



## *High School*

### *Course Description Handbook*

*2016-2017*

*Educating Everyone Takes Everyone*

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## The Principal's Message to Students and Parents

We are very excited at all the amazing courses we have to offer for the 2016-2017 school year! Ballston Spa has always provided a vast array of courses, but this year we have focused on specific pathways for students to demonstrate college and career readiness. We are also looking for student(s) and their families to utilize the four year plan worksheet and take every opportunity to investigate courses that are of interest or in an area of strength.

Partnering with Schenectady County Community College (SCCC), we have developed a 1+1 option where students can earn up to 30 credits towards an associates degree during junior and senior year. This can be accomplished at no cost to the student! Then, by transferring to SCCC, a student can secure an associates degree in just one year that is easily transferrable to other colleges and universities. This wonderful opportunity rounds out our already robust offerings and opportunities such as the International Baccalaureate Diploma Programme, our Clean Technologies & Sustainable Design Industries Early College High School, Project Lead the Way for Bio-medical and Engineering strands, and Advanced Placement courses.

We will also be offering the opportunity for students to earn a nationally recognized certification in the following areas: construction, carpentry and masonry, plumbing and HVAC, electrical principles and house wiring, and machining and metal fabrication through new courses offered in technology.

In addition to specific information regarding courses, this handbook is rich with material regarding grading policies, graduation requirements and diploma types, and the promotion policy which impacts privileges such as driving permits and participation in clubs and activities. You only get one chance at high school, so please take advantage of all we have to offer at Ballston Spa!

### Ballston Spa High School Mission Statement

The school community of Ballston Spa High School has the power and desire to make positive differences in the lives of our students. Therefore, the mission of Ballston Spa High School is to provide a safe, nurturing, and rewarding environment where all students will be afforded the opportunity to enhance their knowledge, to develop self-esteem, and to cultivate respect for others by pursuing a diverse and relevant curriculum taught by competent and caring staff. Consequently, Ballston Spa High School graduates should be responsible, thinking adults who accept learning as a lifelong process, who strive for excellence in all their endeavors, and who live productively in a changing global and technological society.



### RIGHT TO KNOW

The Ballston Spa Central School District encompasses the village of Ballston Spa, New York and the community of approximately 22,000 residents in a 60 square mile area. Over 4,400 students are expected to enroll in grades K-12 during the 2016-2017 school year with an estimated 1350 students in grades 9-12 in the high school.

### ACCREDITATION

The Ballston Spa High School is accredited by the New York State Education Department and all departments within the high school adhere closely to the respective syllabi promoted by the State Education Department.

## DIGNITY FOR ALL STUDENTS ACT

New York State's Dignity for all Students Act seeks to provide the State's public school students with a safe and supportive environment free from discrimination, intimidation, taunting, harassment and bullying on school property, a school bus and/or at a school function.

The Dignity Act also amended Section 801-a of New York State Education Law regarding instruction in civility, citizenship, and character education by expanding the concepts of tolerance, respect for others and dignity to include: an awareness and sensitivity in the relations of people, including but not limited to, different races, weights, national origins, ethnic groups, religions, religious practices, mental or physical abilities, sexual orientations, gender identity, and sexes. The Dignity Act further amended Section 2801 of the Education Law by requiring Boards of Education to include language addressing The Dignity Act in their codes of conduct.

Additionally, under the Dignity Act, schools are responsible for collecting and reporting data regarding material incidents of discrimination and harassment. The Dignity for all Students Act (DASA) Reporting Form can be found on the District website.

## FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

In accordance with New York State Education Law Section 2-d, the Ballston Spa Central School District sets forth the following Parents' Bill of Rights for Data Privacy and Security. This Bill of Rights is subject to change based on regulations of the Commissioner of Education. Changes or additions are also anticipated as the State Education Department releases further guidance documents.

### **Parents' Bill of Rights for Data Privacy and Security**

- (1) A student's personally identifiable information cannot be sold or released for any commercial purposes;
- (2) In accordance with Section 2-d and FERPA, parents have the right to inspect and review the complete contents of their child's education record;
- (3) State and federal laws protect the confidentiality of personally identifiable information, and the District safeguards that information with industry standards and best practices, including but not limited to, encryption, firewalls, and password protection;
- (4) The New York State Education Department collects student data from school districts for authorized uses. A complete list of all student data elements collected by New York State is available for public review at <http://www.p12.nysed.gov/irs/sirs/documentation/NYSEDstudentData.xlsx> or parents may obtain a copy of this list by writing to: Office of Information & Reporting Services, New York State Education Department, Room 863 EBA, 89 Washington Avenue, Albany, NY 12234.
- (5) Parents have the right to submit complaints about possible breaches of student data. Complaints or questions should be directed in writing to: Records Access Officer, Ballston Spa Central School District, 70 Malta Avenue, Ballston Spa, NY 12020.

## OPPORTUNITIES

Educational opportunities, including vocational education opportunities, are offered to students without regard to race, color, national origin, sex, disability or age. Grievance procedures are available to interested persons by contacting the Superintendent of Schools. The Title IX Coordinator and the Section 504 Coordinator for the Ballston Spa Central School District is Dr. Joseph Dragone, Superintendent of Schools, telephone number (518) 884-7195, ext. 1310.

## RECORDS

Parents or legal guardians of a student or an eligible student may inspect and review the student's education records by contacting the current school counselor unless such access is specifically barred by State Law or court order or a legally binding instrument (Buckley Amendment).

## ADVANCED PLACEMENT/INTERNATIONAL BACCALAUREATE CLASSES

AP and IB courses are taught as college-level courses in content and pace. Upon completion of the course, students must sit for the AP or IB examination. Payment for the AP or IB examination will be collected in the fall.

## GENERAL INFORMATION

### ATTENDANCE

The Board of Education of the Ballston Spa Central School District recognizes that student attendance in school is an important component of student success. Student interaction with teachers and other students in class helps to enhance the academic learning experience and provides a basis by which students can demonstrate mastery of subject matter. In this regard and pursuant to Section 104.1 of the Regulations of the Commissioner of Education, the Board of Education directs the Superintendent of Schools to establish comprehensive attendance procedures. Please visit the following webpage for specific information related to attendance:

<http://www.bsccd.org/boe.cfm?subpage=2435>

### CLUBS AND ACTIVITIES

Students who have been diagnosed with a concussion are not allowed to participate in clubs/extracurricular activities until clearance has been granted by the Director of School Health Services.

#### CLUBS

Anime/International Club	Art Club
Best Buddies	Biology Club/Envirothon
Book Club	Communications Club
Senior Class	Junior Class
Sophomore Class	Freshman Class
Environmental Club	Interact Club
Music Activities	N.C.B.I.
National Honor Society	Odyssey of the Mind
Outdoor Club	Peer Mentoring
Robotics Club	Science Club
Sci/Fi Fantasy Club	Ski Club
Student Council	Student Helping Students (SHS)
Swing Dance Club	Troupe/Drama
Yearbook	

#### ACTIVITY GROUPS

Christian Faith in Action	Debate Group
Hippies for Hope	Music Improvisation
Risk Game Group	

### HOME TUTORING SERVICES

Students who miss class for an extended period of time may have their program modified to include home tutoring.

Eligibility for home tutoring must include the fulfillment of the following criteria:

1. Absence must extend for a minimum of ten consecutive school days.
2. A physician must submit a written statement indicating a diagnosis that prevents the student from attending school and would benefit from home tutoring. The statement must also include a specific time frame.
3. The parent or guardian must request home tutoring services in writing for the student, through the office of the Assistant Principal.
4. Students who miss classes for an extended period of time must schedule an appointment with their school counselor to review the situation. The decision to award to deny credit ultimately rests with the principal.

### MEDIA CENTER

The School Library Media Center is a place for individual study, pleasure reading and research. Teachers in content area work with our library staff with a specific goal in mind. Students are taught to locate, evaluate, use and cite information from a variety of sources. These are all skills critical to a 21<sup>st</sup> century learner, worker and citizen. The library is open to all students after school from 2:30-3:30.

## ***Student-Athletes and the NCAA Eligibility Center***

If you are a prospective college athlete for competition at the Division I or II level, you must meet academic and amateurism standards set by the National Collegiate Athletic Association (NCAA). The NCAA is an independent organization with no affiliation with the New York State Education Department or any other formal entity as it relates to academics at the secondary level. Each high school in the country must submit courses to the NCAA for approval. It is strongly urged that students who are candidates for collegiate athletics meet with their school counselor on a regular basis to review their transcript and verify which courses will be accepted by the NCAA.

Visit the NCAA Eligibility Center website, [www.eligibilitycenter.org](http://www.eligibilitycenter.org), to find the information you need to begin your college experience as a student-athlete. We encourage you to register with NCAA at the beginning of your sophomore year.

In order for core courses on a student's transcript to be used in an academic certification, it must appear on Ballston Spa High School's list of NCAA-approved courses.

### **Courses that have been approved by the NCAA are:**

#### **English**

- English 9 Regents
- English 10 Regents
- English 10 Honors
- English 11 Regents
- English 11
- English 12
- AP English 11 Literature & Composition
- AP English 12 Language & Composition
- IB Language and Literature HL
- CHS College Composition
- CHS College Literature and Writing
- CHS Public Speaking
- Expressive Writing
- Fantasy & Mythology in Literature
- Mysteries
- Short Stories
- Sports Literature

#### **Social Science**

- Global History 9 Regents
- Global History 10 Regents
- United States History & Government Regents
- Economics
- Participation in Government
- AP World History I
- AP World History II
- AP United States History
- AP United States Government & Politics
- IB History of the Americas HL, Year 1
- IB History of the Americas HL, Year 2
- IB Psychology SL
- CHS/UHS Psychology

#### **Social Science (continued)**

- Green Economics & Public Policy
- History of the Holocaust
- Perspectives on War
- Sociology

#### **Mathematics**

- Algebra
- Geometry
- Algebra 2
- Intermediate Algebra 2
- Algebra 2/Pre-Calculus
- CHS College Algebra
- CHS Mathematical Topics
- CHS Pre-Calculus
- AP Calculus AB
- AP Calculus BC
- AP Statistics
- IB Mathematical Studies SL
- IB Mathematics SL

#### **Natural/Physical Science**

- Biology Regents
- Biology Honors
- Earth Science Regents
- Chemistry Regents
- Chemistry Honors
- Physics Regents
- AP Biology
- AP Chemistry
- AP Physics 1
- IB Biology HL, Year 1
- IB Biology HL, Year 2

#### **Natural/Physical Science (continued)**

- IB Physics HL, Year 1
- IB Physics HL, Year 2
- IB Environmental Systems & Societies SL
- PLTW Digital Electronics
- PLTW Principles of Engineering
- PLTW Principles of Biomedical Science
- PLTW Human Body Systems
- PLTW Medical Interventions
- Animals and Plants of the Northeast
- Applied Physics
- Biomedical Research
- Chemistry General
- CHS Astronomy
- Environmental Science and Sustainability
- Forensics
- Nanotechnology
- Natural Disasters

#### **Additional Core Courses**

- French- Level 2
- French- Level 3
- UHS French 4
- UHS French 5
- IB French SL, Year 1
- IB French SL, Year 2
- Spanish- Level 1
- Spanish- Level 2
- Spanish- Level 3
- UHS Spanish 4
- UHS Spanish 5
- IB Spanish SL, Year 1
- IB Spanish SL, Year 2

## SCHOOLTOOL/PARENT PORTAL

Schooltool is a grading system used by the district. It is the most up to date regarding information on grades and attendance. With a Parent Portal account, parents/guardians have access to the following student information:

- Student Record (basic information)
- Contact Information
- Schedule
- Attendance (daily course absences)
- Grades (marking period averages and final grades)
- Assignment grades
- Email communication with teachers and counselors

## STUDENT GRADING POLICY

The report card presents to the student and parents a record of the student's achievement and effort for each course taken. Final grades are determined by averaging the marks received at the close of each 10 week marking period with the final examination for full year courses. Final grades for half year (one semester) courses, are determined by doubling each quarter mark and averaging the four marks with the final examination mark.

Honor Roll: An Honor Roll is printed after each ten week marking period. A student must attain an average of 85.00 for Honor Roll, 90.00 for High Honor Roll, or 95.00 for the Principal's List. Incompletes or failures automatically exclude students from the Honor Roll. In addition, any work to receive credit must be completed within two weeks after the end of the marking period.

Class Rank: Initial class rank is calculated at the close of the sixth semester. Final class rank is calculated at the close of the seventh semester. Final average of high school level courses taken through the 1<sup>st</sup> semester of the senior year, except physical education, are used to compute the cumulative GPA, which determines class rank. There is no provision for weighting individual courses in the computation. All seniors are included in the class rank regardless of programs or level of instruction.

Grading: Numeric grades on a scale of 1-100 are reported each marking period and final grades for each course are determined by averaging the marks received at the close of each ten-week period with the final examination. The passing mark is a 65%.

P=Pass W=Withdrawn WF= Withdrawn Fail INC = Incomplete.

## **COUNSELING SERVICES**

### **SCHOOL COUNSELING**

A staff of professional school counselors is available at the Ballston Spa High School to aid students with interpersonal development issues and in making wise choices regarding academic plans and career decisions. Counselors are available to meet with students in groups or individually to discuss academic planning, career opportunities, college information and/or issues of personal concern. School counseling services include the assessment of educational, occupational, and personal-social strengths; referral to other pupil personnel and/or community agencies; career education; college information; letters of recommendation; and conferences which may include parents, teachers, administrators, and/or other staff members.

### **ENROLLMENT IN COURSES**

Students in grades 9-11 enroll in courses which total a minimum of seven periods. Students in grade 12 must enroll in a minimum of six scheduling periods.

### **PROMOTION REQUIREMENTS**

Grade placement is determined by the number of credits completed as follows:

- **To enter grade 10** – 5 units of credit to include 1 unit of English, 1 unit of Social studies and 1 unit of either Mathematics or Science
- **To enter grade 11** – 10 units of credits to include 2 units of English and Social Studies and at least 3 units in the combination of math and science
- **To enter grade 12** – 15 units of credit and the potential to graduate in June

### **COURSE SELECTION**

Our course offerings and master schedule are determined by student course selection made in the spring. Students are enrolled in courses based on teacher recommendation. Should a student or parent choose to select a higher level course than the recommendation indicates, the family must meet with a counselor and administrator by the specified deadline. Ballston Spa High School will not allow students to drop or switch courses after the deadline. However, extenuating circumstances can develop that make it impossible for students to complete all the courses they have selected for any academic year. In response to these circumstances, we have developed the following guidelines:

- If students drop a course at the first 5 week interim reporting period of a course, the course is dropped from the schedule and not noted on the transcript.
- If students drop a course after the first 5 week interim reporting period, the course grade and drop is reflected on the transcript. For example, the transcript will denote “WP- withdrew, passing or WD- withdrew, failing.”
- If a course level change is permitted, then the earned grade in the original course will be incorporated into the grade of the new course. The level change may not be reversed later in the year.

In all cases, the students must maintain a full schedule of courses, i.e. 7 scheduled periods (6 scheduled periods for seniors) and all requirements for graduation must be met. It is also important to differentiate between a student in need of a level changes versus a student who does not like the selected elective and wants a different course based on interest. **Course level changes are the only acceptable condition for students to drop a course in order to add a different course.**



## GRADUATION REQUIREMENTS

Graduation from Ballston Spa High School requires the fulfillment of course and examination requirements as outlined by the New York state Board of Regents. In accordance with state and district standards the high school offers four possible diplomas (Local, Regents, Advanced Regents and the NYS CDOS), with some offering additional accolades.

## NYS TESTING

The New York State Regents examinations are administered annually in January, June and August. Students may retake tests at successive test dates to improve their scores. School counselors notify students of their failures and are available to discuss summer school options. Fees to attend summer schools outside the district are the responsibility of the student. If a student retakes a Regents exam in August of the same school year in which the course was completed, and earns a higher score, the final course average will be recalculated using the highest score. Should a student retake a Regents exam, only the highest Regents score will prevail on a transcript.

Course Requirements – Students must earn the following credits to graduate with one of the four possible diplomas<sup>1</sup>

	<i><b>Regents or Local</b></i>	<i><b>Advanced Regents</b></i>
<i>English</i>	<i>4</i>	<i>4</i>
<i>Social Studies</i>	<i>4</i>	<i>4</i>
<i>Mathematics</i>	<i>3</i>	<i>3</i>
<i>Science</i>	<i>3</i>	<i>3</i>
<i>Art/Music</i>	<i>1</i>	<i>1</i>
<i>Health</i>	<i>.5</i>	<i>.5</i>
<i>Physical Education</i>	<i>2</i>	<i>2</i>
<i>Foreign Language</i>	<i>1</i>	<i>3</i>
<i>Electives</i>	<i>3.5</i>	<i>1.5</i>
<b>Total</b>	<b>22</b>	<b>22</b>

Examination Requirements – Students must earn a minimum grade of 65 of ALL the following Regents<sup>2</sup>

Regents Diploma (5 exams)

- English Regents<sup>3</sup>
- Global Studies Regents
- U.S. History Regents
- One Math Regents<sup>4</sup>
- One Science Regents

Advanced Regents Diploma (8 exams)

- English Regents<sup>3</sup>
- Global Studies Regents
- U.S. History Regents
- Algebra I, Geometry and Algebra II/Trigonometry Regents<sup>4</sup>
- Two Science Regents

## NOTES:

<sup>1</sup>Details about the NYS CDOS are available online at

<http://www.p12.nysed.gov/specialed/publications/CDOScredential-memo-613.htm>

<sup>2</sup>Examination requirements for a Local Diploma are the same as the Regents Diploma, except students may score between 55-64. For students with disabilities a score of 45-54 on a requirement Regents exam other than English and Math can be compensated with a score of 65 or above on another requirement Regents exam. In all cases, students must achieve a 55 on English and Math, and pass the course in which s/he earned a score of 45-54.

<sup>3</sup>Students who enter grade 9 in 2013 and beyond must pass the Regents Exam in ELA (Common Core). Students who enter grade 9 prior to 2013 may pass the Regents Comprehensive Examination in English or Regents exam in ELA (Common Core).

<sup>4</sup>In 2013 and thereafter, any student regardless of grade level who begins their first commencement level course in math that culminates in a Regents exam must be provided with math instruction aligned with the NYS P-12 Common Core Learning Standards for Mathematics and take the corresponding Common Core Regents exam.

## 4+1 DIPLOMA

The NYS CDOS Commencement Credential is a credential recognized by the NYS Board of Regents as a certificate that the student has the knowledge and skills necessary for entry level employment. There are two options available for students to earn this credential. Please access the following link for more information:

<http://www.nysed.gov/news/2015/board-regents-approves-new-graduation-options>

## ADDITIONAL DIPLOMA ACCOLADES

### Honors

Students who earn an overall average of a 90 or higher on the 5 required exams needed for a Regents Diploma receive an Honors Distinction. Students who earn an overall average of a 90 or higher on all 8 Regents exams needed for the NYS Regents Diploma with Advanced Designation receive an Honors Distinction.

### Math and/or Science Seal

Students who earn an 85 or higher on 3 Math Regents exams will earn a Math Seal on the diploma. Students who earn an 85 or higher on 3 Science Regents will earn a Science Seal on the Diploma (note: one of the three must be the Living Environment exam).

### Career & Technical Endorsement

Students who passed the 5 required Regents exams and passed the certification examination relative to their specific vocational field of study receive a CTE Endorsement Seal.

## SPECIFIC TO STUDENTS WITH DISABILITIES ACCOLADE

NYS Career Development and Occupational Studies Commencement Credential:

- The student must have developed a Career Plan that includes documentation of the student's self-identified career interests, career-related strength and needs, career goals, and career and technical coursework and work-based learning experiences that the student plans to engage in to achieve those goals; and
- The student must have demonstrated achievement of the commencement level CDOS learning standards in the areas of career exploration and development, integrated learning and universal foundation skills; and
- The student must have successfully completed at least 216 hours of CTE coursework and/or work-based learning experiences (of which at least 54 hours must be in work-based learning experiences); and
- The student must have at least one completed employability profile that documents the student's employability profile that documents the student's employability skills and experiences, attainment of each of the commencement level CDOS learning standards, and, as appropriate, attainment of technical knowledge and work-related skills, work experiences, performance on industry-based assessment and other work-related and academic achievements.

### APPEAL TO GRADUATE WITH A LOWER SCORE ON A REGENTS EXAMINATION

Students who have a 65 course average but whose highest score on the corresponding Regents examination after two attempts is below, but within 3 points of 65 may appeal to graduate. If a student appeals one exam, with a score ranging 62-64, the student may be eligible for a Regents Diploma, using this lower score. However, if a student appeals two exams, with scores ranging 62-64, the student may be eligible for a Local Diploma, using this lower score. The appeals process is initiated with the assistance of the high school counselor.

### ALTERNATIVES TO REGENTS EXAMS

- College Entrance Examination Board (CEEB's) SAT II's as appropriate.
- or
- Advanced Placement Tests as appropriate. Details for alternative testing requirements may be obtained from school counselor.

### TASC (Formerly G.E.D.)

The NYS Department of Education has adopted the Test Assessing Secondary Completion (TASC) to replace the GED exam. TASC assesses five subject areas including Reading, Writing, Mathematics, Science, and Social Studies. The test has been nationally-normed and measures one's level of achievement relative to that of graduating high school seniors and readiness for college and the workforce as outlined by the Common Core State Standards.

<http://www.wswheboces.org/AdultEducation.cfm?subpage=74>

### RELATED SERVICES

#### SCHOOL NURSE

Health-related services and examinations are provided by the school nurse and school physician.

#### SPECIAL EDUCATION SERVICES

Special Education services are provided to classified students per the student's Individual Education Program (IEP). The continuum of special education services *may* include such services as consultant teacher, resource room or integrated co-teaching and are intended to support research-based instructional practices to maximize the provision of special education services for students with disabilities in the classrooms with their nondisabled peers. Related services are available as determined by the student's Individualized Education Program (IEP). Such services may include, but are not limited to, Speech Therapy, Psychological Counseling, Occupational Therapy and Physical Therapy.

#### SCHOOL PSYCHOLOGIST

Our school psychologist performs psycho-educational evaluations for those students who have been referred to the Committee on Special Education due to academic difficulties in school.

#### SOCIAL WORKER

Our social workers assist in promoting the social and emotional well-being of your child in order to optimize their learning.

#### PARSONS CHILD AND FAMILY CENTER

PARSONS provides services for students and their families at a school-based Behavior Health Services Clinic. The school-based clinic is designed to provide high quality mental health services that positively impact school performance and strengthen parental involvement in the school community.

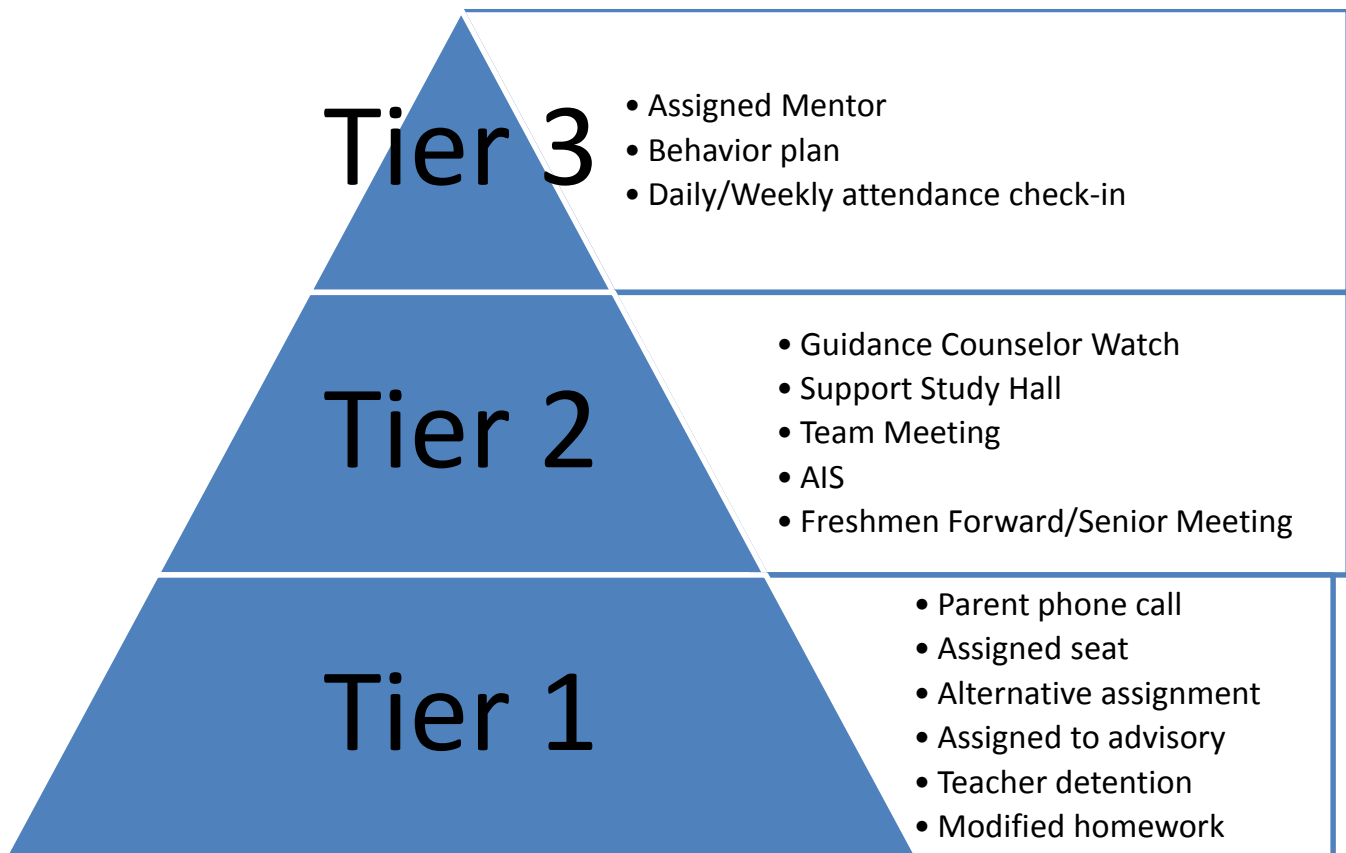
#### PREVENTION COUNCIL STUDENT ASSISTANCE COUNSELOR

The Prevention Council offers counseling services in various schools throughout Saratoga County via its Student Assistance Program and General Counseling Programs. The purpose of both programs is to provide treatment and early intervention counseling services to at-risk youth in participating school districts. Students can seek out counselors on their own, or they may be referred by school personnel. Any school district can contract with the Prevention Council for counseling services for any and all grade levels, Pre-K-12. For more information about the Council's clinical services, please contact Counseling Services Director Patty Kilgore at 518-581-1230.

