



# **2026-2027 COURSE GUIDEBOOK**

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This course book describes the educational programs offered at John F. Kennedy High School. Educational planning is important for all students, therefore the purpose of this course description book is to serve as a guidance resource that will assist you in planning your high school programming. Each student, along with their counselor, is encouraged to plan a program that provides for the development of not only basic educational requirements to earn a high school diploma, but to identify skills and interests that will help clarify goals and future aspirations to help you live and work in the 21<sup>st</sup> century.

## PRINCIPAL MESSAGE

Dear Students,

Welcome to the 2026-2027 school year! On behalf of the faculty, staff, and administration of John F. Kennedy High School I would like to wish you the very best on your educational journey. Whether you are a returning student or new to our school, our teachers, counselors and staff members look forward to supporting you!

A well-planned high school education is a bridge to the future. To that end, I encourage you to refer to this Course Guidebook frequently. Our Course Guidebook contains important information including course descriptions; credits and requirements; scheduling; and standards for learning. Please take some time to read through this handbook prior to selecting your courses, and discuss your course selections with your school counselor and parent(s)/guardian(s).

Lastly, in Proclamation 3422 President John F. Kennedy stated, "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation."

I too believe in the power of school, and wish you the very best during this academic year.

Sincerely,

Mr. Robert N. Julian, Jr.  
Principal

# COURSE INFORMATION & GRADUATION REQUIREMENTS

## GRADUATION REQUIREMENTS

Subject:	Regents Diploma	Advanced Regents Diploma
English	4 credits	4 credits
Social Studies	4 credits	4 credits
Math	3 credits	3 credits
Science	3 credits	3 credits
Art/Music	1 credit	1 credit
Health	0.5 credit	0.5 credit
Physical Education	2 credits	2 credits
Second Language (LOTE)	1 credit	3 credits*
Electives	3.5 Units	1.5 Unit
<b>Total Units of Credit Required</b>	<b>22 credits</b>	<b>22 credits</b>

\*Alternative sequence option -- Students pursuing an Advanced Regents diploma may choose to complete 1 credit of a language other than English and a 5-credit sequence in a career or technical area as an alternative to the LOTE requirement of 3 credits and the Comprehensive Exam. These areas include Art, Music, Business, Technology, or Career & Tech Ed (Potter).

## REGENTS EXAMS NEEDED TO GRADUATE

Subject:	Regents Diploma <sup>^</sup>	Subject:	Advanced Regents Diploma <sup>~</sup>
Comprehensive English	1	Comprehensive English	1
Math	1	Math	3
Science	1	Science	2
Social Studies	1	Social Studies	2
+1	1	LOTE Local Exam	1
<b>Total Exams Required</b>	<b>5 exams</b>	<b>Total Exams Required</b>	<b>9 exams</b>

<sup>^</sup> Regents Diploma "Pathways 4+1 Option" allows students to pass 4 Regents Exams (one English, one History, one Mathematics, and one Science) and then have the option to take an additional exam in History, Mathematics, or Science, or a state-approved exam in CTE, LOTE or the Arts or receive the CDOS credential.

<sup>~</sup> Flexibility is given within the 9 required exams for the Advanced Regents Diploma depending on which Pathway the student chooses.

\*\* For students with Special Needs, a local diploma option is available as a safety net only. All students are still expected to strive for the Regents diploma.

## REGENTS/COMMON CORE EXAMINATIONS

Regents/Common Core examinations are assessments developed by the New York State Education Department and are the foundation of the student assessment process.

## CREDIT

A full-year course that meets daily earns one full credit. A half-year course, such as Personal Financial Planning, which meets daily for one semester, is given ½ credit. A full-year course that meets every other day, such as Physical Education, is given ½ credit.

## DIPLOMAS

Beyond the two types of diplomas offered by NYS, there are additional designations a student can receive and they are as follows:

### SPECIAL DIPLOMA DESIGNATIONS:

- ★ **HONORS WITH DISTINCTION:** This type of diploma certifies that an average of 90% or higher was achieved on all the Regents examinations required for that diploma.
  
- ★ **MASTERY IN MATH/SCIENCE:** Students who pass the 3 mathematics and/or any 3 science Regents exams with a score of 85% or better on each exam, will earn an annotation on the diploma that denotes mastery in mathematics and/or science, as applicable.
  
- ★ **CAREER & TECHNICAL EDUCATION ENDORSEMENT:** Students enrolled in a New York State approved Career and Technical Education program through Erie I BOCES are eligible to have a Career and Technical endorsement affixed to their diploma, provided all requirements are met.

## HONOR ROLL

An Honor Roll is tabulated for every marking period. A student will have an Honor Roll standing with a marking period average of 90 or above. Honor Roll lists are published after the 10<sup>th</sup>, 20<sup>th</sup>, 30<sup>th</sup> and 40<sup>th</sup> weeks.

## RANK IN CLASS

A weighted average and class rank is computed at the beginning of the senior year for all students. The weighting factors will not change the marking period grades; however they will be reflected in each ten-week final average. The weighted average is again computed in February of the senior year and class rank is again reviewed to determine the top ten students. All courses are considered in class rank computation. Weighting is as follows:

**Level 1** - School/Regents level weighted 1.00      **Level 2** - Honors level weighted 1.02      **Level 3** -AP/College weighted 1.04

# SCHEDULING INFORMATION

## COURSE REQUEST CHANGES

Students are given the opportunity to make any necessary adjustments to his/her course selections prior to June 29th. **Scheduling and staffing decisions are made based upon student requests, and we expect our students to honor their commitment to taking the requested courses.** Therefore, changes to student course requests must be completed by **JUNE 29TH**. Students and their parent(s)/guardian(s) may be asked to sign an agreement indicating they have read and understood the following section with regard to course selection.

Changes to a student's schedule after June 30th will only be accommodated in the following circumstances:

1. The student/family can demonstrate that there is a legitimate emotional or physical reason that he/she should not take the class. Documentation may be required.
2. The academic plan has changed due to the recommendation of the CSE, IST, or other intervention team as defined by the school administration.
3. The student has been misplaced in a course based upon his/her successful completion of previous coursework.
4. Student is not enrolled in enough classes to be considered full-time
5. Missing lunch
6. Missing a course required for graduation

## DROPPING A COURSE

\*Please note, schedule changes will not be done to accommodate study hall, physical education, or early release/late arrival.

The following steps must be taken before course drops/changes will be considered:

1. Student has expressed concerns with teacher and has actively sought remediation.
2. Student discussed concerns with parents or guardian
3. Student and parent have a formal meeting to discuss concerns with the teacher.
4. Parent conference is arranged between student, parent, teacher, and school counselor.
5. Parent and student meet with Administrator.
6. Administrator will make final determination.

## ADDING A COURSE

It is strongly recommended that courses be added no later than the first or second week of the semester within which the course.

