

NORTH SHORE
HEBREW ACADEMY

ישיבת חוף הצפון



TWELFTH GRADE

ACADEMIC PROGRAM COURSE GUIDE

2024-2025



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TWELFTH GRADE

ACADEMIC PROGRAM

COURSE GUIDE

2024-2025

CORE AND ELECTIVES

12 TH GRADE

Judaic Studies	General Studies Core	Electives
Judaic Studies Core		Mathematics
Talmud	English	History/ Social Sciences
Tanach	History	Computer Science
Halacha / Machshava	Mathematics	World Languages
Hebrew	Science	Engineering
Hebrew Language	Physical Education	Business
		Art
		Music

ALL COURSES

ALL SENIORS ARE REQUIRED TO TAKE :

4 Judaic Studies classes

1 Talmud

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

Mideast Studies (History) required

1 Mathematics class

1 English class

1 Science class

1 Physical Education class

2 Elective classes





ALL SENIORS ARE REQUIRED TO TAKE 4 JUDAIC STUDIES CLASSES

Students who choose Beit Midrash, must select in addition:

- 1 Tanach course
- Either a Halacha course or a Hebrew Language course

Students who do not choose Beit Midrash:

Boys must select:

- 1 Iyun Pesachim with Rabbi Naor
- 1 Tanach course
- 1 Halacha / Machshava
- 1 Hebrew Language or any other Judaic elective

Girls must select:

- 1 Women & Talmud with Mrs. Septimus
- 1 Tanach course
- 1 Halacha / Machshava
- 1 Hebrew Language or any other Judaic elective

The separation of genders in the single-period Talmud classes is aimed at creating an open space to discuss gender-sensitive halacha and hashkafa related to Jewish family life. Students in our co-ed Beit Midrash track, will also have an opportunity over the course of the year to break up by gender and study these issues as well.

JUDAIC STUDIES



- TALMUD
- TANACH
- HALACHA / MACHSHAVA
- HEBREW LANGUAGE

TALMUD



BEIT MIDRASH (DOUBLE TALMUD)

Enrollment requires administrative and departmental approval.

Rabbi Weiss

We will study topics in the 10th chapter of Pesachim in great depth (iyun). These topics pertain to the mitzvot performed on Shabbat and Yom (קידוש/הבדלה) and Pesach in particular (מצה, מרור, ד' כוסות, הסיבה). We will explore how these mitzvot highlights the special sanctity of these days. We will also learn other parts of *Masechet Pesachim* at a faster pace [b'kiyut] to be exposed to many different topics and pages of gemara within our masechet. The additional periods offered by the *Beit Midrash* Program affords us the opportunity to create an environment which is challenging and serious yet relaxed and enjoyable. The goal is that this environment will enable serious Torah learning and spiritual growth while also promoting the development of genuine friendships amongst the group.

MASECHET MEGILLAH BEKIUT

Rabbi Naor

B'kiyut Study is a method of studying Gemara that prioritizes breadth of coverage over depth of analysis. Students will have the opportunity to study a greater number of pages of Gemara at a quicker speed, focusing on the back and forth arguments of the Gemara (rather than focusing on commentaries) in order to deepen their reading skills, develop a broad familiarity with the content of *Masechet Megillah*, and gain insights into key concepts, legal debates, and practical rulings.

TALMUD

BOYS ONLY

MASECHET PESACHIM B'YUN

Rabbi Naor

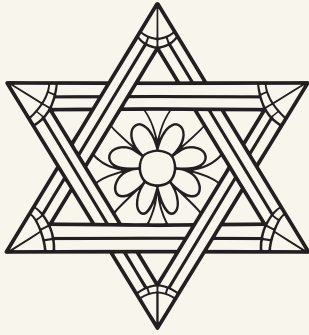
We will study topics in the 10th chapter of Pesachim in great depth (iyun). These topics pertain to the mitzvot performed on Shabbat and Yom (קידוש ה/הבדלה) and Pesach in particular (מצה, מרור, ד' כוסות, הסיבה). We will explore how these mitzvot highlights the special sanctity of these days. Our thorough analysis of the principles underlying הלכות will showcase the depth of Torah and lead to a greater appreciation of Jewish Law.

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

SIBLING RIVALRIES IN THE BIBLE

Ms. Naor

This course will focus on sibling rivalry and reconciliation in *Tanach*. We will analyze specific examples such as Kayin and Hevel, Yitchak and Yishmael, Yaakov and Esav, Joseph and his brothers, Moshe and Aharon, and the drama within Dovid Hamelech's royal family. What can we learn from these biblical narratives and how might they be relevant to contemporary understandings of complex family dynamics?

