

Star Academy High School

Course Selection Guide



STAR ACADEMY MISSION:

To Prepare Students for Lifelong Success Through Excellence in Education



STAR ACADEMY

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Dear Students, Families, and Guardians,

In high schools, we are charged with preparing students for an ever-changing future. After graduation, many students will pursue jobs and careers that have not yet been created. It is imperative to equip students with the necessary skills to be successful at the next level.

Our registration catalog serves as a guide for the many academic programs and courses offered at Star Academy. It contains course descriptions, specific information about graduation requirements, and other general information pertaining to graduation.

Program planning is truly a team effort that involves parents, caregivers, students, and staff. The academic program at Star Academy is extensive and offers a wide range of opportunities. The personal contacts made with faculty members and academic advisors will prove beneficial in the decision-making process and assisting students in accessing higher education .

Making excellent academic decisions during a student's time at Star Academy will allow for purposeful future planning. For planning resources available, please visit with your assigned school counselor.

Best wishes for a continued, successful academic experience at Star Academy.

Larisa Bankovsky
Director

Margarita Druker
Director

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How to Use the Course Selection Guide

The information included in this guide is intended to help you select courses. Your choices should be made carefully. It is important that parents and guardians are involved in this process of choosing your educational program. Your counselor, teachers, and administrators should be seen as valuable resources as well. Read the guide carefully and make your choices wisely. Our aim is to provide each of you with the specific program that will best meet your needs now in preparation for your future.

Each program section contains three parts: a general description of the overall program, a table with course sequences/planning guide, and a list of courses. The suggested grade level of the course is indicated, as are the prerequisites. Students, who have not met the course prerequisites but have evidence of other comparable preparation for the course, should meet with their counselor for approval before making their selections.



General Information



Graduation Requirements

Star Academy High School adopts the model set forth by Massachusetts Curriculum Frameworks. Students must complete the following courses:

Subject Area	Units* Required	Description	Sample Plan				Total
			Gr. 09	Gr. 10	Gr. 11	Gr. 12	
English	4.00	4 full year courses or equivalent	1.00	1.00	1.00	1.00	4.00
Mathematics	4.00	4 full year courses or equivalent	1.00	1.00	1.00	1.00	4.00
Social Studies	4.00	4 full year courses including two years of U.S. History	1.00	1.00	1.00	1.00	4.00
Science	4.00	4 full year courses or equivalent	1.00	1.00	1.00	1.00	4.00
World Languages	4.00	4 full year courses or equivalent	1.00	1.00	1.00	1.00	4.00
Fine & Performing Arts	4.00	2 full year courses or equivalent	1.00	1.00			2.00
Wellness/ Physical Education	4.00	2 one-semester courses each year	1.00	1.00	1.00	1.00	4.00
Driver Education	0.50	1 one-semester course in the 11th grade			0.50		0.50
Electives	5.00	10 one-semester courses or equivalent**		1.50	1.50	2.00	5.00
SAT, ACT Preparation	0.00	Preparation classes offered on a regular basis					

* A unit represents a full academic year of study or its equivalent in a subject. The number of credits for each unit is determined by the school and is listed in this Course Selection Guide

** May be filled by units from the Elective Courses section of this guide as well as by additional units taken in any subject area.

Additionally, students must demonstrate the following competencies:

- **Self-Assessment /Establishing Goals** demonstrated by completion of specific activities for grade 9 as part of the developmental guidance program.
- **Problem Solving and Respect/Concern for Others** demonstrated by completion of community service for a minimum of thirty-six hours.



Graduation Planning Guide

Subject Area	Gr. 09	Gr. 10	Gr. 11	Gr. 12	Total Units Earned	Total Units Required
English						4.00
Mathematics						4.00
Social Studies						4.00
Science						4.00
World Languages						4.00
Fine and Performing Arts						2.00
Wellness						4.00
Driver Safety Education						0.50
Electives						5.00
Total Units Earned						31.50



Course Selection Policies and Procedures

It is the responsibility of each student to know if he/she is carrying enough credits for graduation. School staff members monitor student graduation requirements. However, each student is asked and expected to track their individual program. All courses are offered, subject to enrollment and staffing availability.

Once a course has been successfully completed (except for Band, Chorus, String Orchestra, Studio Art, Journalism, or Physical Education) it may not be repeated for credit.

Parental Appeal Procedure for Course Selection

If a student or their parent/guardian does not agree with a teacher's recommendation for the course/level for the next academic year, the following procedure is in place:

1. The student and parent/guardian write a note/email to the teacher requesting a conversation about the recommendation and/or higher/lower placement. The note/email should include work and home phone numbers.
2. The Teacher speaks with the student and calls the parent/guardian. If the placement decision is not resolved, the teacher advises the student to contact the curriculum coordinator.
3. The Curriculum Coordinator, student, and parent/guardian converse. If no resolution is reached, the student and parent/guardian are advised to contact the Director.
4. The Director responds in writing to the student and parent/guardian (approval/disapproval/conditions) and a copy of the letter is sent to the school counselor, teacher, and curriculum coordinator. The school counselor will act as a mediator while the process moves along. The same process will apply to students moving from grade 8 to grade 9.



Choosing Courses for College Admissions

It is important to consider how course selections throughout high school can impact a student's future plans. Students exploring four-year colleges and universities should review school-specific requirements and admissions policies. At Star Academy High School, graduation requirements are designed to prepare students to attend a four-year college or university.

Massachusetts State Universities

According to the Massachusetts Department of Higher Education, in order for a student to be eligible for acceptance into the Massachusetts State University system as a freshman, all students must meet the following **minimum requirements**:

- **English** - 4 courses
- **Mathematics** - 4 courses (Algebra I & II and Geometry or Trigonometry, or comparable coursework, including mathematics during the final year of high school. Students must take and pass Algebra II to be considered for Massachusetts public universities.)
- **Sciences** - 3 courses (from Natural Science and/or Physical Science and/or Technology/Engineering) including 3 courses with laboratory work.
- **Social Sciences** - 2 courses (including 1 course in US History)
- **World Languages** - 2 courses (in a single language)
- **Electives** - 2 courses (from the above subjects or from the Arts & Humanities or Computer Sciences)

These are **minimum requirements** for admission, and eligibility does not guarantee admission.



Decile Standing

Grade point average (GPA) at Star Academy High School is a weighted average which includes Advanced Placement, Honors, and Level 1 courses in all subject areas. Pass/Fail courses, summer school courses, and courses taken at institutions other than Star Academy High School are not included in the GPA.

Weighted Grading Scale

Grade	GPA Points: AP	GPA Points: Honors	GPA Points: L1
A+/A	5.0	4.5	4.0
A-	4.7	4.2	3.7
B+	4.3	3.8	3.3
B	4.0	3.5	3.0
B-	3.7	3.2	2.7
C+	3.3	2.8	2.3
C	3.0	2.5	2.0
C-	2.7	2.2	1.7
D+	2.3	1.8	1.3
D	2.0	1.5	1.0
D-	1.7	1.2	.07
F	0	0	0



Report Cards and Marking

Twice a year, a student receives a report card that indicates in letter grades his/her official standing in the courses he/she is taking.

Marks

A+, A, A-	Exceeds Standards	INC	Incomplete
B+, B, B-	Meets Standards	P	Passing
C+, C, C-	Meets Minimum Competencies	S	Satisfactory
D+, D, D-	Unsatisfactory, Low pass	U	Unsatisfactory, Low Pass
F	Failing	W	Withdrew (student withdrew from course)
		Z	Student is new to class

Report Card Error

Report card errors should be reported to the teacher involved. A grade correction form may be obtained from the school administration and, when signed by the appropriate teacher and the Principal, a grade correction can be made immediately.

Academic Recognition

- **High Honor Roll.** The student must carry a minimum of 36 credits in subjects producing letter grades, A, B, C, D or S, and receive no grade below an A-, except in one subject, which may be a B+, B or B-.
- **Honor Roll.** The student must carry a minimum of 36 credits in subjects producing letter grades, A, B, C, D or S, and receive no grade below B-. The Honor Roll is announced at the end of each term for those students who have demonstrated high scholastic performance.



