

# Peddie Summer School

## Course syllabus: Algebra II Honors Credit

150 hours

Textbook: Algebra and Trigonometry with Analytic Geometry, 13<sup>th</sup> Edition by Swokowski/Cole; published by Cengage Learning (ISBN: 978-0-8400-6852-1)

**Course objective:** Students will receive full exposure to the core requirements for the Algebra II Honors curriculum. It is the expectation that students are taking the class for credit and understand that the pace and difficulty of the course reflect an honors level and prepares them for a placement test if necessary.

**Calculators:** Calculators are required for this course. The instructor will model the use of the TI-83/84 Plus throughout the course. The use of the TI-89 and TI-NSPIRE is NOT permitted.

**Grading:**

- 72% Tests
- 8% Homework/Assignments
- 20% Final Exam

**Student responsibilities:** Each day of class is equivalent to a full week of a two-semester course. It is encouraged that each student keep up with the pace of the course during the period of instruction. Assignments given are appropriate to the amount of instruction. Students are given the opportunity during the day to practice new concepts. They are encouraged to work diligently during this time, to check answers, and seek help immediately when questions arise. Homework assignments are appropriate to the amount of instruction. To receive full credit for homework and tests students MUST display all the required work. Credit will not be given for lists of answers that are not supported by work (the guess and check method warrants no credit). If at any time, the pace or rigor becomes too much of a burden, students are encouraged to discuss all concerns with the teacher immediately.

**Teaching strategies:** Due to the time constraints, the course will be taught in a lecture setting. The graphing calculator will be used to assist and enhance various lesson topics discussed for the duration of the course.

### Topics covered:

- Relations, functions, and graphs
- Systems of equations and inequalities
- Polynomials and polynomial equations
- Rational expressions and equations
- Powers, roots, and complex numbers
- Exponential and logarithmic functions
- Right triangle trigonometry
- Graphing sinusoidal functions
- Solving trigonometric equations.
- Verifications with basic trigonometric identities
- Applications applied to various topics
- Matrix algebra
- Sequences and series
- Additional topics if time permits:
  - Counting and Probability
  - Conic sections
  - An introduction into elementary statistics