



TWELFTH

ACADEMIC PROGRAM COURSE GUIDE 2025-2026



TWELFTH GRADE

ACADEMIC PROGRAM

COURSE GUIDE

2025-2026



CORE AND ELECTIVES 12 TH GRADE

Judaic Studies

Judaic Studies Core

Talmud

Tanach

Halacha / Machshava

Hebrew

Hebrew Language **General Studies Core**

English

History

Mathematics

Science

Physical Education

Electives

Mathematics

History/Social Sciences

Computer Science

World Languages

Engineering

Business

Art

Music

ALL SENIORS ARE REQUIRED TO TAKE:

4 Judaic Studies classes

1Talmud

1 Tanach

1 Halacha / Machshava

The fourth class could be either Hebrew Language or a second course offering in either Talmud, Tanach, or Halacha / Maschava.

4 General Studies Core classes

1 History class

1 Mathematics class

1 English class

1 Science class

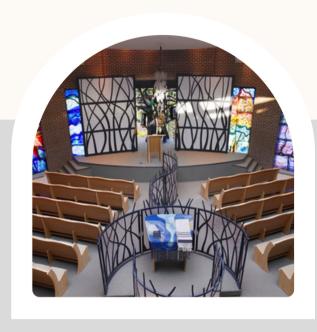
1 Physical Education class

2 Elective classes





JUDAIC STUDIES



- TALMUD
- TANACH
- HALACHA / MACHSHAVA
- HEBREW LANGUAGE



TALMUD

Enrollment requires administrative and departmental approval. Enrollment open for boys and girls.

BEIT MIDRASH (DOUBLE TALMUD) BERACHOT Rabbi Weiss

This course offers a dual approach to mastering Masechet Berachot, combining indepth *Iyun* learning with broader *Bekiut* study. Our primary focus will be the mitzvot of *Keriat Shema* and *Tefillah*, examining their halachic foundations and conceptual depth to uncover how they shape our relationship with Hashem. Through rigorous analysis, we will explore the underlying principles that make these mitzvot central to Jewish life.

Alongside our *lyun* study, we will cover additional sections of *Berachot* at a faster pace, broadening our exposure to a wide range of *sugyot*. The extra periods offered by the Beit Midrash Program create a dynamic learning environment—serious, intellectually challenging, and deeply engaging. More than just a class, this experience fosters meaningful Torah growth, personal development, and strong camaraderie, ensuring that learning is both enriching and inspiring.

TALMUD

BOYS ONLY

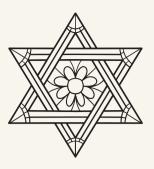
TALMUD BERACHOT (SINGLE PERIOD) Rabbi Naor

In this course, we will engage in an in-depth (b'iyun) study of key topics from the first chapter of Masechet Berachot. focusing on the mitzvot of Keriat Shema and Tefillah. Through rigorous Talmudic analysis, we will uncover the deeper meaning behind these mitzvot, exploring their halachic structure and philosophical significance. This course will highlight the intellectual depth and relevance of Talmudic study, demonstrating how these foundational mitzvot shape religious awareness, spiritual connection, and our daily practice. By engaging deeply with the sugyot, we will cultivate an appreciation for the sophistication of Gemara study and its vital role in Jewish law and tradition.

GIRLS ONLY

WOMEN, TALMUD, & JEWISH LAW Ms. Septimus

This course will examine the halakhic status of women and their obligations in Jewish law, specifically focusing on their roles in *tefillah*, *shabbat* and holidays, and voluntary *mitzvot*. Students will explore concepts of personality, relationships, and modesty, and learn about Jewish marriage, *niddah*, and *mikvah*. Additionally, the course will delve into the challenges that young women face on college campuses and beyond. Throughout the course, students will analyze primary texts from the Talmud and other halakhic sources, as well as contemporary Jewish writings on women and Jewish law. They will develop critical thinking skills as they discuss and debate different interpretations and applications of Jewish law to women's lives. Students will have the opportunity to participate in interactive discussions and experiential learning, including a visit to local mikvah and opportunity to hear from women of varied life experiences.



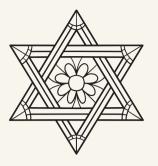
TANACH

JEWISH SOVEREIGNTY: FROM ANTIQUITY TO MODERNITY (ADVANCED) Rabbi Kahana

What does it take to rebuild a nation? This course dives into the dramatic return to *Eretz Yisrael* with Ezra and Nechemiah, exploring the political, religious, and spiritual struggles of the Second Temple era. Through *Tanach*, prophetic visions, rabbinic insights, and historical sources, we'll examine the tensions of leadership, the role of foreign empires, and the challenges of religious revival. Finally, we'll connect these ancient debates to modern questions of Zionism, governance, and Jewish identity, discovering how the *Tanach* continues to shape our understanding of nationhood and homeland today.

VILLAINS IN TANACH Mrs. Naor

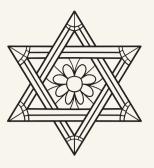
Were the so-called "villains" of Tanach truly wicked, or were their actions shaped by fate, inner turmoil, or divine purpose? This course unpacks the choices, motivations, and impact of infamous biblical figures, challenging our assumptions about justice, free will, and redemption. Through textual analysis and discussion, we'll explore what defines a villain, whether they were beyond saving, and what their stories teach us about morality and leadership. Get ready for a thought-provoking dive into the darker corners of Tanach—where even the villains have something to teach us.