## ACADEMIC INTERVENTIONS

Ballston Spa Central School District utilizes Response to Intervention (RtI) at all levels of schooling to identify students of concern, implement targeted interventions to support students, and determine the effectiveness of the selected intervention(s). The RtI team consists of school counselors, teachers, school support personnel, and other stakeholders. The team meets regularly to review data and students of concern. At Ballston Spa High School, we recognize that all students have differing learning needs. One of our goals is to provide supports that allow all students an equal opportunity to access their own learning and to gain more control over their education. RtI teams at all levels monitor, implement, and track student interventions. RtI consists of a tiered intervention system that serves to identify students in need of the most intensive interventions and ensure that all students have the necessary supports to succeed.

There are a variety of potential interventions utilized for student support. At the first level, or tier one, all students receive a highly qualified instructor that implements and supports classroom-based measures to help all students and to provide superior instruction. At the second level, or tier 2, identified students have access to additional, smaller group supports such as structured study halls, Academic Intervention Services (AIS) classes for particular subjects, team meetings, or school counselor monitoring. At the most intensive level, or tier 3, students may be assigned an intensive individual intervention such as an assigned mentor, an individual behavior plan, or a daily check-in with a teacher, school counselor or administrator. The Purpose of RtI is to develop a robust menu of supports that ensure that all students receive the appropriate amount of support to succeed at the high school level.



## College Credit Opportunities

Students are presented with a wide variety of opportunities to obtain college credit while enrolled in upper level courses at Ballston Spa High School. Every college sets its own standard for accepting transfer credits. Advanced Placement (AP), International Baccalaureate (IB), University in the High School (UHS) and College in the High School (CHS) courses are viewed as transfer credits by most colleges. Ballston Spa High School presents the curriculum, designates courses as college level on the high school transcript, and grants credit toward high school graduation; but the college in which the student enrolls decides whether to award college credit. Ballston Spa High School requires that every student enrolled in these courses apply for college credit or take the AP exam or IB exam.

### College in the High School (CHS) offerings:

All students enrolled in classes through SUNY Adirondack and/or Schenectady County Community College must complete the Saratoga Certificate of Residency process found at:

<http://www.saratogacountyny.gov/departments/county-treasurer/certificate-of-residency/>

#### SUNY Adirondack Community College

Cost to high school student: \$170\*

Cost of similar courses at the same college: \$498

<u>Course Title</u>	<u>Course College #</u>	<u>College Credits</u>
CHS Graphic Design	ART 222	3
CHS Photography	ART 104	3

#### SUNY Schenectady County Community College

Cost to high school student: None

Cost of similar courses at the same college: \$450-\$1064

<u>Course Title</u>	<u>Course College #</u>	<u>College Credits</u>
AP Biology	BIO 141/142	8
AP Physics	PHY 153/154	8
CHS Advanced Computer Applications	CIS 121/221	6
CHS Astronomy – Exploring Space	AST 123	3
CHS College Algebra	MAT 148	3
CHS College Composition	ENG 123	3
CHS College Literature & Writing	ENG 124	3
CHS Drawing & Painting II	ART 128	3
CHS French – Level 3	FRE 121/122	6
CHS Mathematical Topics	MAT 145	3
CHS Mathematics for Business Finance	BUS 113	3
CHS Music Fundamentals I	MUS 147	3
CHS Pre-Calculus	MAT 167	3
CHS Principles of Business Marketing	MKT 223	3
CHS/UHS Psychology	PSY 121	3
CHS Public Speaking	COM 105	3
CHS Spanish – Level 3	SPA 121/122	6
IB Environmental Systems & Societies SL	ENV 100	4

\*Cost of all courses and exams are subject to change and non-refundable.

## University in the High School (UHS) offerings:

### Rochester Institute of Technology

Cost to high school student: \$225\*

Cost of similar courses at the same college: \$3993

<u>Course Title</u>	<u>College Credits</u>
UHS/PLTW DDP	4
UHS/PLTW Civil Engineering & Architecture	4
UHS/PLTW Computer Integrated Manufacturing Systems	4
UHS/PLTW Digital Electronics	4
UHS/PLTW Principles of Engineering	4

### SUNY University at Albany

Cost to high school student: \$150\*

Cost of similar courses at the same college: \$810-\$1080

<u>Course Title</u>	<u>Course College #</u>	<u>College Credits</u>
AP Calculus AB/BC	AMAT 112	3
AP Statistics	AMAT 108	3
CHS/UHS Psychology	PSY 121	3
IB French SL Year 1	AFRE 221Y	4
IB French SL Year 2	AFRE 222Y	4
IB Spanish SL Year 1	ASPN 200	4
IB Spanish SL Year 2	ASPN 201	4
UHS French 4	AFRE 221Y	4
UHS French 5	AFRE 222Y	4
UHS Spanish 4	ASPN 200	4
UHS Spanish 5	ASPN 201	4

### Syracuse University

Cost to high school student: \$448\*

Cost of similar course at the same college: \$7276

<u>Course Title</u>	<u>College Credits</u>
UHS Forensics	4

\*Cost of all courses and exams are subject to change and non-refundable.

## **Advanced Placement (AP) offerings:**

Cost to high school student: \$92\*

### **Course Title**

AP Biology

AP Calculus AB

AP Calculus BC

AP Chemistry

AP English 11 Literature & Composition

AP English 12 Language & Composition

AP Physics

AP Statistics

AP United States Government & Politics

AP United States History

AP World History II

## **International Baccalaureate (IB) offerings:**

Cost to high school student per individual course: \$113\*

Cost to Full Diploma Programme Candidate: None

Our partners at GLOBAL FOUNDRIES celebrate the alignment of their company's mission with that of the IB and fund all exam fees for full IBDP (International Baccalaureate Diploma Programme) students.

### **Course Title**

IB Biology HL

IB Environmental Systems & Societies SL

IB French SL

IB History of the Americas HL

IB Language & Literature HL

IB Mathematical Studies

IB Mathematics

IB Physics HL

IB Psychology SL

IB Spanish SL

\*Cost of all courses and exams are subject to change and non-refundable.

## Timeline for Planning

When planning your high school program it's important to take into consideration your special abilities, interests and goals. In addition to traditional course offerings, Ballston Spa High School offers a variety of highly specialized programs and curriculum choices that enhance students' career and college readiness. Each student has a counselor to assist in planning a student's high school program and we encourage students and parents to be active members of the academic and scheduling process. To learn more about our programs offered we have several opportunities to provide additional information, which are included on our school calendar and website.

<b>Dates</b>	<b>Events</b>
➤ February 1, 2017	International Baccalaureate Diploma Programme Candidate applications are due for interested sophomores.
➤ February 2017	Course Description Handbook is posted on the high school website. Students should start their course selection planning with their parents during this period by reading about possible course options.
➤ February 2017	Parents receive a letter regarding the course selection process, which includes teacher course recommendations.
➤ February 27-March 24, 2017	Students are scheduled to meet with their counselor to review their course recommendations and options to help make their course selections. <i>Note: Course offerings are based on enrollment and are subject to final budget approval. It may not be possible to offer all courses listed in the Program of Studies due to enrollment or fiscal considerations.</i>
➤ March 2, 2017	8 <sup>th</sup> grade parent night with school administrators on transitioning to the high school and curriculum choices, including AP World History. ( <i>Snow date is March 3, 2016</i> )
➤ March 2017	Student course requests are mailed home for parental review and discussion.
➤ March 3, 2017	Clean Technologies ECHS applications due for interested 8 <sup>th</sup> graders.
➤ March 10, 2017	BOCES CTE Enrollment Applications are due for returning seniors.
➤ March 24, 2017	BOCES CTE Enrollment Applications are due for juniors.
➤ April 3-28, 2017	Meetings are scheduled for parents who wish to override a teacher's course recommendation.
➤ April 28, 2017	<b>Last day to submit course change requests.</b> <i>Note: Change requests must be received in the guidance office by 3 p.m.</i>
➤ May/June 2017	Students will be informed of unfulfilled requests and meet with counselors to resolve those conflicts.
➤ July 2017	List of courses scheduled for the 2017-2018 school year are mailed home with student's report card.
➤ First Day of School	Students receive schedules in homeroom (freshmen will receive their first copy at 9 <sup>th</sup> Grade Orientation).



# International Baccalaureate Diploma Programme

## What is the Diploma Programme?

The International Baccalaureate Diploma Programme (IBDP) is a rigorous college-level program for motivated students in the last two years of high school. The program of study leads to exams in six different subject areas and is aimed at developing global citizens and life-long learners who are committed to serving their communities.

## Profile of an IB Student

Students in the IB Diploma Programme strive to be:

- Inquirers
- Open-Minded
- Knowledgeable
- Caring
- Thinkers
- Risk-takers
- Communicators
- Balanced
- Principled
- Reflective



## Why Choose IB?

The IB Diploma Programme at Ballston Spa High School prepares students to succeed in college and to effectively participate in an increasingly global society.

The IBDP helps students become confident learners and critical thinkers who desire to create a better world through intercultural understanding and respect.

## The IB Curriculum

IB Diploma Programme students must choose one course from



each of five subject groups including studies in language and literature, language acquisition, individuals and societies, the sciences, and mathematics. Furthermore, students must also choose either an arts course from the

arts group or a second course from one of the other subject groups.

## IB Courses Offered at Ballston Spa High School

(See department pages for course descriptions)

### Group 1: Studies in Language and Literature

English Language and Literature HL

### Group 2: Language Acquisition

French SL

Spanish SL

### Group 3: Individuals and Societies

History of the Americas HL

Environmental Systems and Societies SL (1 year course)

Psychology SL (1 year course)

### Group 4: Experimental Sciences

Biology HL

Physics HL

Environmental Systems and Societies

### Group 5: Mathematics

Math Studies SL (1 year course)

Mathematics SL (1 year course)

### Group 6: Arts

Theatre SL/HL

Music SL/HL

*Students must successfully complete three HL (higher level) and three SL (standard level) courses in two years.*

*All courses listed are two-year courses unless noted otherwise.*

### **Core Elements**

To earn an IB Diploma, students must also successfully complete three required core elements, throughout the 2 year program of study. Completion of Theory of Knowledge and the Extended Essay account for up to 3 of the minimum 24 points that students must earn for a full diploma.

### **Creativity, Activity and Service (CAS)**

2 YEAR                      ½ CREDIT (Pass/Fail)                      GRADES 11, 12

Students engage in a range of self-selected extracurricular activities, including a project, which encourages Creativity, (i.e. engagement in the arts), Activity (i.e. participation in athletics) and Service (i.e. community and social service activities). Experiences cannot be obtained from other IB courses. In this self-propelled course, students will engage in systematic self-evaluations of their experiences in various formats (i.e. blogs, video, pictures, etc.).

### **Extended Essay (EE)**

2 YEAR                      1 CREDIT (Combined with TOK)                      GRADES 11, 12

Students engage in independent research and write a 4,000 word essay on a topic of their choice. The extended essay gives the student an opportunity to explore a self-selected, academic topic in depth. Students begin the research process in the fall of their junior year, with the selection of a topic due early in the second semester. Final essays are submitted in the senior year. While students work under the guidance of the EE Coordinator and a teacher-mentor, the extended essay is written outside of the classroom on a student's own time. The International Baccalaureate Organization recommends that a student devote a total of about 40 hours of private study and writing time to the essay.

### **Theory of Knowledge (TOK)**

2 YEAR                      1 CREDIT (Combined with EE)                      GRADES 11, 12

Students will explore the values and limits of knowledge in all subject areas and examine this fundamental question: How do we know what we know, and how reliable is the knowledge we possess? The course is organized



### ***Want More Information About IB?***

Visit the International Baccalaureate at  
[www.ibo.org](http://www.ibo.org)

Contact an IB Coordinator:

**Christy Knapp**

[cknapp@bscsd.org](mailto:cknapp@bscsd.org)

(518) 884-7150 ext. 2367

**Nicole Stehle**

[nstehle@bscsd.org](mailto:nstehle@bscsd.org)

(518) 884-7150 ext. 2366

primarily as a seminar discussion where students will practice writing, listening, and discussion skills. The course culminates in the writing of a 1200-1600 word essay which is submitted to the external IB examiners. Students are also required to conduct an oral presentation on a contemporary issue that is assessed by the instructor.

## ***IB Assessments***

The IB Diploma Programme uses both internally and externally assessed components to assess student performance. In the IBDP, students receive grades ranging from 7 to 1, with 7 being the highest. Students receive a score for each exam attempted.

A student's final diploma result score is made up of the combined scores for each subject. The diploma is awarded to students who gain at least 24 points, subject to minimum levels of performance including successful completion of the three essential elements of the DP Core (EE, TOK and CAS).

## ***Colleges and Universities Accepting Ballston Spa***

### ***IB Diploma Programme Candidates***

Albany College of Pharmacy  
Bard College  
Boston College  
Brandeis University  
Bryn Mawr College  
Clarkson University  
Connecticut College  
Cornell University  
Dartmouth College  
Drew University  
Fordham University  
George Washington University  
Georgetown University  
Hamilton College  
Hobart and William Smith Colleges  
Hofstra University  
Ithaca College  
Marist College  
McGill University  
Nazareth College  
Northeastern University  
Oberlin College  
Providence College  
Rensselaer Polytechnic Institute  
Siena College  
Skidmore College

St. Lawrence University  
SUNY Albany  
SUNY Brockport  
SUNY Cortland  
SUNY ESF  
SUNY Geneseo  
SUNY New Paltz  
SUNY Plattsburgh  
SUNY Stony Brook  
SUNY University at Buffalo  
Union College  
University of Chicago  
University of Connecticut  
University of Delaware  
University of Florida  
University of Hartford  
University of Mass. Amherst  
University of New Hampshire  
University of New Haven  
Univ. of N. Carolina at Wilmington  
University of Rhode Island  
University of Rochester  
University of Vermont  
Washington College  
Williams College

The IB curriculum is internationally recognized for its rigor and quality. Completion of the full Diploma Programme or of individual courses can give students advanced standing in college and an advantage in the college admissions process.

More than 1,000 colleges and universities in North America have recognition policies on how they weigh IB in admissions, advanced standing, college credit and scholarships.





## AT - A - GLANCE

### Program support includes:

**NYS Smart Scholars grant, NYS P-TECH grant, NYSERDA grant, & Corporate Partner Donations**

**\* The program provides equity and access for all students**

**\* Students earn concurrent high school & college credits each year**

Number of Students: 262 (Spring2016)

Graduation Rate: 100%

College Acceptance Rate: 100%

Participating School Districts: 24

### 2015 Post Secondary Majors:

- Engineering (various)
- Sustainable Energy
- Criminal Justice
- Semiconductor Manufacturing
- Business Administration
- Biological Sciences
- Computer Science
- Environmental Sciences
- Architecture
- Biotechnology
- Pre-law

### Scholarship Offerings:

- Astria Solutions
- Sage College
- Siena College

## Vision:

To cultivate a fully connected and collaborative learning environment focusing on 21st Century skills, STEM teaching and learning, and College & Career Readiness for all students that is supported through public and private partnerships.

**The mission** of the Clean Technologies & Sustainable Industries Early College High School (ECHS), a NYS Smart Scholars Program and Pathways In Technology (P-TECH) Program, is to develop and support pathways to higher education that lead to careers in STEM fields for students through rigorous academic programming and a collaborative approach to learning.

Launched in the 2011-2012 school year in collaboration with NYSERDA and Hudson Valley Community College at TEC-SMART in Malta, NY, the Clean Technologies & Sustainable Industries Early College High School Program provides high school students with opportunities to develop college and career readiness skills and pursue college coursework in one of the following pathways:

- **Clean Energy;**
- **Computer Science & Information Systems;**
- **Entrepreneurship, Leadership & Innovation;**
- **Mechatronics.**



The Clean Technologies & Sustainable Industries ECHS program includes partners from K-12 education, higher education, and business & industry collaborating together to provide students a distinct opportunity to pursue coursework towards an Associate's Degree and be prepared to seamlessly transition into key industry sectors within our economic region. Students have the opportunity for job shadowing and mentoring experiences to develop workplace skills.

Additional information about the program and its mission can be found at [www.bscsd.org/cleanTech.cfm](http://www.bscsd.org/cleanTech.cfm).



## Program Design Principles

*The Clean Technologies & Sustainable Industries Early College High School believes that through a transdisciplinary approach to STEM teaching and learning and experiences in higher education our students will have authentic educational opportunities that value:*

- **A clear pathway from high school graduation, to college to career.**
- **Personalization and Collaboration:** Each student is responsible to make learning uniquely his/her own while able to collaborate, communicate and apply STEM concepts to best solve problems driven by personal interests.
- **Transdisciplinary learning** with an emphasis on application of understanding in diverse situations through the development of projects and lessons that address authentic issues.
- **The demonstration of proficiency and mastery** of content, ingenuity, innovation, and creativity using nontraditional assessment tools.
- **Critical thinking and the design process** in the context of the community by leveraging assets and resources from higher education, business and industry:
  - A collaborative learning ecosystem among partners in education.
- **Design focused service learning** that promotes and informs self-discipline and ethical citizenry through learning about community issues and providing viable solutions to critical community issues and problems.



# **Clean Technologies & Sustainable Industries Early College High School - a New York State Pathways in Technology Early College High School Program**

## **Program Overview and Format**

### **The program includes the following for 9<sup>th</sup> Grade:**

- A week long Summer Academy for incoming 9<sup>th</sup> graders to be held on the TEC-SMART Campus
  - Focus on Community Building
  - Design Project and Exploration
  - Introduction to the first project
  - Time Management/Organization Strategies for entering 9<sup>th</sup> grade
- Technology Integration and virtual field trips / design challenges throughout the school year
- Spring Semester – On-line college coursework – The College Forum - HVCC 1 credit

### **The program includes the following for 10<sup>th</sup> Grade:**

- A week long Summer Academy for incoming 10<sup>th</sup> graders to be held on the TEC-SMART Campus focusing on program career pathways and workplace skills. Financial Literacy Program
- Yearlong Virtual Learning Program – Each module will focus on a particular Pathway
- Yearlong Mentoring
- Students are enrolled in high school coursework at their home school
- College coursework in the Fall and Spring semesters

### **The program includes the following is 11<sup>th</sup> & 12<sup>th</sup> Grades:**

- Pathways of study focused on industry clusters that are fueling our economic development region:
  - Clean Energy
  - Computer Science
  - Semiconductor/Advanced Manufacturing (Mechatronics)
  - Innovation/Leadership/Entrepreneurship
- Students attend school at TEC-SMART for high school AND college classes in the morning; return to home school in the afternoon.

# PATHWAY: CLEAN ENERGY

## Early College High School

The mission of the Clean Technologies & Sustainable Industries Early College High School is to develop and support pathways to higher education that lead to careers in STEM fields for students through rigorous academic programming and a collaborative approach to learning. A network of K-12, higher education, business and industry partners has been developed to provide students with the highest level of education and support for entering and succeeding in the clean energy fields.

The Clean Technologies & Sustainable Industries Early College High School is an innovative program that provides high school students with transdisciplinary learning and 21<sup>st</sup> Century skill sets necessary to make informed decisions as they relate to college and career readiness. Students have the advantage of being in a fully connected and collaborative learning environment. Students work at their own pace and leverage 1:1 technology to access individualized academic support, master program expectations, and develop college and career readiness. With support from regional economic leaders, including the Center for Economic Growth (CEG), Saratoga Economic Development Corporation (SEDC) and local Chambers of Commerce, the program connects with hundreds of businesses throughout the region that serve as assets for students and represents a robust fusion of education, business and industry collaborating to train students to become innovators and leaders for the jobs of tomorrow.

Early college high schools blend high school and college in a rigorous yet supportive program, compressing the time it takes to complete a high school diploma and the first two years of college. Students in the Clean Technologies & Sustainable Industries Early College High School Program take both high school and college level coursework on a college campus at Hudson Valley Community College's TEC-SMART campus located in Malta, NY.

## Early College High School Clean Energy College Course Work

FORM 104	College Forum
CISS 100	Introduction to Computing Information Sciences
PSYC 100	Psychology
ECMN 120	Electrical Theory for Renewable Energy
ESYS100	Introduction to Wind Energy
ECMN 210	Photovoltaic Theory and Design
ECMN 211	Photovoltaic Installation and Maintenance
BADM 110	Legal & Ethical Environment of Business I
SOCL 100	Sociology
	College English
	College Math

***\*Please note that classes may change as HVCC changes requirements for their degrees based on feedback from business and industry.***

## Early College High School Business Connections

Through our business partners, including TRC, the Building Performance Institute (PBI) and Magnolia Solar, students are provided extensive opportunities to interact with business and industry partners. Guest speakers, telepresence systems, and online collaboration tools are used to connect students with industry experts. In addition, students participate in on-site field experiences guided by mentors who are employed by the business partners.

## Forecast for Growth in Clean Energy

*The Capital Region is emerging as a national leader in green technology and clean energy, with a cluster of companies and institutions employing a rapidly rising number of workers. In fact, no metropolitan area in the country has a greater percentage of workers employed by the so-called green economy, according to a new report by The Brookings Institution, which found that 6.8 percent of Capital Region jobs are devoted to producing environmental benefits. The Washington think tank calls the Albany area "a surprise leader in the green economy." – Times Union July 13, 2011*

*"In 2012, more than 90,000 photovoltaic installations were installed in the U.S. with a total capacity of 3.3 GW. This represents a 75 percent increase over installations completed in 2011," according to Larry Sherwood, IREC vice president & COO and author of IREC's Solar Market and Installation Trends Report 2013.*

## Career Fields in Clean Energy

Energy Auditors  
Wind Energy Engineers  
Photovoltaic Installers  
Bioenergy Researchers  
Chief Sustainability Officers  
Construction Managers  
Architects

## Post Graduation High Education Opportunities

Hudson Valley Community College Photovoltaic Certification  
Hudson Valley Community College – Associates in Electrical Construction and Maintenance  
SUNY Canton – Bachelor of Technology in Alternative and Renewable Energy Systems  
Oregon Institute of Technology - Bachelor of Science - Renewable Energy Engineering

## **PATHWAY: COMPUTER SCIENCE & INFORMATION SYSTEMS**

### Early College High School

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The Clean Technologies & Sustainable Industries Early College High School is an innovative program that provides high school students with transdisciplinary learning and 21<sup>st</sup> Century skill sets necessary to make informed decisions as they relate to college and career readiness. Students have the advantage of being in a fully connected and collaborative learning environment. Students work at their own pace and leverage 1:1 technology to access individualized academic support, master program expectations, and develop college and career readiness. With support from regional economic leaders, including the Center for Economic Growth (CEG), Saratoga Economic Development Corporation (SEDC) and local Chambers of Commerce, the program connects with hundreds of businesses throughout the region that serve as assets for students and represents a robust fusion of education, business and industry collaborating to train students to become innovators and leaders for the jobs of tomorrow.

Early college high schools blend high school and college in a rigorous yet supportive program, compressing the time it takes to complete a high school diploma and the first two years of college. Students in the Clean Technologies & Sustainable Industries Early College High School Program take both high school and college level coursework on a college campus at Hudson Valley Community College's TEC-SMART campus located in Malta, NY.

