

**Tenth Grade Academic Program (2023-24)**  
**General Studies**  
**Required Courses**

**English**

**Language, Literature, and Writing II**

This second-year foundation course focuses on issues of self-identity through a study of novel, drama, memoir, poetry and short story. Students do an intensive unit on writing the academic research paper, learning techniques of topic formation, note taking, outlining, as well as organizing and writing the paper. The focus is on primary sources. Documentation issues are thoroughly addressed. Students write for self-expression as well, using different genres. Grammar and vocabulary study are integrated into the curriculum as weekly features of instruction. Based on teacher and administrative input, students may be placed in sections that are specialized in order to address their needs for enrichment or remediation.

**Mathematics**

*All tenth graders are required to take math. Placements will be determined by the department.*

**Geometry: Foundations**

This course is designed for sophomores who have successfully completed a year of Algebra. Students will further develop their mathematical and problem solving skills in both Geometry and Algebra. Topics include: angles, parallel lines, congruence, triangles, circles, quadrilaterals, polygons, solid figures, coordinate geometry, transformations, and an introduction to formal proof. Students are encouraged to develop skills and work habits that will last throughout their academic and future careers.

**Geometry**

Tenth grade students take this course after successful completion of ninth grade algebra. Students learn the fundamentals of geometry, how to deal with geometric figures and to apply deductive reasoning in the creation of formal proofs. Students learn about logic, deductive reasoning, parallel lines, congruence, polygons, inequalities, similarity, circles, constructions, loci, areas, volumes, coordinate geometry, and transformations.

**Accelerated Algebra II with Trigonometry**

Students enhance their algebraic skills and develop an understanding and mastery of trigonometric concepts. Students extend their study of real numbers, equations and inequalities, functions, systems of equations, polynomials, rational expressions, complex numbers, quadratic equations, transformations, second degree equations, polynomial functions, exponential and logarithmic functions, an in depth study of trigonometric functions, graphs, identities, and equations, probability, and statistics.

## **Science**

### **Chemistry**

The chemistry course presents a modern view of chemistry with major emphasis on physical concepts and understanding interactions of matter. The objectives of the chemistry course are to introduce tenth grade science students to the following topics: phase change and gas laws, thermodynamics, atomic structure, periodic properties, bonding and chemical reactions, chemical kinetics and equilibria, periodic properties, stoichiometry, acid-base interaction, redox electrochemistry, organic chemistry, and nuclear chemistry. The course is taught at a descriptive conceptual level using demonstration to convey concepts wherever possible. A sequence of formal laboratory activities reinforces each topic and chemistry students are expected to become proficient in safely executing a lab protocol and eventually designing one of their own to test a given hypothesis. Sections will be differentiated to enable students to achieve the curricular goals of the course.

### **History and Social Science**

*Enrollment in the AP European History course requires administrative approval.*

#### **European History**

This is the second half of the two-year program in global history with an emphasis on European History. Students begin with the period of Enlightenment and the effect it had on the development of modern politics. They will explore how it influenced the French Revolution, sparking nationalist liberation movements throughout European nations and their colonial attachments. Next, they will examine how the Industrial Revolution had a tremendous effect on the way people within different parts of the World lived and interacted. Students will explore how such influences caused the age of imperialism eventually culminating in World War I and World War II. Students will witness the devastating, World altering effects of these conflicts resulting in a cold war between the superpowers. In addition, students will take a closer look into different areas of concentration, such as genocides and the struggle for the rights of the people. This course exposes students to a diverse array of primary source materials -- comparing these historical events to current issues to make these topics much more relatable. There are many interactive, experiential activities meant to promote thought while challenging the students to fully analyze historical incidents. Students will be better able to evaluate where they stand on issues that helped shape the World we live within today. Based on teacher and administrative input, students may be placed in sections that are specialized in order to address their needs for enrichment and/or remediation.

#### **European History: Foundations**

This is the second year of the two-year program in global history. Beginning in the period of the Enlightenment, students will consider not only important cultural developments but also the emergence of modern political thinking. They will study the impact of Enlightenment thinkers and the story of the French Revolution. They will cover the following topics in the twentieth century: the story of mass democracy, feminism, the two world wars and the cold war, and national independence movements/decolonization. In this skills-level class students will continue to develop vital skills in reading, writing, note taking, and critical thinking. Teachers

will place a strong focus on skill development and use modified assessments and classroom material. The goal will be to use differentiated methods of teaching to reflect each student's needs.

### **Advanced Placement European History**

The advanced placement program is designed to allow students the opportunity to pursue college level courses in high school. This course focuses on the areas of European history from the Renaissance through the Cold War. Students will read text material as well as original sources. Students will also refine their skills in the process of creating a full historical research paper. Teacher recommendations are required for entry into this course. Departmental and administrative approval is required.

### **Jewish History**

Tenth Grade Jewish History is a required course. We will coordinate our coverage with an eye towards our AP and general modern European History courses, starting from c. 1500 to the present. In Jewish History, however, we will begin by focusing on Jewish life in Spain before the Spanish expulsion of Jews in 1492 and explore why expelled Jews held so fiercely onto their Sephardic identities wherever they went thereafter. Following the Spanish (and Portuguese) expulsions we will focus on the extraordinary highlights of European Jewish history, including Columbus, the Jews, and the Marranos, the impact of the Protestant/Catholic split on the Jews of Europe, Shabbetai Zevi, Jacob Frank, and the search for a messianic leader in the 17th and 18th centuries, the impact of the Enlightenment, the continuation of antisemitism despite an increasing secularization of Europe, the impact of the French Revolution and Napoleon on the Jews, Hasidism and Mitnagdim, Jewish challenges to orthodoxy in the 19th century, the emergence of Modern Orthodoxy, the Jews in World War I and World War II, while also covering Jewish emigration from Europe to the Americas, the Middle East and North Africa, and ultimately establishing the Jewish state in Palestine and by 1948, Israel.