## REQUIRED MINIMUM SCHEDULE

Students are required to enroll in a minimum of 6 ½ credits (enrollments) per academic school year. Early release and late arrival may be approved for seniors on an individual basis with Principal approval if the schedule allows for a study hall at the beginning or end of the day. Students scoring below state standards on the 8th grade assessments and students failing required exit exams will receive mandatory academic intervention services (AIS).

## **NCAA ELIGIBILITY**

Attention Student Athletes- Students planning to participate in athletics in a Division I or Division II College must be certified by the NCAA Eligibility Center. There are a definitive number of core courses required for eligibility. Student Athletes are responsible for being aware of these requirements and for following the application procedures required by the NCAA. For more detailed information, students should speak with their counselor.

## **COURSE CANCELLATIONS**

A course may be canceled or closed due to low enrollment or faculty unavailability. Courses of study may also be canceled if fiscal conditions warrant at any time after the printing of this guidebook. Courses offered during a specific academic year will be listed on the Course Selection Sheet.

# VISUAL ART DEPARTMENT

## THE VISUAL ARTS STANDARDS FOR LEARNING

- 1) CREATING - Conceiving and developing new artistic ideas and work
- 2) PRESENTING - Interpreting and sharing artistic work
- 3) RESPONDING - Understanding and evaluating how the arts convey meaning
- 4) CONNECTING - Relating artistic ideas and work with personal meaning and external context

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE
Creative Crafts	1	1 Year/40 weeks	Elective
Advanced Creative Crafts	1	1 Year/40 weeks	Elective
Studio in Art	1	1 Year/40 weeks	Elective
Drawing and Painting	1	1 Year/40 weeks	Elective
Advanced Drawing and Painting	1	1 Year/40 weeks	Elective
Digital Media Arts	1	1 Year/40 weeks	Elective
Ceramics	1	1 Year/40 weeks	Elective
Advanced Ceramics	1	1 Year/40 weeks	Elective
Portfolio Development	1	1 Year/40 weeks	Elective

# ART COURSE DESCRIPTIONS

## **Creative Crafts**

This course is designed to introduce students to American and International crafts. It is an exploratory course for students who wish to work three-dimensionally. Students will be instructed in the history, function, and construction techniques of crafts such as weaving, knitting, embroidery, metal enameling, jewelry making, basket weaving, recycling/repurposing projects, wood, fabric and yarn constructions.

## **Advanced Creative Crafts**

This course is designed for students who enjoy working with crafts media hands-on. They will have the knowledge and skillset to pursue Creative Crafts as a viable career option. Students will learn about the art and craft of various cultures while creating works of art. Students will study folk and tribal art that explores visual arts made by people around the globe.

**PREREQUISITE:** *Creative Crafts*

## **Studio in Art**

This is a general introductory art course required for all students who wish to pursue a major in art. This course fulfills half of the art/music/technology requirement mandated by the NYS Education Department. Emphasis is placed on basic design elements and how they relate to two and three dimensional art works. Art history and criticism are an integral part of the course. A wide variety of media such as acrylic paint, ink, colored pencils, watercolor, and others are explored.

## **Drawing and Painting**

This course is an advanced elective for those students who wish to further develop the basic concepts taught in Studio in Art. Students have the opportunity to work with many different media and develop skills in the use of pencil, charcoal, pastels, watercolors and acrylics. Design, color theory, in-depth study of still life, landscape, figure drawing and portraiture are used as subject matter for studio work.

**PREREQUISITE:** *Studio in Art*

## **Advanced Drawing and Painting**

This course offers students an opportunity to work in pastels, watercolor, gouache, acrylic, water soluble oils, watercolor papers, canvas and hardboard panels. It will provide the experience of organizing a composition and design its contents in different styles and techniques of painting. Emphasis is placed on the quality and originality of applied techniques.

**PREREQUISITE:** *Drawing and Painting*

## **Ceramics**

This course explores the visual arts in three-dimensions with an emphasis on developing a body of work that shows growth and development in ceramic technique. Handbuilding methods that are studied include pinch, coil, slab and cut and scoop. Students will also experiment with various glazing techniques. Ceramic artists and movements will be discussed as well as how various cultures have incorporated this utilitarian art into their daily lives.

**PREREQUISITE:** *Studio in Art or Creative Crafts*

## **Advanced Ceramics**

This course extends the learning from Ceramics and allows students to devote more time to working in three dimensions with a primary emphasis on continuing to develop a body of work that shows growth and skill in advanced ceramic technique. Students will have an opportunity to refine their technique, experiment with more sophisticated handbuilding and glazing processes and to develop a personal style throughout the year. Students will also be required to spend at least time on a potter's wheel demonstrating knowledge in throwing technique.

**PREREQUISITE:** *Ceramics*

## Digital Media Arts

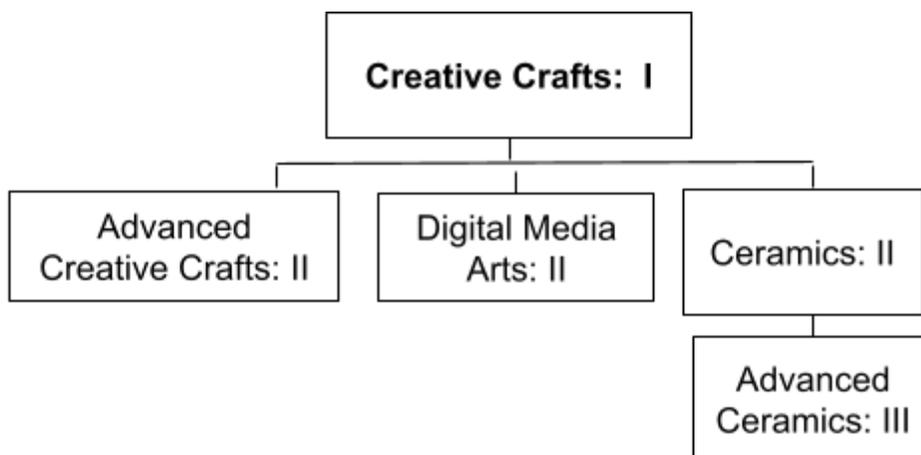
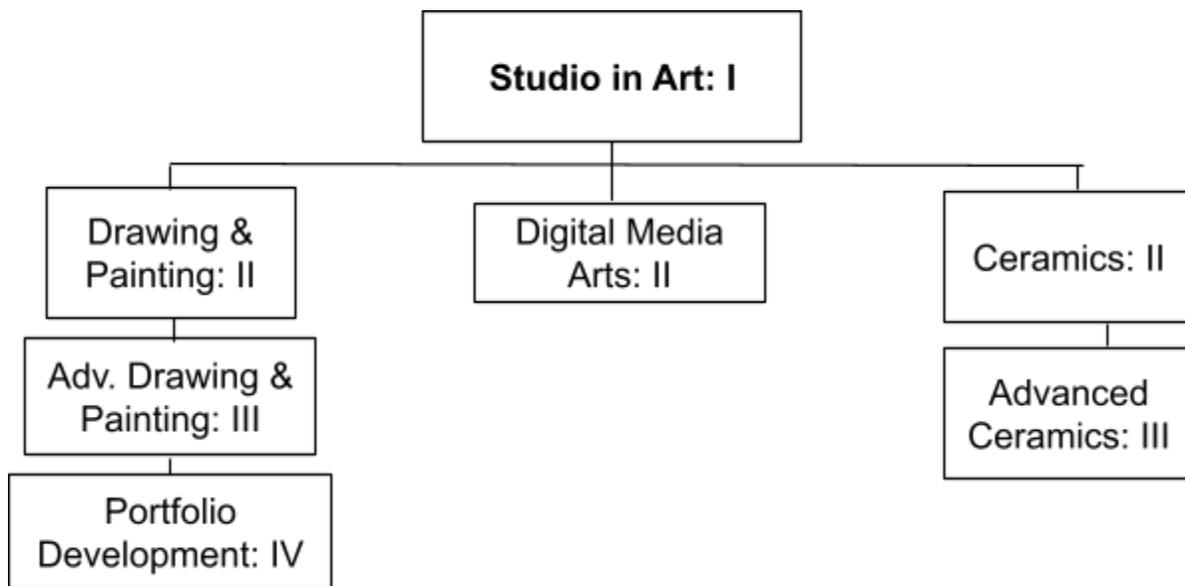
This course provides the foundation for creating art using various computer technologies and focuses on composition and the visual communication of ideas. Students explore the history of digital art and learn about the various artists, movements, careers and trends in digital media arts. Students experiment with photography, animation and digital drawing techniques using Adobe and Dragonframe software.

