

# **GUIDE TO PROGRAM PLANNING 2019 - 2020**



## **ICHABOD CRANE HIGH SCHOOL**

### **Mission Statement**

The Ichabod Crane Central School District is dedicated to preparing students to become contributing members of society in an ever-changing world by valuing diversity; providing a safe environment; and promoting unique talents, a desire for life-long learning, a strong spirit of community, and Rider pride.

**GUIDE TO PROGRAM PLANNING  
2019- 2020  
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## **Public Notification**

The Ichabod Crane Central School District hereby advises students, parents, employees and the general public that it offers employment and educational opportunities, including vocational education opportunities, without regard to sex, race, color, national origin or handicap. A complete copy of grievance procedures regarding discrimination may be obtained in any of the school offices.

In compliance with Section 504 of the Rehabilitation Act of 1973, Ichabod Crane offers assistance to students, parents (in relation to school activities for their child) and staff qualifying as having a handicapping condition as defined under Section 504. For further information or to make a referral for such assistance, contact the Title IX coordinator in the Central Office at 758-7575.

## **Introduction**

Ichabod Crane High School provides a program of diverse academic and elective offerings that challenge students of all abilities. This guide provides course descriptions and explanations to help students develop their annual academic plan.

Planning a meaningful high school program of study is an important task that must be done by every student with his/her parent(s)/guardian(s). The choices of which courses to take each year must fit together into an overall plan. This plan should include all the courses required for a New York State Advanced Regents diploma, Regents diploma or Local diploma. The plan also should include courses of study that will prepare the student to enter college, to enter the job market or to pursue some other career path.

Before entering grade 9, students meet in small groups and individually with their counselor and parents to discuss high school graduation requirements and options for grade 9 courses. During grades 9, 10 and 11, students meet in groups and individually with their counselor to review and select courses for the next year.

Department chairpersons and/or teacher recommendations also are used in determining the student's requested schedule. Parents are encouraged to discuss the student's program and will be provided with a written copy of the student's tentative program for the next academic year in sufficient time to request changes prior to the end of the school year. If a conflict in scheduling develops, students will be notified of this fact and will be provided with an opportunity to make alternative choices.

## **Qualifications for Promotion**

It is important to understand that a student in high school simply does not pass from grade 9 to 10, rather on a course to course basis. A student's homeroom assignment is determined by the number of credits achieved each year. Credits required for promotion are as follows:

- To advance to Grade 10 – 5 credits
- To advance to Grade 11 – 10 credits
- To advance to Grade 12 – 15 credits
- At least 22 credits are required for graduation

## Ichabod Crane Graduation Requirements

**Course Requirements:** The 22 units required for graduation must include:

	<b>Regents Diploma</b>	<b>Advanced Regents Diploma</b>
English	4 units	4 units
Social Studies	4 units	4 units
Mathematics	3 units	3 units
Science	3 units	3 units
Music/Art*	1 unit	1 unit
Health Education	½ unit	½ unit
Physical Education	2 units	2 units
Language Other Than English	1 unit	3 units**

\*Music/Art requirement may be met through: Band, Chorale, Music Theory, Studio A or Media A, and Studio B or Media B, or DDP A and DDP B.

\*\*Students acquiring 5 units in Occupational Education or the Arts may be exempt from the 3-unit requirement in a Language Other Than English. Those students must have completed 1 unit of study in Language Other Than English.

### Testing Requirements:

*(Subject to change based on the New York State Board of Regents)*

#### REGENTS DIPLOMA:

Students who plan to receive a <b>REGENTS DIPLOMA</b> must pass 5 Regents exams with a 65 or above. The Regents exams are:		
English	Math	Science
U.S. History & Government		Global History & Geography

- Students must pass all 5 required Regents exams with a 65 or better. Other options for students with disabilities will be explored if necessary.

#### ADVANCED REGENTS DIPLOMA:

Students who plan to receive an <b>ADVANCED REGENTS DIPLOMA</b> must pass the following Regents exams with a 65 or above:		
English	Global History & Geography	U.S. History & Government
Algebra	Geometry	Algebra II
Living Environment	<b>AND</b> {Earth Science <b>OR</b> Chemistry <b>OR</b> Physics}	
Language Other Than English Regents/Department Exam*		

\* Except for students earning a 5-unit sequence in Occupational Education or the Arts.

## **January/June Regents & Common Core Examinations**

Ichabod Crane offers January and June Regents Examinations. If not being taken as part of a class, students are encouraged to register for examinations in the Counseling and Career Center well in advance of the testing period to ensure availability.

## **Scheduling Timetable**

The scheduling process for high school students begins in January and runs through mid- March. Course selection meetings are held for each student, either in individual meetings or in some cases, in groups. During the course selection meeting, students choose appropriate courses for their four-year academic plan. Once the master schedule is completed, schedules are sent to students. It is extremely important for the development of the master schedule that any changes in student course requests are given to the Counseling and Career Center Office in writing no later than the date given in the letter mailed home after course selection has been completed.

## **Procedure for Schedule Changes**

At the beginning of each semester, students are to stay in the courses that are in their schedule for at least the first **two days of school**. There will be no schedule changes discussed and/or changes made prior to the first two days of school with the exception of students who are missing periods or blocks or do not have a schedule at all.

Schedule changes (with written parent permission and use of the course adjustment request form) will begin on the 3rd day of school. (Please see Counseling Secretary for form.) All changes must be approved by administration.

**Adding a course:** Students may add a course to their schedule at the beginning of each semester, however, adding a course to a schedule requires permission of the teacher.

**Level changes:** Any student who wishes to request a level change must submit a letter signed by a parent or guardian to their School Counselor. This decision will be discussed with the department chair of the subject in question, and the final determination will lie with the High School administration.

## **Withdrawing from a Course**

While it is expected that students will complete courses in which they choose to enroll, occasionally an instance arises where a course is dropped from a student's schedule. Courses will be listed on the student's permanent record/transcript as Withdraw Fail or Withdraw Pass after the teacher has closed their grade book for the first marking period of the course.

A student is able to drop a Full Year Course up to and including the last day of the Second Quarter. A student is able to drop a First Semester Course up to and including the last day of the First Quarter and for a Second Semester Course up to and including the last day of the Third Quarter. Students may see their School Counselor for the drop procedures.

## **Standardized Tests**

The following tests are available to Ichabod Crane High School Students:

- ~ Armed Service Vocational Aptitude Battery, Grades 10, 11, 12
- ~National Merit Scholarship Qualifying Test/Preliminary Scholastic Aptitude Test (PSAT/NMSQT), Grade 11
- ~American College Testing Program (ACT)\*, Grades 11, 12
- ~Scholastic Aptitude Test (SAT I)\*, Grades 11, 12
- ~Scholastic Aptitude Test - Subject Tests (SAT II)\*, Grades 11, 12
- ~Interest Inventories (administered as requested), Grades 9 – 12

~Advanced Placement Tests (for students enrolled in appropriate courses)

*\*Testing locations available in Columbia County*

## **Student Average and Class Rank**

### **Student Average**

A student's average is calculated based upon all subjects he/she has taken during high school. Honors courses, advanced placement and college-level courses are weighted with a factor of 5 and Regents classes are weighted with a factor of 2 in computing a student's *overall* GPA.

### **Student Class Rank**

Class rank is computed on a 0 – 100 basis over seven semesters; three year graduates on a five semester basis. Five points are added to AP, honors and college level courses. Two points are added to Regents level courses. School level courses and optional electives are not weighted. All course final averages are unweighted. Only the overall GPA and rank are based on the weight system. The rank sent to colleges is cumulative for grades 9, 10 and 11. Final rank and GPA for seniors can be obtained after semester one grades have been reported and incomplete grades received.

## Honor/High Honor Roll

Honor rolls are calculated at the end of each marking period. All grades except science labs and AIS courses are counted toward the grade point average. To obtain high honor roll, students must earn an overall average of exactly 90 or better, and to obtain honor roll, students must earn an overall average of exactly 85 to 89.9. At the end of the quarter, students will have two weeks from the day they receive their report card to make up work and be included in the calculation of high honor/honor roll.

## College Courses

**Courses offered through  
Columbia-Greene Community  
College**

### **AR 106 - Ceramics I**

Offered in the spring semester of Advanced Ceramics & Sculpture  
3 credit hours

### **AR 119 - Basic Drawing**

Offered in the spring semester of Advanced Drawing & Painting  
3 credit hours

### **EN 101 - Composition**

Offered in the fall  
3 semester hours

### **EN 102 - Composition & Literature**

Offered in the spring  
3 semester hours

### **MA 110 - College Algebra**

Full year course  
4 semester hours

### **MA 111 – Pre Calculus H**

Offered in the fall  
4 semester hours

### **Pre Calculus**

4 semester hours/MA111 PreCalculus  
Must complete both portions of  
2 semester courses.

### **MA 102 - Statistics**

Full year course  
3 semester hours

### **PY 101 - General Psychology**

Offered in the fall and spring  
3 semester hours

### **HI 101 - Western Civilization 5000 BC to 1700 AD**

Offered in the fall  
3 Semester hours

### **HI 102 - Western Civilization 1700 AD to Present**

Offered in the spring  
3 Semester hours

**Courses offered through the  
University in High School  
(University at Albany)**

<b>French IV</b> Full year course 4 university credits	<b>Spanish IV</b> Full year course 4 university credits
<b>French V</b> Full year course 4 university credits	<b>Spanish V</b> Full year course 4 university credits

**Courses offered through Siena  
College**

### **CSIS-110 - Introduction to Computer Science**

Full year course  
3 Siena College credits

**Other courses where college credits can be earned**

**Anatomy & Physiology**

Through Excelsior College  
6 college credits

**Advanced Placement Courses**

**AP English 11**

**AP World History**

**AP American History**

**AP Calculus AB**

**AP Biology (Advanced Biology)**

Students may take AP exams in any subject area offered through College Board

***of the final summer school grade.***

It is very important that students keep this in mind when considering the summer school option.

If a course is not offered at Ichabod Crane during the summer, a student may attend any New York State accredited summer school program. Permission of the Ichabod Crane High School principal is required to attend summer school elsewhere.

Summer Drivers Education Course is graded Pass/Fail and students do not earn an academic credit for the course.

## **Summer School**

### **General Guidelines**

To be eligible for a remedial summer school program, a student must have achieved a minimum grade point average of 50% in the course. A student who has not earned this average but who attended 50% of the course classes may be considered for summer school at the discretion of the High School administration.

Due to New York State regulations regarding summer school credit, the summer school final average will be calculated using a combination of the academic year average and the summer school average. ***The high school academic year average will count for 25% of the final summer school grade. The summer school average will count for 75%***

## **Alternative Methods for Earning Credits**

### **Correspondence Courses**

It is the responsibility of the student to complete all applications necessary for correspondence courses and to pay any required fees. The student should consult with the Counseling and Career Center before completing applications in order to ensure that the school offering the correspondence course has been approved by the State Education Department. The student's application and rationale must then be approved by the administration and appropriate department chair. All final exams for correspondence courses must be administered by either the Counseling and Career Center staff or a staff member designated by the High School.

