

COURSE CATALOG

FOR GRADES 9-12



Buffalo Academy of Science Charter School

190 Franklin St. Buffalo /NY, 14202

School Code for SAT AND ACT: 331081

MISSION STATEMENT

Recognizing that educational success is built upon the harmony of the triad of students parents and teachers, Buffalo Academy of Science creates a partnership among members of this group that will help our youth fulfill their highest intellectual, social, emotional and physical potential

BUFFALO ACADEMY OF SCIENCE HIGH SCHOOL REQUIRED COURSE LIST

All required classes are added in each grade section. You may select elective courses, from the next three pages.

GRADE 9

Course	Credit
English 9	1
Glob I	1
Algebra (Regent)	1
Living Env. .(Regent)	1
P.E.	.5
Music	.5
Art	.5
Spanish	1
Computer	.5

GRADE 10

Course	Credit
English 10	1
Glob II (Regent)	1
Geometry	1
Earth Science	1
P.E.	.5
Health	.5
Geography	.5

BASCS GRADUATION REQU.

SUBJECT	CREDITS
ENGLISH	4
SOCIAL STUDIES	4
MATH	3
SCIENCE	3
LANGUAGE	1
PE	2
HEALTH	.5
ART	.5
MUSIC	.5
COMPUTERS	.5
ELECTIVES	5
TOTAL	24

GRADE 11

Course	Credit
English 11 (Regent)	1
U.S. History (Regent)	1
Algebra II or Math electives	1
Chemistry or Sci. electives	1
P.E	.5
College Path I	.5
SAT (Reading/Math)	.5

GRADE 12

Course	Credit
English 12	1
P.I.G / Econ	1
P.E	.5
College Path II	.5

REGENTS

DEPT	REGENTS	ADVANCED
MATH	Alg I	Alg/Geo/Alg II
ENG	Eng 11	Eng 11
SOC	Glob/US His	Glob/US His
SCI	Liv. Env	Liv Env./ Earth Sci.

COURSE OFFERING TABLES BY DEPARTMENT

In order to prepare for the online course selection process, please follow these steps:

1. Review the entire the course tables. These tables list, by subject area and grade level, every course available to students.
2. Circle all required classes for the upcoming school year as well as current years' required classes, if any.
3. Select at least one elective from each section.
4. Write your top 5 choices in the appropriate boxes on the previous page.

ENGLISH

GRADE 9	GRADE 10	GRADE 11	GRADE 12
ELA 9 REGENTS	ELA 10 REGENTS	ELA 11 REGENTS	ELA 12
		AP LANGUAGE	AP LITERATURE
9TH GRADE ELECTIVES	10TH GRADE ELECTIVES	11TH GRADE ELECTIVES	12TH GRADE ELECTIVES
READING & WRITING	AFRICAN AME LIT I, II	AFRICAN AME LIT I, II	AFRICAN AME LIT I, II
	CREATIVE WRITING	CREATIVE WRITING I	CREATIVE WRITING I
	FILM	FILM	FILM
		DEBATE AND PUB. SPEA	DEBATE AND PUB. SPEA
		DRAMA	DRAMA
		JOURNALISM	JOURNALISM

MATH

GRADE 9	GRADE 10	GRADE 11	GRADE 12
INT ALG I REGENTS	GEOMETRY REGENTS	ALGEBRA II REGENTS	PRE-CALCULUS
INT. ALG IA	INT. ALG IB REGENTS	GEOMETRY NON-REGENTS	INTERMEDIATE ALGEBRA
GEOMETRY	ALG II REGENTS	PRE-CALCULUS	AP CALCULUS
	APPLIED ALG(If pass class, fail regents)	INTERMEDIATE ALGEBRA	
9TH GRADE ELECTIVES	10TH GRADE ELECTIVES	11TH GRADE ELECTIVES	12TH GRADE ELECTIVES
	BUSINESS MATH	BUSINESS MATH	BUSINESS MATH
	PROBLEM SOLVING STRAT.	PROBLEM SOLVING STRAT.	PROBLEM SOLVING STRAT.
			AP STATISTICS

SCIENCE

GRADE 9	GRADE 10	GRADE 11	GRADE 12
LIV ENV REGENTS	EARTH SCI REGENTS	CHEMISTRY REGENTS	
9 TH GRADE ELECTIVES	10 TH GRADE ELECTIVES	11 TH GRADE ELECTIVES	12 TH GRADE ELECTIVES
APPLIED BIO	ANATOMY	ANATOMY	ANATOMY
	ENVIRONMENTAL SCIENCE	ENVIRONMENTAL SCIENCE	ENVIRONMENTAL SCIENCE
	FORENSIC SCIENCE	FORENSIC SCIENCE	FORENSIC SCIENCE
	ROBOTICS (TEAC. APPR.)	ROBOTICS (TEAC. APPR.)	ROBOTICS (TEAC. APPR.)
		PSEUDO SCI	PSEUDO SCI
		ASTRONOMY	ASTRONOMY
		PHYSICS REGENTS	PHYSICS REGENTS