### Early College High School Computer Science & Information Systems College Coursework

FORM 104	College Forum
CISS 100	Introduction to Computing and Information Science
PSYC 100	Psychology
CISS 110	Programming & Logic I
CMPT 115	Introduction to Business Analytics with Microsoft Excel
CISS 111	Programming & Logic II-Data Structures
CMPT 120	Introduction to Database Concepts with Microsoft Access
CISS 180	Introduction to Robotics
	College English
	College Math

***\*Please note that classes may change as HVCC changes requirements for their degrees based on feedback from business and industry.***

### Early College High School Business Connections

Through our business partners, which includes Cisco, students are provided extensive opportunities to interact with business and industry partners. Guest speakers, telepresence systems, and online collaboration tools are used to connect students with industry experts. In addition, students participate in on-site field experiences guided by mentors, who are employed by the business partners.

### Forecast for Growth in Computer Science & Information Systems

*Every one of the top 10 trends on job-search website Indeed.com involves technology or social media. Job growth in E-commerce, Internet publishing, and other information-technology fields is expected to be far stronger than average for the foreseeable future. – US News and World Report*

### Career Fields in Computer Science and Information Systems

Software Engineer  
Application Programmer  
Systems Analyst  
Web Designer/Developer  
System and Network Administrator  
Computer Technician  
Help Desk Support

### Post Graduation High Education Opportunities

Hudson Valley Community College – Computer Information Systems  
RPI- Bachelor of Science in Information Technology and Web Science  
RPI- Bachelor of Science in Computer Science  
Siena College- Bachelor of Science in Computer Science



# PATHWAY: MECHATRONICS

## Early College High School

The mission of the Clean Technologies & Sustainable Industries Early College High School is to develop and support pathways to higher education that lead to careers in STEM fields for students through rigorous academic programming and a collaborative approach to learning. A network of K-12, higher education, business and industry partners has been developed to provide students with the highest level of education and support for entering and succeeding in the clean energy fields.

The Clean Technologies & Sustainable Industries Early College High School is an innovative program that provides high school students with transdisciplinary learning and 21<sup>st</sup> Century skill sets necessary to make informed decisions as they relate to college and career readiness. Students have the advantage of being in a fully connected and collaborative learning environment. Students work at their own pace and leverage 1:1 technology to access individualized academic support, master program expectations, and develop college and career readiness. With support from regional economic leaders, including the Center for Economic Growth (CEG), Saratoga Economic Development Corporation (SEDC) and local Chambers of Commerce, the program connects with hundreds of businesses throughout the region that serve as assets for students and represents a robust fusion of education, business and industry collaborating to train students to become innovators and leaders for the jobs of tomorrow.

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## Early College High School Mechatronics College Course Work

FORM 104	College Forum
CISS 100	Introduction to Computing Information Sciences
PSYC 100	Psychology
ECMN 120	Electrical Theory for Renewable Energy
CMPT 115	Introduction to Business Analytics with Microsoft Excel
BADM 200	Business Communications
CISS 105	IT Essentials (A+): PC Hardware and Software
SOCL 100	Sociology
	College Math
	College English

***\*Please note that classes may change as HVCC changes requirements for their degrees based on feedback from business and industry.***

## Early College High School Business Connections

Through our business partners, which includes GLOBALFOUNDRIES, students are provided extensive opportunities to interact with business and industry partners. Guest speakers, telepresence systems, and online collaboration tools are used to connect students with industry experts. In addition, students participate in on-site field experiences guided by mentors, who are employed by the business partners.

## Forecast for Growth in Mechatronics

*The innovative global nanomaterial industry has experienced significant growth over the last five years and is expected to continue its high growth trajectory, surpassing US \$6 billion by 2016 with a CAGR of 23% over the next five years. – Research and Markets.com – Market Trends Forecast 2011-2016*

*US Semiconductor market poised for long term growth. The United States has rebounded to become once again one of the largest and fastest growing regions of the world for semiconductor manufacturing. Bureau of labor statistics data indicate that the semiconductor industry has added jobs three times faster than the rest of the US economy. – Semi.org*

## Career Fields in Mechatronics

Advanced Manufacturing

Electronics/semiconductor industry

Materials science, including textiles, polymers, packaging, among others

Auto and aerospace industries

Biotechnology

Medical fields and pharmaceuticals

Food science, including quality control and packaging

## Post Graduation High Education Opportunities

Hudson Valley Community College – Electrical Technology: Semiconductor Manufacturing Technology

Center for Nanoscale Science and Engineering

SUNY Polytechnic College for Nanoscale Science and Engineering

# **PATHWAY: LEADERSHIP, INNOVATION & ENTREPRENEURSHIP**

## Early College High School

The mission of the Clean Technologies & Sustainable Industries Early College High School is to develop and support pathways to higher education that lead to careers in STEM fields for students through rigorous academic programming and a collaborative approach to learning. A network of K-12, higher education, business and industry partners has been developed to provide students with the highest level of education and support for entering and succeeding in the clean energy fields.

The Clean Technologies & Sustainable Industries Early College High School is an innovative program that provides high school students with transdisciplinary learning and 21<sup>st</sup> Century skill sets necessary to make informed decisions as they relate to college and career readiness. Students have the advantage of being in a fully connected and collaborative learning environment. Students work at their own pace and leverage 1:1 technology to access individualized academic support, master program expectations, and develop college and career readiness. With support from regional economic leaders, including the Center for Economic Growth (CEG), Saratoga Economic Development Corporation (SEDC) and local Chambers of Commerce, the program connects with hundreds of businesses throughout the region that serve as assets for students and represents a robust fusion of education, business and industry collaborating to train students to become innovators and leaders for the jobs of tomorrow.

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## Early College High School Entrepreneurship Coursework

FORM 104	College Forum
CISS 100	Introduction to Computing Information Sciences
PSYC 100	Psychology
ENTR 110	Introduction to Entrepreneurship
ENTR 120	Entrepreneurship Process
MKTG 120	Principles of Marketing
BADM 220	Statistics
BADM 207	Organization & Management
	College Math
	College English

***\*Please note that classes may change as HVCC changes requirements for their degrees based on feedback from business and industry.***

## Early College High School Business Connections

Through our business partners, which includes Cisco, students are provided extensive opportunities to interact with business and industry partners. Guest speakers, telepresence systems, and online collaboration tools are used to connect students with industry experts. In addition, students participate in on-site field experiences guided by mentors who are employed by the business partners.

## Forecast for Growth in Entrepreneurship, Leadership & Innovation

*The people who will really succeed are those willing to see, think, and feel differently about their businesses. This ability to be open to new perceptions and innovations is more important now than ever— not just for your company, but for your own professional growth.- Forbes Magazine, Top Trends 2013*

*Entrepreneurs are getting younger: Blogging, launching apps, publishing magazines and creating social networks, kids have created empires before they hit college. – Business News Daily, 5 Trends Entrepreneurs will see in 2013*

## Career Fields in Entrepreneurship, Leadership & Innovation

Small Business Owner  
Sales Managers  
Marketing Managers  
Computer Systems Managers  
Construction Managers  
Public Relations Specialists  
Patent Lawyers  
Inventors

## Post Graduation High Education Opportunities in Entrepreneurship, Leadership & Innovation

Hudson Valley Community College – Entrepreneurship  
Siena College  
Clarkson University  
Syracuse University  
RPI – Lally School of Business

9<sup>th</sup> Grade: P-TECH 21<sup>st</sup> Century Skills- Impact of Technology on Society

College Coursework and Summer Bridge Programming



10<sup>th</sup> Grade: P-TECH 21<sup>st</sup> Century College and Workplace Readiness

College Coursework and Summer Bridge Program



Pathway:

**Clean Energy:**

ECMN 120-Electrical  
Theory for Renewable  
Energy

ESYS100-Introduction to  
Wind Energy

ECMN 210-Photovoltaic  
Theory and Design

ECMN 211-Photovoltaic  
Installation and  
Maintenance

BADM 110-Legal &

Pathway:

**Computer Science &  
Information Systems**

CISS 110-Programming  
& Logic I

CMPT 115-Introduction  
to Business Analytics  
with Microsoft Excel

CISS 111-Programming  
& Logic II-Data  
Structures

CMPT 120-Introduction  
to Database Concepts  
with Microsoft Access

Pathway:

**Mechatronics**

ECMN 120-Electrical  
Theory for Renewable  
Energy

CMPT 115-Introduction  
to Business Analytics  
with Microsoft Excel

BADM 200-Business  
Communications

CISS 105-IT Essentials  
(A+): PC Hardware and  
Software

Pathway:

**Entrepreneurship,  
Leadership &  
Innovation**

ENTR 110-Introduction  
to Entrepreneurship

ENTR 120-  
Entrepreneurship  
Process

MKTG 120-Principles of  
Marketing

BADM 220-Statistics

BADM 207-Organization



Full Matriculation into Higher Education Institution



## **The Clean Technologies & Sustainable Industries Early College High School Program**

The Clean Technologies & Sustainable Industries ECHS a (NYS P-TECH) program provides students a distinct opportunity to pursue coursework leading to an Associate's Degree while preparing them to seamlessly transition into higher education with 21<sup>st</sup> century skills. The Clean Technologies & Sustainable Industries ECHS supports an innovative learning environment and culture with the tools and resources necessary to acquire and create knowledge, collaborate, innovate, and connect students with higher education, the community, the region, and the world. Students work at their own pace and leverage 1:1 technology to access individualized academic support, master program expectations, and develop college and career readiness.

***Interested students will apply in February of their 8<sup>th</sup> grade year.*** Applications are available on the district's website and in the middle school counseling office.

<http://www.bsccd.org/cleanTech.cfm?subpage=14384>

- College Pathways of study, focused on industry clusters that are fueling our economic development region:
  - Clean Energy
  - Computer Science
  - Semiconductor/Advanced Manufacturing (Mechatronics)
  - Innovation/Leadership/Entrepreneurship

# Career and Technical Education

Ballston Spa High School offers courses in Career and Technical Education (CTE). CTE is a general heading which includes the following departments: Business, Engineering and Technology and BOCES/Vocation-Technical Education (Vo-Tec). The courses for each department are presented on the following pages under the title for each department. Students may substitute of 5-unit credit sequence in CTE for the Foreign Language Requirement of the Regents Diploma with Advanced Designation.

## Board of Cooperative Education Services – BOCES

### Course Offerings for 2016-2017

Students in grades 11 and 12 may select any of the following course offerings at the F. Donald Myers Vo-Tec Center if they have successfully completed 2 units of credit in English, Global History, Mathematics and Science and passed the required Regents exams for these classes.

#### **Engineering/Technology**

Auto Body Repair  
Automotive Technology  
Construction Trades  
Heating Ventilation, Air Conditioning and Refrigeration (HVAC/R)  
Heavy Equipment  
Welding

#### **Health Services**

Health Occupations

#### **Human and Public Services**

Cosmetology  
Criminal Justice  
Culinary Arts and Hospitality  
Early Childhood Education  
Graphics & Visual Communication

#### **Nature and Horticultural Science**

Horticulture/Landscaping  
Environmental Conservation and Forestry

# BUSINESS

Students may use a 5-unit sequence in business to substitute for the Foreign Language requirement for a Regents Diploma with Advanced Designation. Schenectady County Community College has authorized our Business department to offer College in the High School (CHS) courses in Principles of Business Marketing, Computer Applications and Mathematics for Business Finance. All students enrolled in these courses are expected to register with SCCC for the college credit.

## 1/2 UNIT COURSES

**PERSONAL FINANCE** HS1713  
**GRADE** 10, 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Project

Personal Finance is an introductory course that will provide a foundation for informed decision making skills with regard to personal and financial decisions. The students will learn real world applications such as household income, money management, lines of credit, spending saving and investing. Students will design household budgets, simulate the use of checking accounts, evaluate investment options, and demonstrate the proper use of credit and determine insurance needs.

**THE FASHION INDUSTRY** HS1717  
**GRADE** 10, 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Project

The Fashion Industry is an introductory course that will explore the impact of the fashion industry on society. The students will learn the basic terminology and fundamentals of the fashion industry, an emphasis will be placed on the concepts of product development, manufacturing, wholesale markets, sales promotion, textiles, visual displays, distribution and fashion retail.

**HOSPITALITY AND TOURISM** HS1718  
**GRADE** 10, 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Project

Hospitality and Tourism is an introductory course that will explore the exciting and diverse industry of hospitality and tourism. The students will focus on various aspects of the industry with an emphasis on hotels, motels, restaurants, resorts, theme parks, gaming and other travel-related components. The course will also provide an overview of marketing, management, customer service principles and career exploration.

**SPORTS MARKETING AND MANAGEMENT** HS1720  
**GRADE** 10, 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Project

Sports Marketing and Management is an introductory course that will explore the activities and organizations within the sports industry. The students will learn aspects of producing, promoting and organizing sport related businesses and products. This project-based course will also cover sponsorships and endorsements, facility and event management, collegiate and professional sports, and careers in the industry, including sports agents.

**CEIP – CAREER EXPLORATION INTERNSHIP PROGRAM** HS1704  
**GRADE** 12  
**CREDIT** 1/2 Unit (Pass/Fail)  
**FINAL ASSESSMENT** Project and time requirement

CEIP – Career Exploration Internship Program includes both an internship and seminar instruction. The purpose of the program is to provide hands on opportunities for students to learn about a potential career, and become informed, successful employees. It is a pass/fail course that requires 54 hours of internship experience and completion of independent assignments. Students will complete two unpaid internships in which their interests are considered when placements are assigned; however some career areas are limited and students must be willing to participate regardless. Seminars cover topics such as self-assessments, workplace safety, job searches, mock interviews, ethics in the workplace, and college selection. The independent assignments include creating a career portfolio, resumes, cover letters, letters of reference, and thank you letters.

**Requirements:** computer access, current health physical, working papers, personal transportation to the internship site, and acceptance into the program (see application for criteria).

## 1 UNIT COURSES

### **INTRODUCTION TO CTE (CAREER AND TECHNICAL EDUCATION) HS1721**

**GRADE** 9, 10  
**CREDIT** 1 unit  
**FINAL ASSESSMENT** School Exam

Introduction to CTE is an introductory business course that connects project based learning with “real world” and career applications in order to develop the life skills needed to maintain an occupation in the 21st century. Students will utilize technology to research, interpret, and evaluate information regarding a variety of careers. Students will also enhance their interpersonal skills and learn how to apply such work force skills during their work-based learning activities. Topics to be addressed include methods of communication, styles of leadership, the management processes, personal aptitudes and interests, and the responsibilities of various life roles for students as individuals and as contributing members of a community. It is important to note that this course requires student participation in work-based learning experiences.

**ACCOUNTING** HS1701  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** Project

Accounting is a course designed to provide knowledge of business papers, office procedures and business practices in bookkeeping and accounting. The students will learn the skills to maintain ledger accounts and interpret financial data. Students will learn how debits and credits are used in the journalizing process; as well as the concepts of posting assets, liabilities, owner's equity, revenues, expenses, financial statements, and payroll.

### **PRINCIPLES OF BUSINESS MANAGEMENT HS1702**

**GRADE** 11,12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam and project

Principles of Business Management is an introductory course that allows students to explore the diverse world of business, its structure and its impact upon society. Students will learn the basic principles of management including the environment of business, forms of business ownership, laws governing business, production, marketing, financial management, human resource management, leadership, and other management responsibilities.

### **CHS PRINCIPLES OF BUSINESS MARKETING HS1710** (College # MKT 223)

**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam and project

CHS Principles of Marketing is a college level course that introduces the practices and principles of marketing. Students will learn concepts of promotion, pricing, selling, purchasing, product planning, information management/research, distribution and risk management. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

### **CHS MATHEMATICS FOR BUSINESS FINANCE HS1712** (College # BUS 113)

**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

CHS Mathematics For Business Finance is a college level course that is designed to enhance the mathematical skills applied in the business field. Students will learn the calculations of cash discounts, percentages, simple interest, inflation, discounting notes, payrolls, bank reconciliations, business and consumer loans, depreciation, and inventory evaluation methods. Students are strongly encouraged to successfully complete three years of mathematics prior to enrolling in this course. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.



**GRADE**

11, 12

**CREDIT**

1 Unit

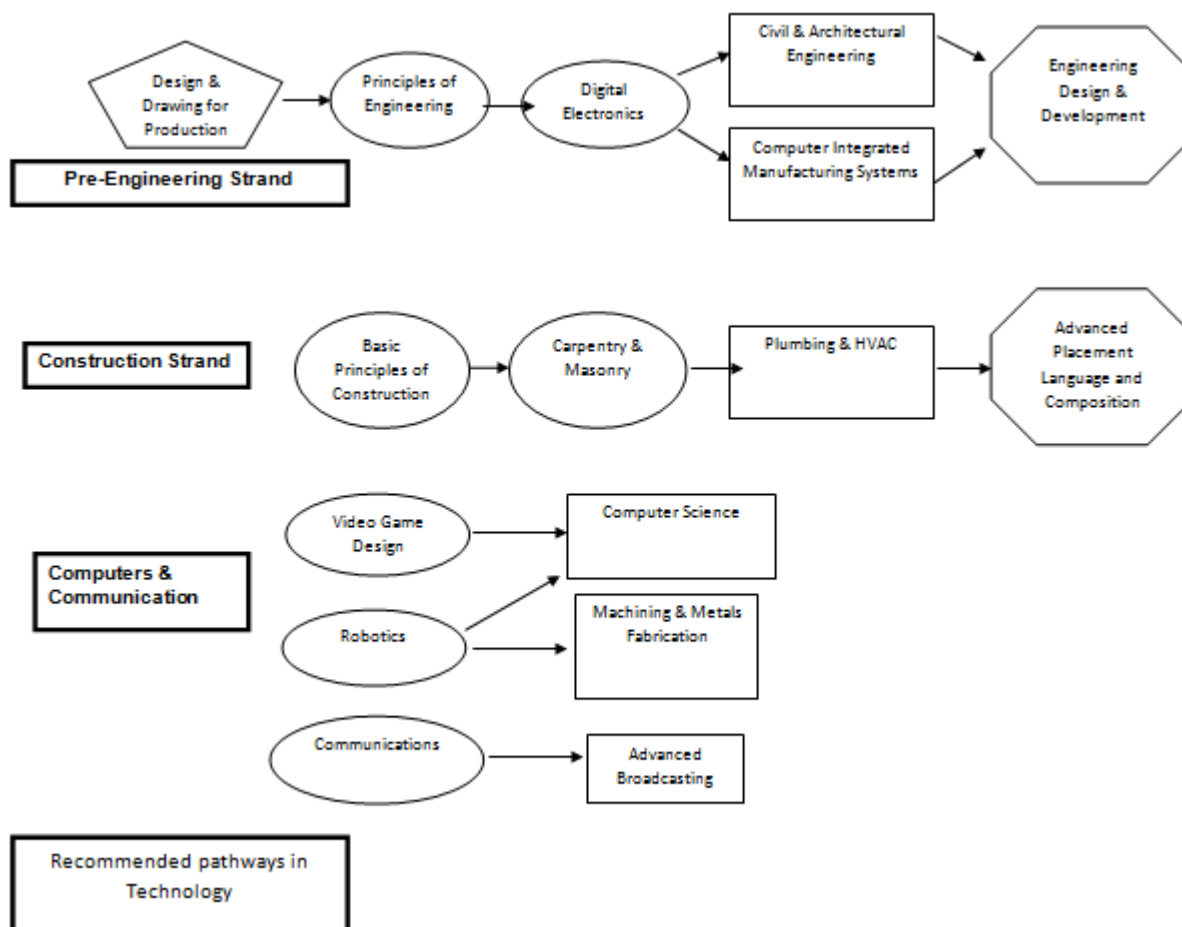
**FINAL ASSESSMENT**

School Exam

CHS Advanced Computer Applications introduces the student to fundamental concepts of computers and computing including number systems, hardware, architecture, information processing, operating systems, networks (including the Internet) and web design. Additionally, students will complete significant projects utilizing contemporary word processing, spreadsheet, and presentation graphics software. Fundamentals of programming will be explored using modern programming languages. This course also provides students with the opportunity to increase their knowledge of several components of the Microsoft Office suite of software applications. Upon completion of this course, students will be prepared to test as certified Microsoft Office User Specialists. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 6 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.



# ENGINEERING AND TECHNOLOGY



# ENGINEERING AND TECHNOLOGY

Design and Drawing for Production (DDP) may be used as the 1 unit of credit in Art or Music to fulfill that graduation requirement. Students may complete a 5-unit sequence in Technology as a substitute for the Foreign Language requirement necessary for a Regents Diploma with Advanced Designation. Principles of Engineering (POE) or Digital Electronics (DE) may be used to fulfill the third year of Science required for graduation.

Ballston Spa High School participates in Project Lead the Way (PLTW), a pre-engineering program that awards college credit for the work students complete in high school, to prepare more of our students for careers in STEM. Courses are indicated as part of this program in this course description handbook if the title of the course is followed by PLTW. Rochester Institute of Technology (RIT) is the affiliate college for all PLTW courses in New York State. Students who maintain an 85% average in these courses and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from (RIT). STEM foundational course sequence in Engineering is: DDP, DE, and POE.

Many of the courses in the Construction Strand on Residential Construction allow students to earn national certifications if they pay for and successfully pass a test at the end of the course.

Students interested in pursuing college studies or careers in Engineering and Technology have a wide variety of opportunities in course work. In addition, the Technology Club, Robotics Club and Communication Club are available for students to expand and apply their knowledge and talents outside the classroom.

## CONSTRUCTION STRAND

### BASIC PRINCIPLES OF CONSTRUCTION HS1651

**GRADE** 9, 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** School Exam

Basic Principles of Construction is a full year course that introduces students to the field of construction and familiarizes them with building codes and safe material handling. The course provides thorough, up-to-date coverage of the core areas that are necessary for success in the construction field. Students will learn about print reading, safety, and common tools as well as professional skills for the construction field related to work ethic and communication. This course will culminate with a written local exam. Students are encouraged to register and pay for the national online certification exam. Successful completion of the course and a passing score on the national online certification exam will result in students earning a nationally recognized certificate that demonstrates their knowledge.

### CARPENTRY & MASONRY HS1657 (Available 2017-2018)

**GRADE** 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Basic Principles of Construction

Carpentry and Masonry is a full year course that builds on the Basics of Residential Construction course and covers the essentials of residential construction carpentry. Student will learn about tools and materials, rough carpentry and exterior and interior finish carpentry ensuring professional success on any jobsite. Student will also learn about residential masonry construction procedures as well as current building and construction industry safety regulations. This course will culminate with a written local exam. Students are encouraged to register and pay for the national online certification exam. Successful completion of the course and a passing score on the national online certification exam will result in students earning a nationally recognized certificate that demonstrates their knowledge.

### PLUMBING & HVAC HS1658 (Available 2017-2018)

**GRADE** 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Basic Principles of Construction

Plumbing and HVAC is a full year course that builds on the Basics of Residential Construction course and covers the essentials of residential plumbing and ventilation. In the plumbing portion of the course student will learn a step-by-step approach to residential plumbing installations. Topics that will be covered related to plumbing include tools of the trade, proper safety measures, code requirements, installation of common fixtures and troubleshooting techniques. Successful completion of the course and a passing score on the end of year exam will result in a student earning a nationally recognized certificate that demonstrates their knowledge. The HVAC portion of the course covers the installation, startup and service of residential air conditioning and heating systems. Topics that will be covered related to HVAC include matter, energy, heat and the basics of refrigeration, the servicing of oil, gas, electric and geothermal heating systems, boilers, hydronic heating and radiant heating. This course will culminate with a written local exam. Students are encouraged to register and pay for the national online certification exam. Successful completion of the course and a passing score on the national online certification exam will result in students earning a nationally recognized certificate that demonstrates their knowledge.

**ELECTRICAL PRINCIPLES & HOUSE WIRING** HS1669 (Available 2017-2018)

**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Basic Principles of Construction

Electrical Principles & House Wiring is a full year course that builds on the Basics of Residential Construction course and covers all areas of residential wiring that are required of an entry-level electrician. Topics included are all areas of preparing and planning a job, service entrances and equipment, rough-in and trim-out, and maintaining/troubleshooting a residential electrical wiring system. This course will culminate with a written local exam. Students are encouraged to register and pay for the national online certification exam. Successful completion of the course and a passing score on the national online certification exam will result in students earning a nationally recognized certificate that demonstrates their knowledge.

**MACHINING & METAL FABRICATION** HS1678

**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

Machining & Metals Fabrication is a full year introductory course that explores the topic of machining and metals fabrication. The course provides students with an overview of the tools, materials techniques, and organizational skills needed for trades involving metals. Students will be introduced to precision machining techniques as well as measuring. This course will culminate with a written local exam. Students are encouraged to register and pay for the national online certification exam. Successful completion of the course and a passing score on the national online certification exam will result in students earning a nationally recognized certificate that demonstrates their knowledge.

**PRE-ENGINEERING STRAND****UHS/PLTW DDP (INTRODUCTION TO DESIGN AND DRAWING FOR PRODUCTION)** HS1650

**GRADE** 9, 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** End of Course Assessment & Project

Introduction to Design and Drawing for Production is a full year class that emphasizes the design and development process of a product and how a model of that product is produced, analyzed and evaluated. Various design applications will be explored and students will be introduced to possible career opportunities. This course is designed to develop students' problem solving skills, with emphasis placed upon the concept of developing a 3-D model or solid rendering of an object. Students will focus on the application of visualization processes and tools provided by modern, state-of-the-art computer hardware and software (AutoCAD with Inventor). This course culminates with a final project and an end of course assessment. Students who maintain an 85% average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT). This course can fulfill the NYS requirements for 1 unit in Art or Music.