## **Independent Study**

If a student is interested in an independent study, it is the responsibility of the student to secure an instructor on staff in the High School or a community mentor approved by the administration who will volunteer to supervise the independent study. The teacher/mentor must submit a detailed description of the content of the independent study along with a statement regarding evaluation procedures to be employed. Approval must be given by the administration and appropriate department chair before the course work begins unless extenuating circumstances can be demonstrated by the student/applicant.

**NOTE:** Only one (1) credit of either an independent study or a correspondence course will be allowed during a school year. A maximum of four (4) alternate courses

may be applied toward the total required for graduation. Extenuating circumstances may be appealed to the administration.

## **Challenging a Course for Regents Credit**

A student may challenge a course for credit if the student achieves a score of at least 85% or its equivalent as determined by the Commissioner of Education on a state-developed or state-approved examination and the student passes an oral examination

**or**

the student successfully completes a special project(s) which

demonstrates proficiency in the subject matter areas as determined by the principal and the student attends school

**or**

the student received substantially equivalent instruction elsewhere, until the age of 16, in accordance with Section 3204(2) of the Education Law and pursuant to Sections 3204 and 3205 of the Education Law.

**NOTE:** A maximum of 6.5 units of credit may be applied toward the total required for graduation.

## **Advanced Placement**

These credits may be earned for courses as described in the Course Description section of this booklet.

## **Auditing Courses**

Auditing courses is allowable under specified circumstances, which can vary by department and is subject to prior approval by the department chair and administration. Please note that auditing consideration for courses given under the auspices of a college or university is subject to the rules of those institutions.

## **Early College Admission**

The provisions governing high school credit for college courses taken under dual enrollment are stated in Board of Education Policy 4334.1. Students who wish to participate in college-level courses

must meet specific academic, grade level and course work requirements as set forth by the superintendent in conjunction with the High School administration and the sponsoring college. Students who choose and successfully complete this option may earn an Ichabod Crane diploma. Students participating in early admit programs must provide the high school with information concerning their academic progress in their college courses.

## **Enrichment Courses**

Upon request and proof of satisfactory completion, enrichment courses taken through other programs may be included as information on transcripts.

## **Home Instruction**

Homebound instruction is provided upon the request of a parent or guardian to Ichabod Crane High School students who are unable to participate in the regular school program due to illness or disciplinary suspension. If approved, tutoring is provided 10 hours each week. For students in grades 9 through 12 who are unable to participate in physical education due to a physical disability, packets of work have been developed by the department for these students to complete. Packets should be returned to the teachers on a weekly basis for correction and credit.

The responsibilities of the student and his or her parent or guardian are as follows:

1. Parents must cooperate with the home tutor regarding the establishment of a mutually agreeable home tutoring schedule. It is the responsibility of the parent and student to assure the home tutor that the student will be present and ready to begin instruction according to the program. A distraction-free area conducive to instruction should be provided.

2. Students must take an active role in the home tutoring instructional program. This means paying attention to the tutor, taking notes when requested, and completing all work assigned.

3. The attitude and behavior of the student will be evaluated by the home tutor. The student is responsible for his/her actions and efforts at all times during the instructional process.

4. Students are reminded that school policy necessitates daily attendance in the regular school day program as a prerequisite to attendance at extracurricular activities.

5. Any problems occurring with the home tutoring process should first be discussed with the school counselor.

If problems continue to arise, appropriate school involvement would occur.

## **Special Education**

Students who have been identified by the Committee on Special Education (CSE) have the opportunity to enroll in any classes offered at the high school level. A full compendium of services is available to assist these students as specified on their Individualized Education Program (IEP). Integrated co-taught classes taught by a content area teacher and a special education teacher are usually offered in English 9, 10, 11; Global Studies 9, 10; U.S. History; Earth Science and Biology; Algebra, and other classes as needed. Integrated co-taught classes are denoted with a (C) on student schedules. Resource room, Curriculum Support, consultant teacher, related services, and teaching assistant supports are also available. Special Education students have the opportunity to earn an Advanced, Regents, or Local diploma. Each student is encouraged to meet his or her highest potential. Questions concerning the special education process in the district should be directed to the Office of Special Education (758-7575 Extension 6008).

## COURSE DESCRIPTIONS

### Key to denote course designation:

**AP = Advanced Placement**

**H = Honors**

**R = Regents;**

### **ART**

#### **Studio A and Studio B**

*(½ credit each)*

These two courses both offer the student a wide variety of art experiences centered on the actual production of works of art. Projects explore the elements and principles of design using a wide variety of art materials, both two and three-dimensional. Vocabulary and art history related to each project is stressed. Both Studio A and Studio B are prerequisites for all upper level art classes. Exceptions may be made with teacher recommendation. Projects from both classes are specifically designed to give students an experience in each area offered: Painting and Drawing, Sculpture, Illustration, Ceramics, Digital Art, and Photography. Studio A and Studio B are not sequential, and either can be taken independently for ½ credit, but **students will need to complete both courses in order to receive the full credit in art required for high school graduation.** Students can choose Studio A or Media A and Studio B or Media B as the prerequisite to all upper level art courses.

#### **Media A and Media B**

*(½ credit each)*

These two courses include a variety of technological approaches along with the actual production of works of art. Digital photography, Adobe Photoshop, and other computer-based technology are used to enhance students' understanding of a wide variety of art media, composition, and techniques. Students can substitute Media A for Studio A and/or Media B for Studio B if interested in using digital media to follow the Studio A and Studio B curriculum. Projects from both classes are specifically designed to give students an experience in each area offered: Painting and Drawing, Sculpture, Illustration, Ceramics, Digital Art, and Photography. Media A and Media B are not sequential, and either can be taken independently for ½ credit, but students will need to complete both courses in order to receive the full credit in art required for high school graduation. Students can choose Studio A or Media A and Studio B or Media B as the prerequisites to all upper level art courses. Exceptions may be made with teacher recommendation.

## **Ceramics I**

*(1 credit)*

*Prerequisite: Studio A or Media A **and** Studio B or Media B \*\*Students may enroll with one Studio or Media prerequisite with teacher recommendation.*

This course is an introduction to clay and glaze through various building and decoration techniques. The sculptural quality of clay is explored through lessons inspired by ceramics from around the world. Projects are organized around the use of hand-building techniques such as pinch, coil, slab, and drape molding to create both decorative and functional ceramics. The potter's wheel may also be used during class after initial instruction after school to learn the basic skills.

## **Sculpture I**

*(1 credit)*

*Prerequisite: Studio A or Media A **and** Studio B or Media B \*\*Students may enroll with one Studio or Media prerequisite with teacher recommendation.*

This course explores three-dimensional design using a variety of media and techniques. Projects provide experience in each sculpture category: relief, in-the-round, and mobile. Art history pertaining to each project is discussed as students experiment with a variety of sculptural styles, including both representational and non-objective work. Sculpture building methods include addition, subtraction, casting, and modeling. Media explored will include paper, cardboard, foam-core, plaster, clay, mesh, metal foil, wire, reed, wood, found objects, recycled objects and

natural objects. As concepts are developed, students will learn how forms can be designed to express their ideas through 3-D design.

## **Advanced Ceramics & Sculpture (CGCC)**

*(1 credit)*

*Prerequisite: Ceramics I and Sculpture I or teacher recommendation*

This course builds further on the experiences offered in Ceramics I and Sculpture I. A variety of media and technique choices will be available to students as they explore the application of more complex design problems in both relief and sculpture in-the-round. Focus will be placed on individual idea and technical development using the expressive potential of sculptural forms and media. Students may also use class time to develop their skills on the potter's wheel. All artwork created in this class can be used for your art portfolio. This course is taught in conjunction with Columbia-Greene Community College. Upon successful completion and co-registration with CGCC in the spring semester, students may receive three college credits for AR 106 Ceramics I, transferable to many colleges.

### **Drawing & Painting I**

(1 credit)

*Prerequisite: Studio A or Media A **and** Studio B or Media B \*\*Students may enroll with one Studio or Media prerequisite with teacher recommendation.*

Designed to enhance drawing skills, Drawing & Painting is a necessary course for students who are preparing portfolios for college, but is also for the student who would like to explore drawing and painting further. Projects are focused on developing observation skills and technique.

Charcoal, pencil, ink, acrylics and other media will be introduced. Art history is a strong component to each project and will contribute to the development of each student's personal style. Learning to discuss artwork in a positive, critical way will be stressed.

### **Advanced Drawing & Painting (CGCC)**

(1 credit)

*Prerequisite: Drawing & Painting I*

Are you a highly motivated art student who would like to dive deep into drawing and painting? ***This is the class for you!*** Assignments are designed to encourage independent thinking. Exposure to a variety of artists' work help students understand the broad range of possibilities in art making. Students who are preparing portfolios for college will find assignments in this class as appropriate pieces for including in the portfolio, as well as excellent training for art school. Unique approaches to drawing the ordinary will inspire students to create sophisticated

works of art. This course is taught in conjunction with Columbia-Greene Community College. Upon successful completion and co-registration with CGCC in the spring semester, students may receive three college credits for AR 119 Basic Drawing, transferable to many colleges.

### **Illustration I**

(1 credit)

*Prerequisite: Studio A or Media A **and** Studio B or Media B \*\*Students may enroll with one Studio or Media prerequisite with teacher recommendation.*

Illustration is the art of communicating visually. Different styles and techniques of illustration and illustrators are explored using a variety of media to provide students with a wide range of possibilities for expressing their concepts. Both two-dimensional and three-dimensional designs are covered in the course with a strong emphasis on visual literacy and improving drawing skills. Students participate in "real world" assignments, exposing them to career opportunities in the field of illustration as a commercial art form.

Students will also learn to assess their own work as well as the work of others in a positive way.

### **Photography**

(½ credit)

*Prerequisite: Studio A **or** Media A **and** Studio B **or** Media B. \*\*Students may enroll with one Studio or Media prerequisite with teacher recommendation.*

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This is an introductory photography class for students who are interested in learning the basic functions of the digital SLR camera. Digital photography and simple videography will be explored. Assignments will be project based and will focus on proficiency in the compositional and technical aspects of the photographic process. This class requires independent work outside of class time.

### **Advanced Photography**

*(½ credit)*

*Prerequisite: Photography*

Photography becomes a tool for creative expression in this ½ year course, focusing on artistic form and attention to light. Understanding composition and concept will be emphasized. Students will build on their understanding of the Digital SLR camera and will experiment with different types of cameras, including the SLR 35mm film camera, and processes including black & white film and print. Alternative process photography will be explored as well and students will be encouraged to create artworks incorporating both fine art and technology. Famous photographers will be an inspiration to students as form, lighting techniques, and style are studied. This course will introduce students to new approaches to photography as an art medium and aid in developing skills for working independently.