SOCIAL

GRADE 9	GRADE 10	GRADE 11	GRADE 12
GLOB I	GLOB II	US HISTORY	PART IN GOVRN. / ECON.
		AP US HISTORY	AP GOVERN.
9 TH GRADE ELECTIVES	10 TH GRADE ELECTIVES	11 TH GRADE ELECTIVES	12 TH GRADE ELECTIVES
GEOGRAPHY (REQU. 9 TH OR 10 TH)	GEOGRAPHY (REQU. 9 TH OR 10 TH)		
	AFRICAN AME. HISTORY	AFRICAN AME. HISTORY	AFRICAN AME. HISTORY
	LOCAL HISTORY	LOCAL HISTORY	LOCAL HISTORY
		SOCIOLOGY	SOCIOLOGY

FOREIGN LANGUAGE

GRADE 9	GRADE 10	GRADE 11	GRADE 12
SPAN I,II	SPAN I,II,III	SPAN I,II,III,IV	SPAN I,II,III,IV
TURKISH I	TURKISH I,II	TURKISH I,II,III	TURKISH I,II,III

SPECIALS (ART/MUSIC)

GRADE 9	GRADE 10	GRADE 11	GRADE 12
STUDIO ART			
MIOL			
9TH GRADE ELECTIVES	10TH GRADE ELECTIVES	11TH GRADE ELECTIVES	12TH GRADE ELECTIVES
CHORUS I,II	CHORUS I,II	CHORUS I,II	CHORUS I,II
	GUITAR	GUITAR	GUITAR
	PAINT & DRAW	PAINT & DRAW	PAINT & DRAW
	POTTERY	POTTERY	POTTERY
		MUSIC THEORY	MUSIC THEORY

TECHNOLOGY COURSES

GRADE 9	GRADE 10	GRADE 11	GRADE 12
KEYBOARDING			
9TH GRADE ELECTIVES	10TH GRADE ELECTIVES	11TH GRADE ELECTIVES	12TH GRADE ELECTIVES
INTRO TO COM. AIDED DESIGN	INTRO TO COM. AIDED DESIGN	INTRO TO COM. AIDED DESIGN	INTRO TO COM. AIDED DESIGN
DESKTOP PUBLISHING	DESKTOP PUBLISHING	DESKTOP PUBLISHING	DESKTOP PUBLISHING
MULTI MEDIA DESIGN	MULTI MEDIA DESIGN	MULTI MEDIA DESIGN	MULTI MEDIA DESIGN
	WEBPAGE DEVELOP.	WEBPAGE DEVELOP.	WEBPAGE DEVELOP.
		PROGRAMMING:JAVA	PROGRAMMING:JAVA

PE/HEALTH

GRADE 9	GRADE 10	GRADE 11	GRADE 12
	HEALTH (RECOMM. YEAR)		
9TH GRADE ELECTIVES	10TH GRADE ELECTIVES	11TH GRADE ELECTIVES	12TH GRADE ELECTIVES
FIRST AID CPR	FIRST AID CPR	FIRST AID CPR	FIRST AID CPR
PERSONAL FITNESS	PERSONAL FITNESS	PERSONAL FITNESS	PERSONAL FITNESS

COLLEGE PATHWAY

GRADE 9	GRADE 10	GRADE 11	GRADE 12
		COLLEGE PATH I (2 ND SEM.)	COLLEGE PATH(1 ST SEM.)
		SAT READING /MATH	

ENGLISH

ENG 100 – English 9

1 year = 1 credit

9th grade

The 9th grade English Program concentrates on writing experiences and the literary form, paying special attention to technique. Stories based on world literature are utilized as common experiences for development of the reading, writing, speaking and listening skills necessary to pass the Regents exam in 11th grade. Frequent writing experiences are included, for writing skills are needed throughout the entire program in high school. The disciplines of organization are stressed, since students need to work on organization of thoughts as well as augmentation of skills. Grammar skills are taught on an individual level through the use of the students' own writings, as well as through classroom experience. SAT vocabulary will be covered as will vocabulary from the literature and practice with literary terminology. Students will continue to build upon the research skills learned in formative courses as well.

ENG 101 – Reading & Writing I

½ year = ½ credit

9th grade

Pre-requisite: Students are assigned this class if they are determined to be at risk of failing the NYS Regents Exam assessment, based upon past experiences. These past experiences include, but are not limited to, the students' performance on previous NYS ELA assessments, teacher recommendations, and quarterly English averages.

Reading & Writing course is designed to meet the needs of students who are reading and/or writing below grade level. Students will work in small groups in the areas of vocabulary, comprehension, and research skills. In addition, students will be taught reading and writing skills which will help to prepare them for the Regents exams, as well as their content area classes.

ENG 110 – English 10

1 year = 1 credit

10th grade

The 10th grade program is designed to enhance the skills learned in the ninth grade through an approach based primarily upon the communication skills of reading, writing, speaking and listening. Stories based on American literature are utilized as common experiences for developing critical thinking abilities, and students analyze style as well as author technique. Since written communication is essential to advanced thought, writing experiences are many, with emphasis on paragraphing skills and advanced sentence structure. Grammar skills are taught on an individual level through the use of the students' own writings, as well as through classroom experience. Students will also begin to write using their own specific style and voice through various creative assignments. There is also a strong emphasis on skills related to the New York State Comprehensive Regent Exam to be taken in 11th grade. In addition, students will have continued and enhanced exposure to SAT based instruction.