**UHS/PLTW DIGITAL ELECTRONICS** HS1653

**GRADE** 9, 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** End of Course Assessment & Project

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of UHS/PLTW DDP and Algebra

Digital Electronics is a full year course that explores basic uses for circuit instrumentation like meters, oscilloscopes, and logic probes. Introductory circuit analysis, discrete electronic components, integrated circuits, and their applications in electronic circuits will be studied. High reliability soldering techniques are introduced. Students learn to build circuits in the laboratory and on computer simulations. Students will fabricate a practical application of digital electronics for a semester project. Because of the intrinsic math component of the course, completion of Algebra is strongly recommended. This course culminates with a final project and an end of course assessment. Students who maintain an 85% average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT). This course may count for the third year of Science required for high school graduation.

**UHS/PLTW PRINCIPLES OF ENGINEERING** HS1654

**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** End of Course Assessment & Project

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of UHS/PLTW DDP

Principles of Engineering is a full year course that explores various technology systems and manufacturing processes. Principles of Engineering is a project based course that helps students understand the field of engineering/engineering technology. Students will learn how engineers and technicians use math, science and technology in a problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change. This course culminates with a final project and an end of course assessment. Students who maintain an 85%

average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT). This course may count for the third year of Science required for high school graduation.

#### **UHS/PLTW CIMS (COMPUTER INTEGRATED MANUFACTURING SYSTEMS) HS1680**

**GRADE** 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** End of Course Assessment & Project

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of UHS/PLTW DDP

Computer Integrated Manufacturing Systems is a full year course that will enhance the computer modeling design skills developed in Design and Drawing for Production. Students will be presented with design problems that will require the use of Inventor to develop solutions to the problem. In addition, students will be asked to extend their knowledge of design by applying principles of robotics and automation to the creation of prototypes of three-dimensional designs. Students will be expected to communicate the process and results of their work through oral and written reports. This course culminates with a final project and an end of course assessment. Students who maintain an 85% average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT).

#### **UHS/PLTW CIVIL ENGINEERING & ARCHITECTURE HS1655**

**GRADE** 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** End of Course Assessment & Project

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of UHS/PLTW DDP

Civil Engineering & Architecture is a full year course about various aspects of civil engineering and architecture. The course is structured to enable all students to have a variety of experiences that will provide an overview of both fields. The course provides freedom to the teacher and students to develop a property as a simulation or for students to model the real-world experiences that civil engineers and architects experience when developing property. Students will complete a long term project that involves the development of a local property site with application of what they learn to the design and development of this property. Students work in teams, exploring hands-on projects and activities to learn the characteristics of civil engineering and architecture. This course culminates with a final project and an end of course assessment. Students who maintain an 85% average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT).

#### **PLTW ENGINEERING DESIGN AND DEVELOPMENT HS1530**

**GRADE** 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** School exam

Engineering Design and Development is a full year course that applies the principles developed in their preceding Project Lead The Way courses. Students will work in teams of two to four to design and construct the solution to an engineering problem. The problem may be selected from a database of engineering problems, be a recognized national challenge or be an original engineering problem identified by the team and approved by the teacher. The problems will involve a wide range of engineering applications. Each team will be responsible for delivering progress reports and making final presentations of their project to an outside review panel. The completed portfolio will be invaluable as the students apply to college. This course culminates with an engineering notebook and portfolio of the designed solution.

#### **COMMUNICATION AND COMPUTER SCIENCE STRAND**

**COMMUNICATION SYSTEMS** HS1659

**GRADE** 9, 10, 11, 12

**CREDIT** 1/2 Unit

**FINAL ASSESSMENT** Project

Communication Systems is a semester long introductory course in video production and computer designed graphics. Basic camcorder use and computer based video editing are covered. All aspects of video production are introduced: Lighting, camera work, editing, audio and special effects. This is a project based course. Students will produce videos and computer generated graphic projects each semester.

**ADVANCED VIDEOGRAPHY AND TV BROADCASTING** HS1661**GRADE** 9, 10, 11, 12**CREDIT** 1/2 Unit**FINAL ASSESSMENT** Project**PREREQUISITE:** Grade of at least 80% in Communication Systems

(Course offered Spring Semester only)

Advanced Videography and TV Broadcasting is a semester long advanced communication course focusing on Digital Video production and Television Broadcasting. This is a project based course with students creating a video project each marking period. Students will produce individual videos and group projects. Emphasis will be on projects for student portfolios.

**INTRODUCTION TO ROBOTICS** HS1679**GRADE** 9**CREDIT** 1/2 Unit**FINAL ASSESSMENT** Portfolio

Robotics is a semester long course that introduces students to robotics and computer programming. Students will have the opportunity to apply the engineering design process by collaborating as a class to design a robot to complete a challenge. The topics covered by the course include computer programming, mechanics, and electronics. Students will submit an engineering design notebook and complete as a class in the FIRST Tech Challenge competition.

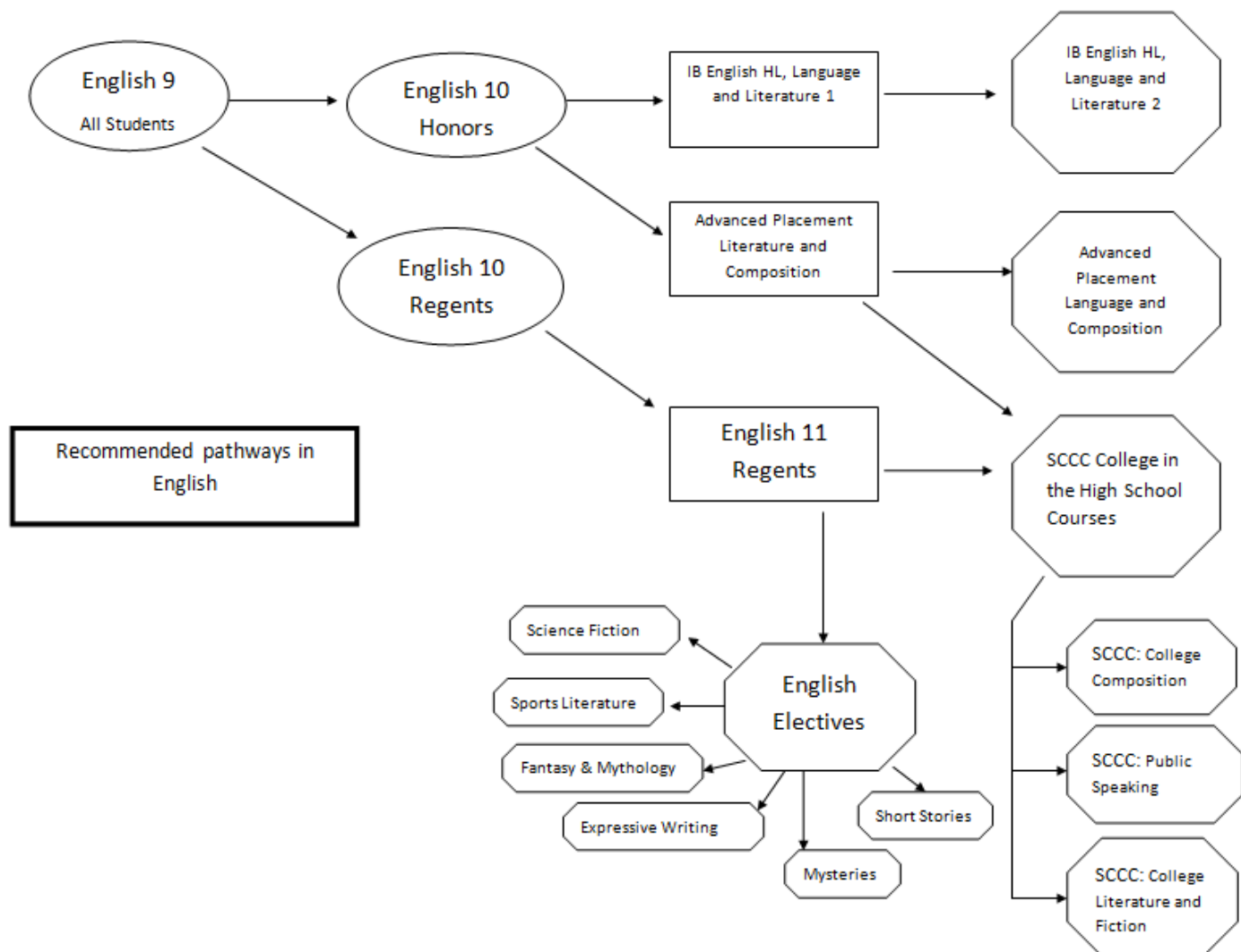
**DRAWING AND VIDEO GAME DESIGN** HS1522**GRADE** 9, 10, 11, 12**CREDIT** 1 Unit**FINAL ASSESSMENT** School Exam**PREREQUISITE:** Studio in Art or UHS/PLTW DDP

Drawing and Video Game Design is an introductory class designed to give students proficiency in game design and development. Students will learn about game design from the perspective of both the artist and the engineer. Students will create original computer art and will program all aspects of the game. Students are expected to design and create a working game each quarter.

**INTRODUCTION TO COMPUTER SCIENCE** HS1681**GRADES** 9,10,11,12**CREDIT** 1/2 Unit**FINAL ASSESSMENT** School Exam

Introduction to Computer Science is a semester course that will cover a wide variety of fundamental topics. Students will be introduced to topics including abstraction, programming in multiple language environments, scalable game design, and computational thinking. This course will conclude with a school approved project.

# ENGLISH



# ENGLISH

All students must take the NYS Regents Examination in English Language Arts (Common Core). Four credits in English are also required for all students. Students must enroll in 1 credit of English per year to be fully prescribed.

## 1 UNIT COURSES

<b>ENGLISH 9 REGENTS</b>	HS1106
<b>GRADE</b>	9
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

English 9 Regents course requires extensive reading outside of class, introduces students to the various genres and includes several classics. Students will complete papers for a variety of purposes and audiences. Vocabulary development and grammar skills will be stressed. English 9R will incorporate the New York State Common Core standards, and it will provide practice for the tasks that will be addressed on the Comprehensive English Regents examination. English 9R is a required course for all 9<sup>th</sup> grade students. Students will be required to complete cumulative exams at the end of the 1<sup>st</sup> and 2<sup>nd</sup> semesters.

<b>ENGLISH 10 HONORS</b>	HS1102
<b>GRADE</b>	10
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**PREREQUISITE:** English 9 Regents

**RECOMMENDED ACHIEVEMENT LEVELS:** 90 or better for English 9 Regents course work and final exam.

English 10 Honors course is designed for highly motivated students who have a strong interest in reading, writing and critical analysis. Students will read complex literary and non-literary texts and develop the skills of close reading and textual analysis. They will also study the writing process and complete essays for a variety of purposes and audiences. Vocabulary development will be stressed. Students will be expected to work independently, and they must be responsible and capable of taking ownership of their learning. Students intending to enroll in AP or IB English classes in their 11<sup>th</sup> and 12<sup>th</sup> grade years should take this class. Students will be required to complete a summer reading and writing assignment. A comprehensive exam will be given at the end of the 1<sup>st</sup> and 2<sup>nd</sup> semesters.

<b>ENGLISH 10 REGENTS</b>	HS1101
<b>GRADE</b>	10
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**PREREQUISITE:** English 9 Regents

English 10 Regents course concentrates on the mastery of a variety of composition forms, comprehension of literature, application of literary techniques, and extensive vocabulary development. This course will incorporate the New York State Common Core standards. Students will practice tasks that will be addressed on the Comprehensive English Regents examination, as well as complete an extensive historical fiction research project. Students are expected to assume a high degree of personal responsibility for their own learning outside of class. This class is for all students who have successfully completed English 9R. A comprehensive exam will be given at the end of the 1<sup>st</sup> and 2<sup>nd</sup> semesters.

<b>ENGLISH 11 REGENTS</b>	HS1105
<b>GRADE</b>	11
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

**PREREQUISITE:** English 10 Regents

English 11 Regents course concentrates on comprehensive skill development and refinement. The literature program stresses analysis of works by American writers. Students will develop a mature writing style, an extensive vocabulary, and independent study skills. Students will also read non-literary texts and gain experience with the rhetorical mode of argumentation and persuasion. This course is for all students who have successfully completed an English 10 course.



Students will spend considerable time at the end of the second semester reviewing for the NYS Regents Examination in English Language Arts (Common Core).

### **AP ENGLISH 11 LITERATURE AND COMPOSITION**

HS1103

**GRADE**

11

**CREDIT**

1 Unit

**FINAL ASSESSMENT**

NYS Regents

**RECOMMENDED ACHIEVEMENT LEVELS** : 90 or better for English 10 Regents or English 10 Honors course work and final exam.

AP English 11 Literature and Composition is a rigorous course requiring extensive weekly outside reading and writing assignments. Throughout the course, students will engage in complex, critical analysis of American Literature. The course not only emphasizes preparation for the AP Literature exam, but also provides the foundations of college level literary research. Students will be expected to thoroughly research each assigned text, considering the text's social and historical influences, author biography, and critical response. At this level of interpretation, students will be expected to craft original thesis statements while also framing their written analysis in the larger context of published literary criticism. All their arguments must be well-supported, their research thoroughly documented, and their language artfully crafted. The course is designed for highly motivated students who have a strong interest in reading, writing and critical analysis. Students will be prepared for the required AP Literature exam given in May. Students will also be required to take the NYS Regents Examination in English Language Arts (Common Core).

### **AP ENGLISH 12 LANGUAGE AND COMPOSITION**

HS1104

**GRADE**

12

**CREDIT**

1 Unit

**FINAL ASSESSMENT**

School Exam

**PREREQUISITE:** English 11 Regents or AP English 11

**RECOMMENDED ACHIEVEMENT LEVELS:** 90 or better for English 11 Regents or AP English 11 course work and English Regents exam.

AP English 12 Language and Composition course is designed to prepare students for the rigors of college reading and writing. Students will read literary and non-literary texts and hone their critical and analytical skills. Students will examine how language is employed for specific purposes within specific contexts, and they will become informed consumers of information. Students will also study the writing process and gain experience with the various rhetorical modes: narration, description, exposition and argumentation/persuasion. Additional course requirements include extensive outside reading, writing and research. The course is designed for highly motivated students who have a strong interest in reading, writing and critical analysis. Students will be prepared for the required AP Language and Composition exam given in May.

### **IB LANGUAGE AND LITERATURE HL YEAR 1**

IB1130

**GRADE**

11

**CREDIT**

1 Unit

**FINAL ASSESSMENT**

NYS Regents

IB Language and Literature HL is the first course in a two-year program of advanced English studies. The course examines how language develops in specific cultural contexts, how it impacts on the world, and how language shapes both individual and group identity. Students will read literary and non-literary texts in order to develop the skills of close reading and textual analysis. Helping students to focus closely on the language of texts they study and to become aware of the role of each text's wider context in shaping its meaning is central to the course. Emphasis will also be placed on the writing process, and students will have the opportunity to complete essays of considerable depth and breadth. This course is designed for highly motivated students who have a strong interest in reading, writing and critical analysis. Students will take the NYS Regents Examination in English Language Arts (Common Core) in June. Students will be required to complete a summer reading/writing assignment.

### **IB LANGUAGE AND LITERATURE HL YEAR 2**

IB1131

**GRADE**

12

**CREDIT**

1Unit

**FINAL ASSESSMENT**

School Exam

**PREREQUISITE:** IB Language and Literature HL Year 1

IB Language and Literature HL is the second course in a two-year program of advanced English studies. The course examines the way language is used in the media (newspapers, magazines, internet and film). The course also includes

the compulsory study of a translated text which will encourage students to reflect on their own cultural assumptions. Students will read literary and non-literary texts in order to further develop their close reading skills. As in the previous year, students will have multiple opportunities to hone their writing skills. Argumentation and persuasion—a key rhetorical mode for college writing—will be emphasized. This course is designed for highly motivated students who have a strong interest in reading, writing and critical analysis. The curriculum will prepare students for the IB assessments. Students will be required to complete a summer reading/writing assignment.

## 1/2 UNIT COURSES

### ALL FALL ENGLISH COURSES WILL SPEND TIME WORKING ON WRITING APPLICATION ESSAYS

<b>CHS COLLEGE COMPOSITION</b>	HS1126	(College # ENG 123)
<b>GRADE</b>	12	
<b>CREDIT</b>	1/2 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** English 11 Regents or AP English 11 and a score of 75 or better on the English Regents Exam.

CHS College Composition is a semester course that is designed to prepare seniors for the types of writing they will encounter in 2 or 4 year colleges. Students will study the writing process and participate in a writing workshop that includes conferencing, revising and editing. Writing assignments will allow students to gain experience with the various rhetorical modes: narration, description, exposition and argumentation/persuasion. Students will also read model essays written by students and professional writers. Students who plan on enrolling in a 2 or 4 year college should take this course. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>CHS COLLEGE LITERATURE AND WRITING</b>	HS1120	(College # ENG 124)
<b>GRADE</b>	12	
<b>CREDIT</b>	1/2 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** Successful completion of CHS College Composition with a grade of 75 or higher

CHS College Literature and Writing is a semester course that builds upon the writing techniques introduced in College Composition. In addition, students are encouraged to use writing to explore the ways in which literature functions as an art form. Students will survey various writers and genres to understand and explore the ways that these artists use literary forms of expression and techniques. Students will also complete a critical research project. A comprehensive exam is administered at the end of the course. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>CHS PUBLIC SPEAKING</b>	HS1123	(College # COM 105)
<b>GRADE</b>	12	
<b>CREDIT</b>	1/2 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** English 11 or AP English 11

CHS Public Speaking is a college-level semester course that is designed to help students prepare and deliver powerful speeches that leave a lasting impression. Emphasis is on ethical and rhetorical reasoning, research, preparation, delivery, and evaluation of informative, persuasive and special occasion public speaking. Students will explore the specific verbal and nonverbal public speaking techniques that master speakers use to create strong impressions, persuade, and inspire their audiences to act. The course employs a traditional text and other readings, as well as experience model speeches to guide students through topic selection, organization, language, and delivery. Working independently and with peer groups, students who wish to improve their speaking skills will be actively involved in every step of the process of public speaking preparation and execution. Much of class time will be spent preparing formal outlines in preparation for speech presentations. Assessments include traditional written content-based quizzes, formal speeches (including, but not limited to informative, persuasive, and demonstration), brief skill-building speeches, speech analyses, and both teacher and peer evaluations. Consistent attendance and regular presentations are necessary for success in this course. Students are

expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

**EXPRESSIVE WRITING** HS1108  
**GRADE** 11,12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Final Project

Expressive Writing is a semester course that is designed to encourage self-expression through various forms of writing. Students will study well-written examples of journals, creative essays, poetry and fiction. They will study the writing process, with an emphasis on revision. Students will workshop their writing and be held accountable for the feedback they provide others. Ultimately, students will create a portfolio of their work for the class. The class should be taken by those students interested in the art of writing.

**FANTASY & MYTHOLOGY IN LITERATURE** HS1119  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Final Project

Fantasy and Mythology in Literature is a semester course that is designed to examine classical and modern myths and fantasy literature. Students will learn to identify the themes, archetypes, and patterns within this unique and interesting genre. Emphasis will be placed on reading, writing and class discussion. Students who are interested in this genre and enjoy reading should take this class. Students will complete a research project on a myth of their choice, and they will read 3 full-length fantasy novels.

**MYSTERIES** HS1116  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Final Project

Mysteries is a semester course that is designed to give students the opportunity to explore and enjoy the mystery genre. Students will read and discuss the works and techniques of famous mystery writers. Also, students will learn about the plot development and themes commonly used in mystery writing. Students will write their own mystery, using the techniques perfected by professional mystery writers. Students who enjoy reading and have a strong interest in the mystery genre should take this course. The students in this course will be assessed using various methods such as reading quizzes and tests, class discussions, journaling, writing assignments and group and independent projects. A cumulative comprehensive exam will be administered at the end of the semester.

**SAT PREP MATH AND VERBAL** HS2263  
**GRADE** 11, 12  
**CREDIT** 1/2 unit (Pass/Fail)

SAT Prep Math and Verbal is offered by both the Mathematics and English departments. Instruction is based on the individual areas tested on college entrance examinations. The instructors will use review books, practice tests and the school's computer resources. (This course is not approved by NCAA)

**SCIENCE FICTION** HS1122  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Final Project

Science Fiction is a semester course that is designed to survey the evolution of science fiction. Students will read multiple novels and short stories covering such topics as genetics, space exploration, artificial intelligence, alien life and time travel. Students will be expected to demonstrate a critical analysis of the works studied through discussion and writing. Emphasis will be placed on how science fiction facilitates social criticism. This class is designed for students who are genuinely interested in the themes of science fiction. The class will culminate in an assessment that requires students to demonstrate an in-depth understanding of the genre. (This course is not approved by NCAA)

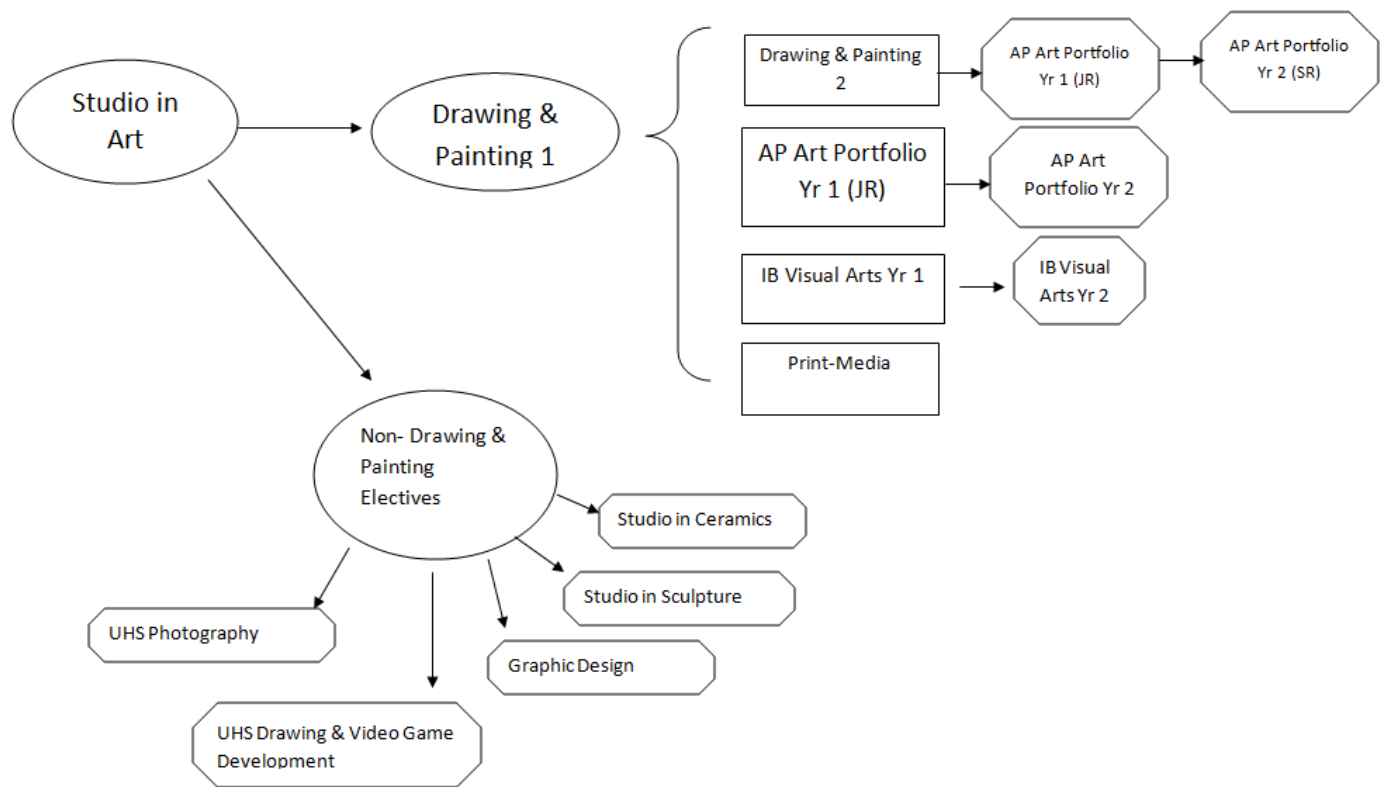
<b>SHORT STORIES</b>	HS1115
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	School Exam

Short Stories is a semester course that is designed to introduce the genre of short fiction and develop an understanding of the basic elements of the craft. Students will read a variety of short stories surveying different writing styles and literary techniques. In addition, the class will pay close attention to the meaning(s) of each story via class discussion and written responses. Students will be required to keep a reading response journal for the course. Students who enjoy reading short works of fiction should enroll in this course. A comprehensive final exam will be given at the end of the course.