### **Digital Art**

*(½ credit)*

*Prerequisite: Studio A or Media A and Studio B or Media B \*\*Students may enroll with one Studio or Media prerequisite with teacher recommendation.*

Digital art programs, such as Photoshop, are some of the most in demand tools for professional artists, designers, and photographers today! In this half-year course, students will learn the many uses of Photoshop, including photo editing and manipulation, fine art and illustration, and mixed media pieces. Students will use photography, drawing and sculpture along with computers to create their digital design artworks. “Real world” assignments will explore the possible uses of Photoshop in art, design and advertising industries.

### **Advanced Digital Art**

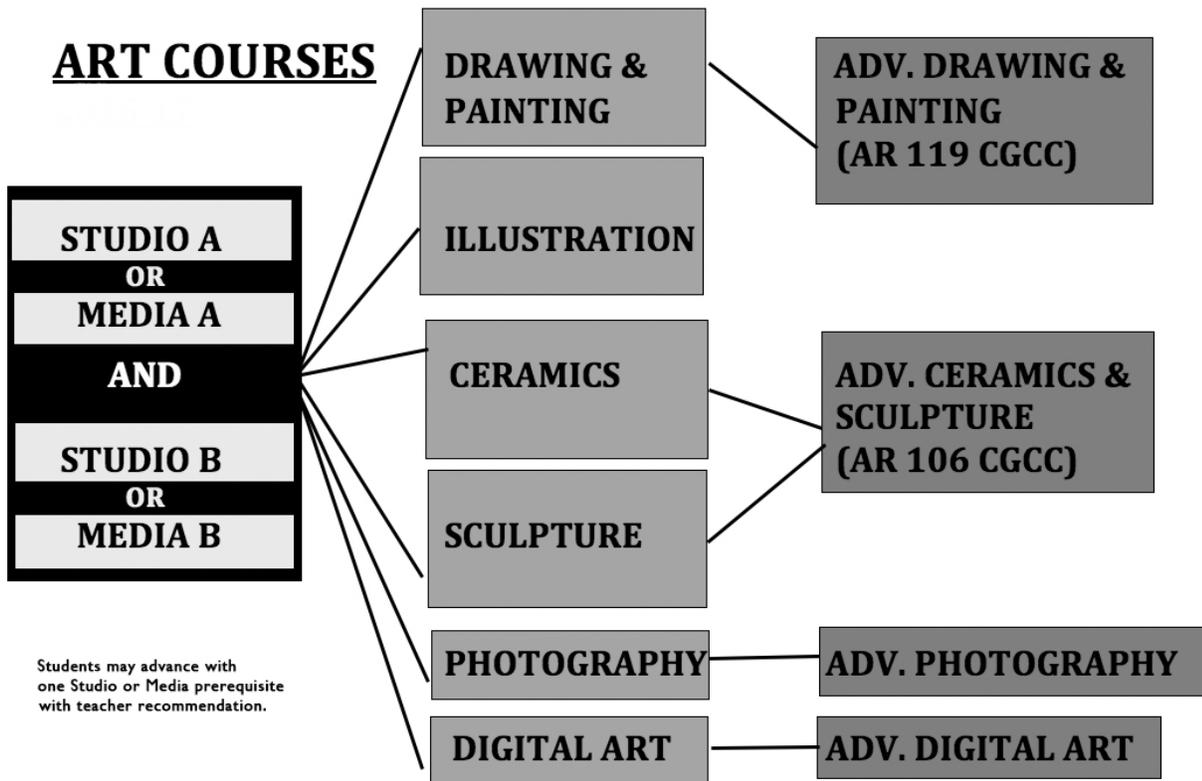
*(½ credit)*

*Prerequisite: Digital Art*

Advanced Digital Art is an upper level art class. Advanced Digital Art builds on the basic skills learned in Digital Art and introduces students to digital painting, complex photo manipulations and graphic design, where students will create displays to communicate information in an attractive and usable way. Students will focus on idea generation and creativity while using Photoshop as an artistic medium. Photoshop is one of the most in demand tools for professional artists, designers, and photographers today!

### 5 Unit Sequence in Art

- Studio A **or** Media A (required)
- Studio B **or** Media B (required)
- 4 additional units-choose from:
  - *Drawing and Painting I*
    - *Illustration I*
  - *Adv. Drawing & Painting*
    - *Sculpture I*
    - *Ceramics I*
  - *Adv. Ceramics & Sculpture*
    - *Photography (1/2 unit)*
  - *Adv. Photography (1/2 unit)*
    - *Digital Art (1/2 unit)*
  - *Adv. Digital Art (1/2 unit)*



## **ENGLISH**

All students are required to pass the Regents Exam in English which is usually taken during the junior year. All courses will accentuate the skills necessary to succeed in academics and in the workplace.

### **English 9H**

*(1 credit)*

An English enrichment program geared to students with above-average reading and writing abilities and with strong motivation for independent study and creative thinking. An average of 85% and/or a recommendation from the previous year's teacher is suggested. A selection of literature from different genres is included with Romeo and Juliet as the choice of Shakespearean play. Common Core State Standards are integrated into the curriculum.

### **English 9R**

*(1 credit)*

An English program designed for the average student who plans to continue his/her education past high school. Emphasis is on strengthening reading, writing and vocabulary skills. A selection of literature from different genres is included with Romeo and Juliet as the choice of Shakespearean play. Common Core State Standards are integrated into the curriculum.

### **English 10H**

*(1 credit)*

Students will be challenged to develop their writing, reading and speaking skills. A Tale of Two Cities and either Julius Caesar or The Merchant of Venice are important examples of literature which will be read and discussed. Vocabulary, spelling and grammar are integral parts of the course. Common Core State Standards are integrated into the curriculum. An average of 85% is recommended.

### **English 10R**

*(1 credit)*

In this course, students increase proficiency in reading and writing of expository paragraphs, essays, and creative writing pieces. The choice of Shakespearean play will be from Julius Caesar, The Merchant of Venice or Much Ado About Nothing. The course may be taught in the collaborative model with the English teacher and the special education teacher working together to meet the needs of the individual students. Vocabulary, spelling and grammar are integral parts of the course in conjunction with Common Core State Standards.

### **AP English 11**

*(1 credit)*

*Prerequisite: Students must have an average of at least 90% in previous English courses, and teacher recommendation.*

This Honors class is designed for the advanced student to meet the AP English Literature and Composition course requirements and will so integrate Common Core State Standards. Students will engage in intensive analytical reading of a wide variety of noteworthy literature, including a broad spectrum of poetry, short stories, novels, essays, and Shakespeare's Macbeth. Students will develop college level essay and composition skills. An average of 85% or a recommendation from the previous year's teacher is suggested.

### **English 11R**

*(1 credit)*

This course is geared primarily toward the average student. It will focus mainly on American literature, such as To Kill a Mockingbird and Of Mice and Men, and also will include the reading of Macbeth as the primary Shakespearean play. Common core State Standards are integrated into the curriculum. The course may be taught in the collaborative model, with the English teacher and the special education teacher working together to meet the needs of the individual student. Students will be expected to take the English Regents this year.

### **English Fundamentals**

*(1 credit)*

*Based upon recommendation only.*

English Fundamentals is designed to provide support and remediation in basic reading and writing skills. Students will read and write about short stories, novels, poems, plays, and works of nonfiction. Typically this course is taken in conjunction with English 11R. Common Core State Standards are integrated into the curriculum.

## **GRADE 12 English COURSES**

***All seniors are required to complete one full credit of the following:***

1. Humanities I & Humanities II OR
2. English 12R I and English 12R II  
OR
3. EN101 and EN102

### **Humanities I & II**

*(½ credit each)*

*Prerequisite for Humanities II is Humanities I*

Taught by a team of art, music and English teachers, this is an honors course for students who enjoy literature and critical thinking. The course draws on the imaginative literature of the Western World and involves critical study of the different literature genres expressing the recurrent concerns of mankind. Students may choose to take the AP test in Literature and Composition in May.

**English 12R I**

*(½ credit)*

This half-year course takes a thematic approach to literature. Themes such as personal responsibility, self-deception, fate and free will, and good and evil will be covered. The study of Hamlet will be part of this course.

**English 12R II**

*(½ credit)*

English 12R II will cover the thematic units of human dignity, choice and consequence, social responsibility, and man and his environment. A literary research paper must be completed successfully by each student.

**EN101 Composition (CGCC)**

**(Fall)**

*(1/2 credit) \*Based upon enrollment.*

An introductory course emphasizing the process and patterns of writing college-level expository prose. Included are reading assignments, extensive practice in writing clear, well-developed grammatically correct essays, a research paper and an oral presentation. This course is taught in conjunction with Columbia Greene Community College and can be taken in lieu of English 12R II. College credit may be received upon successful completion and co-registration with CGCC. (3 sem. hrs)

**EN102 Composition & Literature (CGCC)**

**(Spring)**

*(1/2 credit) \*Based upon enrollment.*

*Prerequisite: EN101*

This course continues the reading and writing of EN 101. Readings range from short stories and poetry to plays and/or novels. Writing includes both formal and informal criticism or analysis of the texts. This course is taught in conjunction with Columbia Greene Community College and can be taken in lieu of English 12R I. College credit may be received upon successful completion and co-registration with CGCC. (3 sem. hrs)

**ENGLISH ELECTIVES**

English electives are open to all students in grades 10 – 12. Underclassmen will be considered with department and/or administrative approval. These courses may be used to build a sequence, but may not be used to build a four-credit requirement in English.

**Oral Interpretation**

*(½ credit) \*Based upon enrollment.*

This course focuses on English as the spoken word. Speaking and listening skills will be sharpened through interpretive readings, expository and persuasive speaking, and impromptu drama. Interpersonal communication skills are stressed.

### **Creative Writing**

*(½ credit) \*Based upon enrollment.*

This course is built upon the premise that we write best about that which we have experienced. Most writing assignments are given with the intention of exploring the self through journal writing, prose and poetry. Final assessment will be based on the compilation of a student portfolio.

### **Creative Writing II**

*(1/2 credit) \*Based upon enrollment  
Prerequisite: Creative Writing I*

Students in this course will continue to use and develop the skills they have learned in the prerequisite, Creative Writing I. Such skills include: writing practice; rhythm, rhyme, voice and meter in poetry; plot pacing, narrative perspective, and character development in short stories and creative nonfiction; use of figurative and rhetorical devices in all genres; and awareness of writing process and development through sharing, peer editing, and metacognitive reflection. Students will be required to prepare and read work aloud in a variety of situations. Having a solid foundation via Creative Writing I, students will enjoy greater autonomy and self-direction as developing writers.

### **Journalism**

*(½ credit) \* Based upon enrollment.*

This course will cover basic theories of communication and journalism. Students will be taught how to cover, write and edit stories. Productions will include exercises in still storyboards, video commercials, and news team mockups.