ENG 111 – Reading & Writing II

½ year = ½ credit

10th – 11th grade

Pre-requisite: Students are assigned this class if they are determined to be at risk of failing the NYS Regents Exam assessment, based upon past experiences. These past experiences include, but are not limited to, the students' performance on previous NYS ELA assessments, teacher recommendations, and quarterly English averages.

Reading & Writing course is designed to meet the needs of students who are reading and/or writing below grade level.

ENG 120 – English 11

1 year = 1 credit

11th grade

The eleventh grade program focuses on further development of skills in writing and speaking plus a more thorough study of literature. The literature includes novels, plays, short stories, and poetry from many different time periods and a wide variety of authors. Since the Junior year includes such important tests as the PSAT, SAT, ACT and the English Comprehensive Examination, students will be thoroughly prepared through regular vocabulary study and writing assignments. Grammar skills, vocabulary, research skills, SAT/ACT prep, and practice with literary terminology will continue to be fundamentals built upon from years nine and ten.

ENG 121 – English AP Language

1 year = 1 credit

11th grade

Pre-requisite: Successful completion of English 10 with a course Grade of 90 or higher AND

- Strong analytical thinking, writing, and reading skills
- Commitment to workload with the rigor of a college-level course
- Teacher Recommendation

The AP course in English Language and Composition engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes.

Summer Assignment: Summer reading of one major literary is required. Title will be announced by teacher. This course requires the completion of a summer assignment which will be handed out in June and will be collected during the first week of school in September.

ENG 130 – English 12

1 year = 1 credit

12th grade

The 12th grade program continues to focus on the development of writing and speaking skills as well as the study of literature, with an emphasis on preparing students for college and their future. Students participate in active reading, writing, and discussion of American and World literature in a variety of genres. Extensive writing in the form of essays, compositions, and reaction papers will also be emphasized. A research paper will reflect collegiate expectations.

ENG 131 – AP Literature

1 year = 1 credit

12th grade

Pre-requisite: Successful completion of English 11 Advanced Placement AND

- Strong analytical thinking, writing, and reading skills

- Commitment to workload with the rigor of a college-level course
- Teacher Recommendation

This course develops students' skills at literary analysis, criticism, and judgment and prepares them for the AP Exam in English. Students are responsible for reading many difficult poems and prose passages, novels, plays and stories, and then writing analytical responses. These experiences help the student to evaluate, entirely on his/her own, a variety of challenging texts. This is a skill the students must be able to employ on the AP Exam.

Summer Assignment: Completion of a summer assignment (typically, a full-length fiction or non-fiction work) is expected.

ENGLISH ELECTIVES

ENG 140 – African-American Literature I

½ year = ½ credit

10th – 12th grade

This is a ½ year course in critical reading and writing with an emphasis on African-American literature. Topics will include a general survey of African-American culture, and more specialized approaches such as poetry, female authors, the Civil Rights Movement, and the Harlem Renaissance.

ENG 141 – African-American Literature II

½ year = ½ credit

10th – 12th grade

This is the second part of African American Literature course. Topics will include a general survey of African-American culture, and more specialized approaches such as poetry, female authors, the Civil Rights Movement, and the Harlem Renaissance.

ENG 142 – Creative Writing

½ year = ½ credit

10th – 12th grade

Students will study models of descriptive and narrative writing then write in a variety of modes, including but not limited to memoir, character sketch, short story and poetry. Students should like to write and be self-directed learners who can manage their assignments.

ENG 143 – Debate & Public Speaking

½ year = ½ credit

11th – 12th grade

This course is designed to help students become better communicators. Students will develop skills in organization of ideas, writing, critical thinking, and self-confidence in public speaking. The skills developed in this course will assist the students in other classes in college, in the careers they choose to enter, in communication skills, in personal growth, and, consequently, in life.

ENG 144 – Drama

½ year = ½ credit

11th – 12th grade

Students will explore the different aspects Drama/Performance Theatre. Students will study various films and plays, directors, playwriting, theatre history, and various different acting techniques such as improvisation, clowning, street theatre, Mesiner and method acting. Students will also study various aspects of theatre such as set, lighting, sound and costume design. By the end of the

course students will have learned auditioned techniques and will design and perform a theatre production. If possible the students will also go on a field trip to see a professional play in the theatre district of Buffalo.

ENG 145 – Film

½ year = ½ credit

10th – 12th grade

This course will analyze the development of film as an art form. Particular areas of study will include specific production techniques such as camera use and placement, editing, shot selection, sound, color and lighting, screenwriting, special effects and the relationship of the viewer to the action on the screen. Through screening of films from various periods and different genres we will examine and critique how all these techniques, when combined, effectively convey meaning.

ENG 146 – Journalism

½ year = ½ credit

11th – 12th grade

In this course, you will learn what professional reporters know: how to search for the truth, how to investigate a news story, how to interview major personalities, and how to change notes into a hard news story. You'll be writing hard-hitting news articles, personality interviews, fiery editorials, feature stories, advice columns, and sports articles. As a magazine journalist, you will be reporting local and school news, preparing political and social perspectives through polls and editorial cartoons, writing point/counterpoint editorials, using techniques for investigative reporting, and creating your own column in the fields of foreign correspondence, entertainment and advertising. Students will learn about topics in journalism, as well as about the elements of news writing, such as lead writing and the structure of news stories.