TANACH

LESSONS IN LEADERSHIP FROM TANACH Ms. Kreinik

What makes a great leader? Is it about power, confidence, or the ability to inspire? Should leaders always take charge, or do the best ones know when to step back? In this course, we will explore the complexities of leadership through the narratives of Sefer Bamidbar, analyzing figures like Moshe, Korach, and *Bnei Yisrael* as they navigate power struggles, moral dilemmas, and moments of transformation. We'll examine dramatic turning points—Korach's rebellion, Moshe striking the rock, and the nation's struggles in the wilderness—through the perspectives of Rabbi Sacks, R' Hirsch, and other thinkers, uncovering insights about authority, responsibility, and the cost of leadership. But this course isn't just about theory. Through hands-on leadership workshops, we'll develop real-world skills—how to lead with confidence, navigate conflict, and make an impact in our own communities. Whether you see yourself as a future leader or simply want to deepen your understanding of power, influence, and responsibility, this course will challenge the way you think—not just about leadership, but about yourself.



TANACH

TORAH AND PSYCHOLOGY

This engaging Tanach elective explores the intersection of Torah and psychology, uncovering the complexities of human nature through key biblical narratives. Using classical mefarshim and modern psychological theories, we'll analyze themes like leadership, temptation, group dynamics, fear, ambition, and grief, gaining deeper insight into both the text and ourselves. We'll examine Moshe's struggles with leadership, the pressures that shaped Korach's rebellion, and the psychology of temptation and self-control in the sin of *Baal Peor*. We'll explore how peer pressure drove the Golden Calf, how fear and anxiety shaped the Sin of the Spies, and how grief and collective trauma impacted *Bnei Yisrael* after the deaths of Aharon and Moshe. Through these stories, we'll see how biblical figures navigate emotions, choices, and challenges, and what their experiences reveal about our own. This course is perfect for students who love deep discussion, are curious about human behavior, and want to see Torah through a fresh, thought-provoking lens. Whether you're drawn to psychology, Jewish thought, or both, this class will challenge you to think critically, question deeply, and grow intellectually and spiritually.



HALACHA/ MACHSHAVA

JEWISH BIOETHICS (ADVANCED) Mr. Bassali

How does *halacha* confront the toughest medical and bioethical dilemmas of our time? This advanced course explores issues like surrogate motherhood, organ donation, genetic engineering, and medical triage through Talmudic texts, halachic responsa, and real-world case studies. By studying *halacha* alongside modern science, we'll tackle complex ethical questions, sharpen critical thinking, and engage in thought-provoking debate. Students will gain the tools to approach bioethics with intellectual depth, moral clarity, and a halachic lens on the everevolving world of medicine.

JEWISH PHILOSOPHY Rabbi Kahana

This course is an in-depth study of some of the most foundational questions in Jewish philosophy. Topics include: knowledge of God, purpose of creation, free will, the problem of evil and suffering, *Olam HaBa, Mashiach*, and *Techiyat Hameitim*. Throughout the course, students will be encouraged to think critically and analytically about the philosophical issues at stake in these texts, as well as to develop their own philosophical positions in response. The course will culminate in a short research paper in which students will explore a particular topic or question within Jewish philosophy in greater depth.



HALACHA/ MACHSHAVA

THE RELIGIOUS THOUGHT OF RAV KOOK Rabbi Chinskey

This course offers an in-depth journey into the philosophical, theological, and mystical teachings of Rav Avraham Yitzchak HaKohen Kook, one of the most visionary Jewish thinkers of the 20th century. We will explore Rav Kook's radical and transformative ideas, from his fusion of halacha and spirituality to his belief in the holiness embedded in the natural world and the sanctity found in everyday living. His writings challenge conventional religious thinking, offering a vision of personal and national renewal that speaks to the heart of modern Jewish identity. But this course is not just about studying his works—it is about wrestling with his ideas and applying them to the ethical, spiritual, and intellectual dilemmas of today. How do his teachings shape our understanding of faith in a modern world? How can his philosophy inspire both personal growth and a broader vision for the Jewish people? All that's required is an open mind, a willingness to engage with profound and sometimes challenging ideas, and a curiosity to explore the intersection of intellect, spirituality, and Jewish life.

PRAYING TO GOD: JEWISH LAW AND THOUGHT Ms. Berner

This course offers a deep dive into Tefillah through three key lenses: *Halacha* (Jewish law), *Machshava* (Jewish thought), and *Be'ur Tefillah* (understanding the words of prayer). We'll start with the halachic foundations—examining the structure, timing, and intent required for meaningful prayer. But Tefillah is more than just rules—it's about connection. We'll explore big questions: Why do we pray? Does it change anything? How can we make davening more personal? Finally, we'll uncover the deeper meaning of our prayers, ensuring that when we stand before Hashem, we're not just reciting words—we truly understand them. Through textual analysis, discussion, and practical reflection, this course will help you move beyond routine, making prayer a powerful and personal experience.



HEBREW LANGUAGE

Seniors may select one of the two course options below. Classes will be conducted in Hebrew. Enrollment requires administrative and departmental approval.

HEBREW COURSE OPTION 1

CONTEMPORARY ISRAELI CINEMA Ms. Taylor

Israeli cinema is both a reflection of and a commentary on Israeli society. Films about war, relationships and coming of age will be analyzed regarding what they can tell us about Israel, our world and ourselves. We will explore why the film was made, how it was received by the public, and what Israeli or Jewish customs, attitudes and viewpoints are apparent. In particular, we will look at the role of the Hebrew language in film, and will study how the phrasing, vocabulary, slang and accent are used to advance the film's message. The class will be conducted in Hebrew.