### **Explorations in Literature**

*(1 credit) Based upon recommendation only*

Students in this course will be introduced to two or more genres of literature (novel, short story, poetry, etc.). Exploration of each genre's structure, literary elements, and an examination of vocabulary and semantics will be included in the course content with the aim of developing increasingly sophisticated readers. Writing assignments are required as an additional method to develop and improve critical-thinking and analytic skills. Individual goals of students in literacy will be specifically addressed. Specific literature study will advance with students who enroll in the course multiple times.

This course is an English elective, and students may enroll in the course with teacher, department, and/or administrative approval.

## **ENGLISH AS A NEW LANGUAGE (ENL) CLASSES**

*Students who have been identified as English Language Learners based upon the NYSITELL or NYSESLAT must enroll in an ENL class at their grade level. The ELL's level of English proficiency, as measured by the NYSITELL or NYSESLAT, determines the number of blocks per day the student must be enrolled.*

### **ENL 9/10**

An English language development program that helps students increase their ability to speak, listen, read, and write in English. Emphasis is upon helping students acquire English in

order to be successful in their other content classes. The curriculum is differentiated to meet the specific language needs of each student, ranging from basic social language to Regents level English.

### ***ENL 11/12***

An English language development program that helps students increase their ability to speak, listen, read, and write in English. Emphasis for ELLs in 11<sup>th</sup> grade is to prepare for the English Regents Exam required for graduation, in addition to improving English proficiency across all subject skills.

## **LOTE - Language Other Than English**

### ***Level I: French/Spanish***

*(1 credit)*

Level I is open to students just beginning in the language, is an introductory course in speaking, listening, reading and writing. Some of the topics covered in this level are biographical information, the home, family, community, meals, health, leisure activities and shopping. Emphasis will be on speaking and listening skills and the acquisition of enough basic grammar to progress to Level II. A local departmental exam will be given at the end of Level 1.

### ***Level II: French/Spanish***

*(1 credit)*

*Prerequisite: Level I*

Level II is a continuation of the program begun in Level I. At this level, students will further develop speaking and listening skills, and increase their reading and writing in the specified language. Topics covered will be those of Level I, but a more advanced proficiency will be required. This course is open to students who have completed Level I either at the Middle School or High School.

### ***Level III: French/Spanish***

*(1 credit)*

*Prerequisite: Level II*

Students will read edited authentic selections and improve their listening, speaking and writing skills. Students must pass a local LOTE departmental final exam in order to earn an Advanced Regents diploma.

### ***Level IV: French(FR221)/Spanish (ASPN200)-SUNY***

*(1 credit)*

*Prerequisite: Level III and 85% on Local Departmental Final Exam*

Level IV is a college course offered through the University at Albany. Upon successful completion of this course, students may receive four university credits transferable to many colleges and universities in the United States. Emphasis will be on communication - listening, speaking and writing, and the reading of authentic materials in the language studied.

**Level V:**

**French(FR222)/Spanish  
(ASP201)-SUNY**

*(1 credit)*

*Prerequisite: Level IV*

If there is student enrollment, Level V, sequel to Level IV, will be offered. Upon successful completion of this course, offered through the University at Albany, students may receive an additional four university credits. Emphasis in this course will be on listening, speaking and writing communication and the study of authentic literature.

**Spanish and Latin American  
Cinema** *(1/2 credit)*

*Grades 10-12 only*

This course is a survey of films, in Spanish with subtitles, from the 19<sup>th</sup> to 21<sup>st</sup> centuries. It is an interdisciplinary and cross-cultural course, including socioeconomic and political issues that gave rise to a specific moment. The course is designed to introduce students to the cinematic work of a number of Spanish/Latin film artists. The course will be taught in English. Students will be responsible for learning key vocabulary and expressions in Spanish pertinent to each film.

**Spanish and Latin American  
Literature** *(1/2 credit)*

*Grades 11 & 12 only*

*Prerequisite: Spanish 3*

The course, La Literatura Espanola y Latinoamericana, is a literature course in Spanish that involves a reading of short stories, poems, odes and novels. Works will be from the 16<sup>th</sup> century to 21<sup>st</sup> century and will touch upon a variety of topics including the picaresque genre, latinos in the United States, politics, legends, women in Hispanic literature and history.

## **MATHEMATICS**

Our sequential mathematics program provides a solid core of courses. Our diverse course offerings provide opportunities for all our students. The Mathematics Department strongly recommends that students planning to attend college complete a program which includes Algebra, Geometry and Algebra II plus an elective. All students are encouraged to plan a thorough mathematics program to maximize their options for the future. While planning, students should keep in mind that they need three credits of mathematics to graduate as well as a passing grade on one mathematics Regents exam.

### **Algebra H**

*(1 credit)*

*Prerequisite: An average of A or higher in Math 8 is required.*

Algebra Honors is designed for students with strong skills in mathematics who plans to enroll in upper level math courses later in their high school career. This class will provide more challenging and in depth study of the topics covered in Algebra R; it will also provide a solid base in preparation for the required state assessments. Students will take the Algebra regents in June.

### **Algebra R**

*(1 credit)*

This course meets every other school day for a block. In addition to algebra topics, students will study problem

solving, probability, statistics, trigonometry and graphing.

Students will take the Algebra regents in June.

### **Algebra B (2 year course)**

*(Successful completion of the two-year course will result in 2 math credits).*

This course is designed for students needing more time on task to reinforce, practice, and master concepts covered in a traditional Algebra course. The Algebra Regents will be taken in June of the second year. Students must pass the first year to be eligible to take the second year.

### **Basic Algebra**

*(1 credit)*

*Based upon recommendation only*

Students in Basic Algebra will work on fundamental skills in mathematics. The course is designed to provide support and remediation in basic Algebra skills. The curriculum is based on the NYS Common Core Learning Standards for Mathematics and the NYS High School Mathematics Alternate Assessment Frameworks.

### **Geometry H**

*(1 credit)*

*Prerequisite: a minimum average of 85 in Algebra H, and a score of at least an 80 on the Algebra regents is required. A student with at least a 90 average in Algebra R and a minimum score of 80 on the Algebra Regents may enroll with teacher recommendation and permission from the Department Chair.*

This course provides a more

## Ichabod Crane High School - Guide to Program Planning

challenging and in depth study of the topics covered in Geometry R. The emphasis in the course is on proof. The three types of proofs to be studied in depth are geometric, analytical, and transformational. The course is rigorous and vocabulary will be very important. Students will take the Geometry regents in June.

### **Geometry R**

*(1 credit)*

*Prerequisite: Algebra credit. A score of at least 65 on the Algebra regents is required.*

The emphasis in the course is on proofs. The three types of proofs to be studied in depth are geometric, analytical, and transformational. The course is rigorous and vocabulary will be very important. Students will take the Geometry regents in June.

### **Applied Math**

*(1 credit)*

*Prerequisite: 2 credits of mathematics and a passing score on any math regents exam is recommended.*

In this course situational problems are solved on a regular basis. This program involves the use of videos, hands-on lab activities and in-depth problem-solving exercises that invite discovery of mathematical concepts. This course encourages student participation and cooperative learning. A departmental exam is given in June.

### **Consumer Math**

*(1 credit)*

*Based upon recommendation only*

Consumer Math is a course designed to take a hands on, practical mathematical approach to everyday consumer problems and decisions. The purpose of this course is to help students develop the math skills they need to succeed in today's world. The curriculum is based on the NYS Alternate Assessment Frameworks for High School Mathematics and the Career Development and Occupational Studies (CDOS) Learning Standards.

### **Advanced Algebra/Geometry**

*(1 credit)*

*Prerequisite: An average of at least 65 in Algebra is required.*

This course is designed to meet the needs of students desiring to improve, to maintain, and to extend their math background in Algebra and Geometry. This course will cover advanced algebra topics including, but not limited to, linear and quadratic functions, working with radicals, and will have a heavy emphasis on polynomials. The second part of the course will cover right triangle trigonometry, law of sines and cosines, basic triangle proofs, as well as coordinate geometry. Time will be spent reviewing and extending topics from Algebra, and integrating those topics with concepts from Geometry. The course should be helpful to students planning a future in technology or science, as well as preparation for college math. A departmental exam is given in June. Following the successful completion of the course, a student would be prepared to take Geometry or Algebra

II. Students who want to earn an Advanced Regents diploma would need to eventually take both Geometry and Algebra II. If Advanced Algebra/Geometry is taken as a student's 3<sup>rd</sup> credit, the student, upon successful completion, would be eligible to enroll in College Algebra or Statistics for their 4<sup>th</sup> credit.

### **Algebra III**

*(1 credit)*

*Prerequisite: Algebra and Geometry*

*A minimum average of 85 in both Algebra H and Geometry H is required. A minimum score of 80 on both the Algebra and Geometry regents is also required. A student with a minimum average of 90 in Algebra R and Geometry R, as well as a score of at least 80 on both the Algebra and Geometry regents, may enroll with teacher recommendation and permission from the Department Chair.*

This course provides a more challenging and in depth study of the topics covered in Algebra II. Students take the Algebra II Regents exam in June. After this course students may take Statistics or Pre-Calculus H.

### **Algebra II**

*(1 credit)*

*Prerequisite: Algebra and Geometry. A minimum average of 75 in both Algebra R and Geometry R is required. A minimum score of 75 on the Algebra regents and 65 on the Geometry regents is required.*

This rigorous course covers the areas of algebra, geometry, probability, statistics, trigonometry, logarithms, functions and transformational geometry. A TI 83+ or TI 84+ calculator will be used regularly and it is highly recommended that students have a graphing calculator of their own to use at home. Students take the Algebra II Regents exam in June.

### **College Algebra MA110-31 @ CGCC**

*(1 credit)*

*Prerequisite: 3 credits of high school math and teacher recommendation. This course is designed for students who have not taken Algebra II or who had difficulty with Algebra II. Students are required to have at least an 80 average for all previously taken Math courses in order to be eligible for CGCC credit.*

This course is designed for students who are seeking a 4<sup>th</sup> credit in Math. The course is designed to challenge the student while providing the student an opportunity to earn college credit while at Ichabod Crane. Topics to be covered include linear, quadratic, rational, exponential and logarithmic functions. Topics will be covered through both an algebraic and graphical approach. A TI 83+ or TI 84+ calculator will be used regularly; it is highly recommended that each student have a graphing calculator of their own. Students interested in earning college credit must apply and be accepted by CGCC. The fee for the course is paid directly to CGCC, and after successful completion of the course, students can earn 4 semester hours of college credit. Students who do not wish to take the course for college credit are still required to meet the same standards of the course. This is a full year course at Ichabod Crane.

### **Pre-Calculus Honors Fall (CGCC)& Spring**

*(1/2 credit each)*

*Prerequisite: An average of at least 85 in Algebra I/II is required. A score of at least 80 on the Algebra II Regents is required.*

In the fall semester, the course will be an in depth study of functions. Topics will include linear, exponential, logarithmic, trigonometric, polynomial, and rational functions, and additional topics in trigonometry and analytic geometry, including conic sections.