ENG 147 – SAT Critical Reading

½ year = ½ credit

10th – 12th grade

This class aims to familiarize students with the rigors of the SAT Critical Reading and Writing sections. Students will learn about the organization of the exam and should expect to take practice exams. Intensive vocabulary and grammar study will be stressed, along with methods for writing the timed SAT essay. Open to students in grades 11-12 who are interested in preparing for the SAT.

MATHEMATICS

MATH 400 – Integrated Algebra IA

1 year = 1 credit

9th grade

This course is for students who have been identified as needing Academic Intervention Services.

Course Description: Integrated Algebra 1A is the first course of a two year program designed to prepare students

for the Integrated Algebra Regents Exam. This course explores concepts including: sets, solving equations in the context of real world problems, two dimensional and three dimensional geometric forms, and right triangle trigonometry.

MATH 410 – Integrated Algebra IB

1 year = 1 credit

10th grade

Pre-requisite: Integrated Algebra 1A

Course Description: Integrated Algebra 1B is the second course of a two year program designed to prepare students for the Integrated Algebra Regents Exam. This course offers a comprehensive review of the concepts covered in Integrated Algebra 1A, as well as develops new concepts to complete the curriculum. Additional topics covered include: exponential growth and decay, linear regression, quadratic linear systems and real-life applications of mathematics.

MATH 401 – Regents Integrated Algebra I

1 year = 1 credit

9th grade

New York State requires all students to pass the Integrated Algebra course and Regents exam to satisfy Regents diploma requirements. The Integrated Algebra course will cover sets, solving linear equations and inequalities along with their applications. Students will solve systems of equations, both algebraically and graphically. The role of polynomials and their operations will be discussed. An introduction to right triangle trigonometry, probability and statistics will be covered. Students will also explore exponential growth and decay, linear regression, quadratic linear systems and real-life applications of mathematics.

MATH 411 – Regents Geometry

1 year = 1 credit

10th -12th grade

The goal of this course is to prepare students for New York State Geometry regents. Students will have the opportunity to explore an integrated approach to the study of geometric relationships. Students will investigate properties of triangles, quadrilaterals, and circles; formal and informal proofs; transformational and coordinate geometry; 3-dimensional geometry and logic.

MATH 412 – Non-Regents Geometry

1 year = 1 credit

10th -12th grade

This course is designed to strengthen the students' geometric skills and to enable them to apply these skills to more advanced math topics and practical application problems and projects. Some of the topics covered are axioms and postulates, congruence, triangles, inequalities, parallel and perpendicular lines, angle, sum, locus, circles, angle measurement, similarity, areas, polygons, constructions, trigonometry and coordinate geometry. This course terminates with a departmental final exam.

MATH 420 – Regents Algebra II

1 year = 1 credit

10th -12th grade

The goal of this course is to prepare students for New York State Algebra II regents. Students will have the opportunity to explore an integrated approach to the study of advanced algebra and trigonometric concepts. Students will represent and analyze algebraically a wide variety of problem solving situations including absolute value, radicals, rational expressions and logarithmic expressions. Students will also recognize and use patterns, relations and functions as they apply to sequences and series, coordinate geometry and trigonometry. Students will also collect, organize, display and analyze data as well as make predictions based on theoretical and empirical probabilities.

MATH 421– Intermediate Algebra**1 year = 1 credit****Pre-requisite:** Integrated Algebra IB11th -12th grade

This course will give students a strong mathematical foundation. Some of the topics covered include linear equations, factoring, literal equations, systems of equations, quadratic equations, rational numbers, irrational numbers, imaginary and complex numbers, direct and inverse variation. A scientific and graphing calculator will be used throughout the course.

MATH ELECTIVES**MATH 440 – Pre-Calculus****1 year = 1 credit****Prerequisite:** Algebra II10th – 12th grade

The purpose of this course is to prepare the student for the study of calculus. Pre-calculus combines the many trigonometric, geometric, and algebraic techniques needed for the preparation of the study of Calculus. The course is designed to strengthen the conceptual understanding and mathematical reasoning needed when solving problems. It emphasizes the use of a graphing calculator as a tool to interpret results as well as method of obtaining an answer. Topics include: Real numbers, Subsets of the real numbers, Sequences and series, Limits, Functions, Graphs, Problem solving, Transcendental functions, Vectors, and Analytic geometry. This course requires teacher recommendation.

MATH 441 – A.P. Calculus**1 year = 1 credit****Prerequisite:** Pre-Calculus11th – 12th grade

This course is intended to prepare students for the Advanced Placement examination. Topics include differential and integral calculus (emphasizing conceptual understanding, computations and applications), differentiation of elementary algebraic; trigonometric, exponential, and logarithmic functions; graphing; modeling and maximization; the Riemann integral; the fundamental theorem; symbolic and numeric methods of integration; area under a curve; volume; improper integrals and Hospital's rule; polar and parametric equations and curves; sequences; series; Taylor series; differential equations; and modeling. Students are strongly encouraged to take the Advanced Placement examination which may lead to college credit.