Plagiarism

Plagiarism is defined as the act of presenting someone else's words and/or ideas as your own, even if done unintentionally. Any student who quotes directly from any source or makes use of an idea from any source and does not credit the author of that source, who copies part or all of the work of another student, or who allows part or all of his/her work to be copied by another student, will be considered to have plagiarized. Information taken from the Internet or other electronic media without crediting the source is also a form of plagiarism. Students must credit all sources that provide useful information and enclose any word or words directly taken from a source within quotation marks. Failure to do so is a dishonorable act; academic theft in an academic institution is a serious matter and, as such, has serious consequences. A student found guilty of plagiarism may receive a grade of zero on the project, may have his course level lowered, and may also forfeit membership in the National Honor and/or Cum Laude Society. Other consequences, such as a letter of reprimand in the student's file, exclusion from consideration for academic honors, or notations on college recommendations may also follow from an incident of plagiarism.

Students and faculty should follow guidelines consistent with those of the Modern Language Association (MLA) (such as the *MLA Guide to Documentation*), our single school-wide standard. These guidelines are available from classroom teachers and departments, as well as the school library.

In addition to the above, in the World Language classrooms, plagiarism is also defined by using online translating services (such as Google Translate). In regards to peer editing, appropriate peer editing is helping a peer by pointing out errors (i.e., underlining/circling incorrect tenses, incorrect agreement, incorrect vocabulary, etc.). Peer editing becomes plagiarism when peers point out errors AND make corrections. This is plagiarism because, once the errors are corrected, it is no longer your own work.



Level Placements

Star Academy High School's class offerings provide for many levels of student ability including College Preparatory, Advanced/Honors, and Advanced Placement (AP) with the goal of enabling every student to be eligible for college enrollment upon graduating from Star Academy.

College Prep Courses

Students in College Prep courses are expected to do creative and independent work near to that required of students in Honors courses. Outside work will also be assigned on both a daily and long-range basis. Research requiring the use of varied resources in the community and school will also be assigned. College Prep is the base level of instruction for most Star Academy High School programs.

Advanced/Honors Level Courses

Advanced/Honors level courses are designed to provide intensive instruction to students who have demonstrated a strong level of achievement and interest in studying a subject in depth and pursuing individual projects.

Common eligibility criteria for honors course participation in all departments include:

- Teacher/coordinator recommendation
- B or better in comparable level courses; A- or better to move from Level 1 to Honors
- Standardized test scores
- Strong student motivation



To maintain participation eligibility for a future honors course, students must obtain a grade of B or better in the subject area. If a student's grade level drops below a B- during the year, an individual conference with student, parents, and teacher may be scheduled to reconsider placement.

AP (Advanced Placement) Level Courses

Advanced Placement courses will be significantly more demanding than Honors classes. Students and parents should consider an Advanced Placement class as a college course with the volume of work, depth of ideas, and pace of discussion and assignments equal to what students will find in college or university courses.

Students who take Advanced Placement courses must accept the challenge of very demanding work all year and are expected to take the AP exam in May as the appropriate conclusion to their efforts. Due to the amount of work required outside of class in these college-level courses, students are strongly encouraged to take no more than three AP courses in a single academic year.

Although each department will have criteria and standards unique to the discipline area, all departments at a minimum, will use the following common criteria:

- Teacher/coordinator recommendation
- B or better in Honors level courses
- Standardized test scores
- Student motivation to accomplish college level work



Community Service

The Community Service Program combines educational experiences beyond the classroom with valuable contributions to social agencies and schools. Each student must complete 36 hours of community service to graduate. Community service hours must be approved by the Community Service Coordinator and require forms to be submitted.

Star Academy will work together with local organizations and our own community, in order to provide the best possible placement for each of our students.



The Guidance Program

Mission Statement: The Star Academy High School counselors develop and deliver counseling programs and services that provide all students with the requisite knowledge and skills for success in the academic/technical, workplace readiness, and personal/social domains.*

The Star Academy High School Guidance Department addresses these goals through a variety of direct and indirect services. Counseling is provided to students each year and is generally delivered individually and in small group settings (Guidance classes or Advisory). The school will offer two counselors:

- **Academic/Career and College admissions consultant** responsible for academic and career/college planning and assisting students in shaping their academic resumes in preparation for college application and careers post High School; and
- **Psychology and personal growth consultant** responsible for working with students on personal growth, motivation, focus, and interpersonal issues.

In addition, counselors are responsible for the on-going monitoring of student progress through progress reports, report cards, attendance records, discipline records, and teacher feedback. Counselors are available to students and parents/guardians for individual meetings about academic, social/emotional, and career/college issues throughout the year.

**Based upon the Massachusetts Model for Comprehensive School Counseling Programs*



Course Offerings

We have a responsibility to provide a challenging program for every student reflecting the particular strengths of the student. Alternative programs and/or some modification of the graduation requirements are available. In appropriate circumstances, the student's administrator may recommend a modification to the graduation requirements for approval by the school Director. The course offerings below offer reasonable flexibility to satisfy graduation requirements and enable all students to experience academic success.



The English Program

The Secondary English Program offers a wide range of courses that provide opportunities for students to improve their skills in areas of reading, writing, listening, speaking, and research. The School offers both full-unit required courses, half-unit required courses (for seniors only), and a variety of electives in areas of theater and journalism.

We require that all students take four years of English. Successful completion of full-credit required courses or two half-unit 12th grade required courses satisfies that requirement. Elective courses offer enrichment and reinforcement of specific language arts areas but do not provide credit toward the English graduation requirement.

Required English Courses

Planning Guide

Program	9 th Grade	10 th Grade	11 th Grade	12 th Grade
College Prep	English 9	English 10	CP English 11	CP English 12 Or 2 half-units: CP College Writing CP Creative Writing CP Film & Media Studies CP Modern Classics
Advanced	Advanced English 9	Advanced English 10	Advanced English 11 AP English Literature & Composition	AP English Literature & Composition
ELL	English for English Language Learners			
FPSP	Future Problem Solving Program International			



Course Descriptions

Advanced English 09 Advanced English 9 is a course that prepares students for the rigorous demands of the advanced and AP programs in grades 10-12. Students are expected to be highly motivated, independent, show strong work habits, participate in class through discussion and presentations, and be dedicated to new challenges presented by unfamiliar readings and writings. Students develop their critical thinking skills through analysis and interpretation of literary genres from a variety of historical periods, as well as through more contemporary texts, focusing on their technical and aesthetic qualities as well as their intellectual merits. Student writing will consider literary texts from a variety of perspectives while concentrating on improving the content of their writing and polishing their writing style. Additionally, students build their reading and writing skills by studying vocabulary and grammar.

English 09 English 9 builds on and expands the language arts skills developed in preceding grades. Students read classic and more contemporary novels, short stories, nonfiction, drama, and poetry and are introduced to Shakespeare and his works. Through extensive practice, students use the writing process to create sustained pieces of narrative, informative, and argumentative writing. Instruction in grammar, mechanics, usage, and style is integrated into the study of writing. Vocabulary will be studied in the context of literature and other supplementary materials. Short talks, presentations, and group discussions allow students to exhibit and practice their communication skills through a variety of interactions. Evaluation is based on tests and quizzes, projects, performances, and participation in class activities.

Advanced English 10 Students in Advanced English 10 explore the content in greater depth, move at a faster pace, prepare long-term assignments, and work toward more challenging tasks/standards. Expectations include investment in growth of reading and writing skills, time-management skills, independent thinking, grade-level or above- average reading ability, above-average writing ability, analysis skills, and the willingness to take risks. Assessment is based on the quality of written assignments and tests,



contributions to class discussion, presentations and participation in group work. Students will continue to refine organization of argument based on the Toulmin model of argumentation. The pieces of literature that may be studied include both classic and contemporary texts. Students practice the writing process through a variety of writing experiences that are designed to improve their writing style. Grammar, usage, and vocabulary instruction are integrated into the study of literature and writing. Presentation experiences include both individual and group efforts. Students will prepare for the Literature Keystone Exam that is administered in the spring.

English 10

The 10th grade English program continues to develop students' language arts skills. In reading instruction, critical analysis of literature helps students to improve their reading comprehension and appreciation for both classic and contemporary works. The writing component provides a variety of composition experiences as the students work through the writing process to produce narrative/creative, expository, and argumentative/persuasive texts. Practice in grammar, usage, and vocabulary is integrated into the study of literature and writing. Student achievement is assessed through tests, quizzes, writing, projects and presentations, and overall student progress. Students will prepare for the Literature Keystone Exam that is administered in the spring.