<b>SPORTS LITERATURE</b>	HS1117
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	Final Project

Sports Literature is a semester course that examines the functions and purposes of sports in our society. Students will explore the pros and cons of identifying oneself primarily as an athlete; they will examine how a sports team can influence and reflect the history, politics, values, stereotypes, and expectations of a society. Students will read a variety of fiction and non-fiction, news and magazine articles, and short stories. Writing assignments, including journals and longer analytical responses to the readings, are required. Students who enjoy reading and are interested in sports and/or journalism should take this course. Tests and quizzes on the readings are given regularly, and students will be graded on their papers and journal writing as well.

# FINE AND PERFORMING ARTS – VISUAL ARTS



Recommended pathways in Art

# FINE AND PERFORMING ARTS – VISUAL ARTS

Satisfactory completion of one credit in Studio in Art may be used to meet the one credit in Art or Music required of all students to meet graduation requirements as prescribed by the NYS Education Department. Students may substitute a 5-unit sequence in Art for the Foreign Language requirement of a Regents Diploma with Advanced Designation.

<b>STUDIO IN ART</b>	HS1500
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

Studio in Art is an introductory course that will allow students to explore and gain knowledge in a variety of different media throughout the school year. Basic principles, concepts, skills, and techniques will be introduced in preparation for upcoming projects. Drawing, painting, printmaking, ceramics, sculpture, and paper making are some of the topics that will be covered in the full year course. This course is **REQUIRED** for all students for a sequence in Art and is a prerequisite course to any other art course offered. In addition, it is also recommended for students who wish to begin their education with a general art experience.

<b>CHS GRAPHIC DESIGN</b>	HS1558	(College # ART 222)
<b>GRADE</b>	10, 11, 12	
<b>CREDIT</b>	1/2 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** Studio in Art

Graphic Design is a semester 2D media course emphasizes the design elements of visual communication. Students will explore the fundamentals of layout, typography, design, photography and illustration. The project design course will expand students' media and design literacy. Students will create professional computer generated graphic designs using industry standard software, Adobe Illustrator and Photoshop. Eligible students will complete an application and submit payment and Certificate of Residency to the guidance office. Upon successful completion of the course with a C or better students will receive 3 credits from SUNY Adirondack.

<b>AP ART PORTFOLIO</b>	HS1504
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	Portfolio

**PREREQUISITES:** Studio in Art, 90 % or above in Drawing and Painting I, teacher recommendation.

AP Art Portfolio is a two year course which begins junior year. Students learn to create original 2 -dimensional artwork using advanced skills and techniques based on their personal interests. AP Art Portfolio is designed for students who are seriously interested in pursuing a higher level of enrichment in the arts and will be expected to spend significant time working outside of the classroom.

<b>DRAWING AND PAINTING I</b>	HS1514
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	Final Assessment

**PREREQUISITE:** Studio in Art

Drawing and Painting I is a foundation 2-dimensional course in drawing and painting. Students will explore a variety of materials and techniques, including pencil, charcoal, pastels, pen and ink, water colors, and acrylics. Students will be encouraged to think with imagination and originality. Emphasis will be placed on acquiring and improving observational drawing and painting skills. Students should maintain a portfolio for their work to take with them if they progress to Drawing and Painting II.

**CHS DRAWING AND PAINTING II** HS 1515 (College # ART 128)

**GRADE** 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** Project Based

**PREREQUISITE:** Studio in Art, Drawing and Painting I

CHS Drawing and Painting II is an advanced 2-dimensional course and is a continuation of Drawing and Painting I.

Students will explore a variety of materials and techniques with an in- depth focus on the elements of art and principles of design. Emphasis will be placed on further development of observational drawing and painting skills in addition to expanding those skills into original works of art. Students should maintain a portfolio of their work should they progress to AP Art Portfolio. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

**PRINTMAKING –PRINTMEDIA** HS1520

**GRADE** 10, 11, 12

**CREDIT** 1/2 Unit

**FINAL ASSESSMENT** Project

**PREREQUISITE:** Drawing and Painting I

Printmaking or Print-media will enable the student to recognize the major printing and layout techniques as well as traditional techniques for the production and communication of ideas. Print-media is a semester long class with a pre-requisite of the student's successful completion of Drawing & Painting 1. Students are expected to have and use a sketchbook throughout the duration of the class. Students will be guided through a scaffolding program which includes historical, cultural and conceptual aspects of printmaking. Basic elements of Art and principles of design will be stressed along with an overview of a wide range of techniques with a closer introduction to four: Monoprint, Reduction, Collagraph, and Stencil. Class activities are project based and give students an opportunity to effectively experiment with a variety of materials and practice art fundamentals while learning technical skills in Printmaking.

In order to succeed in this class, students must meet the required criteria given for all assignments, be prepared to question and critique their own work as well as the work of other artists. Upon completion of this course, students will have completed the following:

- Develop vocabulary of printmaking terms and techniques.
- Develop an understanding of the principles of design and composition in relation to the printmaking process
- Organize printing procedures in a logical/ sequential manner.
- Compare and contrast printing techniques.
- Develop critique criteria and words in printmaking techniques.

**STUDIO IN CERAMICS** HS1508

**GRADE** 9,10,11,12

**CREDIT** 1 Unit

**FINAL ASSESSMENT:** School Exam/Project

Studio in Ceramics is an elective course which provides an opportunity to explore hand-building, wheel throwing, sculpture, and glazing techniques. Skills, concepts and elements related to clay will be introduced in preparation for all projects and assessments. Students will incorporate the relationship between form and function into sculptural and functional applications.

**CHS PHOTOGRAPHY** HS1552

(College # ART 104)

**GRADE** 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT:** Final Assessment

**PREREQUISITE:** Studio in Art

Introduction to Photography is an introductory course designed to give students proficiency in the creative and technical possibilities of photography. Students learn the fundamentals of camera operation and imaging software to produce effective photographs. The course covers the elements of composition, historical aspects of photography and photography as a means of personal expression and a form of communication. Digital single lens reflex cameras are provided for student use in class. Students will also work with 35 mm cameras, film development, enlarging and printing in the darkroom. Students are responsible for purchasing 35 mm black and white film (Ilford or Kodak) and photo paper.

Eligible students will complete an application and submit payment and Certificate of Residency to the guidance office. Upon successful completion of the course with a C or better students will receive 3 credits from SUNY Adirondack.

### **DRAWING AND VIDEO GAME DESIGN HS1522**

**GRADE** 9, 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Studio in Art or Drawing and UHS/PLTW DDP

Drawing and Video Game Design is an introductory class designed to give students proficiency in game design and development. Students will learn about game design from the perspective of both the artist and the engineer. Students will create original computer art and will program all aspects of the game. Students are expected to design and create a working game each quarter.

### **STUDIO IN SCULPTURE HS1523**

**GRADE** 10, 11, 12

**CREDIT** 1/2 Unit

**FINAL ASSESSMENT** Final Project

**PREREQUISITE** Studio in Art

Studio in Sculpture is a course that will allow students to explore and gain knowledge in a variety of sculptural areas throughout the semester. An emphasis on form and function will be incorporated into both abstract and utilitarian sculptural pieces. Basic principles, concepts, skills, and techniques will be introduced in preparation for upcoming projects. Paper, Clay, foam, wire, plaster and other various mixed media are some of the materials that will be worked with in the half year course.

### **IB VISUAL ARTS SL/HL, YEAR 1 IB1550/IB1554**

**GRADE** 11

**CREDIT** 1 Unit

**FINAL ASSESSMENT** Final grade will be a combination of formal portfolio of artwork and the Visual Arts Investigative workbook

**PREREQUISITE:** Successful completion Drawing & Painting I

IB Visual Arts SL/HL is an advanced level art course that will allow students to develop a comprehensive portfolio of student work. Students can expect to work with a variety of artistic mediums including, drawing, painting, printmaking, mixed media, digital media and sculpture. This work will showcase and relate to many forms of art in their many social, cultural and historical contexts, while encouraging a global view of the art world around them. In addition, students will enhance their study and creation of art through the research and writing of art history.

Student growth will also be evident through a detailed use of the Visual Arts Investigative Workbook. This workbook will serve as a personal record of knowledge and growth as students will develop their ideas, techniques, visual organization, and most importantly a written record of their self reflection. Student work will conclude with an external review of their well developed portfolio of artwork, Investigative Workbook and a final interview with an IB examiner. In this interview, students can expect to fully explain the development of their inspiration, ideas, process and final work.

### **IB VISUAL ARTS SL/HL, YEAR 2 IB1551/IB1555**

**GRADE** 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** Final grade will be a combination of formal portfolio of artwork and the Visual Arts Investigative workbook

**PREREQUISITE:** Successful completion of IB Visual Arts, year 1.

IB Visual Arts SL/HL is the second year of IB Visual Arts and will allow students to continue higher level development of a competitive portfolio of advanced student artwork. Students can expect in depth work with a variety of artistic mediums and look to refine their ideas and processes from their work in the SL course. Students will continue to showcase and relate to many forms of art in numerous social, cultural and historical contexts, while encouraging a global view of the art world around them. In addition, students will continue to enhance their study and creation of art through the research and writing of art history.

Student growth will advance from year 1 and be evident through a detailed use of the Visual Arts Investigative Workbook. This workbook will serve as a personal record of knowledge and growth as students will develop their ideas, techniques, visual organization, and most importantly a written record of their self reflection. Student work will conclude with an external review of their well developed portfolio of artwork, Investigative Workbook and a final interview with an IB examiner. In this interview, students can expect to fully explain the development of their inspiration, ideas, process and final work.



# FINE AND PERFORMING ARTS – MUSIC

Satisfactory completion of one credit in Musical Performance or Music in Our Lives may be used to meet the one credit of Art or Music required of all students to meet graduation requirements as prescribed by the NYS Education Department. Students may substitute a 5-unit sequence in music which must include Music In Our Lives and Music Fundamentals for the Foreign Language requirement of the Regents Diploma with Advanced Designation.

<b>MUSIC IN OUR LIVES</b>	HS1526
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

Music In Our Lives is a high school level general music course. It is designed for students who have a strong interest in many aspects of music but may not have music reading skills. It is taught with a hands-on approach in which students learn by doing and stresses the development of listening skills. The primary objectives are learning to appreciate multiple genres of music; listen intelligently to music performed by a variety of musical ensembles in both western and non-western styles; to perform music at a recreational level on a social, electronic, or orchestral instrument or voice; to compose, organize, or arrange music in some medium; to use basic library and computer resources for research; and to plan, develop, and present an in-depth special interest project.

<b>CONCERT BAND</b>	HS1509
<b>GRADE</b>	8, 9
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam and Portfolio Assessment

Concert Band is a performance based course that is designed for students who have ongoing instruction on traditional Band instruments. These instruments are Flute, Oboe, Clarinet, Bassoon, Saxophone, Trumpet, French Horn, Trombone, Baritone Tuba and Percussion. Students will learn music history, theory and practice through performance. The student must have three years of prior instruction on the instrument as well as the ability to read music notation. Participation in concerts and other performances throughout the year is required. Students are expected to attend one pull-out lesson a week, or take private lessons. Additional credit may be earned with participation in Jazz Band and Chorus, which will meet once a week out of the Band rehearsal. Students will be graded on performance and portfolio assessment.

<b>WIND ENSEMBLE</b>	HS1525
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam and Portfolio Assessment
<b>PREREQUISITE:</b> One Year of Concert Band	

Wind Ensemble is a performance based course that is designed for students who have had ongoing instruction on traditional Band instruments and wish to challenge themselves further with NYSSMA Level V and VI literature. Students will learn music history, theory and practice through performance. The student must have three years of prior instruction on the instrument as well as the ability to read music notation. Participation in concerts and other performances throughout the year is required. Students are expected to attend one pull-out lesson a week, or take private lessons. Additional credit may be earned with participation in Jazz Band and Choir, which will meet once a week out of the Wind Ensemble rehearsal.

<b>CHS MUSIC FUNDAMENTALS I</b>	HS1553	(College # MUS 147)
<b>GRADE</b>	9, 10, 11, 12	
<b>CREDIT</b>	1 unit	
<b>FINAL ASSESSMENT</b>	School Exam, Performance Journal	

**PREREQUISITE:** Musical training, experience in music performance

CHS Music Fundamentals has the learning of Music Theory as the foundation, and is designed to increase understanding of music in the western and world cultures. Students who are looking to further their knowledge of music and/or study music at the college level will benefit from this course of study. Students will be involved in studying music theory, composition, and music history. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a

final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>MUSIC FUNDAMENTALS II</b>	HS1536
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam, Performance Journal
<b>PREREQUISITE:</b>	Music Fundamentals I

Music Fundamentals II is designed to increase understanding of music in the western and world cultures. Students who are looking to further their knowledge of music and/or study music at the college level will benefit from this course of study. Students will be involved in studying music theory, composition, and music history as well as preparing for solo and group performances.

Students will be responsible for projects based on composition, comparison of musical pieces from the western culture and those of other cultures such as Eastern/Asian, and African/South American. Discussions of how music affects our world; and how our world is affected by music will be a part of this class.

All students will be expected to keep a running log of their experiences in music, including daily involvement and performances.

Students in this course will begin to prepare either a Group Performance or Solo Performance, and Creating, which will involve composition. It is suggested that students in the solo performance component have private instruction on voice or their chosen instrument. Students in the group performance component of this class must be enrolled in a school performance group. Assessments for this course will be based on the projects assigned, and a local final exam.

<b>IB MUSIC SL/HL YEAR 1</b>	IB1563/IB1553
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam, Performance Journal
<b>PREREQUISITE:</b>	Music Fundamentals I

IB Music SL/HL is designed to increase understanding of music in the western and world cultures. Students who are looking to further their knowledge of music and/or study music at the college level will benefit from this course of study. Students will be involved in studying music theory, composition, and music history as well as preparing for solo and group performances.

Students will be responsible for projects based on composition, comparison of musical pieces from the western culture and those of other cultures such as Eastern/Asian, and African/ South American. Projects comparing and contrasting musical pieces from different cultures are preparation for the IB External Examination, which takes place in May of the second year of IB Music. Discussions of how music affects our world; and how our world is affected by music will be a big part of this class.

All students will be expected to keep a running log of their experiences in music, including daily involvement and performances.

Students in the first year of this two year course will begin to prepare for the Internal Assessment of the IB Exam - one of either Group Performance or Solo Performance, and Creating, which will involve composition. It is suggested that students in the solo performance component have private instruction on voice or their chosen instrument. Students in the group performance component of this class must be enrolled in a school performance group. Assessments for year 1 will be based on the projects assigned, and a local final exam.

<b>IB MUSIC SL/HL YEAR 2</b>	IB1564/IB1556
<b>GRADE</b>	12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam, Final Project and Performance Journal
<b>PREREQUISITE:</b>	IB Music SL/HL year 1 or Music Fundamentals II.

IB Music SL/HL is the second year of IB Music and is designed to prepare students for the Internal and External Assessments. Further study of Music Theory and Music History will take place, as well as more intense study of world music. This course will offer in-depth, college level analysis of western classical and non-western world music.

The following IB requirements will be met: Musical Investigation (a written work of 1,200 to 1,500 words), performance requirements - solo performance for HL, or solo or group performance for SL and creating- composition, and preparation for the exam in May.

**CONCERT CHORUS** HS1535

**GRADE** 8, 9

**CREDIT** 1 Unit

**FINAL ASSESSMENT** Performance, Sight Singing, and Written Evaluation

Concert Chorus is a performance based course that is designed for students that want to sing in an ensemble. Basic sight reading, vocal technique, basic music theory skills are studied. Students are evaluated on sight-reading and singing every quarter. Willingness to participate in performances is needed. Participating in concerts is part of the course requirement. Choir is a performance based course that is designed for students who have ongoing instruction in choral singing and want to sing in a NYSSMA Level IV-VI ensemble. Strong sight reading skills, vocal technique, and basic music theory skills are required. Students are evaluated on sight-reading and singing skills for membership in Choir. Students are evaluated on sight-reading and singing every quarter. Participating in concerts is part of the course requirement. Basic pitch matching is required. For students with no choral experience, they will need to meet with director prior to enrolling.

**CHOIR** HS1510

**GRADE** 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** Performance, Sight Singing, and Written Evaluation

**PREREQUISITE:** One year Concert Chorus

Choir is a performance based course that is designed for students who have ongoing instruction in choral singing and want to sing in a NYSSMA Level IV-VI ensemble. Strong sight reading skills, vocal technique, and basic music theory skills are required. Students are evaluated on sight-reading and singing skills for membership in Choir. Students are evaluated on sight-reading and singing every quarter. Participating in concerts is part of the course requirement.

**BALLSTON SPA LIGHTS** HS1506

**GRADE** 10, 11, 12

**CREDIT** 1 Unit

**FINAL ASSESSMENT** Performance, Attendance, Sight Singing, Solo Voice Evaluation and Journal

**PREREQUISITE:** One Year of High School Chorus and Audition

Ballston Spa Lights is a performance based course designed for students who have had ongoing instruction in choral singing and want to sing in a song and dance ensemble. Strong sight reading skills, vocal technique, basic music theory skills, and basic dance experience is required. Students are evaluated on sight-reading, singing skills and movement. Students are evaluated on sight-reading and singing every quarter. Participating in concerts and community events is part of the course requirement. In addition, students will log their growth in a journal that will be collected and graded each quarter.

**APPLIED MUSIC** HS1502

**GRADE** 9, 10, 11, 12

**CREDIT** 1/2 Unit (Pass/Fail)

**FINAL ASSESSMENT** Performance assessment based on materials studied throughout the year.

**PREREQUISITE:** One full year of private study on the instrument/voice and approval of the music coordinator.

Applied Music is for students who study an instrument or voice. Students in Applied Music do not have to participate in a school performing group. Private study must consist of a minimum lesson of 30 minutes outside the school day, 36 weeks of the school year. Students will provide a signed form for each marking period showing materials that are being studied. These forms will be provided to the student the first week of the school year by the music coordinator.

**CONCERT ORCHESTRA** HS1521

**GRADE** 8, 9

**CREDIT** 1 Unit

**FINAL ASSESSMENT** School Exam and Portfolio Assessment

Concert Orchestra is a performance based course that is designed for students who have had ongoing instruction on traditional orchestra instruments. Students will learn music history, theory and practice through performance. The student

must have three years of prior instruction on the instrument as well as the ability to read music notation. Participation in concerts and other performances throughout the year is required. Students are expected to attend one pull-out lesson a week, or take private lessons. Additional credit may be earned with participation in Jazz Band and Chorus, which will meet once a week out of the Concert Orchestra rehearsal. Students will be graded on performance and portfolio assessment.

<b>SYMPHONIC ORCHESTRA</b>	HS1551
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam and Portfolio Assessment
<b>PREREQUISITE:</b> One Year of Concert Orchestra	

Symphonic Orchestra is a performance based course that is designed for students who have had ongoing instruction on traditional orchestra instruments and wish to challenge themselves further with NYSSMA Level IV and V literature. Students will learn music history, theory and practice through performance. The student must have three years of prior instruction on the instrument as well as the ability to read music notation. Participation in concerts and other performances throughout the year is required. Students are expected to attend one pull-out lesson a week, or take private lessons. Additional credit may be earned with participation in Jazz Band and Chorus, which will meet once a week out of the Symphonic Orchestra rehearsal. Students will be graded on performance and portfolio assessment.



# FINE AND PERFORMING ARTS – THEATRE

Successful completion of Introduction to Theatre may be used to meet the one credit in Art or Music required of all students to meet the graduation requirements by the NYS Education Department. Students completing a 5-unit sequence in Fine Arts may use Introduction to Theatre as part of that sequence. Students may substitute a 5-unit sequence in Fine Arts for the Foreign Language requirement of a Regents Diploma with Advanced Designation.

*\*It's important to remember that your communication skills will help you throughout your entire life. Take the time now to perfect them. Taking a theatre course is helpful in developing these communication skills through verbal language as well body language. You can learn how to best present yourself and express yourself!*

<b>INTRODUCTION TO THEATRE</b>	HS1524
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	Performance Based Final Project

Introduction to Theatre is a full year course that will include study and practical application of performance skills and character development, as well as study of scenic, costume, and lighting design. Directing, stage managing and acting will also be studied and speakers in many of these fields will act as resources for skill development. Dramatic criticism and playwriting will also play a major role in this course. (This course may potentially become a CHS course through SCCC)

<b>INTRODUCTION TO ACTING</b>	HS1501
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	Performance Based Final Project

**PREREQUISITE:** Introduction to Theatre

Introduction to Acting is a full year course that will explore the many methods of acting. Students will refine communication skills through verbal Language as well as body language. History of acting and different types of literature are included in this performance-based class. (This course may potentially become a CHS course through SCCC)

<b>IB THEATER ARTS SL or HL</b>	IB1558/IB1561/IB1559/IB1562
<b>GRADE</b>	11 and 12
<b>CREDIT</b>	1 Unit Per Year
<b>FINAL ASSESSMENT</b>	Year 1 – Performance Portfolio Year 2 – IB Assessment

IB Theater Arts SL or HL is a two-year course, which, at the discretion of the IB learner, can be taken at the Standard Level (SL) or the Higher Level (HL) provides a balance of practical theatre experience and analysis of theatre literature and history. Students will be involved in performance technique workshops as well as stage craft workshops. Literature and history study will include an exciting array of international plays in their historical context.

At Standard Level, students will complete an independent project that is largely self-motivated, directed and practical in nature; prepare an independent project portfolio in 2000 words that demonstrates the dynamic stages of a creative process; present a 20 minute oral theatre performance and production presentation based on research of two theatre traditions; and write a 1,500-1750 word research investigation paper discussing a specific aspect of a theatre piece.

At Higher Level , students will complete an independent project that is largely self-motivated and directed and practical in nature; prepare an independent project portfolio in 3000 words that demonstrates and integrates research and practice of the dynamic stages of a creative process, present a 30 minute oral theatre performance and production presentation based on applied research of two theatre traditions; and write a 2,000-2,500 word research investigation paper discussing a specific aspect of a theatre piece. Studentsat HL are required to write a critique of the sources used in the research investigation. This class is designed for inquiring, open-minded, risk-taking, principled students interested in a balanced and reflective experience with theatre.

# HEALTH

All students must earn ½ credit in Health Education to meet the New York State requirement for graduation.

<b>HEALTH EDUCATION</b>	HS1352
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	School Exam and Project

Health is a semester course that is required by New York State for High School graduation. The students will learn the knowledge necessary to be physically, mentally, and socially healthy, as well as the skills needed to create and maintain a healthy lifestyle. Students will take part in discussions and projects that encourage them to reflect on their own knowledge, attitudes and behaviors.

<b>HEALTH EDUCATION ONLINE</b>	HS1388
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	Project

Health is a semester course that is required by New York State for High School graduation. This online option is ideal for highly organized, conscientious, independent learners. The students will learn the knowledge necessary to be physically, mentally, and socially healthy, as well as the skills needed to create and maintain a healthy lifestyle. Students are expected to interact with one another utilizing online forums similar to the discussions held in the classroom.

<b>BASIC PRINCIPLES OF NUTRITION</b>	HS1387
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	Project

**PREREQUISITE:** Biology (Final average above 85) **AND** Health (Final average above 90)

Basic Principles of Nutrition is a semester science course that introduces the role of nutrition in health maintenance. Students will learn food sources, functions and the interrelationships of the six major nutrient categories, as well as, energy requirements and balance. It also includes the principles of nutrient needs throughout the life cycle and their application to nutritional assessment, menu planning and food preparation.

# LANGUAGES OTHER THAN ENGLISH

All students must earn one unit of high school credit by either passing the second language final(Checkpoint A) exam at the end of grade 8 or successfully completing a ninth grade course of study for both a Local or Regents Diploma. For a Regents Diploma with Advanced Designation, two additional credits in foreign language plus a score of at least 65% on the level 3 Checkpoint B exam is required, or students may substitute a 5-unit sequence in Art, Music or Career Technical Education for the additional foreign language requirement.

**FRENCH - LEVEL 1** HS1302  
**GRADE** 9  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Below 65% on the 8<sup>th</sup> Grade Final or no previous language.

French 1 course is intended for students who did not achieve at least a 65 on the final exam at the end of grade 8 or students who have never studied a language before. In this course students will learn the basic vocabulary, idioms, and grammar structures found in checkpoint A of the NYS learning standards. Upon successful completion of French 1, students will earn one unit of Foreign Language credit required for graduation from high school.

**FRENCH – LEVEL 2** HS1300  
**GRADE** 9, 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** 65% or better on the 8th grade Final Exam and teacher recommendation.

French 2 advances the student to the intermediate level of language acquisition. The study of grammar structures, vocabulary and idioms becomes more intensive in this course. The study of French culture and aspects of everyday life is continued. Students are expected to demonstrate proficiency in listening, speaking, reading and writing in order to progress to the next level.

**CHS FRENCH – LEVEL 3** HS1315 (College # FRE 121/122)  
**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** French 2 and teacher recommendation.