HEBREW COURSE OPTION 2:

EXPLORING ISRAEL (FALL SEMESTER) Mrs. Kaufman

"קום התהלך בארץ לארכה ולרחבה כי לך אתננה"

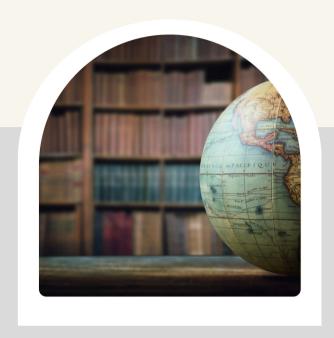
Arise, walk through the land in the length of it and in the breadth of it; for unto thee will I give it.

The Israel National Trail (*Shvil Yisrael*) is a 1100 kilometer hiking and cycling trail that runs from the Israel-Lebanon border in the north to Eilat in the south. There are 56 sections along the way that include a variety of settlements, sites, and natural habitats. Together, these sections provide a unique perspective on the State of Israel. We will "hike" the trail from beginning to end, discussing the changing topography, climate, historic and current events, and personalities that we meet along the way. Class will be conducted in Hebrew.

LEARNING HEBREW THROUGH ISRAELI SONGS (SPRING SEMESTER) "לקום מחר בבוקר עם שיר חדש בלב... ולהתחיל מבראשית"

Imagine learning Hebrew in a whole new way - through the songs that have defined Israeli culture! In this course, you'll experience the beauty, depth, and rhythm of Hebrew by diving into the lyrics of some of Israel's most iconic songwriters. From the early pioneers to today's artists, Israeli music, Israel's history and culture will be our guide.

GENERAL STUDIES



- ENGLISH
- HISTORY
- MATHEMATHICS
- SCIENCE
- PHYSICAL EDUCATION



All seniors are required to take one English course every semester for a total of four years of English. Seniors must choose one of the following English courses. Teacher recommendation and administrative approval are required for AP courses.

ADVANCED PLACEMENT ENGLISH LITERATURE AND COMPOSITION Ms. Newborn

This twelfth grade course is a preparatory course for the Advanced Placement Examination in English Literature and Composition. Students read and reflect on their reading through extensive discussion, reading sample essays and writing essays using the templates provided by the College Board. The primary focus is on close reading and both verbal and written critical analysis of imaginative literature in terms of the individual work's narrative structure, style, theme and its use of smaller scale elements such as diction, irony, figurative language, imagery, symbolism and tone. Students must become extremely familiar with a few chosen works of recognized literary merit and must also develop the skill to analyze pieces they have never seen before. Primarily, this is a skills development course. Students are not evaluated on the basis of their mastery of specific texts they have already studied. Instead, they are required to demonstrate the ability to analyze and evaluate works that are new to them. Teacher recommendation and administrative approval are required for enrollment.

THE HISTORY OF MYSTERY/ WRITING A MYSTERY - IT'S YOUR TURN Ms. Newborn

One of the most popular genres of literature is the mystery story. People love to pit their wits against an author who creates a mystery and challenges the reader to solve it before the correct solution is presented at the end of the text. The professional detective came into his own in the 19th century, and today, the best seller lists abound with titles in the genre, with exotic settings, plot twists and creative variations being especially popular. This course will cover some early mystery stories and move quickly into the 20th and 21st centuries. We will explore the common tropes that readers expect to encounter in a mystery story (clues, the assistant, red herrings) by reading a variety of short stories and full-length texts. Take this class if you would like to know "Who Done It?"

In the second term, students will work in groups or singly to create their own mystery stories that will be set in NSHAHS



BEST SELLERS

Ms. Zabinksy

In this first semester of this course, students will explore a curated selection of bestselling novels, examining the elements that contribute to their widespread popularity. Students will gain a deeper understanding into why these works resonate with a broad audience through an in-depth study of plot, character development, theme, and genre. Class discussions and writing assignments will encourage critical thinking about narrative structure, character motivations, and the cultural impact of these texts. Students will also engage in comparative analysis, considering how bestselling trends reflect societal values and shifts over time.

The second semester of this course will include an examination of literature written by survivors and witnesses of the Holocaust with a focus on memoirs, diaries, biographies and testimonies. There will be an emphasis on the importance of knowledge and remembrance as a vehicle to prevent the past from repeating itself.

BANNED BOOKS

Dr. Maxwell

In this first semester of this course, students will explore the history and controversy surrounding banned and challenged books, examining why certain works have sparked public outcry and censorship. Through readings, discussions, and research, students will analyze the themes, characters, and social issues in these texts that lead to their banning. The course will also explore the role of censorship in society and its impact on freedom of expression, intellectual growth, and cultural change. Students will critically evaluate the arguments for and against book banning, considering historical and contemporary examples.

The second semester of this course will include an examination of literature written by survivors and witnesses of the Holocaust with a focus on memoirs, diaries, biographies and testimonies. There will be an emphasis on the importance of knowledge and remembrance as a vehicle to prevent the past from repeating itself.

ENGLISH

LITERATURE AND FILM

Dr. Maxwell / Ms. Zabinsky

This course will explore the intersection of literature and film, analyzing how stories are adapted across mediums. Students will examine cinematic techniques used in filmmaking, such as visual storytelling, editing, and sound design, and how these elements influence narrative structure and meaning. Discrepancies between the original texts and their film adaptations will be explored, including discussions about how changes in plot, character and theme reflect different artistic and cultural interpretations as well as potential political motivations.

The second semester of this course will include an examination of literature written by survivors and witnesses of the Holocaust with a focus on memoirs, diaries, biographies and testimonies. There will be an emphasis on the importance of knowledge and remembrance as a vehicle to prevent the past from repeating itself.

LITERARY UTOPIAS (HONORS)

Mr. Miller

Utopian literature has long been a lens through which writers explore ideal societies, political philosophies, and human aspirations. This course traces the evolution of utopian thought in literature, examining key texts that have shaped and challenged visions of a perfect world. Discussions will focus on the social, political, and philosophical foundations of utopian literature; we will also consider how these works reflect and respond to historical contexts. Students will develop a deeper understanding of how utopian literature has influenced and been influenced by diverse cultural and ideological movements.



