College Algebra II
MATH 0098
3 credits

Description: The topics covered in college algebra II are functions—linear, radical, quadratic, exponential, and logarithmic—and their graphs, rational expressions, linear and compound inequalities, rational exponents, solving systems of linear equations, and solving quadratic equations. This course does not meet the mathematics competency at the Pittsburgh campus.

Prerequisite: None

Textbook: The recommended text for the course is *Introductory & Intermediate Algebra for college students*, Blitzer, R., 4th Edition, Pearson/Prentice Hall, 2009.
Other textbooks will be considered by the faculty liaison on case-by-case basis.

The following topics should be covered in this course:

1. Rational Expressions
2. Functions
3. Inequalities
4. Radicals and Rational Exponents
5. Quadratic Equations
6. Exponential and Logarithmic Functions

Course objectives: Upon completion of this course, students will be able to do the following:

Rational Expressions (7.1-7.4)

1. Simplify rational expressions
2. Find real numbers for which rational expressions are undefined
3. Multiply and divide simple rational expressions
4. Add and subtract simple rational expressions

Basics of Functions (8.1-8.4)

1. Find the domain and range of relations and functions
2. Identify functions
3. Evaluate functions
4. Find the sum, difference, product, and quotient of functions
5. Form composite functions
6. Find and verify inverse functions

Inequalities and Problem Solving (9.1-9.4)

1. Use linear inequalities to solve problems involving revenue, cost, and profit
2. Solve compound inequalities involving *and*
3. Solve compound inequalities involving *or*
4. Solve equations involving absolute value
5. Solve inequalities involving absolute value
6. Graph linear inequalities in two variables

Radicals, Radical Functions, and Rational Exponents (10.1-10.7)

1. Evaluate square roots and square root functions
2. Simplify expressions involving radicals
3. Add, subtract, multiply, and divide radical expressions
4. Solve equations involving radicals
5. Express square roots of negative radicands in terms of i
6. Perform operations on complex numbers

Quadratic Equations and Functions, and Inequalities (11.1-11.5)

1. Solve quadratic equations using the square root property, completing the square, and the quadratic formula
2. Find the distance between two points using the square root property
3. Graph quadratic functions of the forms $f(x) = a(x-h)^2 + k$ and $f(x) = ax^2 + bx + c$
4. Find the maximum or the minimum of a quadratic function
5. Solve quadratic and rational inequalities

Exponential and Logarithmic Functions (12.1-12.4)

1. Evaluate exponential functions
2. Graph exponential functions
3. Find compound interest and interest compounded continuously
4. Change from exponential to logarithmic form and vice versa
5. Use the properties of logarithms to expand and condense logarithmic expressions
6. Solve logarithmic and exponential equations

Grading: The final grade will be determined using a variety of assessment methods including homework, quizzes and exams.

Pitt Grading System:

All courses required to satisfy associate and baccalaureate degree requirements-including all courses required for a major, a minor, or general education-must be taken for letter grades, with the exception of those courses designated as graded S and NC only. Pitt-Bradford uses 13 earned letter grades. They are listed below with their equivalent quality point values.

A+	4.00
A	4.00 superior achievement
A-	3.75
B+	3.25
B	3.00 meritorious achievement
B-	2.75
C+	2.25
C	2.00 adequate achievement
C-	1.75
D+	1.25
D	1.00 minimal achievement
F	0.00 failure

Academic Integrity and Plagiarism: Members of a university community, both faculty and students, bear a serious responsibility to uphold personal and professional integrity and to maintain complete honesty in all academic work. Violations of the code of academic integrity are not tolerated. Students who cheat or plagiarize or who otherwise take improper advantage of the work of others face harsh penalties, including permanent dismissal. The academic integrity guidelines set forth student and faculty obligations and the means of enforcing regulations and addressing grievances.

Grades: Grade criteria in the high school course may be different from the University standards. A CHS student could receive two course grades, one for high school and one for the University transcript. In most cases, the grades are the same. Grading standards should be explained at the beginning of the course.

Transfer Credits: Grades earned in CHS courses appear on an official University of Pittsburgh transcript and the course credits may be eligible for transfer to other colleges and universities. Students should contact potential colleges and universities in advance to be sure their CHS credits will be accepted. If students will attend any University of Pittsburgh campus, grade earned in the course will count toward the student grade point average at the University. At the University of Pittsburgh, the CHS course supersedes any equivalent AP credit.

Drops and Withdrawals: Students should monitor their progress in a course. A CHS teacher can contact the program administrators to request a drop or withdrawal. Dropping or withdrawing from the CHS course has no effect on enrollment in the high school credits.