In the spring semester, more advanced topics will be studied.

Topics will be analytic trigonometry, sequences and series, parametric equations, polar coordinates, analytic geometry in three dimensions, linear systems and matrices, and an introduction to calculus and limits.

Those students that have registered at Columbia Greene Community College for college credit will be awarded 4 college credits upon successful completion of the fall semester.

### **Pre-Calculus Fall & Spring (CGCC)**

*(1/2 credit each)*

*Prerequisite: Algebra II/Trig-an average of at least 65 in Algebra II/Trig is required. A passing score on the Algebra II/Trig regents is recommended.*

In the fall semester, the course will begin with a review unit on advanced algebra and will continue with an in depth study of functions. Topics will include linear, exponential, logarithmic, polynomial, and rational functions. In the spring semester, more advanced topics will be studied. Topics will be trigonometry functions, sequences and series, parametric equations, analytic geometry in three

dimensions, parametric equations, and additional topics in trigonometry and conic sections.

### **Statistics MA102-36 @ CGCC**

*(1 credit)*

*Prerequisite: Students must have a minimum average of 80% in Algebra II/Trig H or Algebra II/Trig R, a passing grade on the Algebra II/Trig regents, and 3 high school math credits.*

This full year course focuses on the following topics: introduction to probability, probability distributions, descriptive statistics, random variables including the binomial and normal, sampling estimation, hypotheses testing, chi-square distribution, regression and correlation. The use of technology is essential to studying the topics listed above. The TI83+ calculator, stat disk, and Active Stats are used extensively to complete problems and class activities. This class is a college-level course taught through Columbia-Greene Community College. Tuition is paid to CGCC and, upon successful completion, three college credits are earned.

### **AP Calculus AB**

*(1 credit)*

*Prerequisite: Pre-Calculus H (CGCC-Fall & Spring)*

AP Calculus consists of a full academic year of work that is comparable to Calculus courses in colleges and universities. It is expected that students who take the course will seek college credit, college placement, or both, from institutions of higher learning. Appropriate credit and placement are

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granted by each institution in accordance with local policy. The course will include some work on elementary functions. The majority of

the time will be spent on the AB Calculus curriculum which covers topics in differential and integral calculus.

### ***Freshmen Computers***

(1/4 credit)

This credit-bearing course will be a semester long, half-block (one period) course that covers fundamental computer skills needed by students for success in high school, college, the workplace and beyond. While in this course, students will review and learn important computer skills such as: proper keyboarding technique, word processing, spreadsheet development, presentation creation and an introduction to computer science concepts.

### ***Introduction to Programming***

(1/2 credit)

We use technology every day, but how much do we understand about the devices we use? Introduction to programming introduces students to the inner workings of the technology they have come to rely on. This half-year course is organized around 4 major units: Business Computer Applications (Excel and Access), Website Development, Computer Programming, and Computer Hardware. Students will get the chance to work with several different programming languages as they work through projects in each unit. This

course will take in a computer lab.

### ***Computer Programming***

(1/2 credit)

Computer Science jobs are currently growing at twice the national average. If current trends hold, by 2020 the demand for computer science graduates will outpace the supply by close to a million positions. Students who know how to write code will have a considerable advantage when entering the world beyond Ichabod Crane. Computer Programming is a half year course that will build on the material from Introduction to Computers. In the course, students will learn to take an object-oriented approach to software development. Topics will include, but are not limited to, algorithm design, data structures, functions, parameters, arrays, classes, and searching and sorting techniques. This class is strongly encouraged for any student considering entering the field of Computer Science.

### ***App Development***

(1/2 credit)

At last count, the Apple App Store has over 2 million apps. The Google Play store has another 3 million apps. Unfortunately, they never seem to have the app you really want. Good news! There's now a class to help you deal with that problem. In App Development, you can learn to make your own apps using the MIT App Inventor. The MIT App Inventor is an intuitive, visual programming environment that allows users to build fully functional apps for smartphones

and tablets. Students will learn how to employ the built-in features of smartphones and tablets in an app environment. They will also have the opportunity to design and create their own unique apps.  
Open to all students.

### **CSIS-110 Introduction to Computer Science**

*(1 credit)*

*Prerequisite: Geometry and one Programming elective (Intro to Programming, Computer Programming, or App Development)*

This course is a broad introduction to a variety of fundamental topics in computer science through a contemporary theme (multimedia). Students will consider problems in the application area that can be solved with software. Using the theme of the course, students will be introduced to important areas of computer science including abstraction, computer organization, representation of information, history of computing, ethics, and the development and evaluation of algorithmic solutions using an appropriate programming environment. Students have the option to enroll through Siena College to earn 3 college credits for this course.

### **Sports Statistics**

*(1/2 credit)*

*Prerequisite: 2 Credits of High School Math*

When should a hitter try to bunt the runner over? Should a football coach call a run or pass play? Is there such a thing as a streaky player in basketball? These questions and more can all be answered through the use of statistics. In Sports Statistics, students will learn how to collect data and apply statistical tools to investigate and answer various questions found in athletics. The emphasis will be on the application of statistics, not the computation of statistics. As such, this course should not be seen as a replacement for a traditional statistics course. The course will include a final project, where students investigate a question of their own choosing. This course will take place in a computer lab.

## **MUSIC**

### ***Band/Instrumental Lesson***

*(1 credit)*

*Students will have the opportunity to develop an advanced level of musical interpretation, performance and appreciation through the study of compositions by major composers of music for the wind band and transcriptions of works by major orchestral composers. Development of tone quality and technique, ensemble skills (including balance, blend, and intonation), music reading, listening skills, stage presence skills, and marching band techniques are emphasized in this course.*

Requirements of this class include: a 40-minute group instrumental lesson on a rotating period basis, participation in all band rehearsals, and performances in all scheduled concerts and parades. Band and Chorale meet the New York state requirements for one year of art/music in high school and allows students to be considered for membership in New York State School Music Association (NYSSMA)-sanctioned events.

### ***Chorale/Vocal Lesson***

*(1 credit)*

This course acquaints students with various types of choral literature while providing continual development of vocal quality, range, solo and choral technique, music reading, sight singing, and stage presence skills.

Requirements of this class include: a 40-minute group vocal lesson on a

rotating period basis, participation in all choral rehearsals and performances in all scheduled concerts.

### ***Jazz Ensemble***

*(Non credit course)*

Instrumental and Vocal Jazz Ensembles (Spectrum) are designed to fulfill the needs of students who are interested in exploring different styles of jazz music and its performance. Spectrum rehearses SATB music and the Instrumental Jazz Ensemble uses standard instrumentation (saxophones, trumpets, trombones, and a rhythm section - piano, guitar, bass guitar, drum set). *Membership is by successful audition only.*

## **5 Unit Sequence in Music**

- ~ Music Theory I and II
- ~ 3 Years of Band or Chorus

### ***Music Theory I***

*(1 credit) \* Based upon enrollment.*

Students will study the elements of music (construction of scales, intervals, triads), develop aural music skills (sight-singing and dictation), learn the fundamentals of voice leading, and write/perform musical compositions based on the principals of harmony. As part of the class content, students will be introduced to MAC computer sequencing software programs. Students entering this class should already have strong music reading skills.

*The recommendation of the music teacher is suggested.*

### **Music Theory II**

*(1 credit) \* Based upon enrollment.*

*Prerequisite: Successful completion of Music Theory I.*

Students will continue to study skills of harmonic principals by analyzing, arranging, composing, conducting and sight-singing music. Harmonic study includes: voice leading of triads in all positions, analysis of phrase structure and cadences, harmonic progression and retrogression, non-harmonic tones, seventh chords, modulation, borrowed chords, augmented sixth chords, and Neapolitan sixth chords. Composition will include the use of MAC computer music sequencing and recording programs.

### **Music Theory III**

*(1 credit) \* Based upon enrollment.*

*Prerequisite: Successful completion of Music Theory II*

This class is based on the form and analysis of musical composition in all of the historical music periods. Students will study Western Music from the Medieval to the Twentieth Century by researching factual knowledge, analyzing major compositional works of each period, and creating musical compositions based upon historical analysis. Conducting, performing, sight-singing and written research papers are required as part of this class. Composition will include the use of MAC computer music sequencing and recording programs.

### **Performance Based Instrumental Music**

### **Alternatives**

*(Non credit course)*

The following three **non-credit** options are offered as alternatives to the High School instrumental program. Prep/rehearsal time to be scheduled; may be after school.

#### **OPTION I**

- A.** One in-school instrumental lesson per week.
- B.** Informal recital (end of the school year). Minimum 30-minute actual playing time.

**Preparation:** one hour per week.

#### **OPTION II**

- A.** One in-school instrumental lesson per week.
- B.** Performance in a small ensemble. Minimum requirement: one hour rehearsal per week.

#### **OPTION III**

- A.** One in-school instrumental lesson per week.
- B.** Performance in a chamber group (i.e., duet, trio, quartet). Minimum requirement: one hour rehearsal per week.

Each option enables students to qualify for participation at NYSSMA-sponsored Solo/Ensemble adjudication. These options also allow those students desiring to re-enter the core instrumental program to do so without having to fulfill requirements outlined in the Band Manual. These three options will not allow students to participate in the NYSSMA-sanctioned honor performing organization.

## PHYSICAL EDUCATION AND HEALTH

### **Health**

*(½ credit)*

Health is a semester course required for graduation and is offered to students in grades 10, 11 and 12. The main units covered during the course are: nutrition, drug education, disease (with an emphasis on AIDS awareness) and sexuality. Mini-units on stress, family issues and current event topics will also be included.

### **Physical Education**

*(1/4 credit per semester)*

Physical Education is an instructional program contributing to the physical, mental and social development of all students. The broad instructional phase of the program provides for a wholesome, vigorous experience in the development of skills, techniques, knowledge and the appreciation of individual, team and lifetime athletic activities. Most activities are offered on a co-educational basis.

Physical Education is required for graduation. Students must successfully pass Physical Education each year of their four years in high school. Success is based on active participation, performance, and written exams. Students who fail Physical Education for a semester must take two Physical Education classes the following semester to

meet the State requirements.

Students are required to change clothes for Physical Education class. Such clothing includes shirt, shorts and sneakers. A sweatshirt and sweatpants would be advisable on cool days. For safety reasons, the following dress code has been approved:

Tops: No pockets

Bottoms: No zippers or belt loops

Socks and sneakers must be worn.

Earrings, rings, or other ornaments or jewelry through any pierced parts of the body must be removed.

### **Grading System**

Physical Education classes are graded on a numerical system. A student's grade is based on written unit tests, participation, effort and performance levels. Grades are included in Honor Roll. Excessive, unexcused absences may result in failure to achieve a passing grade in Physical Education.

### **Excuses**

Students unable to participate in Physical Education require a parental excuse and signature. Excuses lasting more than one week need to be issued by a physician. For any student out on a medical excuse, class work in the form of medical packets, outside readings, or adaptive activities will be required each week.