**PREREQUISITE:** *Studio in Art or Creative Crafts*

## Portfolio Development

This course is designed to be a production-oriented class intended for students who wish to expand their fine art portfolio prior to applying to a higher education fine arts program. Students will exit the course with a college ready portfolio that demonstrates strong drawing and painting skills. Students will continue to build upon, and refine their visual vocabulary through written and verbal critiques, and portfolio reviews. Artwork will be photographed and cataloged digitally for professional presentation.

**PREREQUISITE:** *Studio in Art, Drawing & Painting and 1 other art courses*



# BUSINESS DEPARTMENT

## CAREER DEVELOPMENT & OCCUPATIONAL STUDIES STANDARDS FOR LEARNING

- 1) Exploring Career Options
- 2) Applying Academic Learning in Real World Situations
- 3) Developing Universal Foundation Skills
- 4) Pursuing Career Majors

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE
Career & Financial Management	.5	Full Year/40 weeks	Required
Introduction to Sports Management*	1	Full Year/40 weeks	Elective
Introduction to Law*	1	Full Year/40 weeks	Elective
Introduction to Accounting*	1	Full Year/40 weeks	Elective
Business Math	1	Full Year/40 weeks	Elective
Entrepreneurship	1	Full Year/40 weeks	Elective
Personal Financial Planning*	.5	Half Year/20 weeks	Elective
College Success Skills*	.5	Half Year/20 weeks	Elective
Public Speaking/Business Communications	.5	Half Year/20 weeks	Elective

\* Course is offered through ECC for college credit with a fee attached.

# BUSINESS COURSES

## Career & Financial Management (CFM)

Career & Financial Management (CFM) is a half-year course designed to provide students with the opportunity to learn about the important features of our economy, explore a variety of careers, learn the skills and competencies needed for success in the workplace, and be exposed to the basic fundamentals that can help lead to becoming “money smart.”

**PREREQUISITE:** *All Freshmen*

## Introduction to Sports Management

Sports are an important part of society and economy, as well as being an expanding career field. In this course, students will learn the basics of the opportunities available to them in the sports industry. They will be learning about management principles, marketing principles, and ethics that influence sports. Students will look at professional, collegiate, and international sports. And the students will be looking at the relationships between the athletes, the organizations, the sponsors, and the fans. This is an introductory course to the career path through Sports. This course is aligned with SUNY Erie course BU244- Introduction to Sports Management, and is offered as 3 credits from SUNY Erie.

**PREREQUISITE:** *Open to Grades 10 -12*

## Introduction to Law

This full year course is designed to provide the student with a general understanding of the law and our legal system. The course will cover how our legal system, and government was created. It will also cover basic fields of law such as property rights, contract law, business law, family law, civil law, and criminal law. The course will also examine changes in the law in response to historical events and their impact on society as a whole. Also, this course is aligned with SUNY Erie course PA205- Introduction to Law, and is offered as 3 credits from SUNY Erie.

**PREREQUISITE:** *Open to 11-12*

## Introduction to Accounting

This course is designed to develop occupational skills in accounting. Students will learn the “language of business.” The major topics include: recording business transactions, posting and analyzing data into the General Ledger, creating financial statements, and developing sound financial and managerial decisions based on the financial statements they create. This course is also desirable for students going on to postsecondary education. The course content encompasses the complete accounting cycle. This course is aligned with the Erie Community College course, BU 120 - Introduction to Accounting, and is offered as 3 credits from ECC.

**PREREQUISITE:** *Open to Grades 10 -12*

## Business Math

This course is an interdisciplinary course that is aligned to the Mathematics Learning Standards and the Career Development and Occupational Studies Standards. Major topics will include: money management skills including checking and savings accounts, record keeping and budgeting; expense management skills including use and control of credit cards and loans; and financial decision skills including vehicle transportation costs, housing costs, insurance, and investments. This course is designed to help students to understand the complex financial world they will encounter during their lives. Credit for this course may be used to meet the sequence requirements of Business or the third unit of Mathematics.

**PREREQUISITE:** *Open to 11-12*

## Entrepreneurship

An entrepreneur is someone who organizes, manages, and assumes the risks of a business. As society is now realizing that being a business owner is a career option, this course is a great opportunity to expose students to the topic of entrepreneurship. The class will encourage students to examine all the major steps involved in starting a business, with emphasis on ownership, strategy, finance, and marketing. It will also help students to realistically evaluate their skills and potential as a business owner. Other highlights of the course include looking at the contributions of historical and contemporary entrepreneurs as well as mistakes made that prevented potential entrepreneurs from achieving success.

**PREREQUISITE:** *Open to Grades 10 -12*

## **Personal Financial Planning**

This half-year course is a must for all students who desire to learn about money management for all stages of their lives, whether you stay single or get married. It is designed to provide students a basic foundation of several financial planning techniques and options that they are most certain to encounter in their life after high school. Topics to be learned include checking and savings accounts, budgeting, credit cards and loans, finding and leasing an apartment, the principles and strategies of several potential investment opportunities (like stocks, mutual funds, and collectibles), the protection of their financial resources through insurance and retirement planning, car leasing and buying, and income taxes. A fundamental feature of this course is the integration of real-life experiences and simulations. Also, this course is aligned with the Erie Community College course, BU 233 - Consumer Finance, and is offered as 3 credits from ECC.