## **Electives**

### **World Languages**

#### **Spanish II**

All students who have successfully completed Spanish I are eligible to take this course which is designed to reflect the main thrust of foreign language instruction: communication. This is effectuated by the continued concentration on the four areas of Spanish language mastery: reading, writing, speaking and listening. The teaching of Spanish II is thematic: vocabulary is introduced in manageable amounts and in meaningful contexts. In addition, one of the foremost goals of students enrolled in this course is to be able to function effectively with the spoken language and to hone their listening comprehension skills. The students further develop their knowledge of the culture and civilization of the Spanish-speaking world.

#### **French II**

The students continue to develop the four basic language proficiencies in a communicative setting. Emphasis continues to be on the acquisition of an extensive active vocabulary that will

enable them to communicate in a wide variety of real-life situations. Spanish language skills are enhanced by written application and reading and writing abilities are polished. Maximum communicative practice is afforded the student with additional concentration on listening skills. Spanish newspapers, short stories and films are presented to stimulate discussion and reading comprehension.

## **Computer Science**

### **AP Computer Science Principles**

*Enrollment in Computer Science Principles requires departmental approval.*

This course is equivalent to a semester-long, college-level course in computer science. The course continues to teach students about computer science focused around seven big ideas: creativity, abstraction, data & information, algorithms, programming, the Internet and global impact. The course will use MIT App Inventor and the Blockly programming language to teach students about programming concepts in the context of mobile application development. The AP Computer Science Principles course includes a performance based task where students creatively design their own unique programming app. Collaboration will also be a key component in the class. AP CSP is designed to be a prerequisite for AP CS A and/or Mobile Apps & Entrepreneurship IS.

## **Engineering**

### **Bioengineering**

This course is an innovative course for biology and tech minded students interested in studying and enhancing applications of living organisms. First, we will investigate how biological systems operate in order to solve problems involving differential diagnosis, prevention and treatment of disease. Second, we will discuss the history of how the Food and Drug Administration evaluates the fabrication of biomaterials, medical devices, and drug delivery systems. Throughout the school year, students will be required to individually formulate and present their analysis of a scientific journal article, a task which encourages them to think critically while learning how to conduct quality research. In addition, students will perform a series of mini-experiments to help further their understanding of biosensors and control systems. For the capstone project, students will collaborate with Israeli biotech companies on novel research projects, encouraging the development of effective leadership and communicative skills.

## **Art**

### **Studio Art I**

This is the basic art course in which students will acquire knowledge that is intended to lead to a mastery of skills related to the Elements of Art and the Principles of Design. In this course students will maintain an active sketchbook and journal and learn how to use a variety of media and illustrative materials. They will gain a historical knowledge of art by studying facets of art history and exploring artistic reference. Current trends and inspiration of the art world will be included in their studies. Museum and Gallery trips are planned.

### **Fashion Design I**

The purpose of this course is to introduce students to the world of fashion design. They will acquire knowledge and skills related to the principles of fashion illustration and design by utilizing a range of media and a variety of techniques to create versatility in their work. Students will learn the proportions of the fashion (croquis) figure. They will learn through the elements and principles of design as they pertain to fashion, design terminology for apparel and recognition of design styles are also included as components of the course. Students will be required to demonstrate creative use of inspiration and design experimentation through various projects and a design journal and will be assessed on their knowledge of terminology, styles and applicability of the elements and principles. Museum and fashion show trips are planned.

### **Architecture I**

This is a course in which basic fundamentals of architecture are examined and perfected. While design will be the main emphasis for this level and the student should have a good background in basic mathematics. Students will learn about the design process and explore the architectural concepts of space, form, function, and technology. Students will learn how to create mechanical and freehand drawings, draw in 1, 2 and 3pt perspective, interpret and create floor plans, create orthographic and isometric drawings, understand drawing to scale and read blueprints, construct scale models, consult with groups on various approaches to design problems, address environmental concerns and conservation efforts, learn to render architectural styles, explore the history of architecture, reference the internet for architectural sources and create computer renderings using CAD. Trips to or visits by working architects are anticipated.

## Tenth Grade Course of Study: 2023-24

### Guidelines

As you proceed through the advisement process, please adhere to the following guidelines:

1. Language, Literature, and Writing II is your required English course.
2. European History is your history course. Enrollment in AP European History requires departmental approval.
3. You are required to take a mathematics course. Placements will be determined by the department based on your math background and past performance.
4. All tenth grade students are required to take chemistry. Placements will be determined by the department based on background and past performance.
7. Teacher names are not listed alongside courses. While you may know which instructors are currently teaching a course, do not register for a course based on your assumed teacher preference. Staffing may change.
8. The advisement process is important. We are all present to assist you in making the most optimal program for your junior year educational experience. Your teachers, department chairs, and administration are all ready to help with your decisions. Mr. Nagel will help you with the advisement process and guide you through the approval process if necessary.