

PROGRAM PLANNING GUIDE

2024 - 2025



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

2024 - 2025

TABLE OF CONTENTS

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Introduction	3
Qualifications for Promotion	4
Graduation Requirements	4
Honor Roll/High Honor Roll	4
Regents and Common Core Exams	5
Scheduling Timetable	6
Procedure for Schedule Changes	6
Withdrawing from a Course	6
Student Average and Class Rank	7
NCAA Eligibility	7
Alternative Methods for Earning Credits	8
Challenging a Course	9
Auditing a Course	9
Early College Admission	10
Enrichment Courses	10
Special Education	10
Distance Learning	10
College Courses	11
Course Descriptions	12
Art	12
English	15
Internship	17
English as a New Language (ENL)	18
Mathematics	18
Music	22
Physical Education and Health	24
Science	25
Social Studies	28
Technology	31
Seminar Courses	34
World Languages	35
Distance Learning	36
Career & Technical Education (CTE)	37
New Visions	39

PUBLIC NOTICE - 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/their 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 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 with their counselor to review and select courses for the next year.

Department team leaders 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.



Note to students and parents - The high school hopes to offer all courses described in this Program Planning Guide during the 2024-2025 school year, but some courses may be canceled due to insufficient enrollment, scheduling conflicts, or budget constraints. Additionally, Regents/Common Core exam requirements are subject to change based on Board of Regents decisions. Please see your school counselor for the most recent updates.



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 grade 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



ICHABOD CRANE GRADUATION REQUIREMENTS

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

	Regents Diploma	Advanced Regents Diploma
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
World Language	1 unit	3 units**

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

**Students acquiring a sequence in Art, Technology, or Music may be exempt from the 3-unit requirement in a World Language. Those students must have completed 1 unit of study in World Language.

Completion of Technology Portfolio

Students are required to add two projects per year to the Technology Portfolio. Successful completion of the Technology Portfolio is a graduation requirement. This portfolio ensures that students are developing their 21st Century skills and meeting International Society for Technology in Education (ISTE) Standards. Each project must meet at least one of these standards.



HONOR ROLL/HIGH HONOR ROLL

Honor rolls are calculated at the end of each marking period. 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. Students with any incomplete (INC) grades will not be included in the calculation of Honor/High Honor Roll.



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

REGENTS DIPLOMA:

Students who plan to receive a REGENTS DIPLOMA must pass 5 Regents exams with a 65 or above.

- English
- Math
- Global History & Geography
- U.S. History & Government
- Science

Students must pass all 5 required Regents exams with a 65 or above.

Other options for students with disabilities will be explored, if necessary.

ADVANCED REGENTS DIPLOMA:

Students who plan to receive an ADVANCED REGENTS DIPLOMA must pass the following Regents exams with a 65 or above:

- English
- Algebra
- Geometry
- Algebra II
- Global History & Geography
- U.S. History & Government
- Living Environment **AND one of the following** Earth Science **OR** Chemistry **OR** Physics
- World Language Department Exam*

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



January/June/August Regents & Common Core Examinations

Ichabod Crane offers January, June, and August 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.

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)*, Grades 11, 12
- ~Interest Inventories (in Naviance), Grades 9 – 12
- ~Advanced Placement Tests (for students enrolled in appropriate courses)

*Testing locations available in Columbia County



SCHEDULING TIMETABLE

The scheduling process for high school students begins in December for grades 9, 10, and 11 and runs through mid-March. Course selection meetings are held for each student. During the course selection meeting, students choose appropriate courses for their four-year academic plan. Students' course requests will be mailed home in March/April for final approval. 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 in writing no later than the date given in the letter mailed home after course selection has been completed. **Please note that courses picked during course selection are requests only. The Counseling Department makes every effort to accommodate all requests, but core academic classes are scheduled as a priority.**



PROCEDURE FOR SCHEDULE CHANGE

Students and parents should be aware that except under the most compelling of circumstances, schedule changes will not be permitted.

Adding a course: Students may add a course to their schedule at the beginning of each semester if they are replacing a study hall. Adding a course to a schedule requires permission of the teacher.

Level changes: Should an extreme circumstance arise where your child is requesting a level change in a subject, a letter must be submitted to the Counseling and Career Center requesting the change along with a completed course adjustment request form. The decision will be discussed with the department team leader of the subject in question, and the final determination will lie with the High School Principal.



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. In these rare instances:

- A student is able to drop a full-year course, if and only if they replace it with another full-year course, up to and including the last day of the first week of the first quarter.
- A student is able to drop a fall semester course, if and only if they replace it with another fall semester course, up to and including the last day of the first week of the first quarter.
- A student is able to drop a spring semester course, if and only if they replace it with another spring semester course, up to and including the last day of the first week of the third quarter.
- Transcripts will permanently reflect a dropped course. The transcript will designate a "WP" for Withdraw Pass or "WF" for Withdraw Fail to designate the student had a passing or failing overall average at the time of the drop. The WP or WF for the course will be listed on the student's permanent record/transcript after the first week of the first quarter.





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.



