Grade 12 Course Descriptions

ENGLISH IV

English IV is a full year course which focuses on British Literature and the critical analysis of the complex themes of identity, culture, and the individual's journey within a community. A variety of literary texts including mythology and fantasy are studied in their historical context from the Anglo-Saxons through the 21st Century. Students build on skills developed in English I-III and prepare to make personal connections to historical and modern texts while reading at a college level. College-level writing skills—including MLA citation methods—are introduced through formal research papers and presentation on a subject of their choice.

CIVICS

Civics is the study of citizenship and government. This class provides students with a basic understanding of civic life, politics, and the basic functions of the government of the United States, as well as a brief history of the government's foundation and development. Students learn how power and responsibility are shared and limited by the government, the impact American politics has on world affairs, the place of law in the American constitutional system, and which rights the American government guarantees its citizens. Students also examine how the world is organized politically and how civic participation in the American political system compares to that in other societies around the world today. Units that will be explored include:

- A Tradition of Democracy
- The Federal Government
- State and Local Government
- The Citizen in Government
- The Citizen in Society
- The American Economy
- The United States and the World

AP Calculus

AP Calculus is a full year course backwards designed from the AP Calculus Exam and curriculum from College Board.

In this course students are expected to learn:

- To understand the meaning of the derivative in terms of rate of change and local linear approximations
- To be able to work with functions represented graphically, numerically, analytically, or verbally, and to understand the connections among these representations.

- To understand the meaning of the definite integral both as a limit of Riemann sums and as a net accumulation of a rate of change, and to understand the relationship between the derivative and the integral.
- To be able to model problem situations with functions, differential equations, or integrals, and communicate their methods and understanding both orally and in written form.
- To be able to represent differential equations with slope fields, to solve separable differential equations analytically, and to solve differential equations using numerical techniques such as Euler's method.

We will emphasize the variety of ways that can be used to solve problems, coming to understand when each is appropriate, how they interrelate, and how they can support one another. The rule of four differentiates the following approaches:

- Numerical analysis (where data points are known, but not an equation)
- Graphical analysis (where a graph is known, but again, not an equation)
- Analytic/algebraic analysis (traditional equation and variable manipulation)
- Verbal/written methods of representing problems (classic story problems as well as written justification of one's thinking in solving a problem)

CHEMISTRY II

This chemistry course enables students to deepen their understanding of chemistry through the study of reaction rates, chemical systems and equilibrium and electrochemistry. Students will further develop their problem-solving and laboratory skills and their ability to communicate scientific information. This course is intended for students wishing to study science, engineering, medicine or technology at the post-secondary level.This course consists of 6 units:

- Reaction Kinetics
- Dynamic Equilibrium
- Solubility
- Acids Base Equilibria
- Applications of Acids, Bases, and Salts
- Electrochemistry