

Marshall University
MTH 132 Syllabus

Course Title/Number	Precalculus with Science Applications- MTH 132
Semester/Year	Spring 2018
Section/CRN	209 / 5791
Days/Time	MTWRF 9:00 – 9:50 am
Location	SH 335
Instructor	Rob-Roy Mace
Office	SH 743E
Phone	(304)696-7040
E-Mail	Mace22@marshall.edu or Blackboard Messages
Office Hours	MTWRF 9:55 – 10:55 am

University Policies	<p>By enrolling in this course, you agree to the University Policies listed below.</p> <p>Please read the full text of each policy by going to www.marshall.edu/academic-affairs and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to www.marshall.edu/academic-affairs/policies/. [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]</p>
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Course Description: From Catalog

Functions used in calculus including polynomial logarithmic, and trigonometric. Systems of equations and inequalities, conic sections, polar and parametric equations, sequences and series, Binomial Theorem.

Prerequisite: Math ACT 24 or equivalent, or a grade of C or higher in MTH 127 or MTH 130.

5 credit hours.

Required Texts, Additional Reading, and Other Materials

Textbook: Stewart, *Algebra & Trigonometry*, 4th edition, ISBN 978-1-30-507174-2

Activities Website: Free student account for Desmos.com website.

Calculator: A graphing calculator is required for the course. A TI-84 or similar is recommended.

Internet Access: Students will need a MU computer account and access to a computer with internet in order to submit homework and other activities to Blackboard.

Course Student Learning Outcomes	How students will practice this outcome	How students will be assessed on this outcome
Students will further develop algebraic skills (ex. solving equations) which are essential in calculus	Homework, written assignments, in-class activities	Homework, Quizzes, tests
Students will learn about trigonometric functions and their applications with an intent for calculus	Homework, written assignments, in-class activities	Homework, Quizzes, tests
Students will learn about the functions which are used in calculus (ex. graphing and other properties)	Homework, written assignments, in-class activities	Homework, Quizzes, tests
Students will learn which functions are appropriate for modeling different types of growth and change	Homework, written assignments, in-class activities	Homework, Quizzes, tests

Attendance Policy

Attendance is not required, but highly encouraged. Assignments, quizzes, or exams that are missed due to absence must have a University Excused absence to be made up. Also, there is an appropriate behavior expected of the student when involved in the class, including actions and attitudes that promote curiosity and intellectual engagement. Failure to meet these expectations may result in removal from the class and/or a failing grade in the course.

Course Requirements / Due Dates (Schedule is Tentative)

Week 1 (1/8-1/12)	1	
	2	Ch P Hmwk pg 76: 53, 55,59,63,77, 83, 89,93, 95,109,117,133 1.1(The Coordinate Plane) Hmwk:21, 25, 33, 39, 41, 43
	3	1.2 (Graphs of Eqtns in Two Var/ Circles) Hmwk:9,11,49,51, 73,75,91,93,95,97 1.3 (Lines) Hmwk:23,27,31, 33,35,37,40,43,59,67
	4	1.4 (Solving Quadratic Equations) Hmwk:5,9,17,19, 27,33,37,47,49,57 1.5 (Complex Numbers) Hmwk:19,29,33, 41,49,53,61,63,65,67
	5	1.6 (Other Types of Eqtns) Hmwk:7,13,21,23, 25,31,37,43,49,59 1.7 (Solving Inequalities) Hmwk:13,17,25,27, 33,39,47,55,57,59
Week 2 (1/15-1/19)	1	MLK Day
	2	1.8 (Solving Absolute Value Eqtns./Ineq.) Hmwk:5,9,13,15, 17,27,29,31,33,39
	3	Homework Day
	4	2.1 (Functions)Hmwk:19,21,25, 31,33,43,47,55,57,59
	5	2.2 (Graphs of Functions)Hmwk:33-45 odd, 51,53,55 2.3 (Getting Info From Graph of Function) Hmwk:7,9,13,15,21, 31,33,43,45,47
Week 3 (1/22-1/26)	1	2.4 (Average Rate of Change of a Function) Hmwk:7,9,11,13,15, 17,19,21,23,25 2.6 (Transformations of Functions) Hmwk:29-43 odd, 83,85
	2	2.7 (Combining Functions) Hmwk:11,15,27, 29,33,47,49,51,53,55 2.8 (One-to-One Functions and Their Inverses) Hmwk:13,17,25, 37,51,53,55,57,85,87
	3	Homework Day
	4	3.1 (Quadratic Functions and Models) Hmwk:9,11,13,15, 17,25,27,29,47,51
	5	3.2 (Polyn. Functions and Graphs) Hmwk:5-19 odd,51, 53