Advanced English 11

Advanced English 11 is designed to foster the development of critical thinking skills and superior communicative abilities. Students improve their close reading and comprehension skills by applying active reading strategies to more challenging classical and contemporary American texts including novels, short stories, poetry, drama, nonfiction, media, and important speeches and documents. Students move beyond understanding to critically analyze and evaluate literature and other texts through a variety of assignments and activities including literary analysis essays, rhetorical analysis, argumentative writing, and student-led discussions. Writing instruction focuses on refining focus, content, and organizational skills and on improving style, while still based in the Toulmin Method of Argumentation. Using electronic and printed sources, students continue to gather, organize and incorporate information from both primary and secondary sources in their writing and presentations and



use MLA formatting for documenting sources. Assessment is based on the quality of written assignments and tests, contributions to class discussion, presentations, participation in group work, and the timely submission of work. Units of study center around the concepts of: Rhetoric, Social Commentary, the American Dream, and Storytelling and Truth.

CP English II

Designed for juniors who plan to be college or career-ready. Students read, analyze and interpret a variety of classic and contemporary works including novels, short stories, drama, poetry, nonfiction and media. Through close reading, students will develop a sense of authorial intent and purpose to construct a deeper understanding of a writer's craft. Critical thinking is nurtured through the construction of inferences and use of textual evidence to support reader responses. Writing instruction focuses on refining focus, content, and organizational skills and on improving style, while still based in the Toulmin Method of Argumentation. Units of study center around the concepts of: Rhetoric, Social Commentary, the American Dream, and Storytelling and Truth. Students are expected to keep up with assigned reading, complete homework assignments, tests, and quizzes, construct original ideas, write extensively, and participate actively in class as these are keys to college and career preparedness. This is a college preparatory level course.

AP English Literature & Composition

As the culminating course in the advanced English program, Advanced Placement English Literature and Composition offers highly motivated seniors with exceptional language arts skills a college-level course in the classics. Students analyze poetry, plays, essays and novels through class discussion of structure, characterization, theme, and style. The student is expected to demonstrate a high level of skill in critical thinking, discussion, and expository and analytical writing as well as in other evaluations, including class projects and oral presentations. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.



CP English 12

This course provides a strong background in the language arts for students who plan further academic education at a two- or four-year college or university. Students practice advanced writing techniques and critical thinking skills through assignments of varying lengths and types. Literary selections include fiction, nonfiction, poetry and drama. Core units of study include persuasive research writing, social commentary, making pivotal choices, understanding worldly advice and creating a legacy. Students continue to develop their research skills, literary analysis and persuasive writing, and are encouraged to develop a critical perspective on all forms of communication. Student achievement is assessed through tests, quizzes, oral and written communication, and active participation in group work and class discussion. This is a college preparatory level course.

CP College Writing

College Writing provides 0.50 English units for seniors only, introduces students to the critical writing, research writing process, and stylistic writing tools they will utilize at the college level. Students will read and discuss model essays; write logical, well-organized essays using a variety of developmental patterns; engage in peer-review sessions; and learn to locate, evaluate, and incorporate source material into scholarly essays adhering to MLA &/or APA formatting. The structure of the class will include mini-lessons, workshop and application, group work and individual conferences. This is a college preparatory level course.

CP Creative Writing

Creative Writing provides 0.50 English units for seniors only. Students who take this course produce works that explore the elements of two genres: fiction and poetry. Models from literary tradition are studied as inspiration for the students' own literary efforts. Students are encouraged to publish their work and to enter their work in creative writing contests. This is a college preparatory level course.

CP Film & Media

This class provides 0.50 units for seniors only and serves as an introduction to the critical study of media and its influence on



Studies

society. Media in all of its forms is a primary source of information for young people today. Understanding this and thinking critically about media messages are essential skills in a consumer-based society such as ours. Students come to a more robust understanding of the role that media plays in the construction of our identities and our worlds through the reading of both fiction and nonfiction texts; the viewing of documentaries based around the media; the writing of research papers, literary analysis, synthesis papers, reflective papers, and creative works, and the creation of their own media message in project-based form. This is a college preparatory level course.

CP Modern Classics

This course provides 0.50 English units for seniors only. It explores the nature of modern texts and how they respond to modern issues. How can literature make meaning in regard to culture and current events? To what extent does literature reflect or shape our world? How do we know quality texts when we read them? Students will read and write about a variety of modern works—fiction, nonfiction, poetry, plays, or essays and evaluate the elements distinguishing them as classics. In addition to leading class discussions, creating and sharing presentations, students will write argumentative and analytical pieces and use research to support their ideas. This is a college preparatory level course.

Future Problem Solving Program International

Students will participate in an international academic competition program that teaches creative and critical thinking, problem solving and decision-making skills. Based on current scientific research, students will learn a six-step problem solving process to address global issues such as neurotechnology, antibiotic resistance, digital realities, e-waste, robotic workforce and genetic engineering. Founded in 1974 by creativity pioneer Dr. E. Paul Torrance, the program also promotes research skills, as well as written and verbal communication skills.



The Mathematics Program

Our school has a comprehensive mathematics program for students with varying interests, backgrounds, and aptitudes. There are Advanced and College-Prep course sequences. All course sequences are designed to prepare students for continuing their education after high school.

Each course sequence includes experiences with Common-Core Mathematics strands of Number and Quantity, Algebra, Functions, Modeling, Geometry, Statistics and Probability.

All students are required to take four years of high school mathematics to graduate.

Planning Guide

Program	9th Grade	10th Grade	11th Grade	12th Grade
Level 1	Algebra 2, Geometry and Statistics (First Half)	Algebra 2, Geometry and Statistics SAT Prep	Precalculus AB	AP Calculus AB AP Statistics
Level 2	Algebra 2, Geometry and Statistics (Second Half) SAT Prep	Precalculus AB or BC	AP Calculus AB	AP Statistics Linear Algebra & Multivariable Calculus Number Theory
Level 3	Precalculus AB or BC	AP Calculus AB or BC	AP Statistics Linear Algebra & Multivariable Calculus	Non-Euclidean Geometry
Any Level	Mathematical Olympiad			



Course Descriptions

Algebra 2, Geometry and Statistics In the first half of the course, students are exposed to four broad conceptual topics: functions: graphing, composition, and inverses; quadratic functions and the quadratic formula, factoring methods, fitting functions to tables, functions, and polynomials; intro to exponential and logarithmic functions; and rational and irrational algebraic functions.

In the second half of the course, students will be exposed to eight broad concepts: quadratic relations and systems; higher-degree functions and complex numbers; introduction to sequences and series; probability, data analysis and functions of a random variable; trigonometry in a right triangle; similarity (proofs); circles; and coordinate geometry.

Precalculus AB or BC In this class, students will be exposed to six broad conceptual themes: exponential and logarithmic functions; trigonometric functions and analytic trigonometry; systems of equations and inequalities; matrices and determinants; conic sections and analytic geometry; and sequences and series.

AP Calculus AB or BC This course consists of the study of topics in mathematics that prepare students for Calculus. These topics include: families of functions, discrete math, and trigonometry. The analysis of quadratic, polynomial, rational, exponential, logarithmic, and trigonometric functions connects symbolic, graphical, and contextualized representations of functions. Discrete math topics to be explored are counting, probability, sequences, and series. An abstract and contextual understanding of right and oblique triangle trigonometry, radian measure, the unit circle, and polar coordinates will be developed. Identities and properties of trigonometric functions will be explored and applied to solve problems. In addition to an algorithmic understanding of concepts, there is an emphasis on analysis and synthesis of learned concepts. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.



AP Statistics

Students are exposed to six broad conceptual themes: collecting and exploring one- and two-variable data; probability, random variables and probability distributions; sampling distributions; quantitative data and population means; categorical data and chi-square tests; and quantitative data and slopes of a regression model, confidence intervals, significance tests. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

Linear Algebra & Multivariable Calculus

Multivariable Calculus covers differentiation and integration of functions of several variables as well as parameterizations and vector fields, line integrals, and Stokes' Theorem in its different forms. Linear Algebra covers solving linear systems and how those solutions manifest; definition of vector spaces and related concepts; and matrix operations, determinants, and matrix similarity.

Number Theory

This discipline exposes students to divisibility theory in the integers; the Euclidean Algorithm; primes and their distribution; the theory of congruence; Fermat's Theorem; Euler's Theorem; and the introduction to cryptography.

Non-Euclidean Geometry

Non-Euclidean Geometry includes a review of Euclid's four postulates; the fifth postulate (and attempts to prove it); the discovery of non-Euclidean geometry (Gauss, Lobachewsky, Riemann); hyperbolic plane geometry; and elliptic plane geometry.

