

## COURSE SYLLABUS FOR PRE-CALCULUS

### INSTRUCTOR

Carol Hannon

### CONTACT INFORMATION

Location & Time: C217, 7<sup>th</sup> Period

Email: [channon@fillmorecsd.org](mailto:channon@fillmorecsd.org)

Cell: (315) 263 – 2946

### COURSE OVERVIEW

This course is designed primarily for the student who needs a foundation in algebra and trigonometry for the study of calculus. The concept of function and graphical representation of functions is stressed. Topics covered include: real numbers; algebra of real numbers including equations and inequalities; functions and their graphs including polynomial, rational expressions, logarithmic and exponential, trigonometric; algebra of the trigonometric functions including identities, equations, polar coordinates, complex numbers, systems of equations.

### GRADING

Grades will be distributed in the following manner:

30% Homework

20% Quizzes

50% Tests

### EXPECTATIONS

This is an upper-level math class. Completing it in one semester will be challenging and push your limits academically. You are expected to monitor your own work and be intrinsically motivated. This class offers college credit through Alfred State. It is a great opportunity for you to earn college credit for free. Use the opportunity wisely and do the best job you are capable of. Studying for tests and quizzes and working diligently on homework is a must. Do not copy or use the internet to find homework answers. These are short-sighted strategies that leave you clueless on assessments and rob you of the educational experience being offered. Stay organized and focused and you will both enjoy and grow throughout the year. Let's reap the full rewards of this experience and take advantage of a great opportunity.

### ORGANIZATION

You can use whatever organizational strategy works best for you. To help inform your choice of organization, know that I will be handing out worksheets for both notes and homework.

### EXTRA HELP

**Please make an appointment to get extra help.** I am available from 2:00-3:30 M-Th as well as all day on Friday. We can work in-person or via FaceTime/Skype/Zoom. I am also available by text message or email anytime and will get back to you as soon as possible.

## TOPICS COVERED

### Unit 1

- Interval Notation
- Absolute Value
- Exponents
- Radicals
- Factoring
- Complex Fractions

### Unit 2

- Functions (evaluating, behavior, composition of, piecewise, inverse)
- Domain
- Inequalities
- Transformations
- Difference Quotient

### Unit 3

- Functions (quadratic, polynomial, zeros of, rational)
- Polynomial and Synthetic Division
- Complex Numbers
- Asymptotes
- Nonlinear Inequalities

### Unit 4

- Functions (exponential, logarithmic)
- Logarithms
- Exponential and Logarithmic Equations and Models

### Unit 5

- Radian and Degree Measure
- Trigonometric and Inverse Trig Functions
- Right Triangle Trigonometry
- The Unit Circle

### Unit 6

- Fundamental Identities
- Trigonometric Identities
- Trig Equations
- Sum and Difference Formulas
- Law of Sines
- Law of Cosines