Seniors must take one of the required history courses listed below. Seniors may also select an additional history elective.

PRESIDENTIAL POWER - ORIGINS AND EVOLUTION (HONORS) Dr. Allen

This course will examine the many facets of presidential power from conception and articulation by the Founders to interpretation, use, and sometimes misuse by American presidents. The course will address both constitutionally mandated powers like the veto and pardon as well as powers that emerged from that foundation like executive orders and war powers. Students will study theories of presidential power like The Unitary Executive and The Imperial Presidency and analyze the impact of presidential power on Congress and the Supreme Court. This course will culminate in a college level research paper.

BOOM AND BUST: A HISTORY OF ECONOMIC CRASHES Dr. Jucovy

Business cycles are a seemingly inevitable feature of modern societies. This course explores the reasons for the emergence of business cycles, the ways in which political culture and economic theory shape the responses to crashes, and the ways in which crashes have shaped history.

HISTORY OF WAR MOVIES

Dr. Jucovy

Although many of the greatest war films of all time are considered "anti-war classics," their brutal and honest depictions of war in film celebrate battlefield heroism and provoke primordial feelings that undercut the anti-war intentions. This course will critically examine the tension between intent and impact, as well as evaluate the movies as both secondary sources and primary sources: fictionalized depictions of the past and artifacts of the moment and place in which they were created.



HISTORY OF IMMIGRATION IN THE UNITED STATES TBD

Immigration and migration have been a permanent feature of American history. At varying historical periods, immigrants have been blamed for the nation's problems. At other times, we celebrate our nation's immigrant heritage. This course will critically examine the cycles and waves of immigration, America's attitudes toward immigrants and immigration, and the ways that immigration has been linked to the rise of American Exceptionalism.

CURRENT EVENTS AND CIVIC LITERACY

The course will provide students with a knowledge of current events by developing their critical research and reading skills. Students will learn about the varied sources of information about current events, how to evaluate the sources for bias or accuracy, how to distinguish between news, analysis, and opinion sources, and whether or not social media has, as some have asserted transformed opinion formation and the political process.

AMERICA IN THE 1960'S

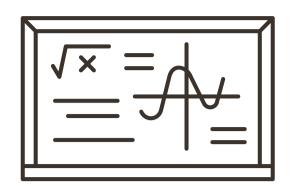
Mr. Gould

No decade changed the United States as much as the 1960's. America was leaving the 1950's age of conformity, entering a new era of radicalism. Civil rights activists took bold steps to challenge the status quo, conducting sit ins and non-violent protests. Women's rights activists ushered in the age of feminism, fighting for greater equality and respect. Latino farm workers began to unionize. Finally, America's distraught youth being drafted into an escalating Vietnam War responded by creating their own counterculture to challenge the existing norms and beliefs. Revolution was not only in the air, but also the airwaves. The music of the 1960's reflected this extraordinary shift in values, embraced by the youth. Even the fashion and art at the time had a message to send. Poet laureate of the 1960's, Bob Dylan said it best that these "times were a changin." We will uncover what motivated this era and explore how the values of this era are still alive and well today. Embark with us on this amazing journey and see how its experiential learning will make this era come alive.

SPORTS IN AMERICAN HISTORY

Mr. Levy

This elective course will study the role of sports in American society as it has evolved over time. How sports have shaped, and been shaped by, American culture in the 20th and 21st centuries will be discussed. The impact of sports on the civil rights movement, the Cold War, and during national tragedies are among topics to be studied. Students will gain an understanding of historical events through the lens of athletics at various



MATHEMATICS

Seniors are required to take one math course in the senior year. Placement will be decided by the department. Teacher recommendation and administrative approval are required for AP courses. You may request AP Statistics as an elective.

AP Calculus BC

AP Calculus AB

Calculus 12

Pre- Calculus 12

Finite Mathematics

AP CALCULUS BC

Mr. Kosta

This course is open to seniors who have completed Pre-Calculus BC. Students study properties of functions, limits, continuity, definition of the derivative, techniques of differentiation, using calculus to graph functions, rectilinear motion, applied maximum and minimum problems, Rolle's Theorem and the Mean Value Theorem, the indefinite integral, slope fields, the definite integral, the Fundamental Theorems of Calculus, average value, applications of the definite integral including area and volume, integration by parts, first order separable differential equations, length of a plane curve, advanced integration techniques, improper integrals, first order separable differential equations, Maclaurin and Taylor series, convergence tests for series, polar coordinates, area in polar coordinates, and calculus on vector functions. Technology including a graphing calculator is used. Teacher recommendation required for enrollment.

AP CALCULUS AB

Mr. Mondi

This course is offered to seniors who have completed Pre-Calculus AB. Topics include properties of functions, limits, continuity, definition of the derivative, techniques of differentiation, using calculus to graph functions with, rectilinear motion, applied maximum and minimum problems, Rolle's Theorem and the Mean Value Theorem, the indefinite integral, slope fields, the definite integral, the Fundamental Theorems of Calculus, average value, applications of the definite integral including area and volume, and first order separable differential equations. Technology including a graphing calculator is used. Teacher recommendation required for enrollment.

CALCULUS 12

Ms. Berger

This course is for seniors who have successfully completed pre-calculus AB in the junior year and elect to further their mathematics studies. The course encompasses the study of all elements of a first semester college calculus course including limits, the definition of the derivative, differentiation, and applications of differentiation.