MATH 442 – A.P. Statistics**1 year = 1 credit****Prerequisite:** Algebra 211th – 12th grade

Statistics is the science of data. The purpose of this course is to introduce the students to the major concepts and tools needed for collecting, analyzing, and drawing conclusions from data. This course concentrates on four broad conceptual themes: exploring data, planning a study (collecting data), probability (anticipating patterns in data), and statistical inference based on data. This course is an active learning experience. Students analyze data with calculators and computers. They conduct classroom experiments, carry out individual and group projects, and perform stimulations involving probabilistic concepts. Students are required to be engaged and active learners in the classroom. College credit or advance standing may be granted on the basis of a student's grade on the AP Statistics Examination offered in May by the College Entrance Examination Board.

MATH 443 – Business Math**½ year = ½ credit**10th – 12th grade

The purpose of this course is to explore real world concepts of business math by extensive use of applications in banking, hotel/motel industry, retail real estate and others. It will guide students through the basic mathematical skills of whole numbers and decimals, fractions, percentages, statistics, and equations. These skills will then be applied to business situations such as payroll, discounts, markup/markdown, interest, credit, and more.

MATH 444 – SAT Math**½ year = ½ credit**10th – 12th grade

This course is designed to prepare students for the Math section of the new 2005 SAT exam to increase the chance of a student's acceptance into major colleges and Universities by increasing their test scores. Standards of such tests and test taking skills will be covered as well as major topics in these tests.

MATH 445 – Problem Solving Strategies**½ year = ½ credit**10th – 12th grade

This course is designed to teach various problem solving techniques with famous problems from high school math curriculum. The strategies are included but not limited to solving problems with finding patterns, guess and check, making tables, working backwards, using Venn diagrams, and solving simpler problems.

SCIENCE

SCI 300 –Living Environment Regents

1 year = 1 credit

9th grade

This course will provide a broad understanding of the fundamental principles of Biology and will give treatment to the specific areas of experimental design, biochemistry, human physiology, reproduction and development, modern genetic, modern evolution and ecology. These concepts are developed through appropriate laboratory experiences which emphasize the disciplined approach of the scientist.

SCI 301- Applied Biology

½ year = ½ credit

Pre-requisite: Students are assigned this class if they are determined to be at risk of failing the Living Environment Regents Exam based upon past experiences. These past experiences include, but are not limited to, the students' performance on previous NYS Science assessments, teacher recommendations, and quarterly Science averages.

9th – 12th Grade

This course will cover a broad understanding of the fundamental principles of Biology. It will address the areas of human physiology, reproduction and development, modern genetics, modern evolution and ecology. Students must take the Living Environment Regents Examination in June.

SCI 310 Earth Science

1 year = 1 credit

10th grade

This course allows students to study the earth as a complex system involving interactions among rocks, minerals, water, air and living organisms. The basic principles of astronomy, geology, meteorology and oceanography- related processes are reviewed in detail. Laboratory exercises reinforce the basic principles in each of the course topics. Students should have a strong background in mathematical skills such as graphing and the use of formulas/ equations. A strong emphasis is placed on interrelating the earth science concepts and utilizing them in problem solving situations. A laboratory performance test is part of the June Regents Examination.

SCI 320 – Chemistry

1 year = 1 credit

11th – 12th grade

Pre requisite: Pass Earth Science, Geometry

This course will introduce the chemist's description and use of light and matter in the context of larger issues such as astronomy, the greenhouse effect, and fats in our diet. Specific topics include the interaction of light and matter (spectroscopy), the structure of the atom and the atomic structure of matter, chemical bonds and intermolecular forces, and chemical descriptions of color and solubility. An introduction to the reactions of atoms and molecules, focusing on examples from environmental chemistry and an introduction to theories describing the structure and reactivity of organic compounds will also be presented. Theoretical principles are illustrated using computer-based molecular models. Laboratory work introduces techniques used in the preparation, purification, and spectroscopic identification of organic compounds. Laboratory work also includes the synthesis and characterization of molecular compounds and extended solids, and introduces useful characterization techniques including infrared

and electronic spectroscopy, X-ray diffraction, and thermal analysis. The course ends in a Regents exam in June, and a student must have accumulated 1200 minutes in documented lab time to sit for the regent's exam.

SCIENCE ELECTIVES

SCI 340 – Astronomy

½ year = ½ credit

11th – 12th grade

This course stresses the changing ideas of the universe and humanity's place in it. It provides a clear example of the growth and use of THEORY in science. The first term of the course deals with the history of our knowledge of the solar system-Sun, Moon, Earth, and the other planets-from the earliest watchers and simple fables to the magnificent success of Newton's gravitational theory. The second term is an introduction to the stellar astronomy: nature of light and matter, characteristics of stars, birth, evolution and death of stars, neutron stars, black holes, galaxies, the Big Bang, and cosmology and the principles of Einstein's theory of relativity.

SCI 341 – Anatomy

½ year = ½ credit

10th – 12th grade

This course is designed to develop a comprehensive understanding of the close interrelationship between anatomy and physiology as seen in the human organism. It begins by introducing the student to fundamental concepts, basic biochemistry, and the cell as the basic structural and functional unit of all organisms. The course also covers all the major body systems. Prerequisites for this course include having to have successfully passed Living Environment with at least an 80 average. Students must be in good academic standing.

