



July 2018

Greetings! I am thrilled to be given the opportunity to teach at Will Carleton Academy and I am eager to begin classes August 22nd. Below is a synopsis of each class, as well as what students are expected to bring to class at the beginning of the year:

Algebra II:

Continuing where Algebra I left off, students will deepen their knowledge of algebraic concepts and functions. These concepts include a thorough study of functions, radical and rational relationships, polynomials; logarithmic and exponential models, the beginnings of sequences and series, and principles of probability.

Geometry:

Students will study the foundations of Euclidean Geometry in two and three dimensions, as well as transformations, projections and the beginnings of trigonometry. This class will be the first proofs-based class the student encounters where the student will be tasked to use axioms and theorems in order to logically prove properties and congruences of geometric structures.

PreCalculus (Advanced Functions and Trigonometry):

Students will extend their knowledge of algebraic structures and relations to take a more in-depth look at the principles and relationships governing a variety of functions. The course will also serve to introduce topics in linear algebra and the second semester will focus on the study of trigonometric identities. The course will conclude by discussing limits and other basics to Calculus.

AP Calculus AB/BC:

This course will cover the first and second semesters of a College Calc I (limits and derivatives) and Calc II (integrals and series) course. Students taking this class will be encouraged to take the Calc AB or Calc AB/BC exams at the end of the academic year, and the class will be based around this exam.

Business Math:

The Business Mathematics course will cover principles of probability and statistics in terms of their relationships to topics such as types of interest, loans, insurances; bonds, stocks and taxes. The goal of the class is to prepare students for life-after WCA, and as such, the structure throughout the year will attempt to mimic just that.

All classes will employ instruction by lecture, class discussion, individual and group work, as well as work at the board. Homework will be assigned weekly and differ in quantities between classes, yet will not be cumbersome by design. Students will be expected to study for the weekly quizzes.

Students need to bring the following supplies to class at the beginning of the year:

- A **Ti-Nspire CX** (non-CAS version), **TI-84**, or any **Graphing Calculator** is **recommended** for use in Algebra II and PreCalculus courses.
- One box of facial tissues for the classroom (Juniors only)
- One container of disinfectant wipes for the classroom (Sophomores only)
- Pencils
- Colored correcting pens
- 2" or 3", 3-ring binder
- 3, or more binder tab dividers
- Loose-leaf paper, college-ruled preferred
- Graphing paper

Best,

Mr. Kirk D. Williams
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