PRE-CALCULUS 12

Ms. Mondi

This course is open to seniors who have completed Algebra II with Trigonometry and elect to further their mathematics studies. The course encompasses the study of various functions, including linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric, as well as work with sequences and data analysis.

FINITE MATHEMATICS

Ms. Greene

This course is open to seniors who have completed Algebra II with Trigonometry and elect to further their mathematics studies. Students will explore mathematical concepts from a different angle with an emphasis on creative and logical thought. This course will have a project-based assessment component. Students may work collaboratively and creatively. Topics include Functions, Graph Theory, Matrices and Linear Algebra, Conic Sections, Statistics, Probability and Business Applications.

SCIENCE

Students are strongly recommended to take one science course in senior year. Placement is determined by the department and the administration.

You may take an additional course as an elective.

AP Physics C

AP Biology

AP Chemistry

Forensics

Anatomy and Physiology

AP PHYSICS C Dr. Chandhok

This is a calculus-based physics course that demands a strong mathematics background. The course emphasizes the broad field of mechanics typical of a college-level course and delves deeply into topic areas such as kinematics, dynamics, momentum, energy, rotations, gravitation, and oscillations. The laboratory is used to derive and illustrate major concepts of physics and to compare these idealized mathematical concepts, theories, and laws with the real-world phenomena. AP Physics students need to develop skills in performing laboratory activities with modern equipment and computer interfaces and analyzing data. Problem solving is an important part of the class and as such practice applications will be assigned. Only students concurrently enrolled in Calculus BC will be approved for this course.

SCIENCE

AP BIOLOGY

Mr. Elkins

AP Biology is offered as an introductory college-level biology course spanning the breadth of the life sciences offered to highly motivated students of strong academic quality. The curriculum which has undergone recent redesigning and College Board approval now stresses critical thinking and application of biological concepts in the context of 4 'big ideas.' The thematic approach makes study areas more meaningful as students make connections across the syllabus. Ultimately, students will develop a conceptual understanding of modern biology emphasizing applications of biological knowledge, scientific methodology, techniques, and critical thinking. These tools will help students understand themselves and the living world around them and better prepare them for the scientific, environmental, and social changes that will be a prominent part of their future. It is important to note that the conceptual framework of this course is based on the current ideals of evolution as the underlying foundation for all biological principles. AP Biology includes rewritten crucial laboratory exercises suggested by the College Board as well as several other labs deemed both important and helpful. After-school laboratory and classroom sessions are often scheduled to meet course requirements. In addition to work using the assigned textbook, students are required to study and master many forms of text supplementation, including on-line sources and current scientific literature.

AP CHEMISTRY

Ms. Evanoff

AP Chemistry is designed to offer a rigorous and challenging course that covers the chemical principles typical of college and university general chemistry courses and is offered to highly motivated students of strong academic quality. AP Chemistry students will be expected to reinforce classroom-taught principles through consistent regular review, practice assignments and on-line activities. All are expected to take the AP Chemistry Exam and maintain a laboratory notebook. The topic areas covered in this course are atomic structure and properties, molecular and ionic bonding, intermolecular forces, reactions and stoichiometry, kinetics and equilibria, solution chemistry, acid-base theories and redox and electrochemistry. These topics have been reworked to emphasize the major themes and concepts of advanced chemistry in compliance with the redesign mandated by the College Board. There are several required laboratories, several of which are inquiry-based, and students must submit detailed, college-level reports for each. After-school laboratory and classroom sessions are often a required part of the course. Teacher recommendation and administrative approval are required for enrollment.

FORENSICS

Ms. Hennelly

The forensics elective course provides a perfect opportunity to conflate reasoning skills, the application of the scientific method, genetics, and technology, with one of the most exciting career directions. The course quickly expands from basic skills in observation to the disciplined processing of data and crime situations, to ultimately the use of modern CSI techniques based on genetics, anatomy, chemistry, and physics. The formal lab program is adapted from institutions that are leaders in criminal investigation and discussions as well as forensic simulations stem from guest presentations from the field of CSI, classic crime cases, as well as reports from news and current events. The course culminates in the actual practical processing of a simulated crime scene.

ANATOMY AND PHYSIOLOGY TBD

The Anatomy and Physiology elective is a co-accredited course under the auspices of a local university. Students completing the course with good standing earn four transferable college credits from State University of New York. The course focuses on structures and functions of the human body in an organ system format and the maintenance of homeostasis. Topic areas include comparative histology, integumentary system, musculoskeletal system, digestive system, blood and cardiovascular system, respiratory system, nervous and endocrine systems, urinary system, reproductive systems and lymphatic and immune systems. Mechanisms of diseases that plague human beings will provide one fertile area for student research which will be a strong emphasis. Discussions will be held pertaining to the impact of new genetic and technological developments, and lifestyle influences on maintaining health and avoiding disease. There will be a laboratory component featuring visuals, models, and dissections where students will get hands-on experience. This course will challenge critical thinking and ultimately will require students to apply their knowledge to solving and diagnosing real cases.

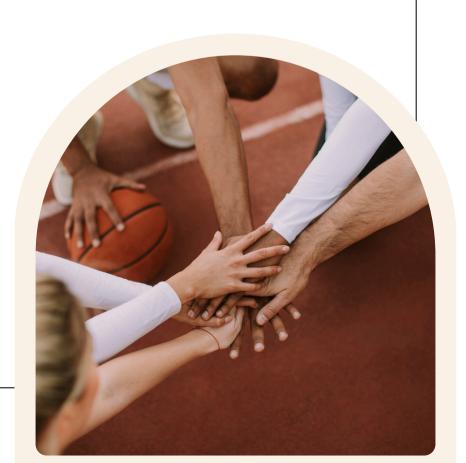
All seniors are required to take physical education.