SCI 342 – Environmental Science

1 year = 1 credit

10th – 12th grade

Environmental Science carefully analyzes the interactions that are taking place between modern humans and the environment to help students understand the relationships of natural systems and the environmental problems the world faces. Major topics include ecological principles and ecosystems, geology, management of living and non-living resources, energy resources, uses, and alternatives, as well as current environmental issues – both local and global. The ultimate goal of this course is to increase the environmental awareness of the students, as well as to encourage students to participate as informed and active citizens.

SCI 343 – Forensic Science

½ year = ½ credit

10th – 12th grade

This is an introductory course in forensic science. Students will apply their background knowledge from Biology and Chemistry to the analysis of simulated crime scene evidence. Major topics will include: the crime scene, forensic serology, fingerprints, impression evidence, document examination, drug chemistry, and toxicology and trace evidence.

SCI 344 – Physics**1 year = 1 credit**11th – 12th grade*Prerequisites: Geometry or Higher*

This course focuses on the methods that physicists use in building models to describe the workings of the universe. The relationships among observation, measurement, and description will be explored in depth through experimental work in a variety of topics, including mechanics, electric circuits, optics and thermodynamics, among others. Emphasis will be on experimental design and data analysis, with a focus on techniques for fitting mathematical models to measured data and assessing the validity of those models. The students will keep a logbook of their work and their results, and write papers to communicate those results to the rest of the class. Most of the time spent in class will be dedicated to lab work, with occasional class “conferences” for student presentations. Because of the nature of the work, this course requires strong math skills and an inclination towards independent exploration.

SCI 345 –Pseudo Science**½ year = ½ credit**11th – 12th grade

The primary purpose of this course is to foster the development of critical thinking skills that will help the student evaluate claims about human behavior, especially claims made in the popular media concerning paranormal or otherwise unusual or extraordinary psychological phenomena. We will examine common ways in which human cognition leads people to believe strange things, and to maintain these beliefs even in the face of contradictory data. The scientific method will be examined as a unique tool for overcoming cognitive biases. Among the topics to be covered include UFO’s, Alien abduction, Big Foot, Astrology, Ghosts, Global Warming, Alternative medicines, Dinosaur extinction, Loch Ness, Nostradamus, Urban legends and Psychic Phenomena.

In all cases, a skeptical perspective will be encouraged. That is, students will be asked to keep an open mind, while simultaneously insisting on adequate level of evidence for accepting unusual phenomena.

SOCIAL STUDIES ELECTIVES**SS 200 – Global I****1 year = 1 credit**9th grade

This course is the first of a two year global studies program that will culminate in a New York State Regents Examination in Global History and Geography at the end of the tenth grade. The students will study history in a chronological sequence starting with the early civilizations of the Nile River and the Fertile Crescent up to the Age of the Enlightenment. The curriculum also places an emphasis on developing social studies skills, where students learn to become self-directed learners as well as collaborative workers.

SS 210 – Global II Regents**1 year = 1 credit**10th grade

This course is the second of a two year Global History and Geography program that will culminate in June with a New York State Regents Exam. Students in the course will study significant historical events using a global perspective. The course offers balanced coverage of Europe, Asia, Africa and the Americas from the 18th century to the modern day. While the course is organized around the chronology of events, there will be an emphasis on thematic concepts, such as the influence of geography on the development of culture, turning points in history, revolution, economic systems, nationalism, imperialism, international conflicts, interdependence, and modern global problems.

SS 211 – Geography**½ year = ½ credit**9th – 10th grade

This is an elective course that is strongly suggested for all graduating students as it will be highly relevant to the Global Studies and United States History Regents Exams. The class consists of 20 weeks that focus on the geographic aspects of social studies. We will study several facets of geography before we focus our studies on the different world regions. The major units of study that we will be looking at include: The Tools of Geography, Physical Geography, Global and Urban Geography, Economic Geography, and finally Cultural and Regional Geography.

SS 220 – US History Regents**1 year = 1 credit**11th grade

The 11th grade United States History and Government course is based on the New York State Social Studies Curriculum. It is designed to provide students with a survey of the major forces of their national history. The New York State Curriculum calls for students to learn about the structure and function of government, and the role of citizenship. The major themes of the course include: Constitutional Foundations, Nationalism, Sectionalism, Industrialization, American Business, Industry and Labor, the Progressive Movement, Prosperity and Depression, Global Crisis, the Work in Uncertain Times and the Decade in Change. The course culminates with the United States History and Government Regents exam in June.

SS 221– AP US History**1 year = 1 credit:****Pre-requisite:** Successful completion of Global History Regents 10as indicated by:

- a course grade of 90 or higher
- Mastery level on the Global II Regents Exam (85 or higher) with strong DBQ and Thematic Essay scores
- Teacher recommendation
- AND a course grade of 90 or higher in English 10

This course is designed to provide a college-level experience and preparation for the AP exam in May. Advanced Placement United States History is an intensive study of the history of the United States from Pre- Columbian societies through the US in the Post-Cold War World. This is an intense, fast paced course. Students will be asked to read thirty to sixty pages from a college-level history textbook per week, outline or take reading notes from the textbook assignments, establish relationships among facts and be able to formulate concepts and generalizations about events, people, and ideas in American history. Students are expected to take notes from classroom lectures, understand and analyze primary sources including documents, cartoons, charts and graphs, think historically, (determine validity, point of view, and bias) weigh evidence, evaluate conflicting positions, and make inferences. Students also must write coherent, persuasive, analytical essay answers about historical problems. Students will also take the New York State Regents exam in United States History and Government in June.