## **SCIENCE**

In addition to providing a solid core of scientific content, the Science Department offers diverse programming to meet the needs of most levels of interest and ability. The Science Department strongly recommends that students planning to attend college complete the core program which includes all four levels - Earth Science, Biology, Chemistry and Physics. Regents-level and Regents skills level sciences are based on State core guides and are designed for students pursuing a Regents diploma, either with or without a Regents sequence in science. Laboratory experiences are required for all Regents sciences. Students taking a Regents science course must complete twelve hundred minutes of hands-on laboratory work with successfully written lab reports and pass a Regents examination to receive Regents credit for the course.

**Note:** Students are required to pass two courses in Physical Setting Science and the Living Environment course as well as the Regents exam in one of these sciences in order to meet State mandates for graduation.

### **Level I:**

#### ***PS – Earth Science***

(1 credit)

This course is designed to give students a new understanding of the world around them, and the processes of change. The curriculum is based on the Core Curriculum Guide offered by New York State. A hands-on, problem-solving approach

will be used to investigate topics in meteorology, astronomy and geology. The Regents exam is the final exam. All students must be enrolled in Regents Earth Science lab.

#### ***Honors PS – Earth Science***

(1 credit)

This course provides a more in depth study of the topics in the Core Curriculum guide offered by New York State. A college text is used and the pace is much faster. Students should be enrolled in either Algebra or Geometry.

#### ***Regents PS – Earth Science***

(1 credit)

This course is designed for the average science student who plans to continue his/her education past high school. Students should be enrolled in Algebra.

#### ***General Earth Science***

(1 credit)

*Based upon recommendation only.*

This course is designed for students who require skill reinforcement and a slower pace when learning (physical science) Earth Science. The curriculum is based on the Common Core Curriculum guide offered by New York State, and may be taken in conjunction with Earth Science R/C.

## **LEVEL II**

### **LE- Biology**

*(1 credit)*

Biology provides students with a basic understanding of biological processes and generalizations. The curriculum is based on the Core Curriculum Guide offered by New York State. Topics include unity and diversity in living things, homeostasis in organisms, reproduction and development, genetics, evolution and ecology. The Regents exam is the final exam. All students must be enrolled in Biology lab.

### **Honors LE- Biology**

*(1 credit)*

This course provides a more in depth study of the topics in the Core Curriculum Guide offered by New York State. The course includes additional topics needed for the SAT II exam in Biology.

### **Regents LE- Biology**

*(1 credit)*

This course is designed for the average science student who plans to continue his/her education past high school.

### **Unified Science**

*(1 credit)*

*Based upon recommendation only.*

This course is designed for students who require skill reinforcement and a slower pace when learning (life science) Bio. The curriculum is based on the Common Core Curriculum guide offered by New York State and is typically taken in conjunction with Living Environment R/C.

## **LEVEL III:**

### **PS – Chemistry**

*(1 credit)*

This course provides students with a modern view of the fundamental concepts of chemistry. This course includes the following topics: matter and energy, atomic structure, bonding, the periodic table, the mathematics of chemistry, kinetics and equilibrium, acids and bases, redox and electrochemistry, organic chemistry, applications of chemical principles and nuclear chemistry. A strong background in math is required. Students entering Regents must be enrolled in Trigonometry. All students must be enrolled in Chemistry lab.

### **Honors PS - Chemistry**

*(1 credit)*

This course provides a more in depth study of the topics in the Core Curriculum offered by New York State. The course includes additional topics needed for the SAT II exam in Chemistry. Students should have passed both the course and the Regents exam in Geometry and be enrolled in Trigonometry.

### **Regents PS – Chemistry**

*(1 credit)*

This course is designed for the average science student who plans to continue his/her education past high school. Students should have passed both the course and the Regents exam in Geometry and be enrolled in Trigonometry.

**LEVEL IV:**  
**PS- Physics**  
(1 credit)

This course provides students with a modern view of the fundamental concepts of physics. The areas studied include mechanics, energy and work, wave phenomena and electricity, and magnetism. A strong background in algebra and trigonometry is required. Students should be enrolled in or have passed Trigonometry. The Regents exam is the final exam for the course. All students must be enrolled in Physics lab. This course is designed for the average and above average student who plans to continue his/her Science education past high school.

## SCIENCE ELECTIVES

\*NOTE: Either of the two Science courses listed below may be used to complete the third year of Science required for graduation.

**Applied Chemistry**  
(1 credit)

Applied Chemistry provides students with a foundation in chemistry and how it relates to day-to-day living. Laboratory experiences provide the basis for problem-solving techniques used to investigate the properties of matter, environmental pollution, household chemistry, organic compounds and chemical analysis. Projects in the areas of nuclear chemistry and water pollution encourage students to utilize a variety of creative, problem-solving approaches.

**Applied Physics**

(1 credit)

This course covers selected topics from general physics for students pursuing a technical program. The course covers matter, force, power, basic mechanics, torque, and specific topics from heat, sound, and light.

**Advanced Biology**

(1 credit) \*Prerequisite required.

*\* Note: Prerequisite for this course: 90% or higher in Regents Biology or 85% or higher in Honors Biology; must also be enrolled in Regents Chemistry, Physics or have completed the core science program. Due to the demands of the college level courses, which often involve evening hours at school, this course is open to juniors and seniors. This is a full-year course that is offered every other year.*

Advanced Biology is a course that is recommended for those students interested in pursuing a career in biological sciences. It is designed to expose students to a variety of topics and techniques used in various careers in science. The topics covered include ecology, cell biology, biochemistry, bacteriology, genetics, etc. Students may opt to take the AP exam in Biology, and if successful on the exam, may receive college credit. In order to prepare students to take the AP Exam, this course will be based primarily on the College Board's AP Biology curriculum. The curriculum includes a number of labs which will primarily be those prescribed by the College Board.

## ***Environmental Studies***

(1 credit)

*Grade 12 Only*

This **senior** elective provides an in-depth study of local and environmental issues through fieldwork, hands on activities, projects, current events, and field trips. Topics covered include air and water pollution, energy sources, climate change, biodiversity, population, food production and agriculture, environmental disasters, toxic substances and green alternatives, resource management, survival skills, and stewardship.

## ***Anatomy/Physiology***

(1 credit) ***\*Prerequisite required***

***\*Note:*** *Prerequisite for this course:*

*90% or higher in Regents Biology or 85% or higher in Honors Biology; must also be enrolled in Regents Chemistry, Physics or have completed the core science program. Due to the demands of the college level courses, which often involve evening hours at school, this course is open to juniors and seniors. This is a full-year course that is offered every other year.*

This is a course designed to give those students interested in the sciences, physical education or the medical field some background in anatomy and physiology. Major body systems are studied in terms of part and function. Dissection is a required component of this course. There are no alternative dissection options for this course. Outside reading, a mentor experience and a major project or term paper are required. The course is taught at a college level and parallels the Regents College

Examination syllabus. Students may sign up to take the Proficiency Exam offered in June to receive six college credits at the completion of this course.

## ***Intro to Organic Chemistry***

(1/2 credit) ***\*Prerequisite required***

***\*Note:*** *85% or better required in Regents Chemistry; must also be enrolled in Physics or have completed the core science program.*

Organic chemistry, the study of carbon compounds, is a fundamental course to be completed by students with a major or concentration in Chemistry, Biology, Pre-med, Pre-dental, or Pre-veterinary. This course is designed to provide students with interests in any of those fields a more in depth presentation of atomic structure and organic chemistry topics introduced in the Physical Setting: Chemistry curriculum. Topics to be studied include: the quantum mechanical model of the atom, molecular orbitals and orbital hybridization, representations of molecules via line angle structures, acid-base theory, an introduction to electron pushing mechanisms, an overview of organic functional groups, and reactions of alkanes and alkyl halides.

## **Forensics I**

*(1/2 credit)\*Prerequisite required*

**\*Note:** *In order to be eligible to enroll in the Forensics elective, students must have completed Earth science and Biology and be concurrently enrolled in a full year science course. Exceptions: Students that complete Earth Science or Biology in January will be eligible to take Forensics in the spring semester. Students who are January graduates will be eligible to take Forensics during the fall semester of that school year.*

Forensics I is a course that provides students with a foundation in the application of scientific techniques used in connection with criminal studies of the law. Laboratory experiences help provide the students with a basis for problem-solving techniques used in the investigation of crime scenes. Forensic science is a course that encompasses many scientific disciplines such as biology, anatomy, chemistry, physics, and earth science. Topics covered in the Forensics I curriculum include crime scene investigation, evidence collection, fingerprinting, hair analysis, fiber analysis, blood analysis, serology, and DNA analysis.

## **Forensics II**

*(1/2 credit)\*Prerequisite required*

**\*Note:** *In order to be eligible to enroll in the Forensics elective, students must have completed Earth science and Biology and be concurrently enrolled in a full year science course. Exceptions: Students that complete Earth Science or Biology in January will be eligible to take Forensics in the spring semester. Students who are January graduates will be eligible to take Forensics during the fall semester of that school year.*

Forensics II is a course that provides students with a foundation in the application of scientific techniques used in connection with criminal studies of the law. Laboratory experiences help to provide the students with a basis for problem-solving techniques used in the investigation of crime scenes. Forensic science is a course that encompasses many scientific disciplines such as biology, anatomy, chemistry, physics, and earth science. Topics covered in the Forensics II curriculum include document analysis, forensic pathology, forensic anthropology, forensic odontology, forensic toxicology, forensic entomology, and forensic psychology.

## **RECOMMENDED GUIDELINES FOR SCIENCE**

### **LEVEL I: EARTH SCIENCE**

HONORS            ‘A’ average range in Science (7 and 8); enrolled in H Algebra or  
Geometry.  
REGENTS        Passing average in Science (7 and 8); Algebra.

### **LEVEL II: BIOLOGY**

HONORS - From Honors Earth Science - 85% average in Science **and teacher recommendation**  
From Regents Earth Science - 90% average in Science; enrolled in Geometry.  
REGENTS - From Regents Earth Science – passing average in Science; passing  
Regents grade recommended; enrolled in Geometry.

### **LEVEL III: CHEMISTRY**

HONORS-  
From Honors LE Biology - 85% average in Science **and teacher recommendation**;  
enrolled in Algebra II.  
From Regents LE Biology - 90% average in Science; enrolled in Algebra II.  
REGENTS-  
From Regents LE Biology - 75% average in Science; passing Regents Grade  
Recommended; enrolled in Algebra II.  
NON-REGENTS - Applied Chemistry and/or Applied Physics.  
ELECTIVE - Anatomy/Physiology – see pre-requisite included with course description.  
Advanced Biology – see pre-requisites included with course description.

### **LEVEL IV: PHYSICS**

REGENTS PHYSICS  
From Honors/Regents Chemistry - 70% in Science; passing Regents grade recommended;  
passed or enrolled in Algebra II.  
NON-REGENTS - Applied Chemistry and/or Applied Physics  
ELECTIVE - Anatomy/Physiology – see prerequisite included with course description.  
Advanced Biology – see prerequisites included with course description.  
Environmental Studies – see prerequisite included with course description.

