



Mesivta of Houston Curriculum

The following is a brief outline of the courses that will be offered at the Mesivta of Houston. The general studies program is a college preparatory program which develops our students' critical thinking skills and helps guide them to become independent learners.

9th Grade	10th Grade	11th Grade	12th Grade
Biology	Chemistry	Physics	AP Science
Algebra 1/Geometry	Geometry/Algebra 2	Algebra 2/Pre-Calc	Pre-Calc/AP Calculus
World History 1	World History 2/ Geography	American History	U.S.Government/ Economics
English 1	English 2	English 3	AP English

Some of the electives we will be offering:

- Music
- Public speaking
- Computer science
- Specialized sports
- Business and finance
- Vocational education
- Chess



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9th Grade

Biology

In Biology, students conduct laboratory and field investigations, use scientific practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Biology study a variety of topics that include: structures and functions of cells and viruses; growth and development of organisms; cells, tissues, and organs; nucleic acids and genetics; biological evolution; taxonomy; metabolism and energy transfers in living organisms; living systems; homeostasis; and ecosystems and the environment.

Algebra I

Algebra I is a fundamental math course. The course is designed to form a strong mathematical foundation to ensure success throughout high school and in future endeavors that require strong mathematical reasoning and critical thinking skills. There is a focus on understanding and internalizing mathematical concepts and methods.

Topics include: Pre-Algebra Review, Basic Equations/Multistep Equations, Rational Numbers, Word Problems, Basic Linear Equations, Systems of Equations/Graphs, Inequalities, Polynomials, and FOIL/ Factoring.

World History

World History Studies is a survey of the history of humankind. Due to the expanse of world history and the time limitations of the school year, the scope of this course focuses on “essential” concepts and skills that can be applied to various eras, events, and people. The major emphasis is on the study of significant people, events, and issues from the earliest times to the present. Traditional historical points of reference in world history are identified as students analyze important events and issues in western civilization as well as in civilizations in other parts of the world. Students evaluate the causes and effects of political and economic imperialism and of major political revolutions since the 17th century.

English I

English I is an introductory course that teaches literary analysis of different genres of literature, including short stories, poetry, drama, nonfiction and novels. Students will concentrate on practicing grammar skills, learning new vocabulary and using the writing process to communicate ideas and information effectively. The course is designed for students to develop their skills as readers, writers and thinkers. It focuses on the elements of the story: plot & setting, theme & conflict, narrator & voice, and character.



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10th Grade

Chemistry

In Chemistry, students conduct laboratory and field investigations, use scientific practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include characteristics of matter, use of the Periodic Table of Elements, development of atomic theory and chemical bonding, chemical stoichiometry, gas laws, solution chemistry, thermochemistry, and nuclear chemistry. Students will investigate how chemistry is an integral part of our daily lives.

Geometry

In Geometry, students will build on their previous knowledge and skills in mathematics to strengthen their mathematical reasoning skills in geometric contexts. Within the course, students will begin to focus on more precise terminology, symbolic representations, and the development of proofs. Students will explore concepts covering coordinate and transformational geometry; logical argument and constructions; proof and congruence; similarity, proof, and trigonometry; two- and three-dimensional figures; circles; and probability. Students will use their proportional reasoning skills to prove and apply theorems and solve mathematical problems. Using patterns to identify geometric properties, students will apply theorems about circles to determine relationships between special segments and angles in circles.

World History II

World History II will pick up where the 9th grade World History course ended. Beginning in the late 1500's and continuing until the present day, the focus will be on historical themes from both Western and non-Western cultures. Students will examine major events, personalities, philosophical ideas and scientific developments as well as the social, political, religious, economic and military aspects throughout the modern world.

World Geography

This course will give examination of the physical, cultural and historical geography of the world with an emphasis on contemporary events and issues, and on the increasingly important and diverse global connections among world societies.

English II

Students will engage in activities that build on their prior knowledge and skills in order to strengthen their reading, writing, and oral language skills.

Students understand, make inferences and draw conclusions about the structure and elements of fiction and provide evidence from text to support their understanding. Students are expected to: analyze isolated scenes and their contribution to the success of the plot as a whole in a variety of works of fiction; analyze differences in the characters' moral dilemmas in works of fiction across different countries or cultures; evaluate the connection between forms of narration (e.g., unreliable, omniscient) and tone in works of fiction; and demonstrate familiarity with works by authors from non-English-speaking literary traditions with emphasis on the 20th century world literature. The course concentrates on improving writing skills, mastering vocabulary and increasing critical thinking.