CHS French 3 includes the study of grammar structures, vocabulary and idioms and progresses to a more sophisticated level. Emphasis is on conversation, compositions, authentic readings, written assignments and oral reports of more advanced content. The study of geography, culture and lifestyles of French speaking countries is continued. Students must demonstrate competency in listening, speaking, reading and writing skills in order to be successful on the local final (Checkpoint B) exam in June. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 6 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

**UHS FRENCH 4** HS1303 (College # AFRE 221Y)  
**GRADE** 11  
**CREDIT** 1 unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** French 3 and teacher recommendation

UHS French 4 is the first 200-level college course that we offer through SUNY Albany. A major component of this class is to develop an awareness of the relationship between language and culture. The class provides for intense language acquisition through listening comprehension, reading comprehension, oral expression, written communication, and cultural understanding. UHS French 4 requires students to continue developing their communicative competence by interacting orally and in writing in French. The majority of class will be conducted in French and students are expected to communicate in French most of the time. A variety of authentic texts from several French-speaking countries will be used

and students will perform both individual and group work in order to build upon and improve communication skills. This course is designed for highly motivated students who have a strong background and interest in French. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of “C” or better, students will be awarded 4 credits from SUNY Albany. All UHS French 4 students will be required to take the final exam at the end of the course.

<b>IB FRENCH SL YEAR 1</b>	IB1303	(College # AFRE 221Y)
<b>GRADE</b>	11	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	School Exam/UHS	

**PREREQUISITE:** French 3

IB French 4 course is the first year of an intensive two-year course. This class is required for IB Diploma candidates who have chosen French as their Language B. This class may also be taken for UHS college credit. A major component of this class is to develop an awareness of the relationship between language and culture. The class provides for intense language acquisition through listening comprehension, reading comprehension, oral expression, written communication, and cultural understanding. Both IB and UHS French 4 require students to continue developing their communicative competence by interacting orally and in writing in French.

Class will be conducted entirely in French and students are expected to communicate in French at all times. A variety of authentic texts from several French-speaking countries will be used and students will perform both individual and group work in order to build upon and improve communication skills. This course is designed for highly motivated students who have a strong background and interest in French. Summer reading and writing assignments will be assigned for those planning to take this class. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of “C” or better, students will be awarded 4 credits from SUNY Albany. UHS candidates will be required to take the UHS final exam in June of 11<sup>th</sup> grade.

<b>UHS FRENCH 5</b>	HS1304	(College # AFRE 222Y)
<b>GRADE</b>	12	
<b>CREDIT</b>	1 unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** UHS French 4 and teacher recommendation

UHS French 5 is the second 200-level college course that we offer through SUNY Albany. This accelerated course is intended to refine skills practiced in UHS French 4. Students will work towards increasing listening and reading comprehension, oral expression, written communication, and cultural understanding. The majority of class will be conducted in French and students are expected to speak French most of the time. Students will work individually and in groups to analyze, debate, and discuss a variety of issues and authentic texts in French. This course is designed for highly motivated students who have a strong background and interest in French. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of “C” or better, students will be awarded 4 credits from SUNY Albany. All UHS French 4 students will be required to take the final exam at the end of the course.

<b>IB FRENCH SL YEAR 2</b>	IB1304	(College # AFRE 222Y)
<b>GRADE</b>	12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	IB Assessments	

**PREREQUISITE:** IB or UHS French 4

IB French 5 SL course is the second part of the two year IB French course or year two of the UHS French Program. This rigorous, accelerated course is intended to refine skills practiced in IB / UHS French 4. Students will work towards increasing listening and reading comprehension, oral expression, written communication, and culture understanding. The class will be conducted entirely in French and students are expected to speak French at all times. Students will work individually and in groups to analyze, debate, and discuss a variety of issues and authentic texts in French. This course is designed for highly motivated students who have a strong background and interest in French. Summer reading and writing assignments will be assigned for those planning to take this class. IB candidates must take one (oral) internal assessment and one (written) external assessment which will be given between January and April of 12<sup>th</sup> grade. Two additional external (written) assessments will take place in May of 12<sup>th</sup> grade. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of “C” or better, students will be awarded 4 credits from SUNY Albany. UHS candidates will be required to take the UHS final exam in June of 12<sup>th</sup> grade.



**SPANISH - LEVEL 1** HS1310  
**GRADE** 9  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Below 65% on the 8<sup>th</sup> Grade Final or no previous language.

Spanish 1 course is intended for students who did not achieve at least a 65 on the final exam at the end of grade 8 or students who have never studied a language before. In this course students will learn the basic vocabulary, idioms, and grammar structures found in checkpoint A of the NYS learning standards. Upon successful completion of Spanish 1, students will earn one unit of Foreign Language credit required for graduation from high school.

**SPANISH – LEVEL 2** HS1306  
**GRADE** 9, 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** 65% or better on the 8th grade Final Exam and teacher recommendation.

Spanish 2 advances the student to the intermediate level of language acquisition. The study of grammar structures, vocabulary and idioms becomes more intensive in this course. The study of Spanish culture and aspects of everyday life is continued. Students are expected to demonstrate proficiency in listening, speaking reading and writing in order to progress to the next level.

**CHS SPANISH – LEVEL 3** HS1314 (College# SPA 121/122)  
**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Spanish 2 and teacher recommendation.

CHS Spanish 3 is the third year of the study of grammar structures, vocabulary and idioms and progresses to a more sophisticated level. Emphasis is on conversation, compositions, authentic readings, written assignments and oral reports of more advanced content. The study of geography, culture and lifestyles of Spanish speaking countries is continued. Students must demonstrate competency in listening, speaking, reading and writing skills in order to be successful on the local final (Checkpoint B) exam in June. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 6 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

**UHS SPANISH 4** HS1308 (College # ASPN 200)  
**GRADE** 11  
**CREDIT** 1 unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Spanish 3 and teacher recommendation

UHS Spanish 4 is the first 200-level college course that we offer through SUNY Albany. A major component of this class is to develop an awareness of the relationship between language and culture. The class provides for intense language acquisition through listening comprehension, reading comprehension, oral expression, written communication, and cultural understanding. UHS Spanish 4 requires students to continue developing their communicative competence by interacting orally and in writing in Spanish. The majority of class will be conducted in Spanish and students are expected to communicate in Spanish most of the time. A variety of authentic texts from several Spanish-speaking countries will be used and students will perform both individual and group work in order to build upon and improve communication skills. This course is designed for highly motivated students who have a strong background and interest in Spanish. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of “C” or better, students will be awarded 4 credits from SUNY Albany. All UHS Spanish 4 students will be required to take the final exam at the end of the course.

<b>IB SPANISH SL YEAR 1</b>	IB1308	(College # ASPN 200)
<b>GRADE</b>	11	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** Spanish 3

IB Spanish 4 SL is the first year of an intensive two-year course. This class is required for IB Diploma candidates who have chosen Spanish as their Language B. This class may also be taken for UHS college credit. A major component of this class is to develop an awareness of the relationship between language and culture. The class provides for intense language acquisition through listening comprehension, reading comprehension, oral expression, written communication, and cultural understanding. Both IB and UHS Spanish 4 require students to continue developing their communicative competence by interacting orally and in writing in Spanish. Class will be conducted entirely in Spanish and students are expected to communicate in Spanish at all times. A variety of authentic texts from several Spanish-speaking countries will be used and students will perform both individual and group work in order to build upon and improve communication skills. This course is designed for highly motivated students who have a strong background and interest in Spanish. Summer reading and writing assignments will be assigned for those planning to take this class. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of "C" or better, students will be awarded 4 credits from SUNY Albany. UHS candidates will be required to take the UHS final exam in June of 11<sup>th</sup> grade.

<b>UHS SPANISH 5</b>	HS1309	(College # ASPN 201)
<b>GRADE</b>	12	
<b>CREDIT</b>	1 unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** UHS Spanish 4 and teacher recommendation

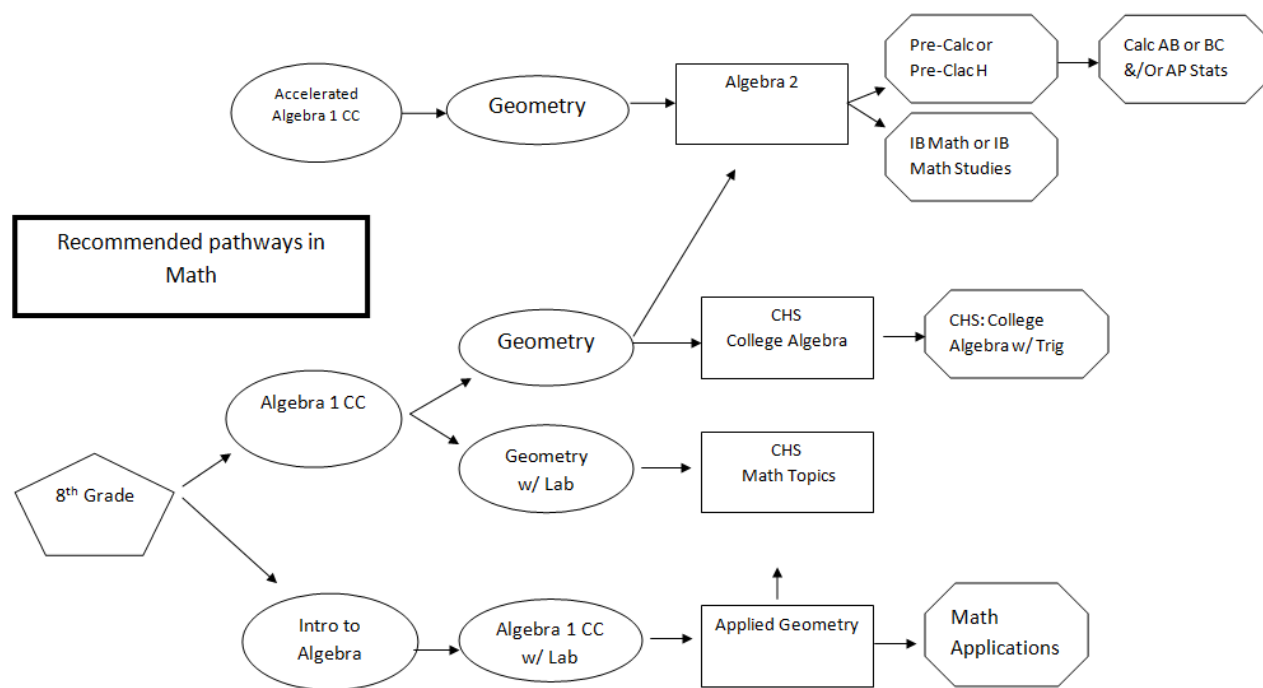
UHS Spanish 5 is the second 200-level college course that we offer through SUNY Albany. This accelerated course is intended to refine skills practiced in UHS Spanish 4. Students will work towards increasing listening and reading comprehension, oral expression, written communication, and cultural understanding. The majority of class will be conducted in Spanish and students are expected to speak Spanish most of the time. Students will work individually and in groups to analyze, debate, and discuss a variety of issues and authentic texts in Spanish. This course is designed for highly motivated students who have a strong background and interest in Spanish. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of "C" or better, students will be awarded 4 credits from SUNY Albany. All UHS Spanish 4 students will be required to take the final exam at the end of the course.

<b>IB SPANISH SL YEAR 2</b>	IB1309	(College # ASPN 201)
<b>GRADE</b>	12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	IB Assessments	

**PREREQUISITE:** IB or UHS Spanish 4

IB Spanish 5 SL is the second part of the two year IB Spanish course or year two of the UHS Spanish Program. This rigorous, accelerated course is intended to refine skills practiced in IB / UHS Spanish 4. Students will work towards increasing listening and reading comprehension, oral expression, written communication, and culture understanding. The class will be conducted entirely in Spanish and students are expected to speak Spanish at all times. Students will work individually and in groups to analyze, debate, and discuss a variety of issues and authentic texts in Spanish. This course is designed for highly motivated students who have a strong background and interest in Spanish. Summer reading and writing assignments will be assigned for those planning to take this class. IB candidates must take one internal (oral) assessment and one external (written) assessment which will be given between January and April of 12<sup>th</sup> grade. Two additional external assessments (written) will take place in May of 12<sup>th</sup> grade. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of "C" or better, students will be awarded 4 credits from SUNY Albany. UHS candidates will be required to take the UHS final exam in June of 12<sup>th</sup> grade.

# MATHEMATICS



# MATHEMATICS

All students must earn three credits in Mathematics to meet requirements for graduation with a Regents Diploma or Local Diploma. In addition, all students must take a New York State Regents exam in Math for a Regents Diploma and three Regents exams for a Regents Diploma with Advanced Designation.

**INTRODUCTION TO ALGEBRA** HS1724  
**GRADE** 9,10,11,12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School exam  
**PREREQUISITE:** Math 8

Introduction to Algebra is a full year course designed to help students who have traditionally struggled with mathematics and need additional time to master foundational skills before enrolling in Algebra. Students will study properties of real numbers, fractions, rational numbers, equations, and linear functions. There course will conclude with a school final exam. A TI-84 graphing calculator is required for this course. (This course is not approved by NCAA)

**ALGEBRA** HS 1215  
**GRADE** 9,10,11,12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** Regents in Algebra (Common Core)

**RECOMMENDED:** Math 8 Grade Point Average of 75 % or higher or successful completion of Introduction to Algebra. Algebra is a full year course, including a weekly lab, to address the curriculum outlined by the Common Core State Standards. It is the study of functions specifically addressing the relationships between quantities and reasoning with equations and graphs. Students will study linear, quadratic, and exponential functions, and descriptive statistics. The final for this course is the Regents in Algebra (Common Core). A TI-84 graphing calculator is required for this course.

**APPLIED GEOMETRY** HS 1211  
**GRADES** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam  
**PRE-REQUISITE:** Algebra

Applied Geometry is a full year course following the Geometry curriculum at a slower pace. Students will explore triangle congruence, similarity, and properties of lines, triangles, quadrilaterals, circles, surface area, and volume given real world problems. Students will also be introduced to the writing of Euclidean and coordinate proofs based on logic and properties of geometric figures. This concludes in a school final. A TI-84 graphing calculator is required for this course. (This course is not approved by NCAA)

**GEOMETRY LAB** HS 1212  
**GRADE** 9, 10, 11  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** Regents in Geometry (Common Core)  
**PREREQUISITE:** Algebra

Geometry Lab is a full year course and covers geometry curriculum that follows common core learning standards with additional time built into the schedule for practice and activities that will strengthen skills. Students will study concepts of geometry, problem solving, logical reasoning, proofs, and the integration of algebra and geometry with real life applications. This course will conclude with the Regents in Geometry (Common Core). A TI-84 graphing calculator is required for this course. (This course is not approved by NCAA)

<b>GEOMETRY</b>	HS 1210
<b>GRADE</b>	9, 10, 11
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	Regents in Geometry (Common Core)

**PREREQUISITE:** Pass Algebra with an average of 80% or higher

Geometry is a full year course covering geometry curriculum that follows common Core learning standards. The purpose is to offer a more complex study of geometric relationships. Students will learn logic, congruent and similar triangles, transformations, congruency, and similarity. Other topics include constructions, planar figures, and solid geometry. This course concludes with the Regents in Geometry (Common Core). A TI-84 graphing calculator is required for this course.

<b>APPLICATIONS FOR MATHEMATICS</b>	HS 1723
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**PREREQUISITE:** Applied Geometry

Applications for Mathematics is a full year course for students who have been traditionally challenged by math concepts. Students will review basic arithmetic and algebraic fundamentals through a survey of topics in finite mathematics and corresponding applications, including percents, area, perimeter, volume, logic, matrices, modular arithmetic, probability, statistics, and financial models. It can be used as a third or fourth credit for those who have completed Algebra. This course will conclude with a school exam. (This course is not approved by NCAA)

<b>CHS MATHEMATICAL TOPICS</b>	HS1726	(College # MAT 145)
<b>GRADE</b>	11, 12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** Geometry or Applied Geometry

CHS Mathematical Topics is a full year course designed to acquaint students with various areas of mathematics. Students will be exposed to a variety of topics including linear, exponential, and quadratic functions. Other topics include statistics and probability, geometric sequences, geometry concepts, graph theory and logic. This course will conclude with a school exam. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>CHS COLLEGE ALGEBRA</b>	HS1727	(College # MAT 148)
<b>GRADE</b>	11, 12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** Algebra and Geometry

CHS College Algebra is a full year course for students who desire to begin their college pathway. Students will learn application and analysis of algebraic problems. Topics include linear, quadratic, absolute value, radical, rational, exponential, and logarithmic functions, with an emphasis on regression analysis and mathematical models. Also included in this course are the following topics: matrices, sequences, and series. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>ALGEBRA 2</b>	HS 1219
<b>GRADE</b>	10, 11, 12
<b>FINAL ASSESSMENT</b>	Regents in Algebra 2 (Common Core)

**PREREQUISITE:** Regents Algebra and Geometry. It is strongly recommended students entering this course earned an overall average of 85% or better in both prerequisite courses.

Algebra 2, a one year course following NYS common core learning standards, is the expanded study of functions that builds upon the functions studied in Algebra. Students will study polynomial, rational, radical, logarithmic, and trigonometric functions and will learn to draw inferences and conclusions from data (probability and statistics). Students

will be expected to model real-life scenarios with mathematical functions, construct viable arguments, and recognize and utilize patterns in order to solve problems. This course will conclude with the Regents in Algebra 2 (Common Core) in June. A TI-84 graphing calculator is required for this course.

**ALGEBRA 2/PRE-CALCULUS** HS1725  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Successful completion of Intermediate Algebra

Algebra 2/Pre-Calc completes the Algebra 2 curriculum and introduces students to essential concepts in pre-calculus. In the first semester, students will review topics from the previous year and learn about sequences and series, probability, and statistics. In January, students will take the Regents in Algebra 2 (Common Core). In the second semester, students will learn about analytical trigonometry, solving trigonometric equations, work with trigonometric identities and they will further their understanding of exponential and logarithmic functions. The final exam for this course is a school exam.

**CHS PRE-CALCULUS** HS1204(11)/HS1205(12) (College # MAT 167)  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Successful completion of Algebra 2 and a passing grade on the Regents in Algebra 2 (Common Core)

CHS Pre-Calculus is for students planning to take calculus or planning to continue in a mathematics or science related field after graduation from high school. Students will study topics including conics, theory of equations, functions, polar coordinates, matrices, graphical analysis, and an introduction to differential calculus. Pre-Calculus 11 includes additional calculus topics and prepares students for advancement into AP Calculus AB/BC. The final exam for this course is a local exam. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

**AP CALCULUS AB/BC AND/OR UHS** AB - HS1203 BC – HS1220 (College # AMAT 112)  
**GRADE** 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**AB PREREQUISITE:** CHS Pre-Calculus 11 or IB Mathematics SL

**BC PREREQUISITE:** Teacher recommendation.

In AP Calculus the following topics are studied: Analytical Geometry; differential calculus of algebraic functions; geometrical and physical applications of integration; the calculus of elementary transcendental functions; the application of transcendental functions. Mandatory AP Examinations in Calculus AB and Calculus BC will be given in May at cost to individual students. Upon satisfactory completion of the AP Examination each student may receive college credit in Calculus as determined by the collegiate institution(s) accepting the student for admission. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum and grades are determined by the high school teacher. Upon receiving a final grade of "C" or better, students will be awarded 3 credits from SUNY Albany. Students will have both a local exam and an AP exam for this course.

**AP STATISTICS AND/OR UHS** HS1213 (College # AMAT 108)  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Successful completion of Algebra 2 and a passing grade on the Regents in Algebra 2 (Common Core)

AP Statistics covers the syllabus of a college Elementary Statistics course and includes such topics as standard deviation, line regression, how to write a questionnaire, and how to interpret data. The mandatory AP Examination for Statistics will be given in May at cost to individual students. Upon satisfactory completion of the AP Examination each student may receive college credit in Statistics as determined by the collegiate institution(s) accepting the student for admission. Eligible students will complete a UHS application and submit the tuition payment directly to SUNY Albany. The curriculum

and grades are determined by the high school teacher. Upon receiving a final grade of “C” or better, students will be awarded 3 credits from SUNY Albany. Students will have both a final local exam and an AP exam for this course.

**IB MATHEMATICAL STUDIES SL**      IB1228  
**GRADE**      11 or 12  
**CREDIT**      1Unit  
**FINAL ASSESSMENT**      School Exam  
**PREREQUISITE:** Intermediate Algebra 2 or Algebra 2

IB Mathematical Studies course focuses on math as a tool that can be used to solve problems in many different fields. Students will develop a solid understanding of basic concepts that will allow them to recognize when to apply mathematical tools to solve problems. Math topics we will study include functions and equations, analytical geometry and trigonometry, set theory, probability, statistics, and elementary differential calculus.

Students will be active participants in class and will be expected to work independently and cooperatively, make presentations, conduct research, learn and teach. Students will be responsible for an independent piece of mathematical work (internal assessment) in which they ask a mathematical question, collect data, analyze the data and present their findings in a coherent essay of no more than 2000 words.

Mathematical Studies SL is designed for students who are planning a career in such fields as education, finance, social science, health sciences, arts and the humanities.

In addition to the internal assessment, students will take the IB Mathematical Studies SL external assessment in May and will take a school final exam in June.

**IB MATHEMATICS SL**      IB1227  
**GRADE**      11 or 12  
**CREDIT**      1 Unit  
**FINAL ASSESSMENT**      School Exam  
**PREREQUISITE:** Algebra 2

IB Mathematics SL is a one-year course that introduces several important mathematical concepts such as: algebra and functions, trigonometry, vectors, probability, statistics, and differential and integral calculus. The intention of the class is to expose students to these concepts in a clear and consistent way. The course is designed to foster independence in their mathematical learning.

This course will provide the students an opportunity to learn how students across the world see and learn mathematics. Students will be encouraged to use alternative notation and to study lives and contributions of several mathematicians. Students will be expected to learn how the attitudes of different societies towards specific areas of mathematics are demonstrated and how the language of mathematics is spoken by all countries.

Students are provided with opportunities to take a considered approach to these activities and to explore different ways of approaching a problem. Students will be required to develop skills they need for communicating mathematical ideas.

Mathematics SL is designed for students who possess a strong background in mathematics and are looking to pursue a career in which a deeper understanding and appreciation of mathematical concepts is required.

The internally assessed component, the mathematical exploration, offers students a framework for developing independence on their mathematical learning by engaging in mathematical investigation and modeling. At the end of the course, students will take the IB Mathematics SL external assessment.

**INTRODUCTION TO COMPUTER SCIENCE**      HS1681  
**GRADES**      9,10,11,12  
**CREDIT**      1/2 Unit  
**FINAL ASSESSMENT**      School Exam

Introduction to Computer Science is a semester course that will cover a wide variety of fundamental topics. Students will be introduced to topics including abstraction, computer organization, ethics, history of computing, and representation of information. This course will conclude with a school approved project. (This course is not approved by NCAA)

<b>SAT PREP MATH AND VERBAL</b>	HS2263
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 unit (Pass/Fail)

SAT Prep Math and Verbal is offered by both the Mathematics and English departments. Instruction is based on the individual areas tested on college entrance examinations. The instructors will use review books, practice tests and the school's computer resources. (This course is not approved by NCAA)



# PHYSICAL EDUCATION

All students must complete two units of credit in Physical Education over four years. All students must enroll in Physical Education each year of high school.

<b>PHYSICAL EDUCATION 9/10</b>	HS1390/HS1391
<b>GRADE</b>	9, 10
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	None given

Physical Education 9/10 is an essential and basic part of the total education program. Participating students will learn activities designed for lifetime fitness and wellness. Our students develop the skills, knowledge, and attitudes necessary for a healthy lifestyle. Activities include, but are not limited to: Field Hockey, Lacrosse, Archery, Soccer(indoor and outdoor), Badminton, Dance and choreography, Floor Hockey, Aerobics, Cooperative Games, Introduction to weight training, Tennis, Swimming activities, Orienteering, Softball, Tennis, Adventure Education, Flag Football, Ultimate Frisbee, Speedball, and Fitness Testing.

<b>PHYSICAL EDUCATION 11/12</b>	HS1378/1379
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	None given

Physical Education 11/12, is a full year course where the students obtain knowledge of team sports, practice individual sports, and gain an understanding of the importance of lifetime wellness. A wide variety of sports and activities are provided so that the student has the opportunity to develop an understanding of health, wellness, fitness, and sport in a safe and healthy environment.

<b>ALTERNATE STUDY PHYSICAL EDUCATION</b>	HS1361
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1/2 Unit (Pass/Fail)
<b>FINAL ASSESSMENT</b>	None given

Alternate Study Physical Education program is a student based course that provides an alternative pathway to students for Physical Education credit. This course has an application process for students in good academic standing who are highly involved in and committed to physical activity outside the traditional school day. Offered as Pass/Fail, this alternative option is designed by the student, under the supervision of a certified physical education teacher, in direct accordance with New York Physical Education Learning Standard Three. Students must demonstrate participation in an activity at least two or three times per week for a minimum of three hours per week, for a total of 20 concurrent weeks. Proof of this participation will be in the form of 4 daily logs of activities and 2 reflective pieces for the semester. Acceptable activities in this program are as follows but are not limited to: crossfit, travel sports teams, tae kwon do, ice skating and dance. A student MUST apply the semester before participation and must reapply each semester.