Week 4 (1/29-2/2)	1	3.3 (Dividing Polynomials) Hmwk:15,17,19,21, 25,27,29,39,53,55 3.4 (Real Zeros of Polynomials) Hmwk:11,13,15,17, 29,31,45,47,49,65
	2	3.5 (Complex Zeros and the Fundamental Theorem of Algebra) Hmwk:27,37,39, 47-59 odd
	3	3.6 (Rational Functions) Hmwk:21,31,33, 35,37,43,45,57,63,73
	4	3.7 (Polynomial and Rational Inequalities) Hmwk:3,5,7,9,11, 17,19,21,23,25
	5	Homework Day
Week 5 (2/5-2/9)	1	Review
	2	Test 1
	3	4.1 (Exponential Functions)Hmwk:7,9,11,13, 21,23,27,29,31,33 4.2 (The Natural Exponential Function) Hmwk:3-15 odd, 23,27,29
	4	4.3 (Logarithmic Functions) Hmwk:25,27,29, 35,37,39,49,51,61,65 4.4 (Laws of Logarithms) Hmwk:23,33,35, 37,39,49,51,53,55,57
	5	4.5 (Exponential and Logarithmic Equations) Hmwk:3,21,23,35, 39,49,51,59,63,67
Week 6 (2/12-2/16)	1	Homework Day
	2	5.1 (Angle Measure) Hmwk:5,9,17,19, 31,35,37,53,55,63
	3	5.2 (Trigonometry of Right Triangles) Hmwk:3,5,15,17, 23,29,31,33,37,39
	4	5.3 (Trig Functions of Angles) Hmwk:13,17,25, 27,37,39,47,49,51,53 5.4 (Inverse Trig Functions and Right Triangles) Hmwk:5,7,9,17,19, 23,25,27,39,43
	5	5.5 (Law of Sines) Hmwk:9-23 odd,31, 33
Week 7 (2/19-2/23)	1	5.6 (Law of Cosines) Hmwk:11,13,15,17, 19,27,29,31,39,51
	2	Homework Day
	3	6.2 (Trig Functions of Real Numbers)Hmwk:5,7,63-77 odd 6.3 (Trig Graphs) Hmwk:5,19,23,31, 33,35,37,47,49,51

	4	6.4 (More Trig Graphs) Hmwk:9,11,19,23, 29,31,35,37,39,41
	5	6.5 (Inverse Trig Functions and Graphs) Hmwk:3-21 odd
Week 8 (2/26- 3/2)	1	Homework Day
	2	Review
	3	Test 2
	4	7.1 (Trig Identities) Hmwk:3,7,13,15, 17,37,45,51,55,65
	5	7.2 (Addition and Subtraction Formulas) Hmwk:3,5,15,17, 21,25,27,29,31,33
Week 9 (3/5- 3/9)	1	7.3 (Double-Angle, Half-Angle, and Product-Sum Formulas) Hmwk:73-91 odd
	2	7.4 (Basic Trig Equations) Hmwk:5,7,25,27, 29,39,41,43,45,47
	3	7.5 (More Trigonometric Equations) Hmwk:3,5,17,23, 31,33,39,43,47,53
	4	Homework Day
	5	8.1 (Polar Coordinates) Hmwk:5,9,29,31, 37,39,45,47,51,55 8.2 (Graphs of Polar Equations) Hmwk:3,5,7,23-35 odd
Week 10 (3/12- 3/16)	1	8.3 (Polar Form of Complex Numbers; De Moivre's Theorem)Hmwk:29,31,33, 49,51,57,59,65,67,77
	2	8.4 (Plane Curves and Parametric Equations) Hmwk:3-17 odd, 39,41
	3	Homework Day
	4	9.1 (Vectors in Two Dimensions) Hmwk:13,15,17, 27,31,37,41,43,47,49
	5	9.2 (The Dot Product) Hmwk:5-23 odd
Week 11 (3/26- 3/30)	1	Homework Day
	2	Review
	3	Test 3

	4	10.1 (Systems of Linear Equations In Two Variables) Hmwk:5,7,9,11, 13,21,23,25,27,29
	5	10.2 (Systems of Linear Equations in Several Variables) Hmwk:17-35 odd
Week 12 (4/2-4/6)	1	10.3 (Partial Fractions) Hmwk:13-25 odd, 37,41,43
	2	10.5 (Systems of Inequalities) Hmwk:31-49 odd
	3	Homework Day
	4	11.1 (Matrices and Systems of Linear Equations) Hmwk:39-57 odd
	5	11.2 (The Algebra of Matrices) Hmwk:9-27 odd
Week 13 (4/9-4/13)	1	11.4 (Determinants and Cramer's Rule) Hmwk:5-13 odd, 21-29 odd
	2	11.3 (Inverses of Matrices and Matrix Equations) Hmwk:11-19 odd,39-47 odd
	3	Homework Day
	4	13.1 (Sequences and Summations Notation) Hmwk:3,5,15,17, 27,29,31,47,53,67
	5	13.2 (Arithmetic Sequences) Hmwk:7,11,13, 27,33,35,37,51,53,55
Week 14 (4/16-4/20)	1	13.3 (Geometric Sequences) Hmwk:5,9,11,23, 29,59,61,63,65,69
	2	13.6 (The Binomial Theorem) Hmwk:5,7,9,11, 17,19,21,25,29,33
	3	Homework Day
	4	Review
	5	Test 4
Week 15 (4/23-4/27)	1	Review
	2	Review
	3	Review
	4	Review
	5	Review

FINAL EXAM: Friday, May 4th, 8:00 – 10:00 am

Grading Policy:

Homework will be submitted to Blackboard. Learning activities will include in-class quizzes, discussions, or other projects. The final exam will be comprehensive.

Grade Calculation

Learning Activities	15%
Homework	25%
Tests (4 Total)	40%
Final Exam	20%
Total	100%

Grade Scale

A = 90 – 100%

B = 80 – 89%

C = 70 – 79%

D = 60 – 69%

F = Below 60%