**PREREQUISITE:** *Open to Grades 10 -12*

## **College Success Skills**

This half-year course provides an opportunity for students to learn and adopt methods and strategies to promote personal growth and success in college and life. Students will identify their strengths, weaknesses, interests, aptitudes, and abilities (self-assessment), explore careers, develop a career plan, learn employment trends, discover sources of job leads, and learn and apply job interviewing techniques. Other topics will include time management, ethics, health and well-being, workplace safety, budgeting, and technology. Also, this course is aligned with the Erie Community College course, GS 111 - College Success Skills, and is offered as 3 credits from ECC.

**PREREQUISITE:** *Open to Grades 10 -12*

## **Public Speaking/Business Communications**

Whether it's one on one, an informal group, or in front of an audience, the ability to "connect" with others lies within our speaking skills. This half-year course is designed to provide an opportunity for speaking skills to be practiced. Students will learn how to build self-confidence so that they are comfortable speaking in front of a larger group. They will also learn how to prepare, research, organize, and deliver various types of speeches, interview for a job, engage in and sustain a meaningful conversation, and organize and lead a business meeting effectively. The ultimate goal in taking a course like this is not just to be a good speaker, but to be a better communicator.

**PREREQUISITE:** *Open to Grades 10 -12*

# ENGLISH DEPARTMENT

## ENGLISH LANGUAGE ARTS STANDARDS FOR LEARNING

- 1) Listening, Speaking, Reading, and Writing for Information and Understanding
- 2) Listening, Speaking, Reading and Writing for Literary Response and Expression
- 3) Listening, Speaking, Reading and Writing for Critical Analysis and Evaluation
- 4) Listening, Speaking, Reading, and Writing for Social Interaction

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
English 9	1	Full Year/40 weeks	Core	Local
English 10	1	Full Year/40 weeks	Core	Local
English 10 Honors	1	Full Year/40 weeks	Core	Local
English 11	1	Full Year/40 weeks	Core	Regents
AP Language & Composition	1	Full Year/40 weeks	Core	Regents & AP
English 12	1	Full Year/40 weeks	Core	Local
AP Literature & Composition	1	Full Year/40 weeks	Core	AP Exam
Creative Writing	1	Full Year/40 weeks	Core	Local

# ELA COURSE DESCRIPTIONS

## English Language Arts 9

Students read, discuss, and analyze a combination of fictional and nonfictional texts in accordance with rigorous Common Core Standards. English 9 will emphasize reading closely and responding to text-dependent questions, annotating text, and developing academic vocabulary in context. Class will also focus on making evidence-based claims, empowering students with critical reading and writing skills emphasized in the Common Core. Writing assignments rely on original thought, textual analysis, and foundational research skills.

**PREREQUISITE:** *Grade 8 ELA*

## English Language Arts 10 & Honors

Students will read, discuss, and analyze a combination of fictional and nonfictional texts in accordance with rigorous Common Core Standards. English 10 will emphasize reading closely and responding to text-dependent questions, annotating text, and developing academic vocabulary in context. Students will focus on making evidence-based claims, empowering students with critical reading and writing skills emphasized in the Common Core. Writing assignments rely on original thought, textual analysis, and foundational research skills. Students will be expected to complete extensive reading and writing in preparation for the Common Core exam at the end of their junior year. Students in Honors English will gain skills necessary to prepare them for mastering the skills above at a higher level.

**PREREQUISITE:** *Grade 9 ELA (Teacher Recommendation for Honors)*

## English Language Arts 11

Students will read, discuss, and analyze a combination of fictional and nonfictional texts in accordance with the rigorous Common Core Standards with a primary focus on American Literature and the influence of the American Dream. English 11 emphasizes reading closely and responding to text-dependent questions, annotating text, and developing academic vocabulary in context. Students will focus on critical thinking and writing skills, including making evidence-based claims, in-depth textual analysis, and advanced research skills using MLA citations. Successful completion of the New York State English Common Core Exam at the end of the year is required.

**PREREQUISITE:** *Grade 10 ELA (Teacher Recommendation for AP)*

## AP English Language & Composition

This is a college level course that focuses on reading complex texts and understanding the relationship between style and substance. Students in this AP course will engage in the close reading of texts in American literature and will analyze the writer's language to discover his or her purpose. In addition, students will hone their own writing skills by practicing a variety of forms, including narrative, expository, and argumentative. All students who take this course will take the AP English Language and Composition Examination for an additional fee. Students may earn credit at participating colleges and universities throughout the country if they earn a score of 3, 4, or 5.

**PREREQUISITE:** *Grade 10 ELA Honors or Teacher Recommendation*

## English Language Arts 12

Students will read, discuss, and analyze a combination of fictional and nonfictional texts and media sources in accordance with the rigorous Common Core Standards with a focus on effective communication. English 12 students will be required to read and write for critical review and analysis and will convey/present their understanding of the material in class discussions. Several thematic based units will explore concepts in preparation for college, the workplace, and real world experiences. Current events and historical documents will be used for the purpose of expanding the student's knowledge base.

**PREREQUISITE:** *Grade 11 ELA*

## AP English Literature & Composition

The English 12 AP course is designed for ambitious students who wish to participate in college-level studies. The course engages students to critically analyze, interpret, and apply effective strategies in a diverse medium of literature and writing styles. Students will develop, refine, and demonstrate a stylistic maturity in their own writing as well as employ appropriate conventions. The course culminates with students taking the AP College Board Exam in May. Students may earn credit at participating colleges and universities throughout the country if they earn a score of 3, 4, or 5.

**PREREQUISITE:** *Grade 11 ELA or Teacher Recommendation*

## **Creative Writing**

Creative Writing places emphasis on improving each student's ability to communicate using the written word. In this course, students will explore the elements of numerous literary genres (short fiction, poetry, drama, film) and the power of both print and multimedia formats. To develop original writing pieces, students will engage in writing workshops, literary element development lessons, writing/author studies, and peer reviews/conferences. Through reading and writing activities, students will gain a sound understanding of the elements and forms of writing and will be able to identify and utilize their writing style and original voice to craft their own written pieces. Aside from broadening students' literary scope, helping them read with a critical eye, and exposing them to constructive criticism, this class will cultivate an artistic appreciation for the beauty of languages.

# L.O.T.E. DEPARTMENT

## L.O.T.E. STANDARDS FOR LEARNING

- 1) Communicating in a Language Other Than English
- 2) Developing Cross-Cultural Skills and Understanding

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
French 1	1	Full Year/40 weeks	Core	Local
French 2	1	Full Year/40 weeks	Core	Local
French 3	1	Full Year/40 weeks	Core	Local/State approved
French 4 Honors*	1	Full Year/40 weeks	Core	Local
Spanish 1	1	Full Year/40 weeks	Core	Local
Spanish 2	1	Full Year/40 weeks	Core	Local
Spanish 3	1	Full Year/40 weeks	Core	Local/State approved
Spanish 4 Honors*	1	Full Year/40 weeks	Core	Local

\* Course is offered through Niagara University for college credit.

# L.O.T.E. COURSE DESCRIPTIONS

## French 1

This course is the first year of study in the French language and culture of the French-speaking world. The emphasis is on speaking and listening activities, student - teacher conversation and basic grammar. Successful students will achieve ACTFL proficiency level: Intermediate Low. Topics include: self, zoo, shopping, leisure activities, TV & movies, health, jobs & vacation.