SS 230 – Participation in Government (Semester I)**½ year = ½ credit**12th grade

One of the major objectives of this course is to encourage students to examine our society and ask what is, in addition to what ought to be. The subject focuses on real issues that touch individual lives. Encounters with family, friends, peers, authority figures, and strangers will take on new meaning when viewed in connection with contemporary social issues and public policy. Video case studies and guest speakers will be utilized to enable students to develop a better understanding of today's problems. Student must complete 20 hr of community service in this course.

SS 231 – Economics (Semester II)

½ year = ½ credit

12th grade

This course encompasses an overview of general economics including: various world economic systems; microeconomics, with a focus on the U.S. economy; macroeconomics; and decision making, personal finance, trade, types of business organizations, taxing, spending, as well as current national and international issues will be discussed. Topics covered will provide the understandings that students will need to function effectively as participants in the economy of the United States and the World. Financial literacy will be a recurring theme throughout the coursework.

SS 232 – AP Government and Economics

1 year = 1 credit:

Pre-requisite: Successful completion of US History Regents as indicated by:

- a course grade of 90 or higher
- Mastery level on the US History Regents Exam (85 or higher)
- Teacher recommendation
- AND a course grade of 90 or higher in English 11

AP Government and Economics is the equivalent of a college-level history course. Students are provided with introduction in the wide, diverse world of governments and political practices that currently exist in modern times. **This course also fulfills the fourth year economic requirement for seniors.**

SOCIAL STUDIES ELECTIVES

SS 240 – African American History

½ year = ½ credit

10th – 12th grade

This course explores the history of African Americans in the United States, starting in Africa and continuing chronologically through American history to the present day. Students study the reasons why Africans came to the Americas and the impact that this migration has had on both American and world history. Students complete a number of research projects about African Americans contributions to society and the culture of the United States.

SS 241 – Local History**½ year = ½ credit**11th – 12th grade

In this course students will explore the historical origins of Buffalo, N.Y. and the Western New York area. Students will learn about the major historical monuments and architecture of the city along with its political history. Students will also be expected to make connections between local history and events in national history.

SS 242 – Sociology**½ year = ½ credit**11th – 12th grade

The study of Sociology includes the interaction, development and relationships with groups of people. Courses topics include important sociologists, cultural diversity and the study of social groups and classes. Students will be exposed to cultural conformity and relationships, education, politics, and economic factors.

ART**ART 700 –Studio Art****½ year = ½ credit**9th – 12th grade

This course may be used to satisfy the Art requirement for graduation. Studio in Art is a foundation course that is given as an introduction level class and prerequisite for the advanced art courses offered by the Art Department. Students who elect to take Studio In Art will gain experience and develop their creative awareness through a variety of visual art projects.

ART 701 – Pottery**½ year = ½ credit**9th – 12th grade

This course will teach students hand-building techniques, as well as slip molding, to create works in clay. Emphasis will be placed on learning how to throw on the potter's wheel

ART 702 – Drawing and Painting**½ year = ½ credit**9th – 12th grade

Provides instruction in basic drawing and perceptual skills for students with no previous drawing experience, as well as art students desiring to strengthen and extend existent skills. Emphasis on technical proficiency and learning the basic language of drawing is stressed as students solve perceptual and conceptual problems with a variety of color as well as black and white media.

MUSIC

MUS 600 – Music in Our Lives

½ year = ½ credit

9th – 12th grade

The purpose of this class is to provide the student with a basic knowledge of the expressive elements of music, its role in society, and its role in his or her life. The class will expose the student to a variety of music to help develop an appreciation for all music.

MUS 610 – Music Theory

½ year = ½ credit

11th – 12th grade

Music Theory will be a class centered on learning the reading and writing of musical notes and symbols. This course will cover topics from very basic pitches and rhythms and progress throughout the semester until the student is able to compose pieces of music. We will learn, write and perform on piano a variety of musical styles. Students will be graded on participation, preparedness for class and in class written assignments and composition projects. There will be opportunities for afterschool enrichment and tutoring.

MUS 602 – Guitar

½ year = ½ credit

9th – 12th grade

Students will learn basic cords and melody in order to perform specific classical, folk, and popular songs. No prior technique is required.

MUS 603 – Chorus I

1 year = 1 credit

9th – 12th grade

A full year course designed to provide an atmosphere for the enjoyment, appreciation and performance of all types of choral music. The instruction and improvement of voice quality, intonation, ability to read music, ability to sight-sing, and the overall development of musicianship is stressed in conjunction with the learning of each piece of music. The Chorus performs at evening concerts and other special events.

MUS 604 – Chorus II**1 year = 1 credit****Pre-requisite:** Chorus I and teacher recommendation10th – 12th grade

Course description is same as chorus I

TECHNOLOGY**COMP 800 –Keyboarding****½ year = ½ credit**9th – 12th grade

This introductory course covers the development of basic keyboarding/typing skills and the mastery of fundamental word processing applications such as personal and business letters, memos and emails.