GREATEST SPEECHES IN THE HEBREW BIBLE

Rabbi Kahana

The class examines the power of speech. Delving into the rich tapestry of language, history, and culture present in the Tanach, students will study some of the greatest speeches delivered by key figures such as Moshe, Dovid HaMelech, Shlomo, Yishayahu, and others, examining the rhetorical techniques, themes, and messages embedded within their words. Students will engage in close reading and textual analysis, examining the linguistic nuances, figurative language, and rhetorical devices employed by the biblical speakers. They will also explore the underlying themes of justice, mercy, faith, and redemption that permeate these speeches, considering their enduring significance in shaping Jewish thought and morality.



HALACHA/ MACHSHAVA

JEWISH PHILOSOPHY: GOD, FREE WILL & THE WORLD TO COME

Rabbi Chinskey

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.

GREATEST CONTROVERSIES IN HALACHA (SH"UT)

TBD

In this class, students will delve into the profound historical and halachic significance of Responsa literature. Students will witness how our greatest rabbis navigated complex issues, contributing to the development of halacha and the shaping of Jewish society. Topics include: conversion and apostasy, abortion, prisoner exchanges, and fertility treatments.

HILCHOT SHABBAT

TBD

In this class, students will learn about the laws of Shabbat, analyzing relevant sources, from the Torah, Mishnah and Talmud, earlier and later halakhic authorities (Rishonim and Aharonim). Students will trace each halakha from the source through the latest practical applications and will gain critical knowledge and skills to navigate the complexities of Shabbat observance in the modern world today.

INTRODUCTION TO JEWISH MYSTICISM AND CHASSIDUT

Rabbi Braun

Chassidut is a movement that has reinvigorated Jewish practice and belief across the world since it began in 18th century Ukraine. In this class, students will study Hasidic texts, from the Baal Shem Tov until today (Chabad, Breslov, etc.) and explore what makes them so nuanced, complex, beautiful, inspiring, emotional, and transformative. We will learn the basic history and theory of Chassidut - its foundation, central figures, key texts, and social impact. This course will help bring the concepts alive and just may change the way you understand your own Jewishness.



HEBREW LANGUAGE

***Seniors may select one of the Hebrew electives below.
Enrollment requires administrative and departmental approval.
Please note: Classes will be conducted in Hebrew.***

DEBATE

TBD

In today's world, in both professional and social situations, it is important to know how to organize one's thoughts and to present clear and compelling arguments. It is also important to understand opposing viewpoints and to anticipate challenges to your own views. This class will teach students how to structure a cohesive argument and to respond to criticism in a polite, respectful, but effective manner. Topics for debate will be contemporary issues of concern to the Jewish and Israeli communities. The class will be conducted in Hebrew.

CONTEMPORARY ISRAELI CINEMA

TBD

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.

GENERAL STUDIES



- ENGLISH
- HISTORY
- MATHEMATICS
- SCIENCE
- PHYSICAL EDUCATION



ENGLISH

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 options. 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.

EVIL, JUSTICE, SURPRISE

Ms. Zabinsky

Students who take this course will be focused on preparing for their freshman year in college while also developing an appreciation for the nuances of language. In this course, the students investigate three thematic modules through reading, writing, speaking and listening. Every kind of communication—print, digital, video, oral, pictorial—is considered to be a text. The texts for use in each module are based on three themes: The Devil's Trick—A Study of Evil ; And Justice for All; Surprise, Surprise.

ENGLISH

MINIATURE LITERATURE

Ms. Newborn

This is a course whose purpose is both to prepare students for their freshman year in college, and also to foster in them an appreciation for the numerous ways people use language to communicate their beliefs, ideas and feelings. In this course we accomplish this goal by an intensive study of writers who have chosen to make their points using literary short forms. These include the short story, from flash fiction to the novella as well as narrative, dramatic and lyrical poetry. Students will be engaged in both group and independent study of these forms on a variety of thematic issues such as Teen World, Conflict, Animals, Social Issues, etc. Course assignments always involve a choice that allows students to utilize their creative talents in art, music, digital composition, and writing.

LITERATURE OF THE HOLOCAUST

Dr. Maxwell / Ms. Zabinsky

This course is for those students with a keen interest in history. It will involve students in 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. Students will write personal reactions as well as analytical papers and will explore interview and journalistic skills as part of their study.

THE MATRIX OF SELF: QUESTING FOR REDEMPTION (HONORS)

Mr. Miller

The Western literary tradition documents the individual's search for love and meaning through the shifting contexts of personal and social experience. Whether this search is posed in spiritual terms as redemption or in psychological terms as fulfillment, human relationships—determined by community, gender, and even internally, within the “matrix” of self—struggle to grasp moments of exhilaration and connection, or, at times, reconciliation and resignation. In this course, we will explore the individual's search for meaning in the network of his/her relationships with the “Other” as they reflect the many aspects of the self, the individual's internal, personal identity.