Mathematical Olympiad

Math Olympiads is a course for high school students who enjoy and excel at math, and are looking for an



additional challenge. Math competitions help students improve both their math and collaboration skills, encourage them to explore novel mathematical topics, and will help them stand out as college applicants. High School Math Olympiads are a launching pad for many of the best math students.

In our Mathematical Olympiad course, we solve problems from premier high school math contests, such as the AMC and the GBML. We explore interesting and important math topics which are under-represented in the standard curriculum, such as: Counting and Combinatorics; Probability; and Number Theory. We also learn to apply topics in Algebra, Geometry and Trigonometry to advanced problems.



The Social Studies Program

The Secondary Social Studies Program provides the student with the skills and knowledge to be an actively engaged citizen in a global society. The courses offered in grades nine through twelve meet the state requirements for graduation. The twelfth-grade offerings are the capstone of the program, enabling students to select areas of study that are of personal interest and value to their post-high school plans.

Our school requires students to earn four social studies units by the end of their senior year in order to graduate.

Planning Guide

Program	9th Grade	10th Grade	11th Grade	12th Grade
College-Prep	CP U.S. History			CP Global Studies CP Democracy in Action CP Sociology
Advanced	Pre-AP U.S. History	AP U.S. History	AP World History AP Human Geography	AP European History AP Government and Politics AP Psychology

Course Descriptions

CP U.S. History This year-long course provides an introduction to the history of the United States. The course begins with the pre-colonial period through the present and covers the major political, social, cultural, intellectual and economic developments. Students will use a variety of primary and secondary source material to understand and interpret the past. Class assignments include presentations, reading, research, and writing. This is a college preparatory level course.



AP U.S. History

This year-long introductory college-level course in United States history prepares students for success on the optional advanced placement national exam. Students study the social, political, and economic history of the United States chronologically from the period just prior to European contact through the present. Students develop their analytical history skills through extensive reading and writing assignments. Assessments will include the different components of the AP exam, class discussions, and research projects. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

AP World History

The AP World History course focuses on developing students' understanding of world history from approximately 1200 C.E. to the present. The course has students investigate the content of world history for significant events, individuals, developments, and processes in six historical periods, and develop and use the same thinking skills and methods employed by historians when they study the past. There is a focus on analyzing primary and secondary resources, making historical comparisons, chronological reasoning and understanding different points of view. The course focuses on Africa, the Americas, Asia, Europe and Oceania. The course is based on the following five themes: 1) interaction between humans and the environment; 2) development and interaction of cultures; 3) state building, expansion and conflict; 4) creation, expansion, and interaction of economic systems; 5) development and transformation of social structures. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

AP Human Geography

The AP Human Geography course presents high school students with the curricular equivalent of an introductory college-level course in human geography or cultural geography. Content is presented and organized around the following themes: economic geography, cultural geography, political geography, and urban geography. Students are encouraged to participate in assignments and activities involving critical thinking and problem-solving. Case studies are drawn from all world regions, with an emphasis on understanding the world in which we live today. Historical information serves to enrich analysis and impacts of globalization, colonialism, and human–environment relationships on places, regions, cultural landscapes, and patterns of



interaction. Students enrolled in this course will investigate problems of economic development and cultural change, population change and growth, the impacts of technology, as well as struggles over political power and control of territory. In addition, students will study the inequalities between developed and developing economies and the role of humans in shaping Earth's landscapes. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

AP European History This semester-long advanced elective in European history covers the period from the Renaissance to the present. Students are expected to take notes, carry out individual and small-group research projects, participate in class discussions and analyses, develop and refine essay-writing skills, and successfully answer both objective and essay-test questions. The course will focus on the following themes: interaction of Europe and the world, poverty and prosperity, objective knowledge and subjective visions, states and institutions of power; and individuals in society. Four categories of historical thinking skills are developed in the course: chronological reasoning; comparison and contextualization; crafting historical arguments from historical evidence; and historical interpretation and synthesis. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

AP Government and Politics AP U.S. Government and Politics is an introductory college-level course in U.S. government and politics. Students cultivate their understanding of U.S. government and politics through an analysis of data and text-based sources as they explore topics like constitutionalism, liberty and order, civic participation in a representative democracy, competing policy-making interests, and methods of political analysis. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.



AP Psychology

The course is designed for Juniors and Seniors who desire an academically challenging course of study in psychology. This course helps to prepare a student for the College Board Advanced Placement Psychology Exam in the spring semester of this academic year. AP Psychology meets a single semester social studies elective requirement for seniors. The Advanced Placement Psychology course is designed to introduce students to the systematic and scientific study of the behavioral and mental processes of human beings and other animals. Students are exposed to psychological facts, principles, and phenomena associated with each of the major subfields within psychology. Students participate in a variety of activities that may include homework, classwork, discussions, large and small group projects, individual projects, vocabulary development, lectures, and case study analysis. Reading comprehension and writing skills are stressed. Particular attention is given to the development of research organizations and the application of the principles of psychology. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

CP Global Studies

This course is an inquiry into global studies through a historical lens (1750 -1945) that includes American perspectives. In this course, students will be examining different developments politically, socially, and economically. Some of the topics will include revolutions, the Industrial Age, Reconstruction, Imperialism, nationalism, World War I, the Great Depression and World War II. The students will engage in an examination of primary source documents, debates, simulations, Socratic circles, internet-based assignments, and research projects. The attempt is to critically analyze past events and developments in order to think and act as a responsible and productive global citizen. Skills to be stressed: geography skills, reading comprehension, research and writing, effective use of technology, expanding cultural awareness, and sharpening critical thinking skills and habits of mind. This is a college preparatory level course.



**CP Democracy in
Action**

In this semester-long senior course, students focus on American government and current issues relating to our system of government. The course enables students to participate effectively in civic life through the examination of national and international political, social, and economic problems. Issues covered include the purpose of government, the development of American Democracy, the United States Constitution and the Bill of Rights. In addition, students will investigate political campaigns and elections, current political processes and issues, and the role of citizens in a democracy. Students participate in a variety of activities including group and individual projects, research, simulations and oral presentations. This is a college preparatory level course.

CP Sociology

In this semester-long course, students study the complex relationship between groups and society. The course focuses on the use of sociological perspectives to examine the components of culture, social inequality, social structure and institutions. There is an academic exploration of our changing global society and modern-day challenges. This is a college preparatory level course.



The Science Program

The Science Department encourages students to select a comprehensive science program which permits the exploration of a wide range of topics. Our students start their scientific exploration with Earth Systems Science and as their high school career progresses, move to Biology, Chemistry, Physics and the many science electives we offer.

The Science Department offers many advanced courses and electives to those students who have acquired an interest in a particular scientific discipline and want to expand those interests. Students should carefully read the course descriptions and study the sequence charts prior to selecting courses.

Some courses are instructed at a higher level of difficulty and require a prerequisite science and/or mathematics background. Please read the descriptions carefully so that you may plan for course selections in future years. All Science courses are laboratory courses. Upon successful completion of each, students will earn credit in a laboratory science that will meet college entrance requirements.

Planning Guide

Program	9 th Grade	10 th Grade	11 th Grade & 12 th Grade
College- Prep			CP Chemistry 1 CP Chemistry 2 CP Organic Chemistry CP Physics CP Forensic Science CP Anatomy and Physiology



Advanced	Advanced Earth Systems Science	Advanced Biology	Advanced Chemistry 1 Advanced Chemistry 2 Advanced Botany Advanced Zoology Advanced Astronomy AP Physics AP Physics C: Mechanics, Electromagnetism
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Course Descriptions

Advanced Earth Systems Science

The class provides an in-depth look at the Earth systems, as they relate to the topics of astronomy, geology, oceanography, and meteorology. The nature of this advanced course is such that students study the topics in greater detail at a pace that provides for further enrichment. Students who take this course will utilize their mathematics knowledge and will be expected to demonstrate independent, higher order thinking and problem-solving skills, as measured through assessments, laboratory exercises, data analysis, homework assignments, special assignments and class discussions. This course is recommended as a prerequisite for the advanced electives in the Earth Sciences, and all other advanced courses in the sciences.