COMP 801 –Intro to Computer Aided Design**½ year = ½ credit**9th – 12th grade

Introduction to Computer Aided Design (CAD) will be a general look into the creation of two dimensional and three dimensional objects. Students will be introduced to two different types of CAD software, *Google SketchUp* and *ProEngineer*. Students will experience what goes into creating drawings for personal and professional use. Students will learn how to dimension and scale objects, as well as create Engineering blueprints. Students will create multiple drawings of parts, components, structures and more using both preset dimensions and their own design. Along with the drawings the students will be introduced as to how CAD is used in the industry and will look at the careers that are part of it.

COMP 810 – Web Page Development**½ year = ½ credit**10th – 12th grade

Web Page Development: This course presents an overview of the Internet, World Wide Web, and hypertext documents and introduces the student to the web page design and development using web page design software as well as limited Hypertext Markup Language (HTML). The student will learn how to use correct file and folder structure, text formatting and alignment, heading tags, anchors, links to and from additional pages and sites, backgrounds, graphics and image maps, tables, forms, layers, frames, styles and style sheets in creating both assigned practice and independently designed websites. MS FrontPage.

COMP 811 –Multimedia Design**½ year = ½ credit**10th – 12th grade

This course will cover computer software used to produce audio and video in multimedia computer-based presentations, building upon the basic features of multimedia software and hardware necessary to produce animation and graphics. Students will be

introduced to the use of the video-camcorder and digital camera and will apply all the various skills mastered in this course in final integrated project.

COMP 820 – Computer Programming (JAVA)

½ year = ½ credit

10th – 12th grade

Students interested in advance study of computer science (programming/A Computers Science) should enroll in this course. Structured programming, using VB, will be introduced in this course. Hands-on computer usage will be stressed, along with the development of problem solving skills using computer designed student programs. Basic computer and keyboard familiarity is assumed. This course provides the necessary background material for Advanced Placement Computer Science.

LANGUAGE OTHER THAN ENGLISH

SPA 500 – Spanish 1

1 year = 1 credit

9th – 12th grade

This is a first year Spanish course where students will be introduced to basic phrases, vocabulary, and structure of Spanish. This course will enable students to understand, speak, read and write the Spanish language.

All topics included in the NYS syllabus will be covered in a detailed manner.

SPA 501 – Spanish 2

1 year = 1 credit

Prerequisite: Passing grade for Spanish I or passing the NYS Second Language Proficiency Exam

This course reviews the grammar taught in Spanish IA and Spanish IB, and continues to augment that grammar through the study of new structures and verb tenses. The study of the culture of Spanish-speaking countries continues as well as more training in speaking, writing, reading, and listening.

SPA 502 – Spanish 3

1 year = 1 credit

Prerequisite: Passing grade for Spanish 2

As a continuation of Spanish 2, this course further develops communication skills which are used to expand and supplement the regular Level 3 curriculum. Students will be expected to actively participate and develop skills leading to the successful use of Spanish. The NYS Comprehensive Regents Exam will be taken at the end of this course

SPA 503 – Spanish 4**1 year = 1 credit****Prerequisite:** Passing grade for Spanish 3 and teacher recommendation

This course develops Spanish listening, speaking, reading and writing skills. Emphasizes ability to use and understand Spanish in context. Strategies may include lecture/discussion, group and individual work, oral exercises, video, reading and writing assignments. This course requires laboratory-supported practice. Students hold basic conversations, read simple passages, and write brief dialogues and paragraphs at the novice level. This is the first in a sequence of college level language courses. It will begin to satisfy the mandatory college foreign language requirement.

TUR 510 – Turkish I**1 year = 1 credit**9th – 12th grade

This course is designed to introduce the Turkish language to beginning students, to develop oral and written skills for both comprehension and expression. Language skills to be emphasized include: understanding, reading, writing, translation, and speaking as well as introducing students to some examples of Turkish culture.

TUR 511 – Turkish II**1 year = 1 credit**10th – 12th grade

This course is a continuation of Turkish I. It is designed to improve different aspects of language and writing skills for the second year students. Objectives are: to improve students' conversational skills, to provide a variety of readings for written comprehension; to develop a good grammar background; to improve listening skills; to introduce students to some examples of Turkish culture.

TUR 512 – Turkish III**1 year = 1 credit**10th – 12th grade

The goal of this course is to have its students to gain a command of Turkish language by which they are going to be able to communicate with native speakers of this language on simple daily settings. For this purpose, this year's curriculum includes all basic tenses and sentence structures in *grammar*- like present, future and past tenses, must, need to, etc.; basic conversation examples in *speaking and listening*- like "at the bus station", "in the restaurant", etc.; related words in *vocabulary*; basic information about *Turkish Culture*; and improving writing skills in *dictation*.

PE/ HEALTH**PE 900 – First Aid & CPR****½ year = ½ credit**9th – 12th grade

First Aid and CPR is a course in which the techniques of Cardiopulmonary Resuscitation (CPR), first aid, and safety are presented. In addition to these treatments methods of management and treatment of emergency illness and injuries will also be taught.

PE 901 – Personal Fitness

½ year = ½ credit

9th – 12th grade

Personal fitness and nutrition encompasses fitness, nutritional health, and general wellness principles. Students will complete an assessment measuring aerobic fitness, strength, flexibility, and nutrition. With the supervision of an instructor, students will develop and participate in an exercise plan tailored to their individual needs.