**Pittsburg State University**

**MATH 126 – Precalculus**

**Semester, Year and Instructor Name**

**Office Hours**

**Course Syllabus**

Course delivery method: Lecture, discussion, and problem-solving

# PSU CATALOG COURSE DESCRIPTION

Pre-Calculus properties of the real number system, limits, functions, continuity, trigonometry, and graphics.

# PREREQUISITES

Two units of high school algebra and trigonometry or permission of instructor.

# TEXTBOOK OR OTHER STUDENT PROVIDED MATERIALS

*Precalculus a Concise Course* second edition by Larson

# COURSE OBJECTIVES/LEARNING OUTCOMES

Upon completion of this course, the student should be able to:

* Improve skills for manipulating algebraic expressions and equations
* Develop a better understanding of functions, function operations including composition, and multiple−part functions.
* Identify vertical and horizontal asymptotes and use them to help graph rational functions
* Learn how to identify the domain and range of a function by its graph and where the function is increasing, decreasing or constant and if the graph is continuous.
* Learn how to translate the graphs of basic functions and how to determine the equations of basic graphs that have been translated
* Learn how to find the slope of a secant line
* Find partial fractions
* Solve logarithmic and exponential equations and how to convert from one form to the other
* Develop a better understanding of complex numbers
* Learn the relationship between acute angles of a right triangle and the sides of the right triangle as defined by the trigonometric functions and their inverses.
* Learn the "special angles" in both degrees and radians and the values that the trigonometric functions assign to each
* Identify the values of the trigonometric functions associated with a point in a rectangular coordinate system
* Identify the coordinates associated with the intersection of a unit circle and the terminal sides of our special angles
* Be able to graph the six basic trigonometric functions and a couple of inverse functions
* Improve skills for verifying trigonometric identities
* Use the Law of Sines and the Law of Cosines to solve oblique triangles.
* Improve skills for solving trigonometric equations

**Pitt State Pathways:**

**Quantitative/Analytic Methods:** Quantitative literacy and its methods refer to competency in working with numerical data. Students with strong quantitative skills possess the ability to reason and solve problems from a wide array of contexts and everyday life situations. They can create sophisticated arguments supported by objective evidence and can communicate those arguments in a variety of formats (e.g. text, tables, graphs, mathematical equations, etc.) as appropriate. Competency in this element means:

* *Applying* a set of formal tools to interpret, represent, calculate, and analyze quantitative data;
* *Explaining* assumptions and rationale for selecting a mathematical approach to solve a problem;
* *Explaining* assumptions and rationale for selecting a mathematical or formal logical approach to solve a problem;
* *Drawing* and *communicating* conclusions to support decisions

**Assessment:** As a Milestone I PSP course, the student is expected to:

* Apply tools of analysis and communicate results

# TEACHING METHODS

Lecture, class discussion, assignments, quizzes, and exams will be used.

# CLASS ATTENDANCE POLICY

* Class attendance is the responsibility of each student. Students are expected to attend class and check class materials on Canvas regularly.
* Students with excessive absences could be dropped from class with a grade of “W.” Please be aware of the deadlines to drop a class.
* Students who have school-sponsored activities that will conflict with the class should let the instructor know prior to the activity.

# CLASSROOM CONDUCT POLICY

It is expected that the student will maintain behavior appropriate for a collegiate learning environment.

# METHODS OF EVALUATION

There will be daily assignments based on lectures. There will be quizzes. There will be exams throughout the semester plus a comprehensive final exam. The final exam will include questions to assess your ability to apply tools of analysis and communicate results. The exams will be based on the text, lectures and assignments. Your grade will be calculated by dividing the total points you have accumulated from assignments, quizzes and exams by the total points possible, and using the following scale.

A: 90%-100% B: 80%-89% C: 70%-79% D: 60%-69% F: below 60%

# SYLLABUS SUPPLEMENT

For a list of important dates, policies, and other information, please consult the PSU Syllabus Supplement.

<https://www.pittstate.edu/registrar/_files/documents/syllabus-supplement-fall-2018>

# ASSISTANCE

Please inform the instructor if you have a handicap or a disability about which the instructor needs to know.

**THE INSTRUCTOR RESERVES THE RIGHT TO AMEND AND TO REORGANIZE THIS SYLLABUS AT ANY TIME.**