<b>PHYSICAL EDUCATION: PREVENTION &amp; CARE OF INJURIES ONLINE</b>	HS1389
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit (Pass/Fail)
<b>FINAL ASSESSMENT</b>	None given

Prevention and Care of injuries is a full year course that provides an introduction to current philosophies, procedures and practices related to the care and prevention of athletic injuries. Students will study contemporary principles and methods of conditioning, prevention, and first-aid care. In addition, the fundamentals of taping and wrapping techniques, inspection & physical examination of injuries, and training room procedures will be covered. This course is offered as Pass/Fail, full year course for full International Baccalaureate Diploma Programme students.

<b>PHYSICAL EDUCATION: THERAPEUTIC MODALITIES ONLINE</b>	HS1362
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit (Pass/Fail)
<b>FINAL ASSESSMENT</b>	None given

Physical Education: Therapeutic Modalities will offer an overall perspective for therapeutic modality use with basic anatomy. It will define the therapeutic modalities and help the student to understand their place in orthopedic injury management and explain how they related to total rehabilitation. A rationale for using a standardized system approach to

application will also be presented. Lastly the course will include a case for proper record keeping, indicating how doing so can strengthen both the efficacy of your treatments and the quality of health care provided. This course is offered as a Pass/Fail, full year course for full International Baccalaureate Diploma Programme students.

**PHYSICAL EDUCATION: SMART STEPS-VOTEC/BOCES ONLINE** HS1364

**GRADE** 11, 12  
**CREDIT** 1/2 Unit (Pass/Fail)  
**FINAL ASSESSMENT** None given

Smart Steps is an exercise walking program. It requires no gym, no exercise machines, and no personal trainers. This program is all about movement- physical movement, footsteps, miles, energy expenditure, exertion, activity, games, active living and pedometers. The primary emphasis will be placed on active lifestyle, personal awareness of activity levels, and understanding/appreciating the benefits of a walking program. This course is offered as a Pass/Fail, full year course for any BOCES student.

**PHYSICAL EDUCATION: GUARD START** HS1351

**GRADE** 9, 10  
**CREDIT** 1/4 Unit  
**FINAL ASSESSMENT** None given

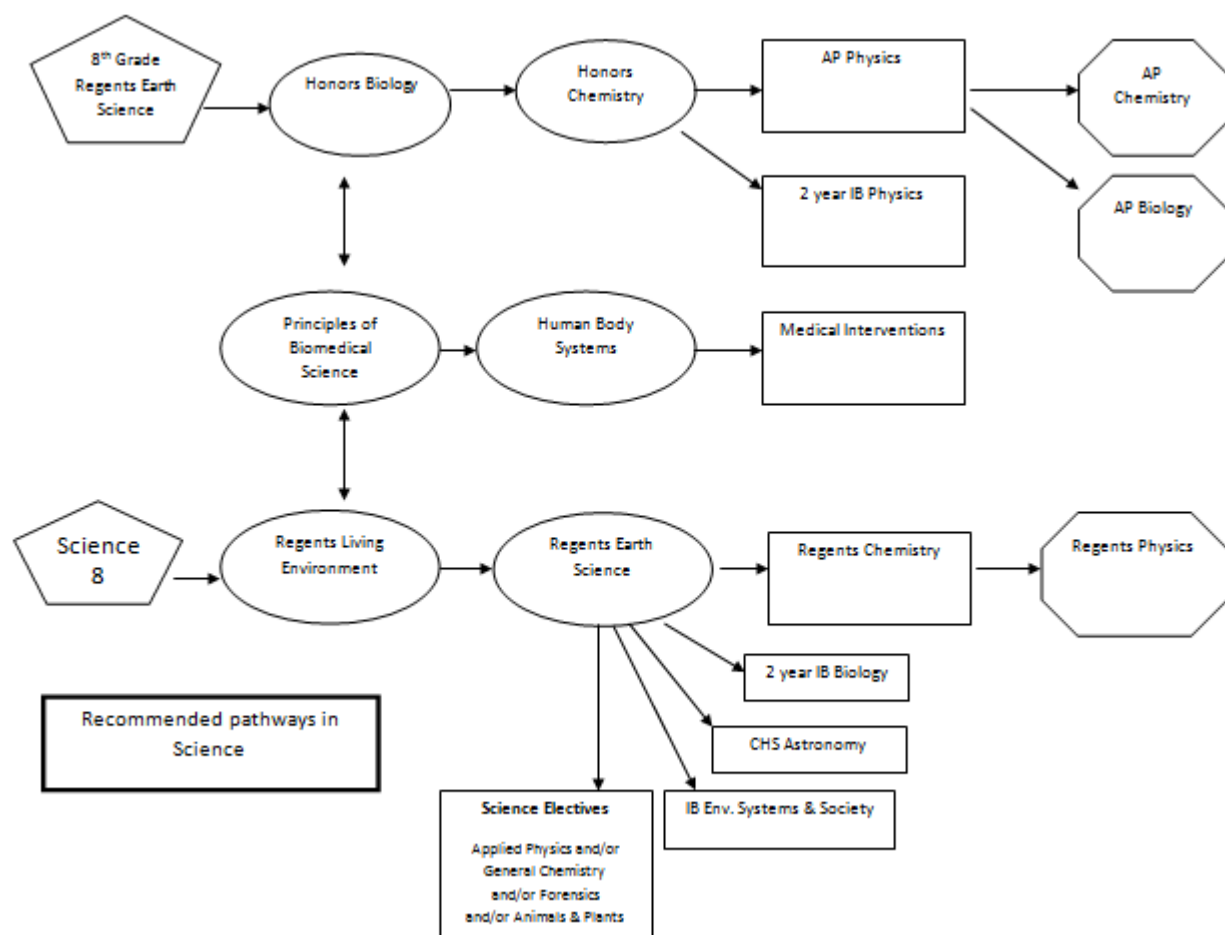
Guard Start will teach water safety and the duties and responsibilities of a lifeguard. However, this course will not certify students to be a lifeguard. It will build a foundation of knowledge, attitudes, and skills in preparation for the American Red Cross Lifeguard Training course. Upon completion and when turning 15 years of age, participants will be prepared to enroll in the American Red Cross Lifeguard Training Course.

**PHYSICAL EDUCATION: LIFEGUARDING** HS1353

**GRADE** 9, 10, 11, 12  
**CREDIT** 1/4 Unit  
**FINAL ASSESSMENT** School exam

Physical Education: Lifeguarding course includes three components: Lifeguard Training (including First Aid), CPR for the Professional Rescuer, and a Waterfront Lifeguarding Module. Each component has a written and practical exam and each has a card for successful completion of activities. You must be 15 years old to take this course. Students who achieve 80% on written exam and successfully complete practical skills test will earn lifeguard certification.

# SCIENCE



# SCIENCE

All students must earn three credits in Science and pass one Regents exam in order to meet the requirements for graduation. One credit must be in life science and the second in a physical science. The third credit of science can be in either a physical science or a life science. Students must pass two Regents exam for the Regents Diploma with Advanced Designation. Section 207 of NYS Education Law Section 8.2(c) of the rules of the Board of Regents states that in order to qualify to take a Regent's examination in any of the Regents sciences a student must complete 20 hours of laboratory experience with satisfactory documented laboratory reports. The 20 hours of laboratory experience must be in addition to the required classroom instruction associated with earning a unit of credit.

<b>BIOLOGY REGENTS</b>	HS1255
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

Biology Regents is a full year laboratory course in modern biology following the New York State Living Environment Core Curriculum. It is designed to provide broad general understandings of the fundamental principles of biology and to provide an extension of understanding in selected areas. Units include: biochemistry, animal and plant life, reproduction and development, genetics, evolution and diversity, and ecological relationships. Students must complete 20 hours of hands on laboratory experiences with satisfactory lab reports to successfully complete the course. This course culminates in the Living Environment Regents exam.

<b>BIOLOGY HONORS</b>	HS1254
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

**PREREQUISITE:** Completion of Earth Science with at least a 90 average for course/exam

Biology Honors is a full year laboratory course which covers the New York State Living Environment Core Curriculum but in much greater detail and at a much faster pace in order to challenge students with exceptional ability. The course will include additional laboratory work in biotechnology – electrophoresis and bacterial transformation. Students must complete 20 hours of hands on laboratory experiences with satisfactory lab reports to successfully complete the course. Students will be prepared to take the SAT II Subject Test in Biology in June. This course culminates in the Living Environment Regents exam.

<b>EARTH SCIENCE REGENTS</b>	HS1261
<b>GRADE</b>	9, 10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

Earth Science is a full year laboratory course that follows the New York State Physical Setting/Earth Science Core Curriculum. Topics include geology, meteorology, hydrology, and astronomy with an emphasis on our Earth and the processes affecting it. Students must complete 20 hours of hands on laboratory experiences with satisfactory lab reports to successfully complete the course. This course culminates in the Physical Setting/Earth Science Regents exam.

<b>CHEMISTRY REGENTS</b>	HS1260
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

**PREREQUISITE:** Successful completion of Living Environment and Earth Science and successful completion of Algebra.

Regents Chemistry is a full year laboratory course based on the New York State Physical Setting/Chemistry Core Curriculum and deals with the fundamental relationships between matter and energy as well as the changes which matter undergoes. Topics include atomic structure, chemical bonding, stoichiometry, kinetics, equilibrium, acid-base theory, oxidation-reduction, and organic reactions. Students must complete 20 hours of hands on laboratory experiences with satisfactory lab reports to successfully complete the course. This course culminates in the Physical Setting/Chemistry Regents Exam.

<b>CHEMISTRY HONORS</b>	HS1259
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

**PREREQUISITE:** Successful completion of Earth Science and Biology with at least a 90 average for the course/exam as well as strong foundational skills in solving algebraic equations.

Chemistry Honors is a full year laboratory course based on the New York State Physical Setting/Chemistry Core Curriculum with significant supplemental content and a faster pace of instruction. The students will seek abstract patterns that unify the relationships between matter and energy. This course is designed for highly motivated students that want to challenge themselves with a fast pace course and are willing to work independently to solve complex problems. Students will be prepared to take the SAT II Subject Test in Chemistry in June. Students must complete 20 hours of hands on laboratory experiences with satisfactory lab reports to successfully complete the course.

<b>PHYSICS REGENTS</b>	HS1268
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	NYS Regents

**PREREQUISITE:** Successful Completion of or concurrent enrollment in Algebra 2.

Physics Regents is a full year laboratory course based on the New York State Physical Setting/ Physics Core Curriculum and provides a systematic introduction to the main principles of the physical world. Topics covered include Mechanics, Energy, Electricity and Magnetism, Waves and Modern Physics. Regents Physics emphasizes the development of problem-solving skills. Students should have an understanding of algebra and trigonometry. Students who intend to continue study in any science based technical field are encouraged to enroll in this course. Students must complete 20 hours of hands on laboratory experiences with satisfactory lab reports to successfully complete the course. This course culminates in the Physical Setting/Chemistry Regents Exam.

## **BIOMEDICAL SCIENCES**

The Biomedical Science Program is a sequence of courses that provide a hands-on, real-world problem solving approach to learning developed by Project Lead the Way. Project Lead The Way is the nation's leading provider of science, technology, engineering, and math (STEM) curriculum programs. Students explore the concepts of human medicine as well as the prevention, diagnosis and treatment of disease. Students work collaboratively to investigate and design innovative solutions for health challenges of the 21<sup>st</sup> century. This sequence of courses is designed for students interested in pursuing a career in biological sciences, emergency services, healthcare or medicine. This is a college preparatory program and students should be concurrently enrolled in a college prep science class.

<b>PLTW PRINCIPLES OF BIOMEDICAL SCIENCES</b>	HS1280
<b>GRADE</b>	9, 10
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam and Final Project

**COREQUISITE:** College preparatory science class

Principles of Biomedical Sciences is a full year introductory course which covers the study of human medicine, research processes and an introduction to bioinformatics. This course is designed for students interested in pursuing a career in the biological sciences, emergency services, healthcare or medicine. In this course, students investigate the human body systems and various health conditions. An on-going theme throughout the year is the analysis of various factors that led to the death of a fictional person. Students investigate lifestyle choices and medical treatments that might have prolonged the person's life. The course culminates with a written exam and a project. Students need to be concurrently enrolled in a Regents Science class.

<b>PLTW HUMAN BODY SYSTEMS</b>	HS1282
<b>GRADE</b>	10, 11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam and Final Project

**PREREQUISITE:** Successful completion of Principles of Biomedical Sciences and Regents Biology.

**COREQUISITE:** College preparatory science class

Human Body Systems is a full year course which covers human body systems and studies how "parts of a whole," work together to maintain homeostasis, good health and to keep the human body functioning at an optimal level. Students will work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

Students will design experiments, explore various medical careers, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as breathing rate, and body strength. Students will forensically analyze bones, complete DNA electrophoresis, and dissect cow eyes, pig kidneys, and rabbit leg muscles. Students will also perform blood type lab, urinalysis, a visual perception lab, and analysis of broken bones with x-rays. This course culminates with a written exam and a project. Students need to be concurrently enrolled in a Regents Science Class.

**PLTW MEDICAL INTERVENTIONS** HS1283  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam  
**PREREQUISITE:** Successful completion of Human Body Systems  
**COREQUISITE:** College preparatory science class

Medical Interventions is a full year course which covers the design and development of various medical interventions that extend and improve the quality of life. Topics in the course include diagnostics, pharmacology, surgery, cancer, gene therapy, prosthetics, rehabilitation, and supportive care. College level labs are an essential part of this course and students will develop a skill set for performing these labs. Students will study the design and developments of various medical interventions including robotic surgery, cochlear implants, and prosthetic limbs. Students will learn about the history of medical interventions, and read current scientific literature to be aware of cutting edge developments. The course culminates with a written exam and a project. Students need to be concurrently enrolled in a Regents or AP Science Class.

**BIOMEDICAL RESEARCH** HS1429 Full Year/HS1430 ½ year  
**GRADE** 12  
**CREDIT** 1/2 Unit or 1 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** Successful Completion of Medical Interventions  
 Biomedical Research is a capstone course where students design innovative solutions for the health challenges of the 21st century. Students must be able to work independently as the course consists solely of an independent, self-designed project with a mentor or advisor.

#### **NON-REGENTS SCIENCE COURSES**

**APPLIED PHYSICS** HS1267  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam  
**PREREQUISITE:** Successful completion of Algebra

Applied Physics is a one year general level, hands-on, project based course. It will be taught using only basic algebra skills. The class will cover mechanics, energy, simple machines, electricity, and magnetism. Students need to have successfully completed Algebra prior to taking this course. Students will work in teams to complete projects therefore academic success in this class is dependent on regular attendance.

**GENERAL CHEMISTRY** HS1257  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** School Exam

General Chemistry is a semester long course that focuses on traditional chemistry topics including atomic structure, bonding, solutions, gas laws, and nuclear chemistry. Students will perform lab activities for all topics. The course culminates with a written final.

**FORENSICS** HS1265  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** School Exam

Forensics is a semester long course that focuses on crime scene management, evidence collection, and analysis. Labs may include fingerprinting, organic analysis of drugs and poisons, hair and fiber identification, glass analysis, document

analysis, blood work, and will culminate in thorough investigation and processing of crime scenes. Students will complete labs for many of the topics in the course. Therefore, academic success in this class is dependent on regular attendance.

**ANIMALS AND PLANTS OF THE NORTHEAST** HS1275  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** School Exam

Animal & Plants of the Northeast, is a semester long survey course acquaints students with the wealth of plant and animal life found primarily in the Northeastern Section of the United States. Topics covered in the course include trees, birds, fish, reptiles, amphibians, insects, and mammals will be covered. Each topic will include classification schemes, anatomy, physiology, and species identification. This course is designed for students interested in developing an appreciation for and sense of stewardship toward our wildlife resources. The course culminates with a final project.

**BASIC PRINCIPLES OF NUTRITION** HS1387  
**GRADE** 10, 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** Project

**PREREQUISITE:** Biology (Final average above 85) and Health (Final average above 90)

Basic Principles of Nutrition is a semester long science course that introduces the role of nutrition in health maintenance. Students will learn food sources, functions and the interrelationships of the six major nutrient categories, as well as, energy requirements and balance. It also includes the principles of nutrient needs throughout the life cycle and their application to nutritional assessment, menu planning and food preparation. (This course is not approved by NCAA)

**UHS/PLTW PRINCIPLES OF ENGINEERING** HS1654  
**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** End of Course Assessment & Project

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of UHS/PLTW DDP

Principles of Engineering is a full year course that explores various technology systems and manufacturing processes. Principles of Engineering is a project based course that helps students understand the field of engineering/engineering technology. Students will learn how engineers and technicians use math, science and technology in a problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change. This course culminates with a final project and an end of course assessment. Students who maintain an 85% average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT). This course may count for the third year of Science required for high school graduation.

**UHS/PLTW DIGITAL ELECTRONICS** HS1653  
**GRADE** 9, 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** End of Course Assessment & Project

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of UHS/PLTW DDP and Algebra

Digital Electronics is a full year course that explores basic uses for circuit instrumentation like meters, oscilloscopes, and logic probes. Introductory circuit analysis, discrete electronic components, integrated circuits, and their applications in electronic circuits will be studied. High reliability soldering techniques are introduced. Students learn to build circuits in the laboratory and on computer simulations. Students will fabricate a practical application of digital electronics for a semester project. Because of the intrinsic math component of the course, completion of Algebra is strongly recommended. This course culminates with a final project and an end of course assessment. Students who maintain an 85% average in this course and score at least a 6 on the PLTW end of course assessment are eligible to apply for 4 college credits from Rochester Institute of Technology (RIT). This course may count for the third year of Science required for high school graduation.

**UHS FORENSICS** HS1264  
**GRADE** 11, 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** School Exam

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of Regents Chemistry

UHS Forensics is a semester long course that focuses on crime scene management, evidence collection, and analysis. Labs may include fingerprinting, organic analysis of drugs and poisons, hair and fiber identification, glass analysis, document analysis, blood work, and will culminate in thorough investigation and processing of crime scenes. Students

will complete labs for many of the topics in the course. Therefore academic success in this class is dependent on regular attendance. Students must register and pay tuition of approximately \$100 per credit hour for 4 credits to Syracuse University.

<b>CHS ASTRONOMY- EXPLORING SPACE</b>	HS1256	(College # AST 123)
<b>GRADE</b>	11, 12	
<b>CREDIT</b>	1/2 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of Regents Earth Science, Algebra, and Geometry CHS Astronomy – Exploring Space is a semester long course that examines present and future methods of space exploration. Topics include the basic science, instruments, technology, dangers, benefits, costs, and practical and political importance of space exploration. Discussion topics include space stations, moon colonies, manned missions from Mercury through Apollo, and current international space missions. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>AP PHYSICS 1/CHS</b>	HS1266	(College # PHY 153/154)
<b>GRADE</b>	11, 12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	NYS Regents	

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of Regents Chemistry and Algebra 2 with a 90 or better for the courses/exams.

AP Physics is a full year, college level, in-depth, algebra based course that provides a systematic introduction to the main principles of physics. Topics covered are aligned with both the Physical Setting/Physics Core Curriculum and the AP Physics Year 1 Syllabus. Topics include Newtonian Mechanics, Electricity and Magnetism, Waves, and Atomic Physics. AP Physics Year 1 emphasizes the development of problem solving skills. It is intended for strong students who have shown exceptional success in science and math courses. Students should have a firm understanding of algebra and trigonometry. Students will be expected to complete a summer assignment for the course. At the end of the course, students will take both the NYS Physical Setting/Physics Regents and the AP Physics Year 1 exam. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 8 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>AP BIOLOGY/CHS</b>	HS1253	(College # BIO 141/142)
<b>GRADE</b>	11, 12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of both Regents Chemistry and Algebra 2 with a 90 or better for the courses/exams. In addition, students should have either successfully completed Regents or AP Physics with a 90+ average OR should be concurrently enrolled in Regents or AP Physics.

AP biology is a full year college level introductory biology course designed to cover the material typically presented in a two semester college class. It is a rigorous, fast-paced course covering topics including biochemistry, cells, organisms, populations, ecology, evolution, and genetics. The course is intended for strong students who have shown exceptional success in both biology and chemistry courses. Students will complete a summer assignment for the course. At the end of the course, students will take the AP Biology exam as well as a local written final exam. Students are expected to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College and register for the opportunity to earn college credits with NO tuition charges. Students will complete registration online in class and must turn in a Certificate of Residency. Upon receiving a final grade of C or better, students will be awarded 8 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.



<b>AP CHEMISTRY</b>	HS1258
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**RECOMMENDED ACHIEVEMENT LEVELS:** Successful completion of Regents/Honors Chemistry and Algebra 2 with a 90 or better for the courses/exams. Students should be enrolled in either Pre-Calculus or Calculus. In addition, students should have either successfully completed Regents or AP Physics with a 90+ average OR should be concurrently enrolled in Regents or AP Physics

AP Chemistry is a full year college level introductory chemistry course designed to cover the material typically covered in a two semester college class. The course will encompass lecture, lab, and independent study. AP Chemistry is a rigorous, fast-paced course covering topics including structure and states of matter, reactions and descriptive chemistry. It is intended for strong students who have shown exceptional success in high school science and math courses. Students who have experienced success in Honors level science classes are much better prepared for the workload and expectations of an AP science class. Students will be expected to complete a summer assignment. At the end of the course, students will take the AP Chemistry exam and complete a culminating project.

<b>IB BIOLOGY HL YEAR 1/YEAR 2</b>	IB1294/IB1298
<b>GRADE</b>	11, 12
<b>CREDIT</b>	2 Units
<b>FINAL ASSESSMENT YEAR 1</b>	School Exam

**PREREQUISITE:** Successful completion of at least 2 Regents Science classes. Chemistry is strongly recommended. IB Biology HL is a rigorous, fast paced, two-year experimental science course for students who wish to understand the unity and diversity of living organisms on the molecular, cellular, organic and ecological level. The general aims of IB Biology HL are to: provide content; develop an understanding of how biological information is collected, analyzed and evaluated; develop experimental skills; and understand how biology has social consequences in the global context. The course is intended for strong students who have shown exceptional success in their previous science courses. Topics covered during the course include: measurement and error analysis, genetics, evolution, ecology, the interrelationships between organisms and the environment, human reproduction and physiology, biochemistry, plants, microbiology, and biotechnology. Students will be expected to complete a summer assignment for the course. Laboratory investigations are an integral part of the course. Through this course students will design and carry out appropriate experiments, at times self-directed, and communicate the results. Students will complete a collaborative experimental science project with students in other experimental science courses. The independent laboratory work produced by each student will be moderated by the IBO and will contribute to the student's overall IB score in the subject. At the end of the two-year sequence, students will be ready to sit for the IB Biology HL exam.

<b>IB ENVIRONMENTAL SYSTEMS AND SOCIETIES SL/CHS</b>	IB1295	(College # ENV 100)
<b>GRADE</b>	11, 12	
<b>CREDIT</b>	1 Unit	
<b>FINAL ASSESSMENT</b>	School Exam	

**PREREQUISITE:** Successful completion of at least 2 Regents Science classes

IB Environmental Systems and Societies (ES&S) is a one year, standard level, interdisciplinary course that combines the techniques and knowledge of the experimental sciences with the theories and concepts relating to the nature of societies. Systems, models, internationalism and environmental values are central themes throughout the course. The course will afford students the opportunity to be self-directed learners, and provide them with a variety of perspectives concerning many pressing environmental issues enabling them to adopt an informed personal response. Students will evaluate the scientific, ethical and socio-political aspects of various environmental issues while focusing on five major areas of study: Ecosystems, human population and resource use, conservation and biodiversity, pollution management, and global climate change.

This course is designed for students in their junior or senior year who wish to better understand the relationship between the natural and social sciences. The internally assessed portion of the course requires students to independently design and carry out multiple, authentic laboratory experiments and then be able to communicate the results to a wide audience. The independent laboratory work produced by each student will be moderated by the IBO and will contribute to the student's overall IB score in the course.