Mr. Malis / Ms. Arjang

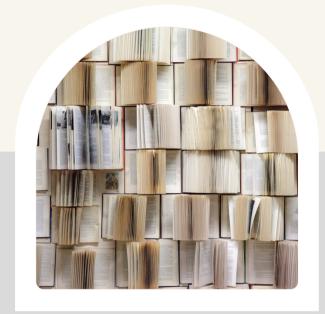
Students meet individually with the school's PE instructors to evaluate their level of activity and to review their individual wellness and fitness needs.

Students, with their instructor's guidance, develop personal plans to meet their goals.

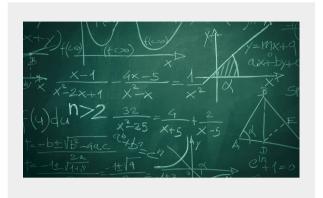
Over the course of the year, the PE instructors monitor each student's individual progress according to the plan.



ELECTIVES



- MATHEMATICS
- HISTORY/SOCIAL SCIENCES
- COMPUTER SCIENCE
- WORLD LANGUAGES
- ENGINEERING
- BUSINESS
- ART
- MUSIC



AP STATISTICS

Ms. Kosta

This course is the equivalent of an introductory college-level course. Students will focus on four major themes: exploratory data analysis, designing studies, probability models and simulation, and statistical inference. In essence, students develop strategies for collecting, organizing, analyzing, and drawing conclusions from real-world data. Students design, administer, and tabulate results from surveys and experiments. Probability and simulations aid students in constructing models for chance phenomena. Sampling distributions provide the logical structure for confidence intervals and hypothesis tests. Students use a graphing calculator, formula sheets, statistical tables and activities to investigate statistical concepts. To develop effective statistical communication skills, students are required to prepare frequent written and oral analyses of real data. Students will regularly build interdisciplinary connections with other subjects and with their world outside of school. Teacher recommendation required for enrollment.

ADVANCED PLACEMENT UNITED STATES GOVERNMENT AND POLITICS Enrollment requires administrative and departmental approval. Mr. Ethe

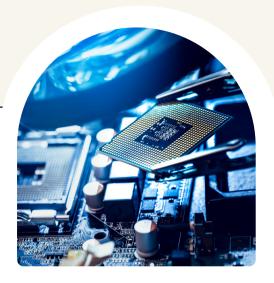
Twelfth grade students will be given the option to take Advanced Placement U.S. Government. The advanced placement program is designed to allow students the opportunity to pursue college level courses in high school. This one-year course is the study of the role of the national government and its relationship to the concept of liberty in a pluralistic society. The course will cover the influence of American political culture, political parties, public opinion, the media, and interest groups on the Congress, the Presidency, and our Court System. A sophisticated understanding of majority-rule democracy, constitutionalism, and civil liberties will be stressed. The course also includes a study of economics and its interrelation with the U.S. government. Teacher recommendation and administrative approval are required for enrollment.

ADVANCED PLACEMENT MACROECONOMICS

Enrollment requires administrative and departmental approval.

Ms. Goldschmidt

AP Macroeconomics is a course designed to provide students with a thorough understanding of the principles of economics by examining aggregate economic behavior. Students taking the course can expect to learn how the measures of economic performance, such as GDP, inflation and unemployment are constructed and how to apply them to evaluate the macroeconomic conditions of an economy. Students will also learn the basic analytical tools of macroeconomics, primarily the aggregate demand and aggregate supply model and its application in the analysis and determination of national income, as well as in evaluating the effectiveness of fiscal and monetary policy in promoting economic growth and stability. Recognizing the global nature of economics, students will also have ample opportunities to examine the impact of international trade and international finance on national economies. Various economic schools of thought are introduced as solutions to economic problems are considered. Teacher recommendation and administrative approval are required for enrollment.



All courses in the computer science department are electives. Teacher recommendation and administrative approval are required.

AP COMPUTER SCIENCE A Ms. Wilensky

This course is equivalent to a semester-long, college-level course in computer science. The course introduces students to computer science with fundamental topics that include problem solving, design strategies and methodologies, organization of data (data structures), approaches to processing data (algorithms), analysis of potential solutions, and the ethical and social implications of computing. The course emphasizes both structural and object-oriented problem solving and design using the Java language. The AP Computer Science A course includes a minimum of 20 hours of hands-on structured lab experience to engage students in individual or group problem solving. Prerequisite: Computer Science Essentials, College Python Programming, AP Computer Science Principles or equivalent computer science experience. Teacher recommendation required for enrollment.

INTRODUCTION TO ARTIFICIAL INTELLIGENCE Ms. Vesa

This course introduces students to the main ideas in Data Science and Artificial Intelligence through project-based learning. Students will learn to ask questions of data and represent data through visualizations. They will also use critical thinking skills to look at how data is presented to them or used in articles and social media. The projects will range from exploring how Al is used in image recognition or price predictions, to how Spotify creates a shuffle list of their favorite song list. The course will cover the technical side of DS and Al, where students will be introduced to software used in the industry: Python, Pandas, scikit-learn, Colab Notebooks. In addition, the course will examine the implications of DS and Al including Data Ethics, Data Privacy, and how Al impacts all areas of our life. Prerequisite: Computer Science Essentials, College Python Programming, AP Computer Science Principles or equivalent computer science experience. Teacher recommendation required for enrollment.

COLLEGE PYTHON PROGRAMMING

Ms. Wilensky

College Python Programming is equivalent to a first-semester, college-level course in programming. The course introduces students to coding essentials including problem solving and program design, algorithms (sequence, selection/decisions, iteration/loops), data collection (lists, sets, dictionaries and scalar values), abstractions (procedures, functions), graphical user interfaces and user experience design. This is a project-based learning course where Python applications will be created and explored within a backdrop of traditional problems and more current computer science fields such as data visualization, machine learning, web scraping and integration with engineering projects. Collaboration will also be a key component in the class. Students may opt to earn college credit through LIU upon successful completion of this course.