## French 2

This course is the second year of study in the French language and culture of the French-speaking world. Students will speak, listen, read, and write in French as they learn to navigate new tenses and more complex grammatical structures. Topics include: nature, the beach, school life, people in the news, daily routine, a past vacation, and amusement park adventures.

**PREREQUISITE:** *French 1*

## French 3

This course is the third year of study in the French language and culture of the French-speaking world. Students will expand their knowledge of the language. They will speak, listen, read, and write in French, navigating multiple tenses and expressing more nuanced details about a variety of topics. Topics include: how I spent the summer, Francophone cuisine, on the red carpet, a weekend with friends, when I was a kid, fairy tales, professions, being an adult, renting & owning a home, camping in the country.

**PREREQUISITE:** *French 2*

## French 4 Honors:Accredited through Niagara University

*1 High School Credit, 3 college credit hours (40 weeks)*

This course is the fourth year of study in the French language and culture of the French-speaking world. Students are co-enrolled at Niagara University. Successful completion of the course will earn 3 credit hours of transferable credit. This course pushes students to take their communication skills to the next level while reinforcing & refining grammatical topics from their previous years of study. Topics include: personal relationships, life in a city, media and public identity, social issues around the world, globalization & society of change.

**PREREQUISITE:** *French 3; average of 80 or higher to qualify for concurrent enrollment with NUSTEP*

## Spanish 1

This course is the first year of study in the Spanish language and culture of the Spanish-speaking world. The emphasis is on speaking and listening activities, student - teacher conversation and basic grammar. Topics include: self, home, food and restaurant, free time, travel, clothing and shopping, and work and places.

## Spanish 2

This course is the second year of study in the Spanish language and culture of Mexico. Students will speak, listen, read, and write in Spanish. Topics include: nature, the beach, school life, people in the news, daily routine, a trip to Mexico, and what I did during the summer.

**PREREQUISITE:** *Spanish 1*

## Spanish 3

This course is the third year of study in the Spanish language and culture of the Hispanic World. Students will expand their knowledge of the language. They will speak, listen, read, and write in Spanish. Topics include: how I spent the summer, in a Spanish cafe, on the red carpet, a weekend with friends, when I was a kid, fables and folklore, professions, being an adult, a Spanish style house, the animal kingdom.

**PREREQUISITE:** *Spanish 2*

## Spanish 4 Honors:Accredited through Niagara University

*1 High School Credit, 3 college credit hours (40 weeks)*

This course is the fourth year of study in the Spanish language and culture of the Hispanic World. Students are co-enrolled at Niagara University. Successful completion of the course will earn 3 credit hours of transferable credit. Students will speak, listen, read, and write in Spanish. Topics include: myths and legends, relationships and social life, living in a city, the perfect crime, society in motion.

**PREREQUISITE:** *Spanish 3*

# MATHEMATICS DEPARTMENT

## MATH, SCIENCE, & TECHNOLOGY STANDARDS FOR LEARNING

- 1) Engaging in Analysis, Inquiry, and Design
- 2) Managing Information Systems
- 3) Understanding Mathematics
- 4) Understanding Scientific Concepts and Principles
- 5) Applying Technological Knowledge
- 6) Understanding Common Themes Across Math, Science, and Technology
- 7) Applying Problem Solving Skills to Address Real-Life Problems

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
Pre-Algebra	1	Full Year/40 weeks	Core	Local
Algebra 1	1	Full Year/40 weeks	Core	Regents
Geometry	1	Full Year/40 weeks	Core	Regents
Geometry Honors	1	Full Year/40 weeks	Core	Regents
Geometry Non-Regents	1	Full Year/40 weeks	Core	Local
Survey of Mathematics	1	Full Year/40 weeks	Elective	Local
Algebra 2	1	Full Year/40 weeks	Core	Regents
Pre-Calculus	1	Full Year/40 weeks	Core	Local
AP Calculus AB	1	Full Year/40 weeks	Core	AP Exam

# MATHEMATICS COURSE DESCRIPTIONS

## Pre-Algebra

This is a one credit high school mathematics course designed to prepare students for the Common Core Algebra 1 course and the NYS Regents exam. The focus of the course is building the foundation necessary for success in the study of algebra. The material covered through the year will follow the Common Core Learning Standards for Algebra. Students will take a local exam at the end of this course and then will move onto the Algebra 1 course their Sophomore year.

**PREREQUISITE:** *Recommendation of Administration, Middle School teacher, and School Counselor*

## Algebra 1

This is a one-year credit-bearing course that counts towards a student's mathematical commencement requirements and meets New York State's mathematics requirements towards earning a Regents Diploma or a Regents Diploma with Advanced Designation. It is aligned to the Common Core Learning Standards and is intended to be the first year of a three year pathway. Major topics of study include: functions- linear, exponential, and quadratic, as well as linear inequalities, systems of equations, inequalities, and units on polynomials, and statistics.. The major aspect of Algebra 1 is to give students a useful and enjoyable experience with mathematics which may encourage them to continue their mathematical studies. The three- year sequence stresses the importance of critical thinking and problem solving skills.

**PREREQUISITE:** *Grade 8 Mathematics*

## Geometry

This is a one-year credit-bearing course that counts towards a student's mathematical commencement requirements and meets New York State's mathematics requirements towards earning a Regents Diploma or a Regents Diploma with Advanced Designation. It is aligned to the Common Core Learning Standards and is intended to be the second year of a three year pathway. This course employs an integrated approach to the study of connecting algebra to geometric relationships and proofs. Properties of triangles, quadrilaterals, and circles will be emphasized heavily. Congruence and similarity of triangles will be established using appropriate theorems; transformations including rotations, reflections, translations, dilations and coordinate geometry will be used to establish and verify geometric relationships; and topics in trigonometry extending to three-dimensional geometry will be explored.

**PREREQUISITE:** *CC Algebra 1*

## Geometry Honors

This is a one-year credit-bearing course that counts towards a student's mathematical commencement requirements and meets New York State's mathematics requirements towards earning a Regents Diploma or a Regents Diploma with Advanced Designation. It is aligned to the Common Core Learning Standards and is intended to be the second year of a three year pathway. This course employs an integrated approach to the study of connecting algebra to geometric relationships and proofs. Properties of triangles, quadrilaterals, and circles will be emphasized heavily. Congruence and similarity of triangles will be established using appropriate theorems; transformations including rotations, reflections, translations, dilations and coordinate geometry will be used to establish and verify geometric relationships; and topics in trigonometry extending to three-dimensional geometry will be explored. This course will proceed with greater depth than CC Geometry in preparation for more challenging future courses.