Advanced Biology

Advanced Biology 1 is an in-depth, fast-paced, and rigorous study of fundamental topics within the field of biology with an emphasis on cellular, molecular, and environmental concepts. This course provides a foundation for further studies in biology in high school and at the post-secondary level. Units of study include: Principles of Biology, Chemical Basis of Life, Bioenergetics, Homeostasis and Transport, Cell Growth and Reproduction, Genetics, Theory of Evolution, and Ecology. Laboratory activities are emphasized. Evaluation is based on tests, quizzes, homework, laboratory performance and projects.



Advanced Chemistry 1 This course is designed for students with a strong aptitude for mathematics who plan on pursuing a career in math, engineering or the sciences. Experimental and theoretical aspects of chemistry are explored. Topics will include - measurement, matter, atomic theory, nuclear chemistry, bonding, nomenclature, moles, reactions, stoichiometry, solutions, gas laws, rates & equilibria and acids/bases. Evaluation is based on tests, quizzes and laboratory reports.

Advanced Chemistry 2 **Prerequisites:** Advanced Chemistry 1 and recommendation of Advanced Chemistry 1 teacher.

This laboratory intensive course is designed for students who plan to pursue a career in one of the physical sciences. Students will investigate the connections among numerous chemistry topics and will apply chemical theory in problem-solving and laboratory experimentation. Students develop independent investigative skills, including the presentation of experimental results in the standard laboratory report format. Evaluation is based on tests, laboratory reports, and homework.

Advanced Botany **Prerequisites:** Advanced Biology, Advanced Earth Systems Science and satisfactory completion or concurrent enrollment in Chemistry 1 or Advanced Chemistry 1.

Botany is a hands-on approach to the study of plants and their relationship with the environment. This course, along with other advanced biology electives, is designed for students seeking in-depth experiences in new topics not covered in Biology. The areas of study include plant diversity, anatomy, life cycles, hormones, nutrition, transport, and ecology. In addition, the classes will design and conduct research projects on a variety of plant-based topics including plant- pollinator interactions, growth patterns, invasive species, and GMO crops. This course includes field trips to local universities and research projects done in conjunction with PSU labs and faculty. This course relies heavily on laboratory activities, lab notebooks, and requires regular attendance. Evaluation is based on tests, quizzes, and laboratory performances.



This course, when taken in conjunction with all the other advanced biology classes, prepares students for the AP Biology exam.

Advanced Zoology **Prerequisites:** Advanced Earth Systems Science, Advanced Biology, Satisfactory completion or concurrent enrollment in Chemistry 1 or Advanced Chemistry 1.

Zoology is a hands-on approach to the study of invertebrate and vertebrate animal systems in marine and terrestrial environments. This course along with other advanced biology electives is designed for students seeking in-depth experiences in new topics not covered in Biology. Topics include animal diversity, behavior, classification, and structure and function of body systems from jellyfish, squid, and sharks up through mammals. This course includes field trips centered around research and labs done in conjunction with PSU faculty. This course relies heavily on laboratory activities with the animals and requires regular attendance. Evaluation is based on tests, quizzes, and laboratory performances.

This course, when taken in conjunction with all the other advanced biology classes, prepares students for the AP Biology exam.

Advanced Astronomy This course is designed for college-bound students seeking in-depth experiences in the Earth Systems Sciences. Emphasis is placed on understanding the physical environment through an increased awareness of the processes of science. A historical introductory unit combined with planetarium exercises will begin the search for natural laws that eventually will allow lessons to focus on planets, stars, galaxies and cosmology. This course of study builds on the astronomy concepts covered in all Earth Systems Science courses. Evaluation is based on tests, quizzes, and laboratory performances.

AP Physics This course provides a systematic introduction to foundational physics; including translational and rotational mechanics, electrostatics, and elementary circuitry. Further topics will be introduced as time allows and may include: fluids, heat and



thermodynamics, light and optics, sound, electromagnetism, quantum theory, nuclear physics, etc. Emphasis is on the development of conceptual understanding and problem-solving ability using algebra and trigonometry. Frequent laboratory experiences are coordinated with classroom work. Evaluation is based on tests, homework, and laboratory reports. Students are encouraged to use this course as preparation for the Advanced Placement Physics 1 Exam. This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

**AP Physics C:
Mechanics,
Electromagnetism**

Prerequisites: Completion of, or concurrent enrollment in AP Calculus.

This is intended as a second-year course in physics designed for college-bound students who plan to major in engineering, medicine or one of the physical sciences. Completion of AP Physics 1 is highly recommended. This course emphasizes the application and synthesis of fundamental physics principles with introductory differential and integral calculus to the solution of rigorous problems. The curriculum consists of mechanics and electromagnetism. Topics in Mechanics include: Kinematics, Newtonian Dynamics, Work and Energy, Momentum Conservation and Collisions, Rotational Kinematics and Dynamics, Equilibrium, Oscillations and Gravitation. Topics in Electromagnetism include: Electrostatics, Electric Potential and Capacitance, D.C. Circuits, Magnetic Fields and Forces, Electromagnetic Induction and Maxwell's Equations.

This course includes a hands-on laboratory component comparable to an introductory college-level physics laboratory course. Students are encouraged to use the course as a preparation for both Advanced Placement Physics C examinations.

This course is taught as a college-level course; consequently, students should expect rigorous reading and writing homework regularly.

CP Chemistry 1

This course is designed for students with a strong aptitude for mathematics who plan on pursuing a career in math, engineering or the sciences. Experimental and theoretical aspects of chemistry are explored. Topics will include - measurement, matter,



atomic theory, nuclear chemistry, bonding, nomenclature, moles, reactions, stoichiometry, solutions, gas laws, rates & equilibria and acids/bases. Evaluation is based on tests, quizzes and laboratory reports. This is a college preparatory level course.

CP Chemistry 2

Prerequisites: CP Chemistry 1.

Students will investigate the connections among numerous chemistry topics and will apply chemical theory in problem-solving and laboratory experimentation. Students develop independent investigative skills, including the presentation of experimental results in standard laboratory report format. Evaluation is based on tests, laboratory reports, and homework. This is a college preparatory level course.

CP Organic Chemistry **Prerequisites:** Completion or concurrent enrollment in Chemistry 1 or higher.

This lab-based course focuses on the chemistry of carbon-based compounds. The primary focus will be to understand and appreciate the connections that organic chemistry has to the numerous facets of life. Topics would include nomenclature, organic structures and functional groups, reaction mechanisms, synthesis, and analytical techniques. Students who intend to pursue a career in chemistry, medicine, pharmacy, biology, nursing, or veterinary medicine will find this course extremely beneficial. This is a college preparatory level course.

CP Physics

This course is designed for the student who desires a basic understanding of the fundamentals that govern our universe. Physics 1 is an algebra-based introduction to a broad range of topics: linear kinematics, dynamics, momentum, energy and wave theory. Student involvement in discussions and laboratory activities is emphasized. Critical thinking and problem-solving skills are



stressed. Evaluation is based upon tests, quizzes, laboratory reports, activities and homework. This is a college preparatory level course.

CP Forensic Science

The lab-based course will provide an introduction to crime scene investigations and forensic science to solve crimes. Topics in the course will include Locard's Exchange Principle, Human Decomposition, Arson, Analysis of Trace Evidence, Fingerprints and Blood/DNA. A variety of investigative and scientific techniques will be employed to analyze fingerprints, glass, hair, fibers, blood typing and spatter, accelerants, and DNA. Students will develop the laboratory precision needed and apply their deductive reasoning skills to develop an explanation from available evidence. This is a college preparatory level course.

CP Anatomy and Physiology

This course will involve students in an in-depth study of the structure and function of the human body. Special attention will be given to the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, immune, respiratory, digestive, lymphatic, urinary and reproductive systems. It will provide a firm foundation for further study at the post-secondary level. Students are encouraged to take Anatomy & Physiology found in the Health Professions elective courses. This is a college preparatory level course.



The World Languages Program

Besides developing the skills necessary to communicate with people of another culture and learning about the culture and history of other regions of the world, research has shown that:

- The study of languages can aid in the development of reading and the ability to hypothesize in science.
- There is a correlation between language study and higher scores on the SAT and ACT tests, as well as higher academic performance in college.
- There is a correlation between bilingualism and memory skills, problem-solving ability and improved verbal and spatial abilities.

Our school offers courses in six languages: Russian, Chinese (Mandarin), French, Hebrew, Latin and Spanish. The study of World Languages develops the skills of listening, speaking, reading and writing in a cultural context, which leads to functional competency in the chosen language. Students are required to actively participate in the target language in each course.

