

# MAT 170: Precalculus



## Overview

In this college-level Precalculus course, you will prepare for calculus by focusing on quantitative reasoning and functions. You'll develop the skills to describe the behavior and properties of linear, exponential, logarithmic, polynomial, rational, and trigonometric functions. This course tailors content and personalizes the learning experience around your skill level, allowing you to achieve mastery in a certain concept before moving on to the next. Utilizing the ALEKS learning system, students in this personalized, self-paced course will be instructed on the topics they are most ready to learn. Individualized coaching is also provided as you move through each new topic.

## Course Prerequisites and Requirements

To be successful in this course, we recommend English language fluency and computer literacy. We also encourage you to make sure your laptop or desktop computer meets the technical requirements. Before taking this course, you should already have a strong understanding of algebraic skills such as factoring, basic equation solving, and the rules of exponents and radicals. MAT 117 College Algebra is strongly suggested as a prerequisite for success in this course.

## What You'll Learn

- Use basic algebraic operations on numbers, expressions, and equations
- Solve real-world application problems
- Apply algebraic reasoning to solve a range of problems
- Begin future studies in precalculus and calculus

## Transcript

This course appears on your transcript identically to how it appears on the transcript of an enrolled ASU student who has taken the course on one of ASU's campuses.

This course satisfies 3 credit hours toward the Mathematics (MA) General Studies requirement at Arizona State University. It is strongly encouraged that you consult with your institution of choice to determine how these credits will be applied to their degree requirements prior to transferring your credit.

## Exams and Grading

Instructor led

18%

ALEKS Topic Goals  
& Completion

12%

Active Learning  
Assignments

70%

Exams (4)

Self paced

100%

Final Exam

# Creator

## Fabio A. Milner

Director & Professor of Mathematics,  
Applied Mathematics and Mathematics Education

Fabio Milner studies structured population models, including demography, epidemics, ecology, and tumor growth. Populations are usually structured by age (demographic and/or age-of-disease), and may also be structured by sex, size, or other relevant variables. The team studies theoretical properties of the models, such as existence, uniqueness, preservation of non-negativity, and asymptotic behavior, as well as real-life applications. Professor Milner and his collaborators are also developing a family of epidemiological models structured by immunological variables in order to describe the multi-scale problem of disease propagation at the individual level (“small scale”) and at the population level (“large scale”) in a single model. They are studying the long-term population effect that chickenpox vaccination in childhood may have many decades later in increased incidence of the shingles by a combination of repeated exposure to the Varicella zoster virus and decreased immune response.



## Sue McClure

Lecturer,  
School of Mathematical and Statistical Sciences

Sue McClure is a lecturer in the School of Mathematical and Statistical Sciences at Arizona State University. Educated at Ball State University, Purdue University, and Indiana University, Sue has acquired years of experience teaching courses ranging from high school mathematics to college calculus. Her efforts in the Mathematics Department at Angola High School helped rank the school as one of Indiana’s finest high schools, and her interest in educational technologies has led Sue to explore and integrate personalized learning through adaptive mathematics and online education into her courses at Arizona State University.