NCAA ELIGIBILITY - NCAA APPROVED COURSES OFFERED AT ICHABOD CRANE

ENGLISH

- AP English 11
- Creative Writing I
- Creative Writing II
- English Composition and Literature - CGCC
- English Composition - CGCC
- English 10H
- English 10R
- English 11R
- English 12R I
- English 12R II
- English 9H
- English 9R
- Humanities I
- Humanities II
- Journalism
- Oral Interp
- Science Fiction & Fantasy Literature
- Economics
- Global Studies 10R
- Global Studies 9H
- Global Studies 9R
- Latin America - Fall & Spring
- Modern America Through Film
- Participatory Government
- Psychology - CGCC
- US History and Government R
- Western Civilization - CGCC
- Computer Programming
- Geometry H
- Geometry R
- Intro to Computer Science - Siena
- Introduction to Programming
- Intro go Software Development - Siena
- Pre-Calculus Fall
- Pre-Calculus H Fall - CGCC
- Pre-Calculus H Spring
- Pre-Calculus Spring - CGCC
- Sports Statistics
- Statistics - CGCC
- Earth Science H
- Earth Science R
- Environmental Studies
- Environmental Sustainability
- Forensics I
- Forensics II
- Organic Chemistry
- Physics R

MATH

- Algebra B
- Algebra B2
- Algebra H
- Algebra II
- Algebra II H
- Algebra R
- AP Calculus AB
- College Algebra - CGCC
- College Algebra & Trigonometry - CGCC

SCIENCE

- Anatomy/Physiology
- AP Physics I
- Applied Chemistry
- Applied Physics
- Advanced Biology
- Biology H
- Biology R
- Chemistry H
- Chemistry R

OTHER COURSES

- DL Fleur de Lis
- DL French V - SUNY
- DL Langue et Culture Francaises
- French I
- French II
- French III
- French IV - SUNY
- French V - SUNY
- Spanish & Latin American Cinema
- Spanish & Latin American Literature
- Spanish I
- Spanish II
- Spanish III
- Spanish IV - SUNY
- Spanish V - SUNY

SOCIAL STUDIES

- 20th Century America at War
- AP United States History 11
- AP World History





ALTERNATIVE METHODS FOR EARNING CREDITS

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% 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.

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 team leader. 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 team leader 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.

Homebound 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, 10 hours of tutoring is provided 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 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.



ALTERNATIVE METHODS FOR EARNING CREDITS - Continued

Homebound Instruction - Continued

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.



CHALLENGING A COURSE FOR REGENTS CREDIT

A student may challenge a course for credit if:

- A 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**
- A 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**
- A 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.



AUDITING COURSES

Auditing courses is allowable under specified circumstances, which can vary by department and is subject to prior approval by the team leader 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.

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. 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 (518-758-7575, Extension 6008).

DISTANCE LEARNING

Ichabod Crane High School joined the Northeast Regional Information Center (NERIC) Distance Learning Network in the 2019-20 school year. We created a new Distance Learning Lab in the high school library to accommodate these classes. This room and accompanying technology allows students an interactive method of accessing curriculum taught at other school districts in the area. Students enrolled in a Distance Learning Network course will connect with classmates remotely and foster connections beyond the walls of the classroom and Ichabod Crane High School. Distance Learning classes are offered tentatively each year pending student enrollment and availability of each course.

ADVANCED PLACEMENT

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





College Courses

Columbia-Greene Community College

AR 106 - Ceramics I
Full year course offered as Advanced Ceramics & Sculpture
3 college credits

AR 119 - Basic Drawing
Full year course offered as Advanced Drawing & Painting
3 college credits

AU 128 - Introduction to Automotive Repair
Full year course offered as Automotive Technology I
4 college credits

EN 101 - Composition
Fall semester course
3 college credits

EN 102 - Composition & Literature
Spring semester course
3 college credits

MA 110 - College Algebra
Half year or full year depending on scheduling
4 college credits

MA 117 - College Algebra/Trigonometry
Spring semester course
4 college credits

MA 111 - Pre-Calculus H
Fall semester course
4 college credits

MA 111 - Pre-Calculus
Fall and spring semester courses, must complete both
4 college credits

MA 102 - Statistics
Full year course
3 college credits

PY 101 - General Psychology
Fall and/or spring semester course
3 college credits

University in the High School

University at Albany
ASPN 200 - Spanish IV
Full year course
4 college credits

ASPN 201 - Spanish V
Full year course
4 college credits

SUNY Oswego
FR 201 - Fleur de Lis
Full year course
3 college credits

Siena College
CSIS-110 - Introduction to Computer Science
Full year course
3 college credits

CSIS-120 - Introduction to Software Development
Full year course
4 college credits

Courses where college credits may be earned

Child Psychology and Development
Full year course
Through SUNY Schenectady County Community College
4 college credits

MUS147- Music Theory I
Full year course
Through SUNY Schenectady County Community College
3 college credits

BUS121 - Business Law
Fall Semester Course
Through College of Saint Rose
3 college credits

Advanced Placement Courses

AP English 11
AP World History
AP US History
AP Calculus AB
AP Biology (Advanced Biology)
AP Physics I

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

COURSE DESCRIPTION KEY

AP - Advanced Placement
H - Honors
R - Regents

Art Department

Studio A and Studio B

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

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. Projects from both classes are specifically designed to give students an experience in each area offered: Painting and Drawing, Sculpture, Illustration, Ceramics, Digital Art, Photography, and Graphic Design. Studio A and Studio B are not sequential, and either can be taken independently for 1/2 credit, but students will need to complete both courses in order to receive the full credit in art required for high school graduation. *Studio A and/or B are the prerequisites to all upper level art courses. Exceptions may be made with teacher recommendation.*