All courses in the World Language Department are electives. Seniors are encouraged to pursue their study of foreign language if they have completed advanced levels in previous years. Teacher recommendation and administrative approval are required for AP and college level courses.

FRENCH IV / V

Ms. Davis

The students enrolled in this course master topical vocabulary, grammar, idioms, and practical expressions on an advanced level. They discuss a variety of contemporary themes gathered from authentic materials, including novels, films, short stories, articles and newspaper articles. Literary vocabulary is acquired. This course emphasizes aural comprehension and oral proficiency. These students will be eligible for Adelphi University college credits upon completion of the course.

SPANISH IV

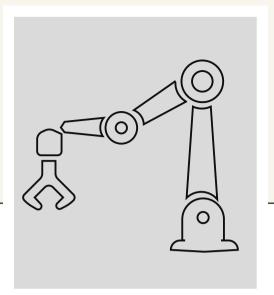
Ms. Robbins / Ms Nikolaou

The students enrolled in this course master topical vocabulary, grammar, idioms, and practical expressions on an advanced level. They discuss a variety of contemporary themes gathered from authentic materials, including novels. Newspaper article analysis assigned weekly and written paragraphs and essays submitted. This course emphasizes aural comprehension and oral proficiency. These students will be eligible for Adelphi University college credits upon completion of the course.

SPANISH V

Ms. Robbins

A communicative approach will be continued of Spanish language mastery including in- depth literary analysis and essay and paragraph writing. The students will acquire more advanced communicative skills in multiple tenses with an extensive vocabulary base as well as increased synonym and antonym acquisition. Cultural information will be accessed and discussed, Spanish newspapers read weekly, and novels, essays and poetry will be studied. Literary vocabulary is taught. These students will be eligible for Adelphi University college credits upon completion of the course.



All courses in the engineering department are electives. Teacher recommendation and administrative approval are required.

ENGINEERING CAPSTONE Mr. Santiago

The Engineering Capstone serves as the culmination of the North Shore engineering program, designed for seniors to apply and integrate the knowledge and skills gained over the past three years. This hands-on, project-based course challenges students to solve real-world engineering problems by combining concepts from electrical and mechanical engineering through the engineering design process.

Students will apply circuit analysis and microcontroller programming skills from Year 1, 3D modeling and prototyping techniques from Year 2, and mechanical engineering principles such as gear ratios, torque, and stress analysis from Year 3. Working in teams, students will design, build, and test a functional engineering project, simulating the collaborative and iterative processes used in professional engineering fields. If applicable, students will participate in the CIJE Innovation Day competition to showcase their skills and compete against other Judaic schools.

By the end of the course, students will have developed critical thinking, problem-solving, and teamwork skills while building a portfolio-worthy project that demonstrates their technical competence and creativity.



All business courses are electives. We have partnered with several local colleges to offer courses for college credits. Students may enroll in these courses at a significantly reduced cost and earn college credits. Teacher recommendation and administrative approval are required.

ADVANCED COLLEGE ACCOUNTING II

Ms. Solarsh

This course provides a thorough and comprehensive look into Managerial Accounting. Students will explore business concepts and methods used to report managerial performance information to internal users and managers to assist in making sound business decisions in managing the firm. Topics include product costing methodologies, cost behavior, operational and capital budgeting, and performance evaluation. Students can earn 3 college credits. Prerequisite: College Accounting I.

COLLEGE MARKETING / DIGITAL MARKETING

Ms. Solarsh

This is a full year course. College marketing will be covered during semester one. The marketing course focuses on the understanding of the foundational elements of marketing and the central role that marketing plays in the business process. The key areas of study are the 4P's: product, price, promotion and place. Instruction is provided through lectures, group projects and individual and group presentations. Numerous case studies are also included. Students can earn 3 college credits for this portion of the course. Digital Marketing in semester two will expand on the lessons learned during semester one focusing on marketing in the digital world. There will be two main areas of focus. First, the difference between traditional and digital marketing, especially examining the 4 P's of marketing in the Internet age, will be examined. Second, an in-depth look at how marketers can utilize web pages, social media, mobile marketing, blogs and more to create their digital brand and drive sales. Recent trends, current scenarios of the industry, competitive analysis, online simulations and SMART objectives will be explored. This course will also help students become comfortable with technology tools necessary for success in the business world. Opportunity to earn industry certification upon successful completion of the course and certification exam. Students will be required to bring a fully charged laptop to class on a daily basis. Teacher recommendation and administrative approval are required for enrollment.

COLLEGE VIRTUAL ENTERPRISE

Ms. Solarsh

Virtual Enterprise is a live global business simulation in which students create and manage a virtual business. The program provides opportunities to develop valuable 21st-century skills in entrepreneurship, global business, problem solving, communication, personal finance and technology. VE replicates all the functions and demands of real businesses in both structure and practice. As "employees" of the virtual business, students experience the expectations of the workplace and are accountable for the firm's performance. Students can earn three college credits. Teacher recommendation (following interview process) and administrative approval are required for enrollment. Students can earn 3 college credits.



All courses in the Art Department are electives. Teacher recommendation and administrative approval are required.

