2	Parametric equations, Calculus of Parametric curves
Oct 22 – 25	10.3-10.4	Polar curves, Area and length in polar coordinates
Oct 29 – Nov 1	11.1-11.2	Sequence and Series
Nov 5 – 8	Test 3, 11.3	Integral Test and Estimate of Series
Nov 12 – 15	11.4-11.5	Comparison Test and Alternating Series
Nov 26 – 29	11.6-11.8	Absolute convergence, Ratio and Root test, Power Series
Dec 3 – 6	11.9-11.10	Power Series, Maclaurin and Taylor series
Dec 14	Final	Final Exam: Friday December 14, 2018 from 8:00-10:00am

General Homework Problems

Section 6.1: 1, 3, 4, 5, 7, 9, 11, 13, 18, 22, 27, 33
 Section 6.2: 1, 3, 7, 9, 11, 12, 15, 19-30(Odds), 33
 Section 6.3: 3, 5, 9, 11, 13, 15, 17, 21, 29
 Section 6.4: 1, 3, 5, 11, 13(a)
 Section 6.5: 1, 3, 7, 9, 10, 13
 Section 7.1: 1, 2, 3, 5, 7, 9, 10, 13, 15, 17, 26, 29, 33, 37, 39, 52
 Section 7.2: 1, 3, 5, 7, 11, 15, 16, 17, 21, 23, 25, 27, 29, 31, 33, 41, 61
 Section 7.3: 1, 3, 4, 6, 9, 11, 13, 17, 19, 23, 27
 Section 7.4: 1-6, 7, 9, 12, 15, 17, 19, 23, 25, 31, 39, 43
 Section 7.5: 1, 3, 7, 11, 23, 31, 36, 43, 46, 58, 59, 71, 73
 Section 7.8: 1, 2, 5, 7, 9, 13, 17, 23, 29, 37, 41
 Section 8.1: 3, 5, 9, 11, 13, 15, 17, 19
 Section 8.2: 1, 6, 7, 9, 11, 13, 15, 17
 Section 10.1: 1, 3, 5, 7, 9, 11, 13, 16, 19, 21, 24, 25, 28
 Section 10.2: 1, 3, 5, 7, 11, 13, 15, 17, 19, 29, 33, 34, 41, 43, 61, 63, 65
 Section 10.3: 1, 3, 5, 7, 9, 11, 15, 17, 18, 21, 23, 29, 30, 31, 35, 39, 55, 57, 61, 63
 Section 10.4: 1, 3, 8, 9, 11, 23, 27, 29, 31, 37, 39, 45, 47
 Section 11.1: 5, 8, 12, 13-18, 23, 25, 27, 31, 33, 35, 39, 43, 47, 50, 53, 72-78
 Section 11.2: 3, 5, 9, 11, 17, 20, 23, 27, 29, 31, 35, 37, 42, 43, 51, 52, 57
 Section 11.3: 3, 5, 7, 11, 13, 15, 17, 21, 25, 29
 Section 11.4: 3, 5, 7, 9, 11, 3, 15, 17, 19, 21, 28, 30
 Section 11.5: 2, 3, 4, 5, 7, 9, 11, 13, 15, 17
 Section 11.6: 2, 3, 5, 7, 9, 13, 17, 19, 25, 26, 28, 32
 Section 11.7: 1-38 (Odds)
 Section 11.8: 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 25
 Section 11.9: 3, 5, 7, 9, 11, 15
 Section 11.10: 5, 8, 11, 12, 13, 14, 19, 23