Sculpture I

Grades 10, 11, 12 **1 year** **1 credit**

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

Ceramics I

Grades 10, 11, 12 **1 year** **1 credit**

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

Advanced Ceramics & Sculpture (CGCC)

Grades 10, 11, 12 **1 year** **1 credit**

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 ideas 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 coregistration with CGCC in the spring semester, students may receive three college credits for AR106 Ceramics I, transferable to many colleges. *Prerequisite: Ceramics I or Sculpture I or teacher recommendation.*

Photography

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

This is an introductory photography class for students who are interested in learning the basic functions of the digital SLR camera. Digital photography 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. *Prerequisite: Studio A and Studio B **Students may enroll with one Studio prerequisite with teacher recommendation.*

Art Department - *Continued*

Advanced Photography

Grades 10, 11, 12 **1/2 year** **1/2 credit**

Photography becomes a tool for creative expression in this half 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. *Prerequisite: Photography.*

Drawing & Painting I

Grades 10, 11, 12 **1 year** **1 credit**

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

Advanced Drawing & Painting (CGCC)

Grades 10, 11, 12 **1 year** **1 credit**

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 AR119 Basic Drawing, transferable to many colleges. *Prerequisite: Drawing & Painting I.*

Digital Art

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

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

Advanced Digital Art

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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! *Prerequisite: Digital Art.*

Art Department - *Continued*

Graphic Design

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

Graphic design uses visuals to communicate ideas. In this half year digital art class, students will learn the program Adobe Illustrator through a variety of real world, career-based design projects. This is a great class for those who are looking for a practical application for their interest in art and design. Students who take graphic design may progress to Advanced Digital Art if they so choose. *Prerequisite: Studio A and B*

***Students may enroll with one Studio prerequisite with teacher recommendation.*

Illustration I

Grades 10, 11, 12 **1 year** **1 credit**

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” as-

signments, 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. *Prerequisite: Studio A and Studio B*
***Students may enroll with one Studio prerequisite with teacher recommendation.*

5 Unit Sequence in Art

Studio A and Studio B (1/2 credit each)
(required)

4 additional credits - choose from:

Drawing and Painting I (1 credit)
Illustration I (1 credit)
Adv. Drawing & Painting (1 credit)
Sculpture I (1 credit)
Ceramics I (1 credit)
Adv. Ceramics & Sculpture (1 credit)
Photography (1/2 credit)
Advanced Photography (1/2 credit)
Digital Art (1/2 credit)
Advanced Digital Art (1/2 credit)





English Department

English 9H

Grade 9 **1 year** **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 90% and 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

Grade 9 **1 year** **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

Grade 10 **1 year** **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 90% and a recommendation from the previous year's teacher is suggested.

English 10R

Grade 10 **1 year** **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 Eng-

lish 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

Grade 11 **1 year** **1 credit**

This Honors class is designed for the advanced student to meet the AP English Literature and Composition course requirements and will also 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. *Prerequisite: Average of at least 90% in previous English courses and teacher recommendation.*

English 11R

Grade 11 **1 year** **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

Grade 11 **1 year** **1 credit**

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. *Based on recommendation.*

English Department - *Continued*

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 & English 12R II **OR**
3. EN101 and EN102

Humanities I & II

Grade 12 **1/2 year each** **1/2 credit each**

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. *Prerequisite for Humanities II is Humanities I.*

English 12R I

Grade 12 **1/2 year** **1/2 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

Grade 12 **1/2 year** **1/2 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)

Grade 12 **Fall semester** **1/2 credit**

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 12RII. College

credit may be received upon successful completion and co-registration with CGCC. (3 college credits)

EN102 Composition & Literature (CGCC)

Grade 12 **Spring semester** **1/2 credit**

This course continues the reading and writing of EN101. 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 12RI. College credit may be received upon successful completion and co-registration with CGCC for three college credits. *Prerequisite: EN101.*

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

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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.

English Department - *Continued*

Creative Writing II

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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 meta-cognitive 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. *Prerequisite: Creative Writing I*

Journalism

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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.

Science Fiction and Fantasy Literature Study

Grades 10, 11, 12 **1/2 year** **1/2 credit**

This course will discuss the social concerns and symbolism often associated with the Sci-

ence Fiction and Fantasy genres. Students will read and analyze various recent and classic texts and discuss author style and the literary merits of the selections. They will write analysis papers and take quizzes and tests on the various literature we study and there will also be a creative project required.

Explorations in Literature

Grades 11, 12 **1 year** **1 credit**

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. *Based on recommendation only.*

Internship Program

Career Exploration Internship Program (CEIP)

Grade 12 **1/2 to 1 year** **1/2 credit**

CEIP is an internship program that allows students to get out into the community and spend time exploring career opportunities in the field of their choice. The instructor will work with the student to find an internship placement where they will spend a minimum of 54 hours. In addition

to the internship experience, students will also have a minimum of 27 hours of in-class instruction in topics such as professionalism, workplace safety, resume writing, interviewing, etc. The course is a semester course (0.5 credit) and it is recommended that students enroll starting in the Fall semester as they may be able to continue their internship for the remainder of the school year.

English As a New Language

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 in which 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 on 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 11th grade is to prepare for the English Regents Exam required for graduation, in addition to improving English proficiency across all subject skills.