Seniors must take the required Middle East Studies course described below. Seniors may also select an additional history elective as listed in the elective section later in this booklet.

HISTORY

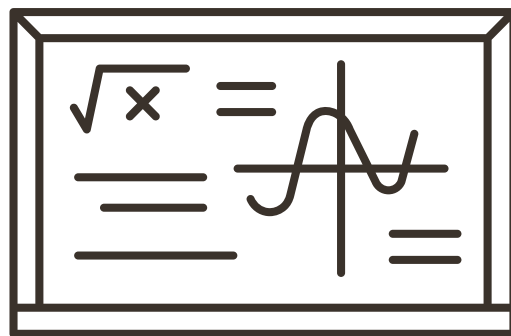
MIDDLE EAST STUDIES

TBD

This course surveys the history of the Middle East from the late-nineteenth century to the present. The focus of the survey will be on the establishment of Israel and its subsequent development; there will be substantial attention given to the wider Middle East. Though the emphasis of the course is to adopt a rigorous critical approach, that approach will best prepare the students to effectively engage with contemporary debates about Israel.

In the second semester, we will examine the contemporary world, with special attention to developments in the Middle East. In addition to learning about current news, students will learn to identify bias in news coverage, the major schools of US foreign policy thought, and how to engage in constructive political discussion.

This course will utilize a variety of sources: academic works, film, fiction, and other primary sources.



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. Nagel

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. Nagel

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. Mondt

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. Mondt / Ms. Berger

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 Physics 1

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.

AP PHYSICS I

Dr. Chandhok

AP Physics I is an algebra-based, introductory college-level physics course. The course focuses on Newtonian mechanics and dynamics; Circular motion and Gravitation; Work, Power and Energy; Linear Momentum, Simple Harmonic Motion; and Torque and Rotational motion. Students cultivate their understanding of physics through classroom study, demonstrations, in-class activity, and hands-on, inquiry-based laboratory work as they explore concepts like systems, fields, force interactions, change, conservation, and waves. AP Physics 1 students will keep and are encouraged to retain their physics laboratory notebooks, reports, and other materials as colleges may require students to present their laboratory materials from the course before granting college credit for the laboratory component.

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

Mr. Anderson

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

Dr. Okoko

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.

PHYSICAL EDUCATION

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.

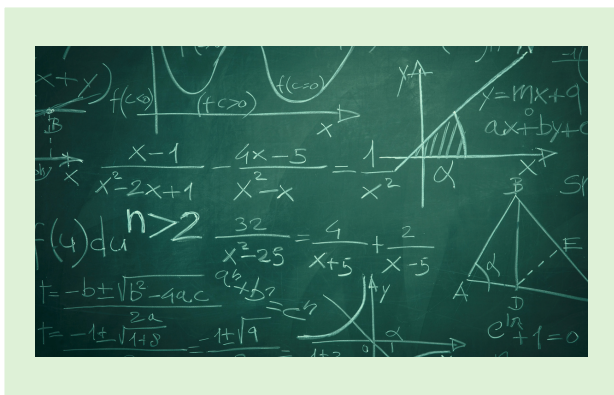


ELECTIVES



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

MATHEMATICS



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.

TBD

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.

TWENTIETH CENTURY HISTORY AND POP CULTURE

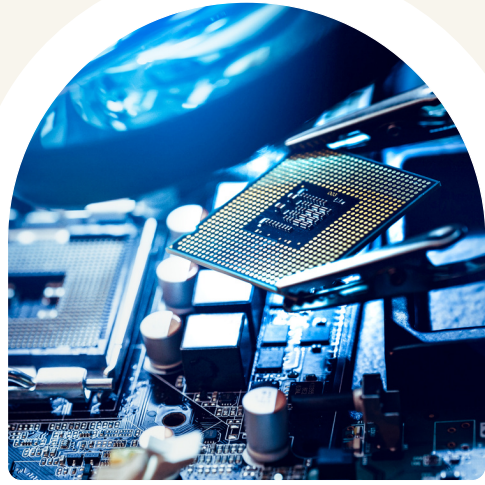
Mr. Gould

Frederick Douglass famously remarked that progress cannot happen without struggle. The same idea holds true for American pop culture. This new, exciting elective will show how such struggle during crucial times throughout the later 20th century America helped to develop popular culture at the time. Students will be taken on an experiential adventure to undergo this study. They will be examining music, media, fashion and societal practices during this era marked by social revolution. Much of American culture throughout the late 20th century was a product from the fight to gain rights for different groups of people.

