

# COURSE INFORMATION FORM

Publish in college catalog?

Yes ☒ No ☐

Course Title Precalculus I: College Algebra

Department/Course Number MATH& 141

Effective Quarter Winter 2018

Credits 5 Variable No ☒ Yes ☐ \_\_\_\_\_ - \_\_\_\_\_

Administrative Unit Code: GM  
Department: Mathematics

Multiple Versions No ☒ Yes ☐ \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

Maximum Class Size 36

## Long Course Description (for college catalog):

(Q,NS) A college level algebra course for all students needing general preparation beyond intermediate algebra. The first of a two-course sequence for students intending to take calculus beginning with MATH& 151. Principles of functions and graphs; theory of polynomial equations; graphs of polynomial and rational functions; exponential and logarithmic functions and applications; conics, foci and applications; linear and non-linear systems. The online version of this class requires on-campus orientation and exams; dates to be scheduled. Out-of-area students can arrange for test proctors.

## Short Course Description (for class schedule): **NOTE: Maximum of 240 characters**

(Q,NS) A college level algebra course for all students needing general preparation beyond intermediate algebra. The first of a two course sequence for students intending to take calculus beginning with MATH& 151.

## Prerequisites:

Completion of MATH 092 or MATH 096 or MATH 099 (or equivalent) with a grade of C (2.0) or higher; OR placement into MATH& 141 or higher OR permission of a math instructor.

Co-requisites: none

Pass/Fail Option Available? Yes ☐ No ☒

Course Challenge Exam Available? Yes ☒ No ☐

Can course be repeated for credit? Yes ☐ No ☒

Number of repeats beyond initial enrollment: One ☐ Two ☐

## Course Intent (check all that apply):

☒ DTA Distribution/Skill

Area Quantitative Skills/ Nat Science – Part C

☒ DTA Elective (check one only)

☒ University Transfer List (A)

☐ Restricted Transfer (B/Gray area)

☐ Not allowable as an elective for DTA

☐ Fills requirement for \_\_\_\_\_  
(certificate/degree)

☐ Other \_\_\_\_\_

## Workload Information:

	Contact Hours		Percent of Load
Lecture	<u>50</u>	÷ 150 =	<u>.333</u>
Laboratory	_____	÷ 200 =	_____
Science Lab	_____	÷ 180 =	_____
Field Supervision	_____	÷ 300 =	_____
Comments			
Total			<u>.333</u>

## Student Learning Objectives:

Upon successful completion of this course, students will be able to:

1. Solve linear, compound, absolute value, quadratic and rational inequalities.
2. Evaluate and use functional notation to include difference quotients.
3. Analyze functions to include domains, ranges, restrictions and symmetry.
4. Sketch graphs of common functions and their transformations.
5. Perform basic operations on functions to include compositions and inverses.
6. Use the theory of polynomial equations to find zeros.
7. Graph polynomial and rational functions to include intercepts and asymptotes.
8. Analyze exponential and logarithmic functions to include domains, ranges, asymptotes and their graphs.
9. Evaluate exponential and logarithmic expressions.
10. Solve exponential and logarithmic equations and associated applications.
11. Analyze and graph equations of conic sections to include vertices, foci, and asymptotes.
12. Solve applications involving conic sections.
13. Solve linear and non-linear systems using substitution and elimination techniques.

Core Learning Outcomes	Introduced (I) or Assessed (A)	If assessed, how is outcome measured?
CLO #1: Engage and take responsibility as active learners	I <input checked="" type="checkbox"/> A <input type="checkbox"/>	
CLO #2: Think critically	I <input type="checkbox"/> A <input checked="" type="checkbox"/>	Critical thinking in the mathematical context is assessed via the program-specific outcome described below

Program Specific Outcome	Introduced (I) or Assessed (A)	If assessed, how is outcome measured?
Interpret and manipulate Mathematical language	I <input type="checkbox"/> A <input checked="" type="checkbox"/>	Assessed by evaluating student work using a common rubric on common test items that require students to read a word problem, identify and execute an appropriate solution strategy, using symbolic language. Each item also requires students to interpret the results in context.
Create, use and analyze graphs	I <input type="checkbox"/> A <input checked="" type="checkbox"/>	Assessed by evaluating student work using a common rubric on common test items that require students to construct and interpret graphs using given information.
Make connections between Mathematical concepts and real world problems	I <input checked="" type="checkbox"/> A <input type="checkbox"/>	