All students enrolled in the course are required to take the IB Environmental Systems and Societies exam in May. Students are encouraged to enroll in the SCCC College in the High School Program (CHS) with Schenectady County

Community College. Students who register for the program have the opportunity to earn college credits with NO tuition charges. Students must complete a SCCC application in the beginning of the course and return it promptly to the teacher. Upon receiving a final grade of C or better, students will be awarded 4 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

**IB PHYSICS HL YEAR 1/YEAR 2** IB1296/IB1297

**GRADE** 11 and 12

**CREDIT** 2 Units

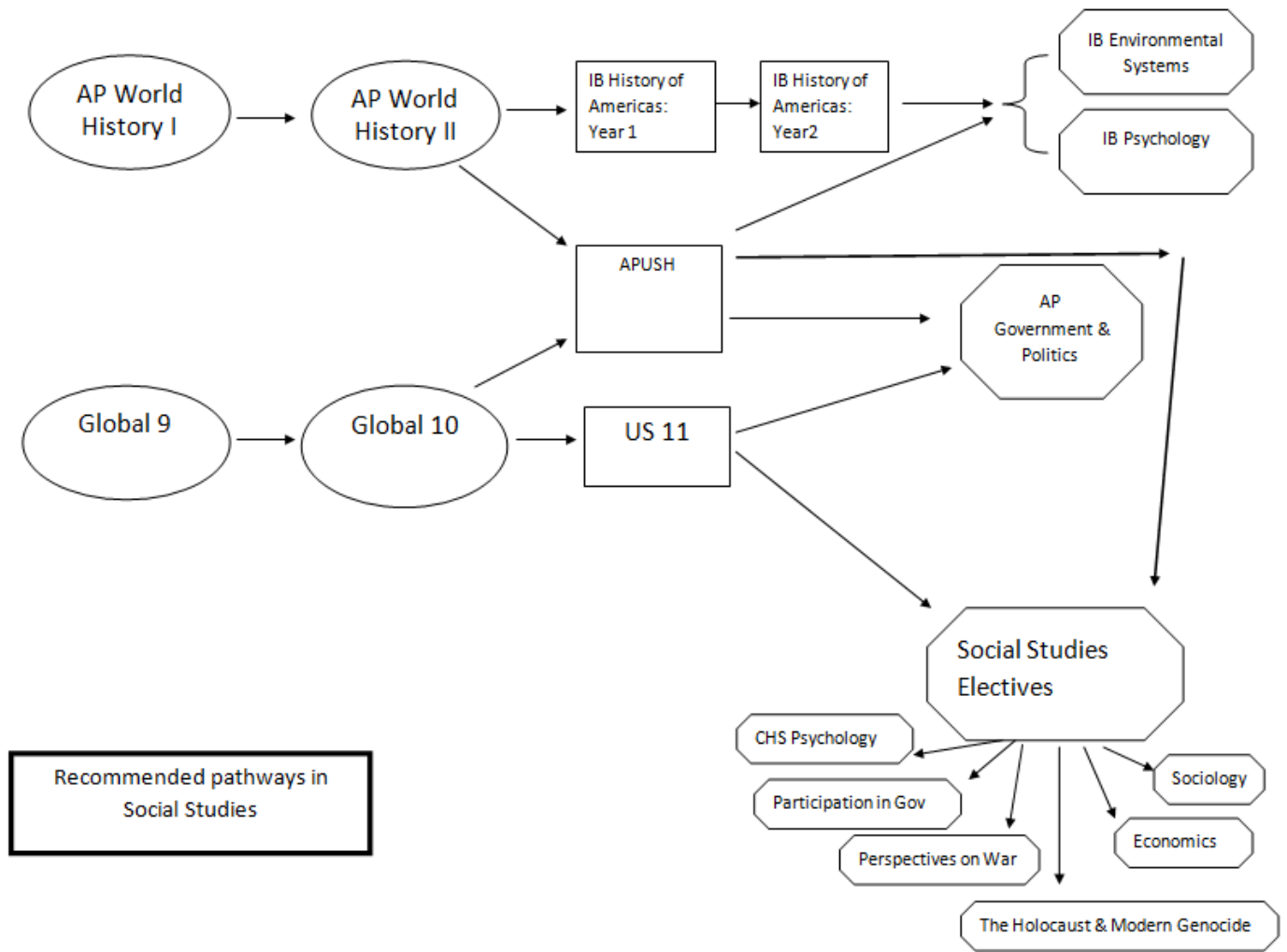
**FINAL EXAMINATION YEAR 1** NYS Regents

**PREREQUISITE:** Successful completion of at least 2 Regents Science classes and Algebra 2

**COREQUISITE:** IB Mathematics SL or Pre-Calculus

IB Physics HL is a rigorous two-year experimental science course that provides students with a conceptual and mathematical framework from which to analyze the physical world around them. Topics covered during the course include: measurement and error analysis, mechanics, thermal physics, oscillations and waves, electromagnetism, electric currents, atomic and nuclear physics. Practical (laboratory) investigations are an integral part of the course. Students will be expected to complete a summer assignment. Throughout this course, students will design and carry out appropriate experiments and communicate the results to a wide audience. During year one, students will complete a collaborative experimental science project with students in other experimental science courses. The independent laboratory work produced by each student will be moderated by the IBO and will contribute to the student's overall IB score in the subject. At the end of the first year, students will be required to sit for the NYS Regents Physics examination. At the end of the two-year sequence, students will be required to sit for the IB Physics HL exam.

# SOCIAL STUDIES



# SOCIAL STUDIES

All students must earn four credits by passing Global History 9 and 10, US History, Economics, and Participation in Government. In addition all students must take a NYS Regents exam in Global History and US History.

## **GLOBAL HISTORY 9 REGENTS HS1159**

**GRADE** 9  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

Global History 9 is the first of four required units of social studies. It serves as a prerequisite to Global History 10. Global History is designed to focus on the five social studies standards, common themes that recur across time and place and eight historical eras. The course stresses methods of social sciences as applied to a chronological study of history from ancient civilizations to the eve of the French Revolution. Students will be required to take a local exam in June.

**AP WORLD HISTORY I** HS1165  
**GRADE** 9  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

AP World History I is the first half of Advanced Placement World History. Students taking this course should have the intention of continuing on to the second half of AP World History in 10th grade. Course content includes: Prehistory through the foundations of the Age of Revolutions, including the classical world; Byzantine and Islamic Civilizations; Africa, Asia, and the Americas; the Middle Ages; the Renaissance and Reformation; and the Age of Exploration. This course will make demands on students that are equivalent to those of an introductory college course. This course fulfills the requirement for Global History. Students will be expected to read more extensively, complete more in depth and challenging writing assignments, do more individual study, and go into topics in greater depth than in Global History 9. Students will be required to take a local exam in June.

**GLOBAL HISTORY 10 REGENTS** HS1158  
**GRADE** 10  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** NYS Regents

**PREREQUISITE:** Global History 9

Global History 10 is the second of four required units of social studies and serves as the second year of the 9–10 Global History sequence. Global History 10 is designed to focus on the five social studies standards, common themes that recur across time and place and eight historical eras. The course stresses methods of social science as applied to a chronological study of history from the French Revolution to the present. Students are required to take a Regents exam on material from Global History 9 and 10 at the end of the course.

**AP WORLD HISTORY II** HS1166  
**GRADE** 10, 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** NYS Regents

AP World History II is the second year of a two year course. Course content focuses primarily on the past thousand years of the global experience from about 1000 C.E. to the present, highlighting changes in international frameworks and comparisons especially among major non-European societies. This course will make demands on students that are equivalent to those of an introductory college course. This Advanced Placement course prepares students for the AP World History examination. Students enrolled in this course are expected to take the AP World History exam. Students will also take the Regents Exam in Global History in June. This course fulfills the requirement for Global History 10.

## **UNITED STATES HISTORY AND GOVERNMENT REGENTS HS1152**

**GRADE** 11  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** NYS Regents

**PREREQUISITE:** Global History 10

United States History and Government is organized into twenty-seven historical units. This course will provide students with an understanding of the basic principles of the constitution, the cultural heritage of the United States that support our democracy and how individuals and groups have influenced public policy and change. All students will be required to take a Regents examination in June.

**AP UNITED STATES HISTORY** HS1163  
**GRADE** 11  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** NYS Regents

AP United States History is a course that provides a general overview of the history of the United States. In chronological order, students will explore America's past, examining the cultural, political, geographic, economic and technological changes that have taken place and have helped to shape us and guide us as a nation today. Topics will include issues relating to the discovery of the New World through the latter part of the 20th century. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials—their relevance to a given interpretive problem, their reliability, and their importance—and to weigh the evidence and interpretations presented in historical scholarship. Students enrolled in this course will read extensively, interpret a wide variety of primary and secondary sources, and interact with electronic media. This course will make demands on students that are equivalent to those of an introductory college course. Students enrolled in this course will be expected to complete a summer reading program. This Advanced Placement course prepares students for the AP United States History examination. Students enrolled in this course are expected to take the AP United States History exam. Students will also take the Regents Exam in United States History & Government in June. This course fulfills the requirement for United States History & Government.

#### **ECONOMICS, THE ENTERPRISE SYSTEM, AND FINANCE HS1153**

**GRADE** 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** United States History & Government 11

Economics, The Enterprise System and Finance course offers comprehensive survey of the basic economic components of the United States economy, the world economic system, and the relationships that these components share. Students will become acquainted with, the vocabulary of economics and will explore such topics as: personal finance, fiscal and monetary policy, economic indicators, taxation, and the role of the United States in the world economy. Students will be required to take a local exam at the end of the course.

#### **AP UNITED STATES GOVERNMENT AND POLITICS HS1164**

**GRADE** 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam

AP United States Government and Politics is a course that provides an analytical perspective on government and politics in the United States. This course involves both the study of general concepts used to interpret U.S. politics and the analysis of specific case studies. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute U.S. political reality. Topics include: foundations of the Constitution; political beliefs and behaviors; political parties, interest groups, and the media; the Presidency; the Bureaucracy; the Congress; the Federal Courts; multiple public policy issues; civil rights and civil liberties; basic economic concepts and their application will give students an analytical perspective on government and politics in the United States. The course is rigorous and designed to be the equivalent of an entry-level college political science class. Students should expect nightly readings as well as several written assignments each marking period. NOTE: Completion of this class fulfills the New York State fourth year social studies requirements in Economics and Participation in Government.

**PARTICIPATION IN GOVERNMENT** HS1154  
**GRADE** 12  
**CREDIT** 1/2 Unit  
**FINAL ASSESSMENT** School Exam

**PREREQUISITE:** United States History & Government 11

Participation in Government is designed to bring together all of the Social Studies skills needed to become an effective citizen. The course includes a review of the structures of federal, state, and local governments, analysis of rights and liberties through the use of court cases, and the investigation of political beliefs and behaviors using current

issues. Students will work to develop their political beliefs and positions on issues. The course emphasizes personal responsibility and individual initiative. Students will be given the opportunity to become involved in their community to witness the links between participation and policy making in real life.

#### **IB HISTORY OF THE AMERICAS HL YEAR 1/ UNITED STATES HISTORY AND GOVERNMENT IB1172**

**GRADE** 11  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** NYS Regents

**PREREQUISITE:** Global History 10 or AP World History II

**RECOMMENDED ACHIEVEMENT LEVELS:** Teacher Recommendation; 85 or better in Global History and on the Global History Regents

The International Baccalaureate Programme in History is an intensive two-year study and is designed to provide highly motivated students with a rigorous program that will examine various aspects of history in great depth. In addition to extensive content knowledge, students will develop reading, writing, research, and critical thinking skills. IB History of the Americas is the first year of a two-year course. Students will learn about the history of race relations in the Americas with an in-depth study and analysis of the following three topics: 1) Slavery and the New World (1500-1800); 2) United States Civil War: Causes, Course, and Effects (1840-1877); and 3) Civil Rights and social movements in the Americas. The study of these three topics will prepare students for the IB external assessment to be taken in May of 12th grade. Students will also be prepared for the Regents exam in U.S. History and Government at the conclusion of this year.

#### **IB HISTORY OF THE AMERICAS HL, YEAR 2 IB1174**

**GRADE** 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** IBHL external assessment

**PREREQUISITE:** IB History of the Americas Year 1

In the second year of the IB History Programme, students will examine several important turning points from the 20th Century. Students will study one prescribed subject on the "Move to Global War" and two world history topics on "The Cause and Effects of 20th Century Wars" and "The Cold War: Superpower Tensions and Rivalries". Throughout the prescribed subject, students will examine two case studies on Japanese Expansion in East Asia from 1931 to 1941 and German and Italian Expansion from 1933 to 1940. Topics covered during the course include: the Russo-Japanese War, World War I, World War II, and the rivalry, mistrust, and accord brought on during the Cold War. Students will examine the actions of specific leaders, including Truman, Stalin, Mao, Eisenhower, Khrushchev, Castro, JFK, LBJ, Brezhnev, Nixon, Carter, Reagan and Gorbachev. Students will complete an internal assessment. This assessment is a paper that is an original historical investigation on a topic of the student's choosing. Throughout the two years of study, students will prepare for external assessment to be taken in May of their second year. The external assessment is a three part examination including paper one on "The Move to Global War" (20% of IB History grade), paper two on "The Causes and Effects of 20th Century Wars" and "The Cold War" (25% of IB History grade), and paper three on "Slavery in the Americas", "The U.S. Civil War" and Civil Rights and social movements in the Americas. (35% of IB History grade)

**IB PSYCHOLOGY SL** IB1173  
**GRADE** 11 or 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** IBSL external assessment

**PREREQUISITE:** Biology, Global History

IB Psychology is the systematic study of human behavior and mental processes. It is rooted both the natural and human sciences and based on rigorous, empirical research. This course explores the science of psychology through three levels of analysis: biological, cognitive and sociocultural. The biological level of analysis explores what all humans share – genetics, anatomy and neurochemistry – whereas the cognitive and socio-cultural levels of analysis examine the diversity of human behavior and mental processes. Students will also explore abnormal psychology, studying the causes, diagnosis and treatments of mental illness. Specific attention will be paid to the cultural differences in the diagnosis and treatment of mental illness. This course is designed for students with a strong interest in biology and the social sciences. Students will complete an internal assessment. This assessment will be a rigorous replication of previously conducted research in psychology. Students will also take an external assessment at the end of the course.

**IB ENVIRONMENTAL SYSTEMS AND SOCIETIES SL/CHS** IB1295 (College # ENV 100)  
**GRADE** 11, 12  
**CREDIT** 1 Unit  
**FINAL ASSESSMENT** School Exam  
**PREREQUISITE:** Successful completion of at least 2 Regents Science classes

IB Environmental Systems and Societies (ES&S) is a one year, standard level, interdisciplinary course that combines the techniques and knowledge of the experimental sciences with the theories and concepts relating to the nature of societies. Systems, models, internationalism and environmental values are central themes throughout the course. The course will afford students the opportunity to be self-directed learners, and provide them with a variety of perspectives concerning many pressing environmental issues enabling them to adopt an informed personal response. Students will evaluate the scientific, ethical and socio-political aspects of various environmental issues while focusing on five major areas of study: Ecosystems, human population and resource use, conservation and biodiversity, pollution management, and global climate change.

This course is designed for students in their junior or senior year who wish to better understand the relationship between the natural and social sciences. The internally assessed portion of the course requires students to independently design and carry out multiple, authentic laboratory experiments and then be able to communicate the results to a wide audience. The independent laboratory work produced by each student will be moderated by the IBO and will contribute to the student's overall IB score in the course.

All students enrolled in the course are required to take the IB Environmental Systems and Societies exam in May. Students are encouraged to enroll in the SCCC College in the High School Program (CHS) with Schenectady County Community College. Students who register for the program have the opportunity to earn college credits with NO tuition charges. Students must complete a SCCC application in the beginning of the course and return it promptly to the teacher. Upon receiving a final grade of C or better, students will be awarded 4 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

<b>CHS/UHS PSYCHOLOGY</b>	HS1155	SCCC College # PSY121	SUNY Albany College # APSY 101
<b>GRADE</b>	12		
<b>CREDIT</b>	1/2 Unit		
<b>FINAL ASSESSMENT</b>	School Exam		

**RECOMMENDED ACHIEVEMENT LEVELS:** Teacher recommendation. 85 or better in Global History and an 85 or better on the Global History Regents. 85 or better in Honors Biology.

Psychology CHS/UHS is the systematic study of human behavior and mental processes. It is rooted both the natural and human sciences and based on rigorous, empirical research. This course explores the science of psychology through three levels of analysis: biological, cognitive and sociocultural. The biological level of analysis explores what all humans share – genetics, anatomy and neurochemistry – whereas the cognitive and socio-cultural levels of analysis examine the diversity of human behavior and mental processes. Students will also explore abnormal psychology, studying the causes, diagnosis and treatments of mental illness. Specific attention will be paid to the cultural differences in the diagnosis and treatment of mental illness. This course is designed for students with a strong interest in biology and the social sciences. Students are expected to enroll in either the University in the High School program through SUNY Albany or the College in the High School program through SCCC. For those students enrolled in UHS program there is a fee and registration process associated and upon receiving a grade of C or better in this course, students will be awarded 3 college credits by SUNY Albany. These credits are accepted at most institutions of higher learning. For students enrolled in the CHS program, Students must complete a SCCC application and turn in a Certificate of Residency in the beginning of the course and return it promptly to the teacher. There is no fee associated with the CHS program. Upon receiving a final grade of C or better, students will be awarded 3 credits from SCCC. These credits may be transferrable to SUNY schools and other institutions of higher learning.

#### **HISTORY OF THE HOLOCAUST AND MODERN GENOCIDE HS1175**

<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**PREREQUISITE:** Global History 10

**RECOMMENDED ACHIEVEMENT LEVELS:** 80 or better in Global History and on the Global History Regents

History of the Holocaust and Modern Genocide is a semester elective designed to investigate the causes, practices, and effects of the 20th and 21st century genocides and human rights violations. Topics to be covered include, but are not limited to: the Holocaust, Stalin's mass murders and forced famine, the "killing fields" of Cambodia, famine in North Korea, and the genocides in Bosnia, Rwanda, and Darfur. The course will provide students with the opportunity to develop an understanding of how genocides and related human rights violations occur and what impact they have upon the international community. Students will also make regular connections between history and current world issues. This course is recommended for students with a strong interest in social studies and current events.

<b>SOCIOLOGY</b>	HS1162
<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	School Exam

Sociology introduces students to the basic patterns of social behavior and the structure and functions of social organizations. Emphasis is placed on research, culture and cultural change, socialization and deviance, population and social stratification, and social institutions.

#### **PERSPECTIVES ON WAR (FIRST SEMESTER) HS1177**

<b>GRADE</b>	11,12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**PREREQUISITE:** Global History 10

**RECOMMENDED ACHIEVEMENT LEVELS:** Success in Global History & Geography 10 with a GPA of 85% or higher  
 Perspectives on War is an elective designed to provide students with the opportunity to examine combat from a variety of perspectives, from technical to tactical to ethical. Topics considered include the evolution of military technology and its impact, the treatment of the physical and the psychological casualties, motivation and leadership in combat, and the morality of individual conduct during war. Students will be asked to read and interpret a variety of primary sources as well as the writings of respected historians. Additionally, they will view and analyze video resources. Students will be assessed through written assignments that may include essays, reflections and/or journal entries. This course is recommended for students with a strong interest in social studies, particularly military history.

#### **WAR THROUGH THE MEDIA (SECOND SEMESTER) HS1178**

<b>GRADE</b>	11, 12
<b>CREDIT</b>	1/2 Unit
<b>FINAL ASSESSMENT</b>	School Exam

**PREREQUISITE:** Global History 10

**RECOMMENDED ACHIEVEMENT LEVELS:** Success in Global History & Geography 10 with a GPA of 85% or higher  
 War in the Media is an elective designed to provide students with the opportunity to examine the portrayal of combat through the media, as it is the media which both reflects and shapes the public's perception of war. Students will interpret print and video news, government-sponsored propaganda, and several documentaries and feature films. Students will be asked to read a full text as well as articles written by respected historians. Class discussions and written analyses will be a significant part of their grade. This course is recommended for students with a strong interest in social studies, particularly military history and film. (This course is not approved by NCAA)



# Clean Technologies & Sustainable Industries High School Course Descriptions

Students study Environmental Science and Sustainability, Mathematics, and English in blocks through a transdisciplinary lens to solve authentic real world problems during the junior year. The senior year includes Nanotechnology, Green Economics and Public Policy, taught through a transdisciplinary lens. Transdisciplinary learning is holistic, not English, Science, Math or Social Studies in isolation in terms of content or applying what you have learned. The challenges of the 21<sup>st</sup> Century are too complex to be solved by looking through a single disciplinary lens. The focus is on the unity of knowledge, not knowledge in silos or content specific, in the solution of authentic real world problems. The focus on course work inherently fosters problem solving, innovative thought, and critical thinking. Students complete approximately eight mastery assignments and a capstone project throughout each year.

## **P-TECH 21<sup>st</sup> Century Skills- Impact of Technology on Society**

### **Grade 9: Credit 1 (Pass/Fail)**

P-TECH 21<sup>st</sup> Century Skills provides students with knowledge of how to use technology to communicate, collaborate, and create. Students will develop an understanding of the engineering design process, as well as, how business professionals use this process. Students will develop communication and collaboration skills to create improvements and modifications in the professional environment and society. At the end of the course students will prepare a portfolio demonstrating the 21<sup>st</sup> Century Skills they have developed. This course is a pass or fail class.

## **P-TECH 21<sup>st</sup> Century College and Workplace Readiness**

### **Grade 10: Credit 1 (Pass/Fail)**

College and Workplace Readiness provides students the opportunity to explore and gain knowledge about the fields of Clean Energy, Mechatronics, Computer Programming, and Entrepreneurship. Students will complete a project in a different field in each quarter. Students will be exposed to renewable energies, coding, 3-D Printing, and creating an invention. This course is a pass or fail class.

## **Environmental Science and Sustainability**

### **Grade 11:Credit 1**

Universities and corporations are beginning to recognize that humanity is affecting the environment in ways which are historically unprecedented and which are potentially devastating for both natural ecosystems and us. They have begun to look at ways to reduce their carbon footprint. Similarly, our school district is uniquely positioned to influence the direction we take as a community in terms of learning about and conducting research in the areas of environmental science, sustainability and "Green Design". Resource availability has guided the development of human society. This course allows students to study of the sustainability of human societies and of how the biodiversity that supports them require responsible management of natural resources not only to reduce existing adverse impacts but also to get things right in the first place. Students learn that all forms of energy production and other resource extraction have associated economic, social, environmental, and geopolitical costs and risks, as well as benefits. Students work to understand how new technology and regulation can change the balance of these factors.

## **Applied Mathematics in Clean Technologies**

### **Grade 11:Credit 1**

The Mathematics in Clean Technologies covers mathematics concepts from the Common Core Standards adopted by New York State in the areas of algebra, geometry, and statistics. Students use the concepts from these math disciplines to solve issues related to the environment and sustainability. The assignments for this course include rigorous content knowledge and skills application and are aligned with expectations of both college and workforce. Students will have the opportunity to analyze and evaluate large data sets. Students use their math skills to learn about and evaluate data related to economics, management of natural resources, and renewable energies. (This course is not approved by NCAA)

## **English 11**

### **Grade 11:Credit 1**

The English 11 Regents course concentrates on comprehensive skill development and refinement. The curriculum utilizes non-fiction literature, documents, and research to help students develop a better understanding of the environment and need for sustainability. Students will develop a mature writing style, an extensive vocabulary, and presentation skills. Students will gain experience with the rhetorical mode of argumentation and persuasion. This course is for students who have successfully completed an English 10 course. Students will be prepared to take the English Comprehensive Regents exam.

## **English 12**

### **Grade 12:Credit 1**

English 12 concentrates on literacy requirements and communication skills utilized in real world experiences. The curriculum utilizes non-fiction literature, documents and research to help students develop a better understanding of the impact of technological advancements and policy on the world. Students will develop and refine their communication skills for a 21<sup>st</sup> century environment and will understand the application of digital literacy in today's marketplace. This course is for students who have successfully completed English 11 and have passed the English Regents Exam.

## **Green Economics and Public Policy**

### **Grade 12:Credit 1**

The only constant is change and the only variable is the rate of change. Nanotechnology, the technological foundation of some of the world's most rapidly growing industries, including the modern nanoelectronics, renewable technologies, and semiconductor industries, has helped shape the globalization and interdependence of the world economies at a faster rate than was known to any previous generation. Green Economics and Public Policy examines economics and government policies from the perspective of science and technology and how investment in these areas shapes the world economy and policies. In addition, students will look at the economic impact of nanotechnology and clean technologies on our own community and the Tech Valley Region as a whole. This course will provide the opportunity to learn how government, policies, business and market structures have changed in terms of investment, infrastructure, transportation, and communications as a result of advances in emerging nanotechnologies and renewable technologies. The role of the United States in a global and interdependent economy will also be examined and discussed. Students will learn about the social skills needed to be effective citizens including ethics, service and participation in government. This course emphasizes current issues personal responsibility and individual initiative. Students will be given an opportunity to volunteer for a community service project which links government policy making with real life needs.

## **Nanotechnology**

### **Grade 12:Credit 1**

Nanotechnology is an interdisciplinary field that is changing the world. Nanotechnology focuses on the engineering of functional systems at the molecular scale. Through this course students will learn about the properties and applications of nanotechnology. Basic chemistry and physics topics will be covered as they relate to nanotechnology. Students will conduct hands on labs in a clean room environment. Students will have the opportunity to use scientific equipment, including microscopes, to learn how the properties of materials differ. Students will use the knowledge they obtain from research and labs to develop a research proposal related to increasing the efficiency of photovoltaic materials.

Please review the Hudson Valley Community College Academic Catalog at [www.hvcc.edu](http://www.hvcc.edu) for course descriptions for the college courses.