Planning Guide

Program	9th Grade	10th Grade	11th Grade	12th Grade
Russian	Russian 1	Russian 2	Russian 3	AP Russian Language & Culture
Mandarin	Mandarin 1	Mandarin 2	Mandarin 3	AP Chinese Language & Culture
French	French 1	French 2	French 1 French 3	French 2 AP French Language & Culture
Hebrew	Hebrew 1	Hebrew 2	Hebrew 3	Advanced Hebrew
Latin	Latin 1	Latin 2	AP Latin	
Spanish	Spanish 1	Spanish 2	Spanish 1 Spanish 3	Spanish 2 AP Spanish Language & Culture



The Fine and Performing Arts Program

The art program is for students who wish to: enjoy the creative growth that comes from working in art, continue to develop their skill in an art-related area, prepare for a career in the creative industry, and learn about art media and personal aesthetics.

In all art courses offered, student achievement is measured through observed growth in the processes of developing craft, persisting, envisioning, expressing, observing, reflecting, exploring, and understanding the art world.

The Star Academy program of study includes two years of required art program classes in grades 9 and 10. Students must choose one of the art program disciplines offered each year. In grades 11 and 12, students may continue to study these disciplines as electives.

Planning Guide

Theme	9 th Grade	10 th Grade	11 th Grade	12 th Grade
2-D Arts	Drawing 1	Drawing 2		
3-D Arts	Ceramics 1	Ceramics 2		
Media Arts	Digital/Animation	Cinema Arts		
Art History	AP Art History	AP Art History		

Course Descriptions

Drawing 1

This course is open to all students. During this course of study, students will gain the technical skills needed for the production of drawings. The students will gain an understanding of these techniques through the use of various materials and tools. The students will explore and discuss various artists and artwork to help better understand the concepts and techniques. This course satisfies the prerequisite requirement for the following: Drawing, Painting, and Printmaking.



Drawing 2**Prerequisites:** Successful completion of Drawing 1

This course is open to all students who have completed the Basic Drawing course and who wish to continue to refine their drawing styles by gaining a working knowledge of the technology, skills and techniques employed by drawing masters. Examples of masters' drawings are used for this purpose throughout the course. Students will use colored pencils, markers, pastels, conté and ink as they experience a concentrated study of landscape, figure and still-life color renderings. Students will select a drawing medium to produce a finished illustration. Students are required to keep sketchbooks and to submit homework assignments on a regular basis.

Ceramics 1

This course is intended for students who are interested in pursuing the mastery of skills involved in the production of wheel thrown and hand built clay objects. Examination of the aesthetics of ceramic works of art and the process of production provides the students with a framework for making critical judgments of clay objects, both as creators and consumers. Students must meet deadlines established for all projects and for oral or written assignments. All clay products must exhibit quality construction and finished decoration.

Ceramics 2**Prerequisites:** Successful completion of Ceramics 1

This course is designed for students who are interested in pursuing the mastery of advanced level skills involved in the production of wheel thrown and hand-built clay objects. Studio practices are emphasized to encourage the independent design of a body of work.

Digital/Animation

This course will introduce digital drawing utilizing Wacom tablets and various animation techniques including stop motion, Adobe Animate, and Blender. Character development, narrative qualities, texture, lighting, space, and timing will be explored around the central concept of artistic expression and visual communication design.



Cinema Arts

This course may be repeated any number of times. This course is open to all students and provides them the opportunity to develop value judgments as filmmakers and film consumers through the exploration of basic film productions. Students produce short movies, conduct research on cinema related topics, and they are also expected to give informed critiques of films.

AP Art History

AP Art History is a survey course of art forms throughout history and all parts of the world. Students will study Art History through class discussions, readings, slide viewing, videos, research and lecture. This course has no prerequisites; however, students must expect to be academically challenged. For success in Art History, students should be maintaining a “B” average or higher in English and Social Studies. An understanding of historical events that influenced the ideas, styles and techniques of artists as well as an ability to express this understanding in short answer and essay form is essential for a student to do well in the course and the AP exam. Evaluation will be based on quizzes, tests, and class participation and projects.

Students will be expected to complete all readings on time, take lecture notes, carry out individual and small group research projects, participate in class discussions and analyses, develop and refine essay writing skills, give class presentations and answer both objective and essay test questions.



Driver Safety Education, Health Education, and Physical Education Programs

Driver Safety Education is a course which teaches our students how to drive responsibly. The major objective of the course is to make it clear to the students that driving a car involves much more than simply operating controls. Students learn how to think behind the wheel, how to plan ahead and how to anticipate the actions of other roadway users. We also teach students how to control their vehicles in order to minimize risk to themselves and others. State and national rules of driving and safety are emphasized.

Health Education, as an applied science, provides current information on a variety of health areas of interest and concern to our students. Its components include knowledge, attitudes, and behaviors. Students learn to differentiate between healthful and harmful behaviors and to recognize the effects of decisions. The course also provides opportunities to gain new scientific information, learn and practice goal setting and to make plans to achieve and maintain optimum health.

Physical Education is concerned with the social, mental, emotional, and physical development of each student. Our curriculum is fitness based, where students are encouraged to actively participate in every unit of instruction. Students are evaluated by teacher observation, goal setting, positive attitude, participation, sportsmanship and various written assessments.

All disciplines are one-semester disciplines.



Planning Guide

Program	9 th Grade	10 th Grade	11 th Grade	12 th Grade
Driver Safety			Driver Safety Education	
Health	Wellness for Life	Sport Nutrition & Safety	Leadership & Wellness	Sports, Exercise & Health Science
Physical Education*	Physical Education 09	Fitness & Exercise Science	Selective Physical Education	Personal Wellness & Activity

* Attending classes in dance, fencing, martial arts or other sports may be considered toward meeting the Physical Education credit requirement.

Course Descriptions

Driver Safety

The objective of this classroom course, which is required of all students for graduation, is to provide theoretical information in preparation for driving. Students will learn about good driver behavior, management of risk, the MA Vehicle Code, physical, social and environmental influences on the driver, as well as the safe operation of an automobile. Students participate in activities such as small and large group discussions, lectures, demonstrations, readings, group and individual projects and audiovisual presentations.

This course meets every other day for a single marking period. Students will complete over 30 hours of instructional time during the course. Successful completion of this course is a graduation requirement.

Wellness for Life

This course is designed to provide students with a skills-based approach to managing their stress and wellness. It offers an examination of one's stressors and how to find a balance of mental, emotional, physical and environmental stress management techniques for leading healthier and more productive lives. Course information is presented in a practical manner incorporating current health trends and concerns, life management skills and interdisciplinary learning strategies to achieve optimal wellness. An emphasis is placed on the importance of making responsible decisions that will lead to a higher quality of life.

Sport Nutrition &

Students will learn how Sport Nutrition can enhance and sustain performance for exercise. Topics of instruction will include



- Safety** development of nutritional meal plans, energy metabolism, essential nutrients, ergogenic aids (performance enhancers), fueling for various muscular strength/power and endurance activities, and weight management. A unit on safety will permit students to earn the basic life support CPR/AED, Healthcare Provider certification through the American Heart Association. Students are required to purchase a CPR pocket mask.
- Leadership & Wellness** This course will address theories of leadership that when employed will empower leaders to advocate and advance a culture of wellness within their community or organization. The course is based on the belief that leaders can be developed and will emphasize skills such as goal-setting, communication, and organization, along with the other health literacy skills. The structure of this class will consist of group activities, planning for school and community events, individual projects/goals, and the learning and practicing of leadership qualities/skills both as a group and as individuals.
- Sports, Exercise & Health Science** Sports, exercise and health science (SEHS) is an experimental science course combining academic study with practical and investigative skills. SEHS explores the science underpinning physical performance and provides the opportunity to apply these principles. The course incorporates the disciplines of anatomy and physiology, biomechanics, psychology, and nutrition. Students cover a range of core and option topics, and carry out practical (experimental) investigations in both laboratory and field settings. The course offers a deeper understanding of the issues related to sports, exercise, and health, and wellness in the 21st century and addresses the international dimension and ethics related to both the individual and global context. SEHS units include anatomy, exercise physiology, energy systems, movement analysis, skill in sports, measurement and evaluation of human performance, psychology of sport, and physical activity and health.
- Physical Education 09** This 9th grade course focuses on learning skills necessary to become lifelong learners in a variety of activities in the area of personal health and wellness. Units of instruction include: field sports, volleyball, tennis, golf, aquatics, archery, personal fitness and introduction to a fitness center's cardio and strength training machines and stations.