PRE COLLEGE-PORTFOLIO DEVELOPMENT (NON AP)

Ms. Folk

Portfolio Development is a new course offered at NSHAHS. We are trying to bridge the gap between HS and College by preparing students for the next step in an art career. Students will create a series of new works that span from drawing, painting and mixed media, showcasing a core understanding of a variety of materials as well as the courage to experiment and break the traditional boundaries of each medium and subject matter. Our objective is to provide students with a professional portfolio that can offer admission to high-ranking universities with scholarships. In addition to creating art, our Portfolio Development course will prepare students to become fluent in the art language. Through artist statements, participating in group critiques, and photographing and digitizing artworks, students will become familiar and comfortable in speaking about not only their own art, but others' works as well. Prerequisite: Studio Art II, or AP Art I.

STUDIO ART II

Ms. Folk

Studio Art 2 is a second-year course that provides an opportunity for students to expand on the drawing and painting concepts introduced in Studio Art 1. Emphasis is placed on a deeper understanding of design principles, drawing techniques and painting skills leading to the development of abilities that are necessary for advanced art courses. Students are given more in depth problems to solve creatively while becoming more adept through a broad exposure to various media. Students will advance both technically and conceptually, preparing them for the next level of art at North Shore. Alongside refining their artistic skill set, the students will learn about 21st century art and have the opportunity to visit contemporary art institutions. Prerequisite: Studio Art I.

AP ART II

Ms. Folk

Advanced Placement Studio Art is a distinctive and rigorously demanding course of study which teaches students how to elevate their creative process, critical thinking, investigative skills and 'student voice' in preparation of effectively completing The College Board requirements of the AP Studio Art Exam administered at the end of the school year. The AP Studio Art Exam consists of a student developed body of successful artwork which will be submitted in a portfolio. The culmination of the student produced artwork during the school year is aimed at targeting and exploring their chosen sustained investigation which was selected in AP Art 1. The investigation focuses on a body of work based on a "Central Theme" and focuses on a process of INVESTIGATION, GROWTH and DISCOVERY. Students are required to attend to their sketchbooks and continuously explore and research their Art Assignment topics so that they may develop the vital skills needed to successfully complete their investigation. Prerequisite: AP Art I.





FASHION II

Ms. Dammacco

This design course further encompasses the fashion design process from inspiration through production learned in Fashion Design 1. Focus is on developing the fashion silhouette and fabric rendering techniques using a variety of materials. Students will study the interconnectivity between fabric weight/texture and garment representation based on rendered croquis. Principles and creative standards common to all design fields will be introduced. Projects will deal with pragmatic and creative issues. Assignments are progressive so that students will have the opportunity to establish their professional identity. They will utilize a range of media and a variety of techniques to create versatility in their work and portfolio. Additionally, sewing basics will be introduced to students. Students will be exposed to how a historical timeline of fashion is reflective of society. This will help to illustrate the ways in which material use has been affected by the technological changes in manufacturing. Museum, fabric store trips, and fashion show trips are planned. Prerequisite: Fashion I.

FASHION III

Ms. Dammacco

This design course further encompasses the fashion design process from inspiration through production learned in Fashion Design 2. Focus is on draping, sculpting and 3D textile design and exploration. Projects will deal with pragmatic and creative issues. Assignments are progressive so that students will continue to have the opportunity to establish their professional identity and brand. They will utilize a range of media and a variety of techniques to create versatility in their work and portfolio. Museum, fabric store trips, and fashion show trips are planned. This course aims to broaden and deepen the students' awareness of fashion as a discipline as they work on completing a portfolio for presentations to colleges. Prerequisite: Fashion Design II.

Architecture Figure 1

ARCHITECTURE II

Ms. Dammacco

This course is for the student who has completed the requirements for Introduction to Architecture 1 and plans possibly to pursue his or her architectural studies as part of their college education. Students will reinforce skills they learned in the earlier course and focus in on design techniques, as well as review and study the history of architecture, build scale models from plans and build vertically, understand shape, convex and concave, space, light, acoustics, circulation, enclosure, boundaries, path, threshold and portal, understand the use of planes and their relationship to patterns, consider issues dealing with commercial/public space, render hand illustrations using a variety of media, become aware of the need for conservancy and the need for buildings that reflect respect for environments and future generations and learn about the history and evolving technologies of modern architecture. Emphasis will switch to vertical construction and consideration of public space vs. private space as well as architectural production as a process of analysis, critique and synthesis. Students will study architectural design as a mode of cultural communication and imaginative experimentation. They will work at a variety of scales, with a variety of techniques in a variety of research situations while being asked to comprehensively address architectural problems. This course aims to broaden and deepen the students' awareness of architecture as a discipline as they work on preparing a portfolio for presentations to colleges. Prerequisite Architecture I.

ARCHITECTURE III

Ms. Dammacco

Students will reinforce skills they learned in the earlier courses and focus on design techniques, as well as review and study the history of architecture. Emphasis will switch to conceptual design and planning on larger urban scales. Students will study Urban planning, also known as town planning, city planning, regional planning, or rural planning, is a technical and political process that is focused on the development and design of land use and the built environment, including air, water, and the infrastructure passing into and out of urban areas, such as transportation, communications, and distribution networks and their accessibility. They will work at a variety of scales, with a variety of techniques in a variety of research situations while being asked to comprehensively address architectural problems. This course aims to broaden and deepen the students' awareness of architecture as a discipline as they work on completing a portfolio for presentations to colleges. Prerequisite: Architecture II



AP Music Theory is an elective course. Enrollment requires teacher and administrative approval.

AP MUSIC THEORY

Mr. Torres

This course prepares the student for the College Board AP Music Theory exam, which places emphasis on the music of the "Common Practice Period" in Western Music (1650-1900). Areas of focus will include: tonal harmonic analysis, formal analysis, harmonic/melodic/rhythmic dictation, sight-singing, and part writing.

(Prerequisite Class - Music Theory Fundamentals)