The course starts with activists who opposed anti-Semitism taking place in America during the post-war era. From there, students will observe how African Americans used new and old tactics in combating violent prejudice to gain civil rights. Next members of the women's rights movement will reveal their strategy to gain greater equality and social acceptance. Finally, such struggles along with the anti-war movement at the time will culminate with the formation of a counterculture. This new trend, coined "hippy culture," challenged the pre-existing traditional American culture. Within the American musical heritage, students will observe the increasingly rebellious nature of various styles displaying this challenge to authority, covering blues, folk, rock, reggae, disco, hip hop, rap, metal, grunge, and emo.

Throughout this exploration, they will see how their own cultural dynamics were shaped by these societal changes. Academic achievement will be assessed using project-based presentations and assignments. This course will be very interactive.

COMPUTER SCIENCE



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

AP COMPUTER SCIENCE A

TBD

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.

COMPUTER SCIENCE

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 AI 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 AI, 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 AI including Data Ethics, Data Privacy, and how AI 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. No experience required.

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

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

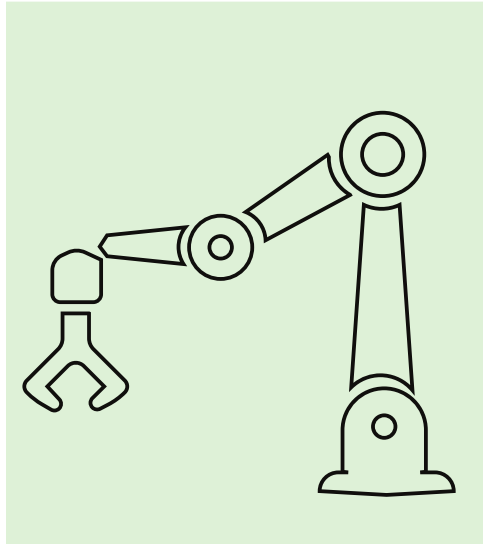
The students enrolled in this course master topical vocabulary, grammar, idioms, and practical expressions on an advanced level. They discuss a variety of contemporary themes gathered from authentic materials, including novels. Newspaper article analysis assigned weekly and written paragraphs and essays 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.

ENGINEERING



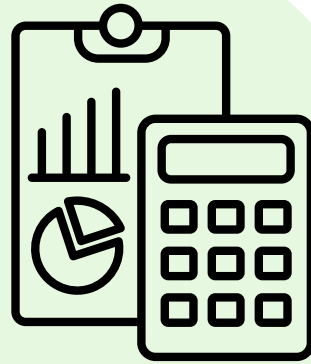
All courses in the engineering department are electives. Teacher recommendation and administrative approval are required.

ADVANCED ROBOTICS

Mr. Santiago

Robotics commences with a historical timeline followed by group exercises aimed at improving team mettle. In parallel to learning electromechanical solutions to industrial and societal challenges, students will work together on their prototypes for the FIRST Tech Challenge (FTC) and/or Vex Robotics competitions. Throughout the year, students learn woodworking and machining, computer-assisted design, and develop the skills they need to become science and technology leaders. Students will design robots to turn around in tight spaces, grab objects and release them in different locations. Each year in FTC, different rules and challenges require uniquely designed robots. Each year in Robotics, students get to experience enthusiasm and excitement around a course full of structure. Prerequisite: Mechanical Engineering or equivalent engineering experience.

BUSINESS



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.

BUSINESS

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

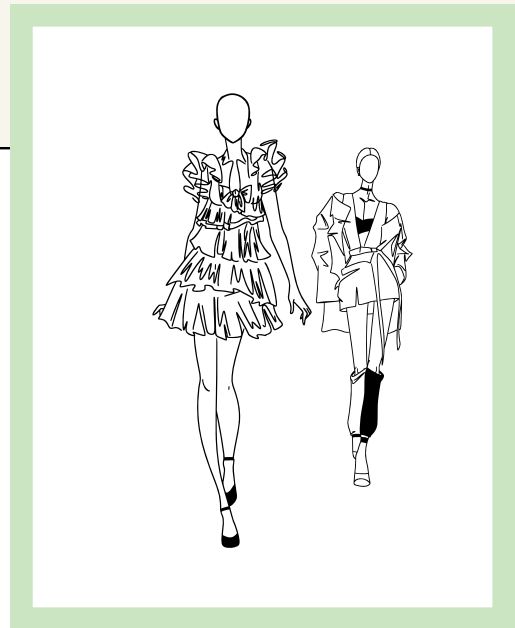
Studio Art 2 is a second-year course that provides an opportunity for students to expand on the drawing and painting concepts introduced in Studio Art 1. Emphasis is placed on a deeper understanding of design principles, drawing techniques and painting skills leading to the development of abilities that 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



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



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

MUSIC



***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)

NORTH SHORE
HEBREW ACADEMY

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