Mathematics Department

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

Grade 9 **1 year** **1 credit**

Algebra Honors is designed for students with strong skills in mathematics who plan 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. *Prerequisite: An average of A or higher in Math 8 and teacher recommendation is required. Recommendation: A TI84+ is highly recommended for this course.*

Algebra R

Grade 9 **1 year** **1 credit**

Algebra is a first course in a traditional sequence of mathematics courses taken at the high school level. Students are required to have at least three math credits for graduation. In addition, students must pass (65 or higher) the Al-

gebra regents in June to meet the graduation requirement. Topics to be covered include, but are not limited to: Linear functions, quadratic functions, exponential functions, polynomials, radicals, statistics, series and sequences. Students must be able to use a graphing calculator for many topics in this course, including the Regents. *Recommendation: A TI84+ is highly recommended for this course.*

Algebra B

Grade 9, 10, 11, or 12 **2 years** **2 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

Grade 9, 10, 11, or 12 **1 year** **1 credit**

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. *Based upon recommendation only.*

Mathematics Department - *Continued*

Geometry H

Grade 10 **1 year** **1 credit**

This course provides a more 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. *Prerequisite: A minimum average of 85 in Algebra H, and a score of at least an 85 on the Algebra Regents or the Algebra H final exam is required. A student with at least a 90 average in Algebra R and a minimum score of 85 on the Algebra Regents or a 90 on the Algebra I final exam may enroll with teacher recommendation and permission from the Team Leader.*

Geometry R

Grade 10 **1 year** **1 credit**

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. *Prerequisite: Algebra credit. A score of at least 65 on the Algebra Regents and the Algebra 1 final exam is required.*

Applied Math

Grade 10, 11, 12 **1 year** **1 credit**

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

Consumer Math

Grade 10, 11, 12 **1 year** **1 credit**

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 Develop-

ment and Occupational Studies (CDOS) Learning Standards. *Based upon recommendation only.*

Intermediate Algebra

Grade 10, 11, 12 **1 year** **1 credit**

This course is designed to meet the needs of students desiring to improve, maintain, and 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 Intermediate Algebra is taken as a student's 3rd credit, the student, upon successful completion, would be eligible to enroll in College Algebra or Statistics for their 4th credit. *Prerequisite: An average of at least 65 in Algebra is required.*

Algebra IIH

Grade 10, 11, 12 **1 year** **1 credit**

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. *Prerequisite: Algebra and Geometry. A minimum average of 85 in Geometry H and a score of at least 85 on the Geometry Regents or the Geometry H final exam is required. A student with at least a 90 average in Geometry R and a minimum score of 85 on the Geometry Regents or a 90 on the Geometry R final exam may enroll with teacher recommendation and permission from the Team Leader.*

Mathematics Department - *Continued*

Algebra II

Grade 10, 11, 12 **1 year** **1 credit**

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. *Prerequisite: Algebra and Geometry credit. A minimum final average of 75 in both Algebra R and Geometry R is recommended. A score of at least 65 on the Geometry regents and on the Geometry final exam is required.*

College Algebra - CGCC - MA110

Grade 12 **Fall Semester** **1/2 credit**

This course is designed for students who are seeking a 4th credit in Math. The course is designed to challenge the student while providing the student an opportunity to earn college credit. 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. *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.*

College Algebra/Trigonometry - CGCC - MA117

Grade 12 **Spring Semester** **1/2 credit**

This course is designed for students who are seeking a 4th 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 rational, exponential, and logarithmic

and trigonometric 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. *Prerequisite: Algebra 2 or College Algebra and teacher recommendation. This course is designed for students who have completed Algebra II or have successfully completed MA110, College Algebra. Students are required to have at least an 80 average for all previously taken Math courses in order to be eligible for CGCC credit.*

Pre-Calculus Honors Fall - CGCC - MA111 & Spring

Grade 11, 12 **1/2 Semesters** **1/2 credit each**

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

Pre-Calculus Fall & Spring - CGCC - MA111

Grade 11, 12 **1/2 Semesters** **1/2 credit each**

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.

Mathematics Department - *Continued*

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

Statistics (MA102-36) - CGCC

Grade 12 **1 year** **1 credit**

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. *Prerequisite: Students are required to have at least an 80 average for all previously taken Math courses to be eligible for CGCC credit. Students are required to have a passing grade in Algebra II, a passing grade on the Algebra II Regents and three high school math credits.*

AP Calculus AB

Grade 12 **1 year** **1 credit**

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

Introduction to Programming

All Grades **1/2 year** **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 four 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 place in a computer lab.

Computer Programming

All Grades **1/2 year** **1/2 credit**

Computer Science jobs are currently growing at twice the national average. 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

All Grades **1/2 year** **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.

Mathematics Department - *Continued*

Introduction to Computer Science - Siena College - CSIS110

Grade 11, 12 **1 year** **1 credit**

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

Introduction to Software Development - Siena College - CSIS120

Grade 11, 12 **1 year** **1 credit**

This Siena College dual-enrollment course is an introduction to object-oriented software development using the Java programming language. Students will develop and practice the skills needed to write, modify, document, test, debug, and trace the operation of computer programs written in Java. Specific concepts and tasks that

students will develop proficiency with include variables, data types, control structures (sequence, selection, and repetition), arrays, ArrayLists, methods, objects, and classes. Students will develop problem-solving skills and be able to translate algorithmic solutions to a Java implementation. Students taking this course at the high school can earn 4 college credits for a (flat) \$250 tuition rate. (Tuition is waived for students qualifying for free or reduced lunch.) *Prerequisite: CSIS110 Introduction to Computer Science*

Sports Statistics

Grade 11, 12 **1/2 year** **1/2 credit**

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. *Prerequisite: 2 Credits of High School Math*

Music Department

Band and Chorale meet the New York State requirements for one year of art/music in high school and allow students to be considered for membership in New York State School Music Association (NYSSMA)-sanctioned events.