## **SOCIAL STUDIES**

### **GRADE 9**

The "scope and sequence" to be allowed is based on the New York state Social Studies standards and utilizes a chronological format organized around themes and concepts, rather than by world regions. The curriculum begins in grade 9 with the "Ancient World: Civilizations and Religions," and ends in grade 10 with a unit entitled, "Global Connections and Interactions of Today." Geography skills are now a significant element in both years.

### ***Global History & Geography*** **9H**

*(1 credit)*

A minimum final average of 95% in grade 8 Social Studies and a teacher recommendation is required for students enrolling in this course. A summer project includes REQUIRED activities to prepare students for the thematic approach to culture. Students are expected to maintain awareness of current events relevant to the course. This class is designed to help students attain strength in the study of ancient, classic, and modern history, geared toward continuing into AP World History in 10<sup>th</sup> grade.

### ***Global History & Geography*** **9R**

*(1 credit)*

The Regents-level Global History 9R/C class will focus on review and reinforcement of content. Reading and writing skills are emphasized, expression of information and ideas, and development of interpersonal and group-relation skills. Students should be reading at grade level. Reading and written homework are regularly assigned, as well as outside readings, short research papers and outside projects. The course may be taught in the collaborative model, with the social studies teacher and the special education teacher working together to meet the needs of the individual student. Students take a departmental final exam. The state Regents exam in Global History & Geography is required at the end of the second year of study.

### **GRADE 10**

### ***AP World History*** 10

*(1 credit) Prerequisite: Global History 9*

The Advanced Placement course in world history is designed to provide students with the analytical skills and factual knowledge necessary to deal critically with the issues and materials in world history. Content specifications will generally conform to areas provided in both the AP World History and New York State Global History and Geography Curricula. Instructional emphasis will

be focused to prepare students for both the AP World history exam in May and the Global History & Geography Regents exam in June. While an open enrollment policy exists, a minimum final average of 90% in Global History 9R and a teacher recommendation is required to enroll in this class. Students are also required to complete a summer project.

### ***Global History & Geography 10R***

*(1 credit)*

This course is geared to students who read at grade level. Reading and writing skills will be developed through regular homework assignments, short reports, essays, and outside projects. The course may be taught in the collaborative model, utilizing the social studies teacher and the special education teacher to meet the needs of the individual student. Students take the state Regents exam in Global History & Geography as a final examination.

### ***World Geography***

*(1 credit)*

*Based upon recommendation only.*

This course is designed for students who require skill reinforcement and a slower pace while learning World Geography. The curriculum is based on the National Geography Standards and the New York State Alternate Assessment (NYSSA) Frameworks in High School Social Studies. This course is typically taken in conjunction with Global 10 R/C.

### ***GRADE 11***

As part of the Social Studies program, students in grade 11 take United States History and Government, which is divided into six major units: origins and development of the U.S. Constitution; impact of immigration and technology on the pluralistic culture; the progressive movement; territorial expansion both within and outside the continent; prosperity and depression; global crisis; and present-day United States. A strong emphasis is placed on current events in the United States. In addition, geography of significant events and changes is emphasized.

### ***Advanced Placement (AP) United States History 11***

*(1 credit)*

This college level course explores the fundamental concepts of the development of United States history. Emphasis on primary reading sources and U.S. historical documents hone analytical and critical thinking skills, which prepares students for the Advanced Placement (AP) exam in American History to earn college credit, and for the SAT II Achievement Test in American History for college acceptance and placement. While an open enrollment policy exists, a minimum final average of 90 in Global History 10R and a teacher recommendation is required to enroll in this class. Students are also required to complete a summer project.

### ***U.S. History and Government-11R***

*(1 credit)*

The same units are studied as in the Honors-level course. Reading assignments are given daily, and written homework is assigned on a regular basis to develop reading and writing skills. Some outside readings and brief reports are assigned, in addition to student discussion of current events. Students take the U.S. History and Government Regents exam in June as a final examination.

### **GRADE 12**

All students in grade 12 must take two required courses, Economics and Participatory Government, to be eligible for high school graduation. The possibility of alternative credit for the two required courses is available IF APPLIED FOR AND GRANTED BEFORE THE BEGINNING OF THE SENIOR YEAR. Other courses are available as electives for one or two semesters in addition to the required courses.

### ***Economics-R***

*(½ credit)*

*Open to seniors only.*

This course concentrates on three areas: economic theory, entrepreneurship and financial planning. Also studied are the basic concepts of economics: types of economic systems, supply and demand, financial and monetary

policies, governmental regulation of the economy and global interdependence as studied through the stock market and international trade. Consumer skills and business management skills are also stressed. Some group and/or individual projects may be required, in addition to regular homework assignments. A school-generated examination is given at the end of the course.

### ***Participatory Government-R***

*(½ credit)*

*Open to seniors only.*

The purpose of this course is to prepare students for effective citizenship. The course emphasizes development of public policy decision-making skills. Students will examine through library and field research the ways in which local, state and national governments interact with the public to form and implement policies.

### **ELECTIVE COURSES**

For students to enroll in a Social Studies elective class in their junior or senior year, students are required to have successfully passed the previous year's NYS Regents exam (Global History & Geography for upcoming juniors, US History & Government for upcoming seniors).

### ***Twentieth Century America at War***

*(1/2 credit) \*Based upon enrollment.  
Open to juniors and seniors only.*

Picking up where US History left off, this course will provide an in depth study of the United States at war in the twentieth and twenty first centuries. Beginning with World War I, and culminating in our modern day action in Iraq and Afghanistan, United States policies, intentions, and results of its involvement in war will be explored.

### ***Modern America Through Film***

*(1/2 credit) \*Based upon enrollment.  
Open to juniors and seniors only.*

This half year elective will build on the principles of U.S. History and will focus on a cultural and social context of American history based on the impact of film on American life. This class will analyze primary and secondary historical writings and films from the 20<sup>th</sup> century, and explore the impact of film on the cultural identity of the United States.

### ***Psychology***

*(1/2 credit) \*Based upon enrollment.  
(College credit may be earned from  
Columbia Greene Community College)  
Open to juniors and seniors only.*

This course is an overview of the principles of Psychology. Curriculum concentration is on human personality development, personality theory development, and abnormal behavior. The basic concepts of

discipline and major aspects of human behavior, such as brain and sensory functioning, emotion, learning, intelligence, motivation, and abnormal behavior will be discussed. Psychology will also provide an understanding of the research in social science, including hypothesis development, testing, collection of data, and analysis and reporting of findings. Students will take a teacher generated exam at the end of the course.

### ***Latin America I***

*(1/2 credit) \*Based upon enrollment.  
Open to juniors and seniors only.*

This unique history course will allow students to explore other nations in the Western Hemisphere. A case study approach will be used to study Argentina, Chile, and Brazil. An understanding of both Global and U.S. History is recommended for success in this elective.

### ***Latin America II***

*(1/2 credit) \*Based upon enrollment.  
Open to Juniors and Seniors only.*

This unique history course will allow students to explore other nations in the Western Hemisphere. A case study approach will be used to study Mexico, Cuba, Jamaica, and Central America. An understanding of both Global and U.S. History is recommended for success in this elective.

## TECHNOLOGY

Some courses have pre-requisites.

### ***Foundations of Technology***

*(½ credit) \*Based upon enrollment.*

Grades 9 – 12

This course is intended to be an introduction to the other courses offered by the technology department and will complement such courses by emphasizing problem-solving, critical thinking and communication skills through STEAM (Science, Technology, Engineering, Art, Mathematics) related curriculum. Students will focus on the three dimensions of technological literacy - knowledge, ways of thinking and acting, and capabilities—with the goal of developing the characteristics of technologically literate citizens.

Students will gain an understanding of technological innovation and the fact that it often results when ideas, knowledge, or skills are shared within a technology, among technologies, or across other fields of study. Students develop an understanding of engineering design, the formal process that transforms ideas into products or systems of the designed world.

### ***Aerospace Engineering I***

*(½ credit) \*Based upon enrollment.*

Grades 9 – 12

The goal for Aerospace Engineering I is to build students' knowledge of aeronautical and space related concepts through the study of the

engineering process. Students will work through many different projects, which will provide the basis for most or all of the learning that takes place in the course. Projects such as: building an airfoil, flight simulations, and designing and building model gliders and rockets will be featured in this course. Although the aerospace content of this course is very important, a main focus will be to better understand the engineering process in the context of aerospace engineering as it is practiced by engineers today. We will make use of technology, as well as hands on techniques.

### ***Aerospace Engineering II***

*(1/2 credit) \*Based upon enrollment.*

*Prerequisites: Aerospace Engineering I*

The goal for Aerospace Engineering II is to continue with students' knowledge of aeronautical related concepts, building from skills learned in Aerospace I. This course is designed to study Aerospace concepts with space related activities. Students will work through many different projects which will provide the basis for most or all of the learning that takes place in the course. Projects will include such activities as: designing and building rockets, building and programming robots and drones, using CAD software to design a space junk clean up machine, and mission launch simulation. Students will continue to learn aerospace content during the course, yet a main focus will be to better understand the engineering process in the context of

aerospace engineering as it is practiced by engineers today. We will make use of technology as well as hands on techniques.

### **Basic Electronics**

*(½ credit) \*Based upon enrollment.  
Grades 10 - 12*

This course covers Ohms law, direct current, alternating current, electrical measurement, semiconductors, transformers, power supplies and an introduction to robotics. Projects include constructing a 300 ma power supply and basic sound activated robot (rover).

### **Audio Electronics**

*(½ credit) \*Based upon enrollment.  
Prerequisite: Basic Electronics or permission of instructor. Grades 10 – 12*

This course will build upon the knowledge gained from Basic Electronics. Students will be working with digital electronics, logic gates, waves and pulses. These will be used to create circuits that amplify electricity and sound. Students will be using computers and integrated circuits to assist in the completion of these tasks. Students will also learn how computers are used in the audio industry.

### **Energy Systems/Residential Structures**

*(½ credit) \*Based upon enrollment.  
Grades 10 – 12*

This course covers all aspects of building a home. Studies include foundations, framing exterior, interior framing, roofing and insulation.

As a part of this course, students will investigate a wide range of energy

concepts, technologies and social issues using alternative and renewable energy as the focus.

### **Construction Systems**

*(½ credit) \*Based upon enrollment.  
Grades 10 – 12*

This course uses a hands-on approach to teaching the use of all tools of construction, hand and power tools, estimating construction costs and cabinet making. Students may complete a community project (i.e., constructing sleds, picnic tables).

### **Wood Manufacturing Systems**

*(½ credit) \*Based upon enrollment.  
Grades 9 – 12*

This technology systems course studies the elements of a manufacturing system and enables students to better understand manufacturing in industry. The students will develop skills in the use of wood working machinery, wood products and finishes, adhesives, raw materials and mass productions. Related career options will also be explored. Students will complete a mass production project and several individual projects.