Fitness & Exercise Science

Fitness and Exercise Science will provide students with a broad knowledge of exercise science and a foundation for understanding the role of science in exercise, athletic performance, and health promotion with a major focus on strength and sports conditioning. Content areas consist of basic exercise science, program design and implementation for various populations, advanced level strength training concepts, anatomy and physiology, injury prevention, client consultation, and fitness assessments. This course is designed to provide a sound knowledge for student-athletes and students interested and preparing for professional work in health promotion, fitness-related careers, physical and occupational therapy, kinesiology, and allied health careers.

Selective Physical Education

The Selective Physical Education program provides a progressive curriculum for students in grades 10-12 to understand and experience a variety of activity choices. A fitness component is included throughout all activities for building, growing, and maintaining an active and healthy lifestyle. Students will have the opportunity to choose different activities throughout the course from the following strands:

- **LIFETIME ACTIVITIES:** Activities may include yoga, dancing, mountain biking, and martial arts fitness.
- **TEAM SPORTS:** Activities may include lacrosse, basketball, softball, soccer, ultimate frisbee, volleyball, tchoukball, handball, and floor hockey.
- **PAIR/INDIVIDUAL SPORTS:** Activities may include tennis, badminton, pickleball, archery, and fencing.
- **PERSONAL FITNESS:** Activities include instruction various types of strength training & cardiovascular exercises, program design, and goal setting.

Personal Wellness & Activity

An adapted, or modified, physical education program focused on providing the same opportunities to students with physical,



cognitive, or psychological exceptionalities in the safest and least restrictive environment possible. An individualized program provides rehabilitation exercises and activities that are modified to meet the needs of the individual student. The program encourages success and exploration in physical, emotional, mental, and social health over the student's lifetime. Evaluation of student performance is based on the achievement of goals as agreed upon by the student and the learning team. This course is appropriate for students with a wide variety of exceptionalities.



Elective Courses

Elective courses are high-school level disciplines that can help a student explore his/her career options or prepare for a chosen future profession. Once a student registers to take an elective course, it becomes required for his/her attendance. Each student must take at least 10 one-semester long elective courses over the four years of high school study. Students may choose any elective discipline regardless of grade level. Elective disciplines taught each semester depend on reaching the required minimum number of registered students.

Course Descriptions

Art and Design

Jewelry

This course provides a sampling of a variety of materials, tools, and techniques used in the jewelry making process. We will focus on the process while exploring the history, evolution, and creativity of jewelry. Units of study will include hemp knotting, handmade clay and paper beads, metalwork and wire, fused glass, enameling, and upcycled, recycled and alternative materials used for wearable art.

Painting

This course is intended for students who have mastered basic skills required for drawing and who wish to gain a working knowledge of the terminology, skills and techniques employed in various painting media. Students will use watercolors and acrylics as they explore concepts of composition and color theory. Examples of masters' paintings are introduced which provide models of techniques students are employing in personal work. Both transparent and opaque media are used in the study of techniques. Students are required to keep sketchbooks and are expected to submit homework assignments on a weekly basis.

Master Studio

This course is open to interested, industrious and capable art students who are preparing for future careers in art. Students are presented a wide selection of media and explore these in a studio atmosphere as they complete a portfolio and maintain a



sketchbook. Students will explore realism, surrealism and abstraction in a drawing form and will be introduced to a unit on oil painting. Art history is taught throughout the course, and specific assignments focus on art themes, assigned readings from resources on contemporary art theories. Students must have completed one Art and Design elective for placement in the course. Students will maintain a weekly sketchbook and journal.

Sculpture/3D

This course offers an exploration of the materials, processes, and the design of 3-Dimensional artwork. Students will experience a wide variety of materials from clay to paper and fiber to glass, during units on wearable, ceramic, recycled, and public art. Individual and group projects are designed to teach planning and problem-solving skills, an appreciation of various cultures and aesthetics as well as practical construction and sculptural skill. Students must maintain a sketchbook of weekly assignments to be completed throughout the course.

Photography

This course is designed as an elective for all students. Personal cameras are not required but encouraged for this course in which the students explore photographic theory, process and the history of photography. Photographic composition skills are stressed while the students learn to use a digital camera. Students learn to operate Adobe Photoshop at a basic level. The principles of design involved in making photographic images are emphasized. Students will maintain a portfolio of their photographs including the histories of those works as evidence of their technical and aesthetic growth.

Commercial Design

This course is designed to provide all students with a foundation in art skills, as well as consumer understanding of art. Students will study various lettering styles and visual presentation techniques in order to develop original trademarks and logos. A study of the elements of design and the creative studio thinking process will be combined with the use of a variety of materials and software programs to explore the use of art in commercial settings.



Technology

Computer Graphics

This course is a hands-on, project-oriented class, with several take-home and personalized projects. It offers a fantastic way to be introduced to a variety of computer graphic and engineering software packages and concepts. These software packages will be used to develop 2D and 3D model animations, image designs, 3D prototypes, 3D prints, laser etch/cut designs, and for coding and video game development. These experiences will prepare you for postsecondary majors in engineering fields, computer science, video game design, film production, industrial design, and a host of other STEM related majors.

Software packages introduced in this course include: Autodesk's 3D Studio and AutoCAD, Solidworks, Adobe Photoshop and Illustrator, 3D printing applications, and Unity.

Video Media Technology

This elective explores the process of writing, shooting and editing video productions using the latest technology in video and film effects. This is a hands-on course to produce a variety of video and media productions. Play the role of screenwriter, director, and cinematographer as you create projects to entertain and inform using Adobe Photoshop, Premiere, After Effects, Illustrator, and Audition. Classroom resources available to you include; non-linear editing software, cameras available for checkout, sound production equipment, and the latest video production technology, an aerial videography drone, and 360-degree cameras. Create stunning student-made videos from beginning to end. Learn how to implement green screen technology, motion graphics, title sequences, video effects and professional camera techniques into your productions. Produce teacher-assigned and student-selected projects as you share finished video productions with family, friends, and classmates through a Web-based portfolio.



Business Management

Advanced Accounting Advanced Accounting is recommended for all students planning to major in Business Administration in college, and any student with an interest in exploring the business world. This course provides an opportunity for students to prepare for college accounting as well as to learn basic principles of accounting. Students apply general mathematical calculations to accounting transactions. The students are provided with experiences in planning, gathering, analyzing and interpreting financial data. Automated accounting systems and spreadsheet software are incorporated into the daily routine of this class.

Business Law Business Law is a semester-long course designed to provide students with a solid foundation in understanding the legal issues in both personal and business legal rights and duties. If you like discussing and dissecting laws, this class is for you. Topics of study include our legal system, court procedures, case law, torts, contracts, employment and how our rights line up with our constitution. Students will conduct a mock trial using correct courtroom procedures. Any student interested in law, law enforcement, protective services, business or political science should consider this course.

Personal Finance In this course, students build a foundation of personal finance skills for business and personal success. Units of study include: Career Decisions, Money Management, Financial Security, Credit Management, Resource Management, Risk Management and Consumer Rights and Responsibilities. Some of the topics include: investments; budgets and financial records; insurance; taxes; checking accounts and other banking services; decision making regarding renting and buying and maintaining a vehicle. Activities may include guest speakers, videos and field trips. There will be a \$25 fee for the H/R Block Budget Challenge that is a component of the course.



Stocks and Investments Stocks and Investments provides an insight into various types of financial assets, with a focus on stocks. Students first develop a basic understanding of stocks, markets, and indexes. Focus is next on decision making and stock valuation using fundamental analysis techniques, both qualitative and quantitative methods. Using an on-line trading simulation, students invest in stocks listed on the New York Stock Exchange and the NASDAQ. Students work individually and in groups to research stocks and enter trades on the simulation.

Hospitality Management

Students who wish to explore marketing or culinary careers in the hospitality industry will find this course exciting and informative. The course will cover career opportunities and focus primarily on the hospitality industry. Students will study how hotels manage reservations, food services, guest services, and guest relations. Field trips to local hotels help students see these areas of management in practice. Students will be able to put the skills they develop to test by participating in DECA competitive events if they choose to join the club.

Business Management

Students learn how to start their own business and prepare a business plan. The curriculum includes the study of types of business ownership and legal processes required to become an entrepreneur. Students will participate in case studies and business etiquette training. Along with these hands-on activities, students will have the opportunity to experience guest speakers, field trips, projects, and community resources.