5 Unit Sequence in Music

Music Theory I and II
3 Years of Band or Chorus

Band/Instrumental Lesson

All Grades **1 year** **1 credit**

Students will have the opportunity to develop an advanced level of musical interpretation, perfor-

mance, 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, and stage presence skills 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 all scheduled performances.

Music Department - *Continued*

Chorale/Vocal Lesson

All Grades 1 year 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 performance 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, and drum set). *Membership is by successful audition only.*

Music Theory I - SCCC - MUS147

All Grades 1 year 1 credit

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 principles of harmony. Students will experience basic piano keyboard skills. Students entering this class should already have strong music reading skills. Students may be eligible for college credit through Schenectady County Community College. *The recommendation of the music teacher is suggested.*

Music Theory II

Grade 10, 11, 12 1 year 1 credit

Students will continue to study skills of harmonic principles 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. Students will continue the study of basic piano keyboard skills. *Prerequisite: Successful completion of Music Theory I.*

Music Theory III

Grade 11, 12 1 year 1 credit

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. *Prerequisite: Successful completion of Music Theory II*

Guitar I

Grades 9, 10, 11, 12 1 year 1/2 credit

Guitar I is designed to offer students the opportunity to learn beginning guitar methods. Students will develop technical skill in chord playing, note reading, and scales, enabling them to perform a varied repertoire of beginning guitar literature.

Guitar II

Grade 10, 11, 12 1/2 to 1 year 1/2 to 1 credit

(1 credit for full year or 1/2 credit for semester for students unable to schedule full year Guitar II, with permission of the instructor.)

In Guitar II, students will develop skills of position studies, primary and secondary chords, finger-picking technique, and scales. Students will study, rehearse, and perform intermediate guitar solo and ensemble literature with correct technique and expression. This is a full year course, which may be taken for one semester with permission of the instructor. *Prerequisite: Guitar I*

Music Department - *Continued*

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 Department

Health

Grade 10, 11, 12 **1/2 year** **1/2 credit**

Health is a semester course required for graduation. The main units covered during the course are: nutrition, disease, substance abuse, mental health and wellness, and sexuality. Mini-units on stress, family issues, and current event topics will also be included.

Physical Education

All Grades **1/2 year** **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.

Dress Code - 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. 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, and effort. Grades are included in determining 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 Department

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. Laboratory experiences are required for all Regents sciences. Students taking a Regents science course must complete 1200 minutes of hands-on laboratory work with successfully written lab reports and pass a Regents examination to receive Regents credit for the course.

Level I:

Physical Science - Earth Science

Grade 9 **1 year** **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. All students must be enrolled in Regents Earth Science lab.

Honors PS - Earth Science

A minimum final average of A in grade 7 and 8 Science is required for students enrolling in this course. This course provides a more in-depth study of the topics in the Core Curriculum guide offered by New York State. Additional content is covered to prepare students for upper level physical sciences. Students should be enrolled in either Honors Algebra or Geometry.

Regents PS - Earth Science

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. A passing average in Science 7 and 8 is required for students enrolling in this course.

General Earth Science

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 Cur-

riculum guide offered by New York State, and may be taken in conjunction with Earth Science R. *Based on recommendation only.*

LEVEL II:

Living Environment - Biology

Grade 10 **1 year** **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. All students must be enrolled in Biology lab.

Honors LE - Biology

A minimum final average of 85% in Honors Earth Science or 90% in Earth Science, a minimum of 85% on the Earth Science Regents, and teacher recommendation is required for students enrolling in this course. Students should be enrolled in Geometry. This course provides a more in-depth study of the topics in the Core Curriculum Guide offered by New York State. Additional topics will be covered that will help students prepare for upper level science courses.

Regents LE - Biology

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

Unified Science

This course is designed for students who require skill reinforcement and a slower pace when learning (life science) Biology. The curriculum is based on the Common Core Curriculum Guide offered by New York State and is typically taken in conjunction with Living Environment. *Based upon recommendation only.*

Science Department - *Continued*

Level III:

Physical Science - Chemistry

Grade 11 **1 year** **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 Chemistry must be enrolled in Algebra II. All students must be enrolled in Chemistry lab.

Honors PS - Chemistry

A minimum final average of 85% in Honors Earth Science or 90% in Biology, a minimum of 85% on the Biology Regents, and teacher recommendation is required for students enrolling in this course. This course provides a more in-depth study of the topics in the Core Curriculum offered by New York State. Students should have passed both the course and the Regents exam in Geometry and be enrolled in Algebra II.

Regents PS - Chemistry

A minimum final average of 75% in Science is required for students enrolling in this course. 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 Algebra II.

LEVEL IV:

Physical Science - Physics

Grade 12 **1 year** **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. 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.

Regents PS - Physics

A minimum final average of 70% in Science is required for students enrolling in this course. A strong background in Algebra and Algebra II is required. Students should be enrolled in or have passed Algebra II.