**PREREQUISITE:** *CC Algebra 1 AND teacher recommendation*

## Geometry Non-Regents

This is a one-year course that counts towards a student's mathematical commencement requirements and meets New York State's mathematics requirements towards earning a Regents Diploma. It is aligned to the Common Core Learning Standards and is intended to be the second year of a three year sequence. This course employs an integrated approach to the study of connecting algebra to geometric relationships and proofs. Properties of triangles, quadrilaterals, and circles will receive particular attention. Congruence and similarity of triangles will be established using appropriate theorems; transformations including rotations, reflections, translations, and glide reflections and coordinate geometry will be used to establish and verify geometric relationships; and topics in trigonometry extending to three-dimensional geometry will be explored.

*No Regents exam at the completion of this course.*

## **Survey of Mathematics**

This course will be the equivalent to the first year of study in college algebra, with a section focused on trigonometry. Basic algebra skills will be reviewed and extended. Topics to be covered include functions, rational equations, systems of equations and inequalities, trigonometric functions, trigonometric equations, and graphs of each. The course also becomes a preparatory class for an introduction to calculus course. Related application problems will be incorporated throughout the course.

**PREREQUISITE:** *CC Algebra 1 and CC Geometry*

## **Algebra 2**

This course will review and study in more depth the main topics of CC Algebra 1R, and extend these topics to the complex number system and fractions. Other important topics studied in great depth include: quadratics, higher order polynomial functions, relations and functions, exponential functions, logarithmic functions, trigonometric applications, statistics, and probability. This course is designed to prepare the student in theoretical mathematical applications for orientated college work. Students must take the State Regents exam in order to receive credit for the course, and pass the exam to receive a regents diploma with advanced distinction.

**PREREQUISITE:** *CC Algebra 1 and CC Geometry*

## **Pre-Calculus**

This course is designed to reinforce the student's ability in the Algebra of real numbers and introduce the basic concepts of integral Calculus. Topics include linear and quadratic functions, factoring, solving higher degree equations, conic sections, matrices, trigonometric functions, Riemann sums, derivatives and integrals.

**PREREQUISITE:** *CC Algebra 1, Geometry, CC Algebra 2*

## **AP Calculus AB**

This course is the equivalent of a first semester college calculus course. Included in the course are the fundamentals of limits, differential calculus, and integral calculus. Conceptual extrapolation, applications and problem solving techniques are strongly emphasized. The course culminates in the College Entrance Examination Board's examination in Calculus AB for which there is a fee. All students are required to take the Advanced Placement Exam. Depending on the student's performance on the exam, he or she may receive college credit.

**PREREQUISITE:** *CC Algebra 1, CC Geometry, and CC Algebra 2*

# MUSIC DEPARTMENT

## THE ARTS STANDARDS FOR LEARNING

- 1) Creating, Performing and Participating in the Arts
- 2) Knowing and Using Arts Materials and Resources
- 3) Responding to and Analyzing Works of Art
- 4) Understanding the Cultural Dimensions and Contributions of the Arts

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE
Band*	1	Full Year/40 weeks	Elective
Chorus*	1	Full Year/40 weeks	Elective
Music Theory	1	Full Year/40 weeks	Elective

\* If a student wishes to take BOTH Band and Chorus, he/she will be scheduled for both at 0.5 credits each

# MUSIC COURSE DESCRIPTIONS

## **Chorus**

*40 Weeks - 1 Credit*

This course offers the opportunity for all interested students to participate in a singing and performing group. Music reading, development of good tone production, musical sensitivity and excellence in performance will aid the student's program toward greater musical self-expression. Opportunities for the students to solo during the choral presentation are offered at most concerts.

## **Band**

*40 weeks - 1 Credit*

Band is offered to all students with previous experience playing a traditional band instrument. While preparing for a performance, the rehearsals include an emphasis on musical skills, overall musicianship, teamwork, and complete student cooperation. In addition to rehearsals and performances, student are included in small group lessons with emphasis on skill development necessary to perform on their instrument to their fullest ability. Attendance at all performances, rehearsals, and lessons is mandatory.

**PREREQUISITE:** *Students should have prior performance experience, a working knowledge of their instrument and a desire to further their ability.*

## **Music Theory**

*40 Weeks - 1 Credit*

This course is designed for music major students. It is a comprehensive study of musical notation, from review of lines and spaces in different clefs through different types of scales, all key signatures, intervals, triads, seventh chords and cadences. The student will be able to analyze and prepare music independently. This course is required for a music sequence.

**PREREQUISITE:** *Knowledge of note reading, proficiency on an instrument and/or teacher recommendation.*

# PHYSICAL EDUCATION/HEALTH DEPARTMENT

## PHYSICAL EDUCATION STANDARDS FOR LEARNING

- **Standard 1:** Demonstrates competency in a variety of motor skills and movement patterns.
- **Standard 2:** Applies knowledge of concepts, principles, strategies, and tactics related to movement and performance.
- **Standard 3:** Demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.
- **Standard 4:** Exhibits responsible personal and social behavior that respects self and others.
- **Standard 5:** Recognizes the value of physical activity for overall wellness, enjoyment, challenge, and/or self-expression.
- **Standard 6:** Recognizes career opportunities and manages personal and community resources related to physical activity and fitness to achieve and maintain overall wellness.

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
Physical Education 9-10	.5	Full Year/40 weeks	Core	Local
Physical Education 11-12	.5	Full Year/40 weeks	Core	Local
Healthy Lifestyles	.5	Full Year/40 weeks	Elective	Local
Health	.5	Full Year/40 weeks	Core	Local

# PHYSICAL EDUCATION COURSE DESCRIPTION

## Physical Education 9, 10, 11, 12

Physical Education is a required full year course that meets every other day for the entire school year. This is a New York State graduation requirement for all 9-12 students. This course is designed to provide the necessary knowledge and skills to establish and maintain physical fitness, participation in physical activities, and the ability to maintain personal health. The students will also acquire the knowledge and ability necessary to create and maintain a safe and healthy environment and will understand and be able to utilize their personal and community resources available to them. Students will understand the importance of physical activity as it relates to mental, emotional and social health.

All students will be required to perform one physical fitness test each quarter. Each test consists of a different component of fitness.

**HANDS-ONLY CPR** Students must receive this NYS mandated instruction that covers the basics of CPR. This instruction is integrated into the Physical Education class and does NOT certify students in CPR. Seniors must complete this requirement in order to graduate.

**ALTERNATIVE PHYSICAL EDUCATION** Adaptive/Medical Excuse: If a student is not able to participate in active class, for any reason, written assignments on various athletic rules, history, safety, health topics, famous athletes, and other related topics will be expected of each student not participating. These assignments will be completed via the online credit recovery program, GradPoint, or on google classroom. If a student is not able to be physically in the gym due to the nature of the medical problem, i.e. wheelchair, the assignment may, at the discretion of the teacher and administrators, be sent to the appropriate site for the work to be completed. The grade(s) received on the assignment(s) will be incorporated into the quarterly grade for the student. If an entire quarter is involved in adapted work the grade shall consist of an average from the assignments completed in the required time period.

## Healthy Lifestyles

The Healthy Lifestyles course is based on competition, athletic skill, physical gains and losses, diet, mental and emotional health and physical skill improvement. This course will offer a more in depth training for sports than regular Physical Education class. This course will offer yoga, meditation, team sports, and individual sports. Also, students will participate in an in-depth physical fitness/weight training plan for themselves and calculate their diet for sport improvement and general lifelong personal health.