Sales

This course will introduce you to the world of sales and the impact it has on businesses. The course will cover a wide variety of areas such as the seven selling steps, personal sales, as well as participation in an analysis of the skills needed to succeed in the sales field. Selling involves the art of communicating effectively with people to explain how a product or service will benefit them and meet their needs. The student will participate in classroom theory, projects, field trips and sessions with guest speakers. Students will also be able to put the skills they develop to test by participating in DECA competitive events if they choose to join the club.



Computer Programming

Advanced Programming Essentials in C++

C++ teaches the basics of programming in the C++ programming language, as well as the fundamental concepts and techniques used in object-oriented programming. The course begins with the universal basics, without relying on object concepts, and gradually extending to advanced concepts that are encountered using the objective approach.

Advanced SQL

This course engages students to analyze complex business scenarios and create a data model—a conceptual representation of an organization’s information. Participants implement their database design by creating databases using SQL. Basic SQL syntax and the rules for constructing valid SQL statements are reviewed. This course culminates with a project that challenges students to design, implement, and demonstrate a database solution for a business or organization.

Programming and Data Science with Python

Python is one of the most popular languages used by programmers. This course will provide Python fundamentals and explore its use in data science. In addition to learning to program with Python, students will use it for data analytics Matplotlib, Pandas, and Scikit-Learn.

Java and Object-Oriented Programming

Java is the programming language used for a multitude of applications from eCommerce to games to the Android operating system. Students will learn the major elements of Java and be introduced to object-oriented programming. The course will provide an introduction to classes, objects, methods, and loops and use these concepts for short assignments and more extended projects that incorporate graphics and software.

AP Computer Science Principles

This course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science. Students are encouraged to use this course as preparation for the AP Computer Sciences Principles Exam.



English

CP Speech & Debate This course provides 0.50 units toward the English graduation requirement for seniors only and offers students the opportunity to improve their oral presentation, critical thinking, research, and argumentation skills through a variety of formal and informal speaking experiences. Students will gain instruction in the elements of speechwriting and delivery that most effectively convey accurate and engaging meaning to an audience. Students will incorporate verbal and visual communication skills to enhance the impact of a presentation on an audience. Students will sharpen argumentation skills as they prepare persuasive messages and engage in a variety of debate experiences. The topics and activities of the course are adjusted to the needs and interests of the students who enroll in the class. Evaluations are based upon the student's degree of participation and preparation and the quality of speeches and debate materials. This is a college preparatory level course.

Introduction to Theater An elective course, which does not provide credit toward the English graduation requirement, Introduction to Theater provides motivated students with an active, participatory introduction to the theatrical arts. Through hands-on projects and lectures, students learn the basics of set design, stage lighting, costumes, props, make-up, acting, script analysis, and directing. Class activities include projects in each of the technical areas of the theater and guest speakers and field trips. Evaluation is based on participation, skill development and individual and group projects.

Journalism I Designed for self-motivated students who wish to work on high school publications, this elective credit course is a prerequisite for editorial positions on school publications and media. Through an apprenticeship model, students will learn basic skills of interviewing, journalistic writing, photography, editing, and layout. Students will practice these skills as they participate in publication and broadcast activities. Opportunities are provided to study the history of news media, current media practices, and media ethics and law. Evaluation is based on published work, use of class time and participation in all varieties of media. This course does not provide credit toward the English graduation requirement.



Advanced Journalism Prerequisites: Successful completion of Journalism 1

Advanced Journalism provides experience in the practical applications of scholastic journalism including newspaper, broadcasting, and yearbook. Students will become new leaders in the apprenticeship model. Instruction and activities reinforce ethical journalistic practice, increase student responsibility and incentive, and develop skills in desktop publishing, specialized journalistic writing, layout and design, photography, and advertising in accordance with recognized scholastic journalistic standards.

Engineering

Exploring Engineering This course introduces the student to the many different career opportunities in the field of engineering. Units covered include measurements, individual and group problem solving, 3D modeling and printing and product dissection. Field trips and guest speakers will allow the students to experience direct connections to the workplace. Science, Technology, Engineering and Mathematics (STEM) concepts are emphasized in class. Evaluation will be based on quizzes, tests, labs, projects and a two-page final report (in place of a final exam) on a career of interest to the student.

Electronic Systems Engineering Electronics Systems Engineering is an introductory course into the high-tech world of electronics, with a special emphasis on components of a circuit, measurements, how electronic systems work, and design. Science, Technology, Engineering and Mathematics (STEM) concepts are emphasized in this class. Instructional methods will include direct individual and group instruction, demonstrations, labs, videos, worksheets and projects. Assessment will be through written tests, lab reports, worksheets and project evaluations.

Robotics Engineering The Robotics Engineering course is a class for students who want to learn what robots do and how to use them. Students will



learn the theory and practice of different robotic devices such as CNC machines, 3D printers, laser engravers, and autonomous robots using C language-based programs. An integrated approach to Science, Technology, Engineering and Robotics (STEM) is emphasized in class. A three-prong approach is used to teach robotics via programming, mechanics and electronics. Evaluation is through written tests, projects, labs and design challenges.

**Digital & Analog
Electronic Engineering**

Digital and Analog Electronics Engineering is an introductory course into the high-tech world of electronics, with a special emphasis on solid state devices such as diodes, transistors and analog and digital integrated circuits and microprocessors. Science, Technology, Engineering and Mathematics (STEM) concepts are emphasized in this class. Instructional methods will include direct individual and group instruction, demonstrations, labs, videos, worksheets and projects. Assessment will be through written tests, lab reports, worksheets and project evaluations.

**Advanced Engineering
Technology**

Advanced Engineering gives qualified juniors and seniors the opportunity to learn about and experience engineering topics through direct instruction, class work, activities, tests, labs and projects. Students will also experience engineering through guest speakers, field trips and face-to-face interactions with practicing engineers. STEM (Science, Technology, Engineering and Math) concepts are emphasized throughout. Students will learn about parametric modeling, advanced manufacturing of prototype parts, creating and testing models and full-size prototypes and participate in design reviews.



Health Professions

Health Systems and Professions

Health Systems and Professions is the preferred introductory course for any student exploring or considering a career in the healthcare field. Students will learn about the history of healthcare, health policy, how the healthcare system and insurance are organized and how different components of the healthcare system interact with each other. In addition, students will explore legal and ethical issues and learn basic skills such as the use of medical terminology, medical math, vital signs, HIPAA, etc.

Health Care Evidence and Research

Health Care Evidence and Research provides an introduction to the evidence behind health care and medical decisions. Students will learn to access, interpret and rank medical research as well as appreciate the concept of EBP (Evidence-Based Practice). This course is highly recommended for students confident they will enter a health care/medical profession that require this knowledge and skill set (Medicine, Nursing, Physician Assistant, Physical/Occupational/Speech Therapy, Athletic Training, Dental, etc.).

Anatomy & Physiology

This course will involve students in an in-depth study of the structure and function of the human body. Special attention will be given to the integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, immune, respiratory, digestive, lymphatic, urinary and reproductive systems. It will provide a firm foundation for further study at the post-secondary level. Students are encouraged to take Anatomy & Physiology with other Health Professions courses.

Language of Medicine

The Language of Medicine course is for the student who wants to be able to read, write and understand medical language. It provides a foundation for the use of the language of medicine both personally and professionally by emphasizing correct pronunciation, spelling, and abbreviations pertaining to body systems. This course provides an introduction to anatomy, physiology and pathophysiology, as well and improves one's ability to better communicate in healthcare.



Student Activities

As students decide which courses they wish to take each year, they should also consider participation in extracurricular activities. For many students, these activities provide opportunities and experiences which not only make high school more enjoyable, but also influence and sometimes determine future choices in both education and career paths. This listing gives some idea of the range of activities offered. Further information is available through the school administration.

Internships in a Field of Interest

Star Academy community has an incredible reach into every industry, we will work with all our internal and external resources to find internship opportunities for students that will further expose them to their future career paths.

Before/After School Activities and Clubs

- Book Club
- Chess
- Chinese Club
- DECA
- Dance
- Debate
- Fencing
- Forensics
- French Club
- Future Business Leaders of America
- Health Occupations Students of America
- Hebrew Club
- Model UN
- National Honor Society
- Private piano
- Private Vocal
- Robotics club
- Russian Club
- Spanish Club
- Student Senate
- Technology Student Association
- Theater
- Violin