AP Physics I

A minimum final average of 90% from Regents Chemistry and teacher recommendation or 85% from Honors Chemistry and teacher recommendation is required for students enrolling in this course. Mastery on the Algebra II Regents is also required. Ideally, students will have enrolled in or have successfully passed Pre-Calculus. This course provides a more in-depth study of the topics in the Core Curriculum offered by New York State at a faster pace. The course includes additional topics needed for the AP Physics I Exam.

SCIENCE ELECTIVES

Applied Chemistry

Grade 11 **1 year** **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.

Physics of Food

Grade 12 **1 year** **1 credit**

This full-year course applies selected topics from general physics to food systems with a focus on experimentation and food engineering. Students will learn the basics of food science and use these ideas to meet engineering challenges. Chemical/biochemical reactions of carbohydrates, lipids, proteins, and other constituents in fresh and processed foods are discussed with respect to food quality. Reaction conditions and processes that affect color, flavor, texture, nutrition, and safety of food are emphasized.

Science Department - *Continued*

Advanced Biology

Grades 11, 12 **1 year** **1 credit**

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

Anatomy/Physiology

Grades 11, 12 **1 year** **1 credit**

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

Environmental Studies

Grade 12 **1 year** **1 credit**

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.

Intro to Organic Chemistry

Grade 12 **1/2 year** **1/2 credit**

Organic chemistry, the study of carbon compounds and 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 with 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. *Prerequisite: 85% or better required in Regents Chemistry; must also be enrolled in Physics or have completed the core science program. Students who passed Earth Science in 8th grade may take this course based on teacher recommendation only in 11th grade.*

Forensics I

Grades 11, 12 **1/2 year** **1/2 credit**

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. *Prerequisite: 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.*

Science Department - *Continued*

Forensics II

Grades 11, 12 1/2 year 1/2 credit

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. *Prerequisite:* 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.

Social Studies Department

GRADE 9 and 10

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.

personal and group-relation skills are emphasized. 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.

Global History & Geography 9H

Grade 9 1 year 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 10th grade.

Global History & Geography 9R

Grade 9 1 year 1 credit

The Regents-level Global History 9R class will focus on review and reinforcement of content. Reading and writing skills, expression of information and ideas, and development of inter-

AP World History 10

Grade 10 1 year 1 credit

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. *Prerequisite:* Global History 9. 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.

Social Studies Department - *Continued*

Global History & Geography 10R

Grade 10 **1 year** **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

Grade 10 **1 year** **1 credit**

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 History 10R. *Based upon recommendation only.*

GRADE 11

As part of the Social Studies program, students in grade 11 take U.S. 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.

AP United States History 11

Grade 11 **1 year** **1 credit**

This Advanced Placement 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 AP exam in American History to earn college credit. *Prerequisite: While an open enrollment policy exists, a mini-*

mum 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

Grade 11 **1 year** **1 credit**

US History focuses on the beginnings of the American nation from the causes of the American Revolution to contemporary issues in American society. Students work to understand history, historical trends, and changes throughout time periods. A greater emphasis is placed on thinking like a historian, with a focus on analyzing historical documents and applying historical thinking skills to periods in American history. The course culminates with students taking the New York State Regents Exam in US History in June.

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

Grade 12 **1/2 year** **1/2 credit**

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. *Prerequisite: Open to seniors only.*

Technology Department

Design and Drawing for Production (DDP) A

Grades 9, 10, 11, 12 1/2 year 1/2 credit

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 learning 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

Grades 9, 10, 11, 12 1/2 year 1/2 credit

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. *Prerequisite: DDP A*

Architectural Design

Grades 10, 11, 12 1/2 year 1/2 credit

This course builds on skills learned in DDP A and B. Students will use Auto CAD to design exterior walls, roofing, plot plans and site orientation. A three-dimensional model will be built to match students' designs. *Prerequisite: DDP A & DDP B*

Aerospace Engineering I

Grades 9, 10, 11, 12 1/2 year 1/2 credit

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

Grades 9, 10, 11, 12 1/2 year 1/2 credit

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. *Prerequisites: Aerospace Engineering I*

Home Construction Systems

Grades 10, 11, 12 1/2 year 1/2 credit

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).

Technology Department - *Continued*

Wood Manufacturing Systems

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

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 woodworking 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

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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. *Prerequisite: Wood Manufacturing Systems*

Materials Processing/ Production: Metals

Grades 10, 11, 12 **1/2 year** **1/2 credit**

This course is an introductory level course into the material processing of metals machining and fabrication. This course includes studying the properties of metals, woods, and composites, and using these materials to construct usable products in a real life manufacturing style. Within this course, students will be able to learn how to weld MIG, TIG, Arc and Oxy Acetylene. Students will join metals together to create projects of the teacher’s and student’s final project of their choice. This course enables students to experience the process of translating an idea into a finished product, with instruction in planning, designing, selecting materials, and using tools and machines. *Prerequisites: Wood Manufacturing*

Advanced Materials Processing and Machining

Grades 10, 11, 12 **1/2 year** **1/2 credit**

Advanced course which exposes students to the tools and machines that they may encounter in manufacturing-related occupations and enable them to develop the skills they need to use these tools in various applications. Course topics typically include (but are not limited to) drawing and planning, electricity, CNC machining, industrial machining, metalwork, welding, forging, wood-working, and power technology. This course covers general safety and career exploration as well. *Prerequisites: Wood Manufacturing Systems & Materials Processing/Production: Metal, DDP A, and DDP B*

Basic Electronics

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

This course covers Ohm’s 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).