**PREREQUISITE:** *One year of high school physical education (grades 10-12)*

## HEALTH STANDARDS FOR LEARNING

- **Standard 1:** Students will comprehend concepts related to health promotion and disease prevention to enhance health.
- **Standard 2:** Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- **Standard 3:** Students will demonstrate the ability to access valid information and products and services to enhance health.
- **Standard 4:** Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- **Standard 5:** Students will demonstrate the ability to use decision-making skills to enhance health.
- **Standard 6:** Students will demonstrate the ability to use goal-setting skills to enhance health.
- **Standard 7:** Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
- **Standard 8:** Students will demonstrate the ability to advocate for personal, family, and community health.

## Health

Health Education is the study of sociological health problems, including eating disorders, alcohol, tobacco and vaping, suicide, and drug use and abuse. The course also includes the study of updated health problems and concerns, online safety, social and character skills, human sexuality, mental health, and communicable diseases with an emphasis on Acquired Immune Deficiency (AIDS). This course is mandated by New York State and is a requirement for graduation.

# SCIENCE DEPARTMENT

## SCIENCE, MATH & TECHNOLOGY STANDARDS FOR LEARNING

- 1) Engaging in Analysis, Inquiry, and Design
- 2) Managing Information Systems
- 3) Understanding Mathematics
- 4) Understanding Scientific Concepts and Principles
- 5) Applying Technological Knowledge
- 6) Understanding Common Themes Across Math, Science, and Technology
- 7) Applying Problem Solving Skills to Address Real-Life Problems

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
Biology	1	Full Year/40 weeks	Core	Regents
Biology Honors	1	Full Year/40 weeks	Core	Regents
Earth and Space Sciences	1	Full Year/40 weeks	Core	Regents
Environmental Studies	1	Full Year/40 weeks	Core	Local
Chemistry	1	Full Year/40 weeks	Core	Regents
Physics	1	Full Year/40 weeks	Core	Regents
AP Biology	1	Full Year/40 weeks	Core	AP Exam

# SCIENCE COURSE DESCRIPTIONS

## **Biology & Honors**

Regents Biology (NYS High School Life Science) is based on the New York State P-12 Science Learning Standards. These standards are based on the Framework for K–12 Science Education developed by the National Research Council and the Next Generation Science Standards. The framework outlines three dimensions that are needed to provide students with a high-quality science education. Dimension 1 is Science and Engineering Practices, Dimension 2 is Disciplinary Core Ideas, and Dimension 3 is Crosscutting Concepts. The integration of these three dimensions provides students with a context for the content of biology, how biology knowledge is acquired and understood, and how the sciences are connected through concepts that have universal meaning across the disciplines. Students demonstrate their proficiency through multiple activities, lab reports, tests, quizzes and projects. A lab period is required.

**PREREQUISITE:** *Grade 8 Science (Honors: 80 or higher on Earth and Space Sciences Regents and/or teacher recommendation upon review)*

## **Physical Setting - Earth & Space Sciences**

A New York State Regents Earth and Space Science class is a laboratory-based course that follows state learning standards to investigate Earth's place in the universe through four main areas: astronomy, geology, meteorology, and environmental science. Students learn about Earth's systems, history, and future, and develop scientific inquiry skills by analyzing data from hands-on laboratory investigations, which are required to be eligible for the Regents exam. A minimum of 5 class periods per week and 1200 minutes of laboratory per year are required.

**PREREQUISITE:** *Biology or grade 8 Science*

## **Physical Setting - Chemistry**

This course focuses on the study of basic chemical principles with special emphasis on the topics required by the NYS Physical Setting/Chemistry core curriculum. Topics of study include the composition of matter, atomic structure, periodic table, the mole concept, acids and bases, chemical kinetics and equilibrium, redox, nuclear and organic chemistry. Mathematical computation and analysis is an integral part of this course. Students planning to take this course should have a strong background in mathematics. A lab period is required.

**PREREQUISITE:** *Biology and Earth & Space Sciences*

## **Physical Setting - Physics**

Physics is the science that studies motion forces and energy, and their effect on matter. Major topics included: forces and motion, electricity and magnetism, waves and light, and modern physics. This course requires five class periods and a minimum of 1200 laboratory periods per year.

**PREREQUISITE:** *Algebra 1, Geometry, and enrolled in Algebra 2*

## **AP Biology**

The AP Biology course is designed to be the equivalent of an introductory college course, usually taken by biology majors during their first year. AP Biology is taught as an online based course meant to prepare students for the rigor of a college curriculum while at the same time introducing them to online education. AP Biology will provide students with the conceptual framework, factual knowledge and analytical skills necessary to deal critically with the rapidly changing science of biology. The course requires that all students take the Advanced Placement Exam, which requires a fee. College credit can be earned by taking the Advanced Placement exam and obtaining a level three grade (equivalent to a C) or higher.

**PREREQUISITE:** *The following courses with exam grades - Biology 80, Earth and Space Sciences 80, and Chemistry 80 and teacher recommendation*

## **Environmental Studies**

Environmental Studies is a full year course designed to fulfill a third year science credit. Three-dimensional learning integrates science and engineering practices, disciplinary core ideas, and crosscutting concepts to help students understand and explain real world phenomena and solve problems. There will be a heavy emphasis on hands-on activities, model building, scientific literacy, current events, and design challenges to foster a deeper understanding of scientific concepts. The major units of study will include: hydrosphere, green chemistry, physics in the world around you, atmosphere, biosphere, climate education, natural disasters, natural resources, and human impact.

# SOCIAL STUDIES DEPARTMENT

## SOCIAL STUDIES STANDARDS FOR LEARNING

- 1) Understanding the History of the United States and New York
- 2) Understanding World History
- 3) Understanding Geography
- 4) Understanding Economic Systems
- 5) Understanding Civics, Citizenship, and Government

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
World History & Geography 1	1	Full Year/40 weeks	Core	Local
World History & Geography 1 Honors	1	Full Year/40 weeks	Core	Local
World History & Geography 2	1	Full Year/40 weeks	Core	Regents
AP World History	1	Full Year/40 weeks	Core	AP & Regents
US History	1	Full Year/40 weeks	Core	Regents
AP US History & Government	1	Full Year/40 weeks	Core	AP & Regents
Civics	.5	Half Year/20 weeks	Core	Local
Economics	.5	Half Year/20 weeks	Core	Local
AP US Government & Politics*	1	Full Year/40 weeks	Core	AP
History of the Understanding of the Universe	1	Full Year/40 weeks	Elective	Local

\* Course is offered through Niagara University for college credit.

# SOCIAL STUDIES COURSE DESCRIPTIONS

## **World History & Geography 1 & Honors**

This course is a regional study of Asian-African culture with an emphasis on key concepts that will enable the student to emerge with a basic understanding of the people, countries, the interrelationships among them and of the various social, political and economic institutions involved in them. Additional emphasis will be placed on current problems and relationships with our country.