### **Advanced Wood Manufacturing**

*(1/2 credit)\*Based upon enrollment.  
Prerequisite: Wood Manufacturing Systems*

This course is designed to further provide students with skills and experience necessary for the proper

production of wood products learned in Wood Manufacturing Systems. Students learn to build and finish various types of “case” style furniture utilizing several types of wood joints and construction methods. Examples of projects will include: designing and constructing cutting boards, personalized bookcases, dovetail shelving units, family jewelry boxes, and coffee or end tables. Project safety and proper operation of machines will be taught and practiced.

### ***Design and Drawing for Production (DDP) A\****

*- Formerly known as DDP/CAD A  
(½ credit) \*Based upon enrollment.  
Grades 9 –12*

DDP A is an entry level course into the world of Engineering Technology in which students create and build projects using the latest methods in the Engineering process. Working in teams students will be developing products and learn techniques in concepts, design, prototyping, and analysis. Students will cover the main technical drawing views in developing sketches and CAD models. This class will take place in a variety of locations within the STEAM departments in order for students to utilize and be exposed to all facets of Ichabod Crane STEAM programming.

### ***Design and Drawing for Production (DDP) B\****

*- Formerly known as DDP/CAD B  
(½ credit) \*Based upon enrollment.  
Prerequisite: DDP A / CAD A  
Grade 9 – 12*

DDP B is the continuation of DDP A. Students will be challenged with larger and more in-depth design problems. They will produce products based on presented scenarios. Students will gain a deeper understanding of the application of their design to the real world. In doing so, students will take into account various resources with special consideration to ecological and environmental impacts. Students will expand into marketing of their products. Students will create a 3D rendering and then produce a functional prototype consisting of several parts made out of a variety of products. The prototype may be produced by a 3D printer, in the art room, or wood shop.

### ***Architectural Design***

*(½ credit) \*Based upon enrollment.  
Prerequisite: DDP /CAD A & DDP/CAD B  
Grades 10 –12*

This course builds on skills learned in DDP/CAD A and B. Students will use Auto CAD to design exterior walls, roofing, plot plans and site orientation. A 3-dimensional model will be built to match students’ designs.

### ***Career & Financial Management***

*(½ credit) \*Based upon enrollment.  
Grades 10 – 12*

This course is required for all students pursuing a sequence in Business, Home Economics, Technology or Vo-Tec. Students will be introduced to the world of work and guided through their roles within the work place and home. Personal resources, economic systems, insurance, banking, budgets, money management and careers are topics of discussion. This course may be taught collaboratively with a special education teacher.

### ***Transportation Systems***

*(½ credit) \*Based upon enrollment.  
Grades 10 – 12*

Transportation systems will acquaint students with a range of methods used to move people, materials, and products, across land, sea and air. The study of these systems will be the main focus of the course and will include the theory of operation and scientific principles of transportation. Hands on skills will be developed via construction of model cars, planes, rockets, and boats. Students will also learn the theory behind internal combustion engines while developing their abilities to repair and maintain small engines, which are crucial to modern and future transportation systems.

### ***Technological Design***

*(1/2 credit) \*Based upon enrollment  
Prerequisite: Foundations of Technology  
Grades 9-12*

In Technological Design, engineering scope, content, and professional practices are presented through practical applications. Students in engineering teams apply technology, science, and mathematical concepts and skills to solve engineering design problems and create innovative designs. Students will research, develop, test, and analyze engineering designs using criteria such as design effectiveness, public safety, human factors, and ethics.

This course is an essential experience for students who are interested in technology, innovation, design, and engineering.

## 5 Unit Sequence in Technology

### Required 2.5 credits from a combination of:

- ~ Basic Electronics\*
- ~ DDP A (formerly CAD A)
- ~ Career and Financial Management\*
- ~ Home Construction\*
- ~ Wood Manufacturing\*
- ~ Foundations of Technology\*
  - Beginning in the 2016-2017 school year, Foundations of Technology is a required course in this sequence for incoming 9<sup>th</sup> grade students.

### Choose 2.5 additional electives:

- ~ Aerospace\*
- ~ Residential Structures\*
- ~ Audio Electronics \*
- ~ DDP B (formerly CAD B)\*
- ~ Architectural Design\*
- ~ Basic Photography\*
- ~ Transportation Systems\*
- ~ Technological Design\*

*\*These courses may not be offered every year*

## SEMINAR COURSES

### ***Freshman Seminar***

*(Non-credit course)*

Freshman Seminar encompasses activities and learning experiences that fall outside the bounds of a traditional academic course. Students learn to understand the culture of a new environment, identify and seek help from available resources both inside and outside of the high school, identify and develop positive relationships with peer groups, interpret information about their own academic performance and to set realistic goals for high school and beyond. Freshman Seminar is required for all in-coming first-time freshmen. Students meet for 40 minutes every other day through the first semester in this interactive classroom setting.

### ***Senior Seminar***

*(Non-credit course)*

In an interactive seminar format, seniors in Senior Seminar are provided with background tools necessary to make informed decisions as they relate to post-secondary life. Topics include career and college planning, personal financial planning, and emotional and social issues that relate to life in and out of the high school walls. This one-semester course is required for all seniors who have space in their schedule in the fall.

## **Career and Technical Education (CTE)**

Ichabod Crane students may opt to participate in vocational education programs through the Questar III Educational Center in Hudson. These two-year programs are offered primarily to juniors and seniors in good academic standing and are able to meet graduation requirements in four years. In some cases students may earn CTE credits toward academic requirements for graduation. Please see your school counselor for details. Programs are as follows:

- ~ Information Technology
- ~ Automotive Technologies
- ~ Aviation
- ~ Certified Nurse Assistant (Seniors only)
- ~ Construction Technologies
- ~ Cosmetology
- ~ Criminal Justice
- ~ Culinary Arts
- ~Emergency Medical Technician (EMT) and Health Careers
- ~ Heating, Ventilation, Air Conditioning (HVAC) and Renewable Energies
- ~STEM at SUNY Polytechnic Institute (Seniors only)
- ~Theater Institute at Sage (TIS) (Seniors Only)
- ~ Welding/Metal Fabrication

### **Student Activities**

In addition to career/technical and academic studies, Questar III students have a variety of extra-curricular activities available that encourage leadership, volunteerism, interaction with community and business people, as well as regional, state and national competitions. Some of those activities include: B.E.S.T. Portfolio, HOSA, National Technical Honor Society, ProStart, Service Learning and SkillsUSA.

### **Information Technology**

Students can choose between a Cisco Networking Academy pathway or a Computer Programming pathway. The curriculum will be based on which pathway is chosen.

### **Automotive Technologies**

Utilizing state-of-the-art professional tools and computer systems, students learn automotive repair and maintenance skills. The program is Automotive Service Excellence (ASE) certified from the National Automotive Technicians Education Foundation (NATEF). This means the program meets or exceeds industry-recognized, uniform standards of excellence.

### **Aviation**

As the only high school flight training program in the Capital District, Aviation prepares students for the FAA flight test for a private license. Possible career opportunities include commercial pilot, air traffic controller, FAA administrator or airframe and power plant mechanic.

### **Certified Nurse Assistant**

*(Seniors only)*

Through classroom theory, laboratory and hands-on clinical instruction, students who complete the program are eligible to take the NYS Nurse Assistant Certification Exam.

### **Construction Technologies**

Certified by the National Home Builders Institute, students learn construction, renovation skills, and explore new “green” building technologies. They can also earn an OSHA Safety Training Certificate. Students receive extensive training in home energy efficiency and have the opportunity to receive a Home Energy Analyst & Technician (HEAT) Certificate of Completion through a partnership with Hudson Valley Community College’s Workforce Development Institute under funding from the New York State Energy Research & Development Authority (NYSERDA). This program also has work-based learning including opportunities with Habitat for Humanity.

### **Cosmetology**

This program combines classroom theory, clinical experience, work-based learning and portfolio development in completing the required 1,000 hours of curriculum to obtain a NYS license for a career in the appearance enhancement industry.

### **Criminal Justice**

Through classroom instruction, field trips and meetings with professionals in the field, students learn state-of-the-art techniques to prepare for post-secondary studies or a career in law enforcement and the criminal justice system.

### **Culinary Arts**

The Culinary Arts program teaches students the management and culinary skills needed for a career in the hospitality industry, including classroom study, lab work, mentored work experiences, and the opportunity to test their skills in competitions. The curriculum is based on ProStart, supported by the National Restaurant Association Educational Foundation.

### **Emergency Medical Technician and Health Careers**

This program will prepare students for the NYS EMT certification as well as provide opportunities for students to explore different types of careers that are within the health field.

### **Heating, Ventilation, Air Conditioning (HVAC) and Renewable Energies**

With classroom instruction and project-based learning, students learn design, installation and repair of HVAC systems, emerging technologies including wind, solar and geothermal, and can obtain EPA certifications.

Students receive extensive training in home energy efficiency and have the opportunity to earn the HEAT Certificate (see under Construction Technologies).

### **Theater Institute at Sage (TIS)**

The TIS Internship program is an intensive, one semester theater experience that is based on the internship program model used by the former New York State Theater Institute (NYSTI). Students will work on four productions during the semester while earning high school credit and taking college courses.

### **Welding/Metal Fabrication**

Based on skill standards from the American Welding Society, students focus on safety, metal fabrication and basic machine-tool operation in the metal-working industry for employment or further education.

### **New Visions**

*Academically Challenging Programs for High School Seniors Only*

Students may apply for a one-year New Visions career exploration program for their senior year through Questar. Please see your school counselor for details. Programs are as follows:

- ~ Science, Technology, Engineering, Math (STEM)
- ~ Scientific Research & World Health
- ~ Visual & Performing Arts
- ~New Visions Medical

### **Science, Technology, Engineering, Math (STEM)**

STEM students are at the forefront of technology in all fields. They explore careers that: combat world hunger; rescue the environment; save thousands of children from fatal disease; and help millions of people live more comfortable and productive lives. Students study how to implement state-of-the-art science as they explore the world of technology and engineering.

### **Scientific Research and World Health**

Gain a worldwide perspective on health while learning how scientific and mathematical principles are applied to promote health and prevent disease. Located at the University at Albany's East Campus in East Greenbush, students participate in health focused research environments.

**Visual & Performing Arts**

This unique program provides opportunities to explore a wide array of careers in the visual and performing arts. Based at The Arts Center of the Capital Region in Troy, the program blends an integrated curriculum in college-level English, music, art, theatre and film studies with hands-on experience in a creative academic environment.

**New Visions Medical**

New Visions Medical program is located at Samaritan Hospital in Troy, in partnership with Northeast Health, The Sage Colleges, and HVCC. The program will expose motivated seniors to a wide variety of medical professions through shadowing and hands-on laboratory experiences. Students will be enrolled in Medical Physics and Anatomy and Physiology at Russell Sage College