Digital Electronics

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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. *Prerequisite: Basic Electronics or permission of instructor.*

Robotics & Beginner Programming

Grades 10, 11, 12 **1/2 year** **1/2 credit**

Robotics is a competitive and rapidly expanding industry. This course will utilize pneumatic and digitally-controlled systems to create robotic arms and rovers that can accomplish specific tasks. Students will learn how to write code to program and remotely control a robot which they construct using Vex robotics components.

Technology Department - *Continued*

Electronics & Sound

Grades 10, 11, 12 **1/2 year** **1/2 credit**

This course will build upon the knowledge gained from Basic Electronics. In this course we will explore the science behind sounds, build devices to magnetically detect and transfer sound waves, and use analog circuitry to manipulate and amplify sound. Students will learn about sound synthesis, inner workings of electronic instruments, speakers and amplifiers, and learn about effects used in the music and movie industries. *Prerequisite: Basic Electronics or permission of instructor.*

Alternative Energy Systems

Grades 9, 10, 11, 12 **1/2 year** **1/2 credit**

Students will investigate a wide range of energy concepts, technologies and social issues using alternative and renewable energy as the focus. They will discover the need to manage energy resources through hands-on activities covering wind, solar, biomass, water and geothermal energy. This class will have the opportunity to be a collaborative class with Environmental Science. *Prerequisite: Algebra*

Career & Financial Management

Grades 10, 11, 12 **1/2 year** **1/2 credit**

This course is required for all students pursuing a sequence in Business or Technology. Students will be introduced to the world of work and guided through their roles within the workplace 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

Grades 10, 11, 12 **1/2 year** **1/2 credit**

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.

Automotive Technology 1

Grades 10, 11, 12 **1 year** **1 credit**

Automotive Technology is focused on preparing students to possess an understanding of automotive systems and repair shop procedures. Students will learn about shop safety and the proper use of tools and equipment. Students will study automotive suspension and steering, brakes, powertrain, electrical and computer controlled systems found on today's automobiles and light trucks. They will obtain the knowledge and hands on skills needed to successfully diagnose, service, and repair all types of vehicles. College credit may be received upon successful completion and co-registration with CGCC for four college credits. *Prerequisites: Transportation Systems or approval of the Teacher.*

Advanced Drafting Techniques

Grades 10, 11, 12 **1/2 year** **1/2 credit**

At the start of the course, students will be expected to be fluent in the basic operation of AutoCAD. The course will focus on areas of drafting and dimensioning not covered in DDP A and B, including exploded and auxiliary views, thread creation, and tolerances. Objects drawn will primarily be for assembly, involving multiple components in CAD. Projects will involve more partner work than DDP classes. This course will be most helpful to students who have an interest in engineering, machining and fabrication, creating an alternate route aside from architectural design. This will also be helpful to any students taking our advanced metals/machining classes. *Prerequisites: DDP A and DDP B*

Technology Department - *Continued*

5 Unit Sequence in Technology

Required 2.5 credits:

Basic Electronics
DDP A
Career and Financial Management
Home Construction
Wood Manufacturing

2.5 additional credits - choose from:

All 1/2 credit unless otherwise noted:

Aerospace I
Aerospace II
Energy Systems
DDP B
Architectural Design
Transportation Systems
Advanced Wood Manufacturing
Automotive Technology 1 (1 credit)
Materials Processing/Production: Metals
Advanced Materials Processing & Machining
Digital Electronics
Robotics & Beginner Programming
Electronics & Sound



Seminar Department

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.

World Languages Department - *Continued*

Level I: Spanish

Grade 9 **1 year** **1 credit**

Level I is open to students just beginning in the language and 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

Grade 9 **1 year** **1 credit**

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. *Prerequisite: Level I*

Level III: French/Spanish

Grade 10 **1 year** **1 credit**

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

Level IV: Spanish - SUNY - ASPN200

Grade 11 **1 year** **1 credit**

Level IV is a college course offered through the University at Albany. Upon successful completion

of this course, juniors or seniors 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.

Prerequisite: Note: Sophomores with a 93 total average across all subjects may be eligible for college credits. Level III and 85% on Local Departmental Final Exam.

Level V: Spanish - SUNY - ASPN201

Grade 12 **1 year** **1 credit**

Level V is a college course offered through the University at Albany. Upon successful completion of this course, Juniors or Seniors 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. *Prerequisite: Level IV*

Spanish Heritage

Grades 9, 10 **1 year** **1 credit**

This Heritage Spanish course is open to Spanish fluent 9th and 10th graders. It focuses on Spanish literature, film, culture, and history. Students will engage in debates, explore creative expression, and affirm their cultural identity. The class includes analysis of Spanish texts, film studies, discussions on historical events, and creative projects. This course aims to deepen students' understanding of their heritage while enhancing their Spanish language skills. This course may be counted as a World Language credit towards the Advanced Regents Diploma. *Prerequisites: Passing a Spanish fluency written and oral exam.*



Distance Learning

DL - Adolescent Psychology

Grades 10, 11, 12 **1/2 year** **1/2 credit**

This course focuses on the scientific study of the biological, cognitive, emotional, personality, and social changes that occur during adolescence. Topics include the effects of heredity and culture, major theorists, moral development, gender role issues, and peer and family relationship issues. Students will learn active citizenship through completing a community service project. Students who have taken Child Studies and Child Psychology will find this a valuable transition to the next stage in the human life cycle.