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11th Grade

Physics

In Physics, students conduct laboratory and field investigations, use scientific practices during investigations, and make informed decisions using critical thinking and scientific problem solving. Students study a variety of topics that include: laws of motion; changes within physical systems and conservation of energy and momentum; forces; thermodynamics; characteristics and behavior of waves; and atomic, nuclear, and quantum physics. Students will acquire factual knowledge within a conceptual framework, practice experimental design and interpretation, work collaboratively with colleagues, and develop critical-thinking skills.

Algebra II

In Algebra II, students will build on the knowledge and skills for mathematics of Algebra I. Students will broaden their knowledge of quadratic functions, exponential functions, and systems of equations. Students will study logarithmic, square root, cubic, cube root, absolute value, rational functions, and their related equations. Students will connect functions to their inverses and associated equations and solutions in both mathematical and real-world situations. In addition, students will extend their knowledge of data analysis and numeric and algebraic methods.

United States History

This full-year survey course covers the history of our people from pre-colonial times, revolutionary beginnings, the crisis of civil war, growth and expansion, and its emergence as a world power with its inherent problems. United States History is designed to provide students with the analytical skills and factual knowledge necessary to deal critically with the problems and materials in the history of our nation.

English III

Students analyze, make inferences and draw conclusions about theme and genre in different cultural, historical, and contemporary contexts and provide evidence from the text to support their understanding.

Students evaluate how different literary elements (e.g., figurative language, point of view) shape the author's portrayal of the plot and setting in works of fiction; analyze the internal and external development of characters through a range of literary devices; analyze the impact of narration when the narrator's point of view shifts from one character to another; and demonstrate familiarity with works by authors in American fiction from each major literary period. Students continue to work on the production of clean and concise essays. An additional component of the class will be the development of vocabulary and test-taking skills as the students begin to take the standardized tests necessary for the college acceptance process.



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12th Grade

AP Biology

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore topics like evolution, energetics, information storage and transfer, and system interactions. Students have the option of taking the AP Biology exam after completing this course.

Precalculus

Precalculus is the preparation for calculus. The course approaches topics from a function point of view, where appropriate, and is designed to strengthen and enhance conceptual understanding and mathematical reasoning used when modeling and solving mathematical and real-world problems. Students systematically work with functions and their multiple representations. The study of Precalculus deepens students' mathematical understanding and fluency with algebra and trigonometry and extends their ability to make connections and apply concepts and procedures at higher levels. Students investigate and explore mathematical ideas, develop multiple strategies for analyzing complex situations, and use technology to build understanding, make connections between representations, and provide support in solving problems.

AP Calculus

Calculus is designed to give students an overview of Calculus topics such as limits and continuity, derivatives, anti-derivatives, integrals and differential equations. Students have the option of taking the AP Calculus exam after completing this course.

US Government

In United States Government, the focus is on the principles and beliefs upon which the United States was founded and on the structure, functions, and powers of government at the national, state, and local levels. Students learn major political ideas and forms of government in history. A significant focus of the course is on the U.S. Constitution, its underlying principles and ideas, and the form of government it created. Students analyze major concepts of republicanism, federalism, checks and balances, separation of powers, popular sovereignty, and individual rights and compare the U.S. system of government with other political systems. Students identify the role of government in the U.S. free enterprise system and examine the strategic importance of places to the United States. Students analyze the impact of individuals, political parties, interest groups, and the media on the American political system, evaluate the importance of voluntary individual participation in a constitutional republic, and analyze the rights guaranteed by the U.S. Constitution. Students examine the relationship between governmental policies and the culture of the United States. Students identify examples of government policies that encourage scientific research and use critical-thinking skills to create a product on a contemporary government issue.



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Economics

The focus is on the basic principles concerning production, consumption, and distribution of goods and services (the problem of scarcity) in the United States and a comparison with those in other countries around the world. Students analyze the interaction of supply, demand, and price. Students will investigate the concepts of specialization and international trade, economic growth, key economic measurements, and monetary and fiscal policy. Students will study the roles of the Federal Reserve System and other financial institutions, government, and businesses in a free enterprise system. Types of business ownership and market structures are discussed.

AP Literature

This course is the equivalent of a college Freshman Composition class. Students will have the opportunity to develop their writing and learn to think like writers. We will examine the intricacies of writing, what separates great writing from mediocre, and how an author uses his/her particular style to create theme and purpose. We will examine how a writer illuminates his/her personal philosophy within a work and how his/her writing shaped or continues to shape the world. Students will demonstrate a clear understanding of literary terms and how they function in a piece of writing, and develop a mature and precise vocabulary enabling them to move from student to writer. Using short stories, novels, plays, poetry and film, students will learn to analyze all the elements of a finished work – structure, syntax, diction, figurative language, imagery, and narrative methods. Students will also develop a critical eye and analyze works from different critical perspectives. Students have the option of taking the AP Literature exam after completing this course.