**PREREQUISITE:** *Grade 8 Social Studies (Teacher Recommendation for Honors)*

## **World History & Geography 2**

The tenth year modern History course stresses the impact of European cultural influences upon the record of mankind. It is the continuation of Asian and African cultures taught in the ninth grade, with Europe now being studied. The student employs the inductive method, studying with guidance by the teacher, rather than listening to lectures. European culture, thought, and environment are studied. Emphasis is on concepts rather than memory learning. Attempts will be made to relate each individual unit to present day events and the students' environment. Regent's exam required

**PREREQUISITE:** *Global History & Geography 1 (Teacher Recommendation for Honors)*

## **AP World History**

AP World History is designed to be the equivalent of a two-semester introductory college or university world history course. Students investigate significant events, individuals, developments, and processes in six historical periods from approximately 8000 B.C.E. to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; making historical comparisons; and utilizing reasoning about contextualization, causation, and continuity and change over time. The course provides 5 themes that students explore throughout the course in order to make connections among historical developments in different times and places: interaction between humans and the environment; development and interaction of cultures; state building, expansion, and conflict; creation, expansion, and interaction of economic systems; and development and transformation of social structures.

**PREREQUISITE:** *Global History 1 Honors or Teacher Recommendation*

## **U.S. History**

A State Regents course that traces the development of the American people, culture, and history from early settlement to modern day foreign policy. The course is a topic approach and a state final examination is given. Regents exam required.

**PREREQUISITE:** *Global History & Geography 2 or AP World History*

## **Civics**

The project based course focuses on the origin of the state and evolution of the laws and institutions that make it possible for people to live together in that state. This course devotes considerable attention to the rights, freedoms and obligations of each citizen. It is an objective of this course to make each student aware that with each right and freedom comes an obligation to be a considerate, law abiding and respectful part of society.

**PREREQUISITE:** *US History*

## **Economics**

This project based course is intended to introduce students to the terms and concepts encompassed in macro and microeconomics. National and world economics are stressed heavily in the study and application of economic theory. Time is also devoted to references regarding the individual's place and impact on the economy.

**PREREQUISITE:** *US History*

## **AP US History & Government**

This course is a college freshman survey course in American History from 1400-1980s. The emphasis in the course is on the interpretation and research of the events in American History. The student is required to take the Advanced Placement Exam of which there is a fee, in order to receive credit. College credit may be obtained by taking the Advanced Placement Exam and earning at least a level 3 or 4 grade.

**PREREQUISITE:** *Global History & Geography 2 Honors (85 average) AND Teacher Recommendation*

## **AP US Government & Politics**

This course is designed to offer students an analytical perspective of Government and Politics in the United States. Students will become familiar with institutions, groups, beliefs and ideas that constitute American Politics. Students will develop an understanding for Government theory and be able to explain the outcomes and applications of various government theories. The course primarily focuses on the Federal Government and national politics. The political climate in various states and regions of the United States. The student is required to take the Advanced Placement Exam of which there is a fee, in order to receive credit for this course. This course is offered in conjunction with Niagara University with the payment of the undergraduate tuition fee.

**PREREQUISITE:** *US History AND Teacher Recommendation*

## **The History of Understanding the Universe (Elective)**

A study of the way man has viewed the World from Aristotle to Schrodinger. This elective will use primary readings from Aristotle, Newton, Einstein, and Schrodinger to gain perspective on how humans have interpreted the world and its place in the Universe. Students will analyze the historical circumstances surrounding each work and how this affects our ability to understand and accept scientific study.

**PREREQUISITE:** *Global History & Geography 2*

# TECHNOLOGY DEPARTMENT

## SCIENCE, MATH & TECHNOLOGY STANDARDS FOR LEARNING

- 1) Engaging in Analysis, Inquiry, and Design
- 2) Managing Information Systems
- 3) Understanding Mathematics
- 4) Understanding Scientific Concepts and Principles
- 5) Applying Technological Knowledge
- 6) Understanding Common Themes Across Math, Science, and Technology
- 7) Applying Problem Solving Skills to Address Real-Life Problems

## COURSE OFFERINGS

COURSE NAME	CREDITS	OFFERED	TYPE	EXAM
Drawing & Design for Production (DDP)	1	Full Year/40 weeks	Elective	Local
Technical Graphics 1 (CAD1)*	1	Full Year/40 weeks	Elective	Local
Technical Graphics 2 (CAD2)*	1	Full Year/40 weeks	Elective	Local
Robotics	1	Full Year/40 weeks	Elective	Local
Principles of Engineering	1	Full Year/40 weeks	Elective	Local

\* Course is offered through ECC for college credit.

# TECHNOLOGY COURSES

## Drawing and Design for Production

Design and Drawing for Production may be used by any student to satisfy the New York State Art and/or Music requirement. This course intends to provide opportunities in the areas of design and drawing through creative thinking, decision-making and problem-solving experiences. Strategies of design and drawing appropriate now and in the future are emphasized. A shift from the conventional mechanical drawing methods to this design problem approach is the basis for the course. This course must be completed to begin the Technical Graphics program.

## Technical Graphics (CAD) 1 & 2

The Technical Graphics (CAD) Program is a two-year program in which the student uses the computer as an assistant in drafting technology. The program will train the student to use a CAD system which consists of a monitor display, microcomputer, graphics tablet printer, and blotter. The first year of the program will be devoted to developing the student's skills and proficiency in the theory and operation of the CAD system. Input, processing and output tasks, which the student will become familiar with, include: keystroking, hand-cursor manipulation, screen-cursor control, digitizing, editing, data storage, project rotation, panning, mirroring, zooming in, windowing, creating, printing, plotting, and hard copying. In the second year of the program the student will use the skills acquired in the first year to operate the CAD stem in designing and developing drawings in electronics, piping, architectural and mechanical fields. The students will work on projects in these areas using the CAD system as an aid in developing the finished hard-product drawing. CAD is designed to accommodate two types of students: the student planning to terminate formal education upon high school graduation; the college bound student planning to study engineering, architecture, manufacturing or any technical field. Completion of CAD I & II will allow the student to gain college credit through Erie Community College (ECC) by articulation agreement. CAD I is aligned with the ECC course, DF 108: Technical Graphics 1 w/ AutoCAD for 3 credits. CAD II is aligned with the ECC course DF 109: Technical Graphics 2 w/Autodesk Inventor.

**PREREQUISITE:** *Drawing and Design for Production*

## Robotics

Using robots we will cover the fundamentals of problem solving, program design, algorithms and programming using a high-level language. A robot is an embedded system of software and hardware. Programming and building robots applies science, technology, engineering and math (STEM) concepts. This course introduces the fundamental concepts of programming and robotics.

**PREREQUISITE:** *Drawing and Design for Production*

## Principles of Engineering

Principles Of Engineering (POE) is a high school-level survey course of engineering. The course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high-tech careers. This course gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based learning.

**PREREQUISITE:** *Drawing and Design for Production, CAD 1, and CAD 2*