DL - Business Law

Grades 11, 12 **1/2 year** **1/2 credit**

This course emphasizes law as it applies to one's personal, family, and occupational life. Mock trials, field trips, and guest speakers enhance classroom learning. Students examine common legal situations involving civil law (torts), criminal law, and contract law. College-bound students, particularly those thinking of Business Administration or Accounting degrees, will find this course indispensable. Students will be eligible for three college credits offered through The College of Saint Rose.

DL - Cartooning & Animation

Grades 10, 11, 12 **1/2 year** **1/2 credit**

Students can draw their own characters and animate them! In this class, students will look at the styles and techniques of successful animators as they develop their own characters and animations. They will learn techniques for drawing expression and character design, and how to illustrate movement in cartoons and animated scenes, both on and off the computer. Projects may include comic strips, flip books, mini graphic novels, and animated short films using Adobe Animate. *Prerequisite: Recommendation of Art Department*

DL - Child Psychology & Development

Grades 11, 12 **1 year** **1 credit**

This is our capstone course and designed for students who are interested in pursuing a career working with children. Students will take an in-depth look at the knowledge, skills, and attitudes

necessary to promote quality growth and development of children from conception to school age. Course topics include: physical, intellectual, emotional, and social growth and development of children; major theorists and their models of child development; how play enhances the development of children at different ages; and components of early childhood education. Students will also be given multiple opportunities to learn, practice, and apply the knowledge and career skills essential for success in a child-oriented career. The major highlight of the course is when students create and use learning experiences that promote self expression and encourage social skills in children attending preschool. Students with the interest and personal characteristics necessary to be successful in fields such as education, psychology, counseling, social work, or medicine will find this course valuable. Students will be eligible for four college credits offered through SCCC. *Prerequisite: DL - Child Studies*

DL - Child Studies

All Grades **1/2 year** **1/2 credit**

This course offers students the chance to explore the exciting world of child development. Students will focus on creating a nurturing home environment for children, learning the basics of child care, and developing effective parenting skills. Projects include participating in a community service project and Baby-Think-It-Over. Recommended for all students whose interests or career goals include psychology, counseling, social work, education, or the human services.

DL - Fleur de Lis: French Language and Culture - SUNY Oswego - FR201

Grades 11, 12 **1 year** **1 credit**

In this course, students will explore the history and traditions of francophone cultures through discussions, journaling, films, guest speakers, and literature study. Students will advance their knowledge of grammar and vocabulary through analysis of lyrics and will improve their speaking and pronunciation skills. Active class participation is mandatory. Students will be eligible for three college credits offered through SUNY Oswego. *Prerequisite: French III*



Distance Learning - *Continued*

DL - Sociology

Grades 10, 11, 12 **1/2 year** **1/2 credit**
Sociology is the scientific study of human relationships, social structure, norms, and institutions. In class, students will study sociological theories, social norms, cultural differences, and much more. This course is project based. Students will create surveys, experiments, and presentations as a way to investigate and present new understandings of society and how it functions.

DL - Sports Marketing

Grades 11, 12 **1/2 year** **1/2 credit**
Learn to think like a sports manager and solve problems related to the sports industry with an emphasis on event planning, scheduling, budgeting, and promotion. Sports theories and philosophies, as well as leadership styles will be explored. Topics covered include legends in sports, press conferences, ethics, and NCAA guidelines. Careers in sports marketing and management will be discussed. This course will provide students with an understanding of sports as a business.



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 who 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:

Automotive Technologies
Aviation
Nursing Assistant (Seniors only)
Construction Technologies
Cosmetology
Criminal Justice
Culinary Arts
Emergency Medical Technician (EMT) and Health Careers (Seniors only)
Heating, Ventilation, Air Conditioning (HVAC) and Renewable Energies
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.

CTE - *Continued*

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.

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 NYS 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. *Seniors only.*

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*).

Nursing Assistant

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

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, and Math (STEM)
 Scientific Research & World Health
 Visual & Performing Arts
 New Visions Medical
 Pathways in Education
 Emergency Preparedness, Informatics, Cyber and Homeland Security

Science, Technology, Engineering, and 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.

Pathways in Education

Pathways in Education is an exciting program focused on preparing students for a career in the field of education. This half-day program for seniors is located at the University of Albany's uptown campus. This program incorporates hands-on experiences, including observations, shadowing, and internship experiences with a variety of inspiring professionals in the field of education.

Emergency Preparedness, Informatics, Cyber, and Homeland Security (EPICH)

The New Visions Emergency Preparedness, Informatics, Cyber, and Homeland Security (EPICH) program introduces students to the necessary content and skills in emerging technologies and the use of data to anticipate and manage natural and man-made disasters and security. This half-day, seniors-only program is located on the University at Albany Main Campus in the University's brand new, state-of-the-art ETEC building. Students will learn beyond the classroom through experiential components including visiting intelligence hubs throughout the Capital Region, being introduced to professionals in the field and threat simulations where students will problem-solve and position resources in real time to protect and save lives.

Business, Finance and Accounting

This program is open to high school seniors and seeks to introduce students to content and skills needed in several in demand business fields. The program will be located on the Columbia-Greene Community College campus, who has transfer agreements with over 50 colleges and universities and has developed a degree program specifically designed to prepare students for transfer to a bachelor's degree program in Business Administration. Students will use critical thinking, oral and written communication, creativity and innovation, collaboration, problem solving skills, cultural literacy, and interpersonal skills throughout the year.