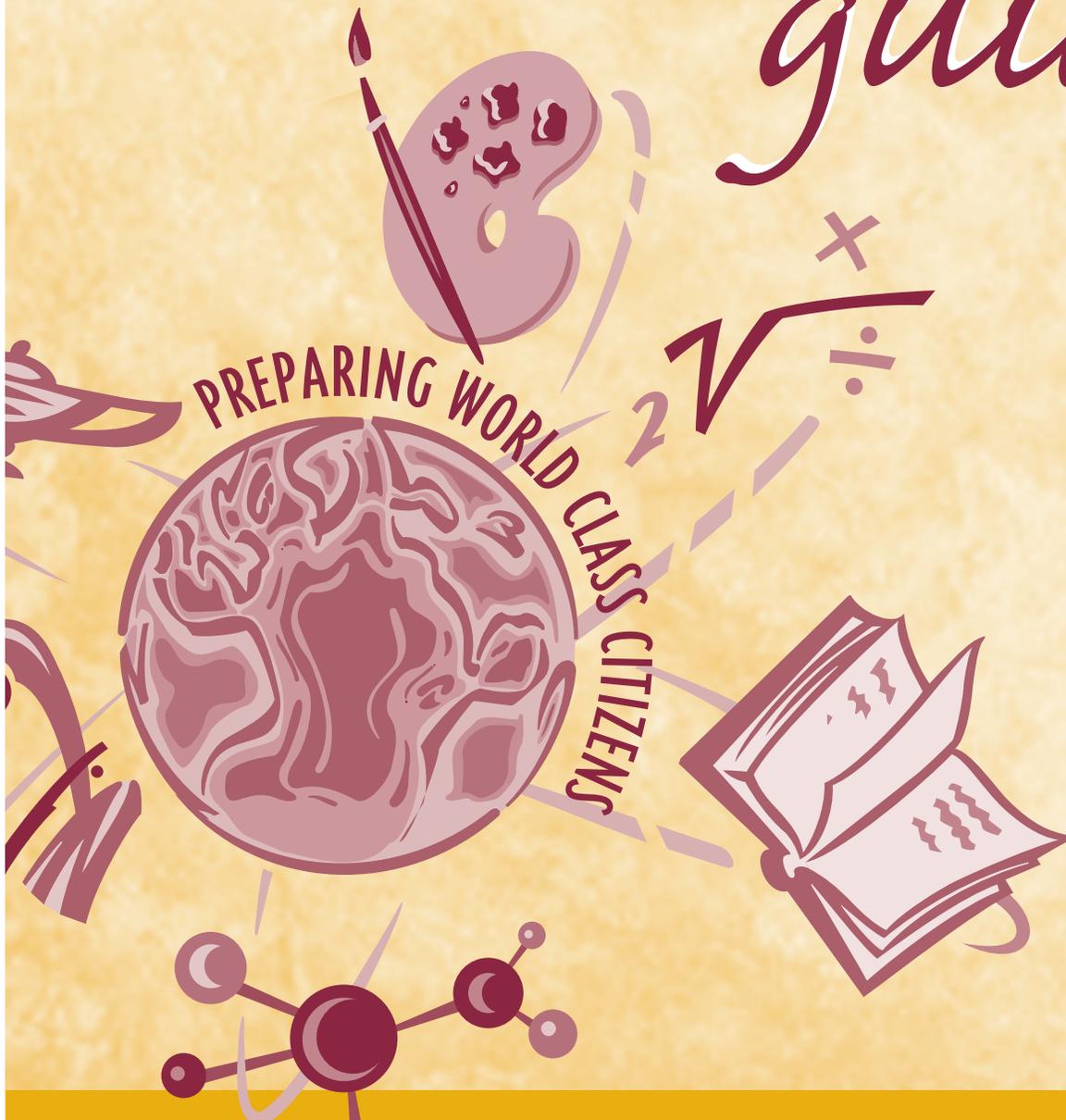


2019-2020
Academic Year

Curriculum. *guide*

COLONIE

CENTRAL HIGH SCHOOL



Curriculum



Dear Students,

This curriculum guide is a very important document that describes the courses of study available at Colonie Central High School for the 2019-2020 academic year. This information should be used by parents, students and counselors to plan a program of study which provides both a challenge and an opportunity for success.

Communication with counselors and faculty should serve to give students and parents insight into a student's ability to succeed. Use our staff to provide assistance as you and your parents choose courses and plan a program of study.

Faculty recommendations should be considered seriously as valuable input in a student's ability to succeed at higher levels of study.

Christopher Robilotti, Principal

In an effort to help students maintain an active involvement in the academic program of Colonie Central High School and meet the increased New York State academic requirements, minimum enrollment standards have been established. Each student in Grade 9, 10 and 11 must enroll in a minimum of six credit bearing courses plus physical education each semester. Each student in Grade 12 must enroll in a minimum of five credit bearing courses plus physical education each semester.

Courses listed in this booklet will be offered contingent upon meeting the district's minimum enrollment requirements and staffing capabilities. All courses are capped at a specific number of students. Priority enrollment will be given to upper class students (i.e. 12th grade first, 11th grade next, etc.). The cost of college credits are estimated based on 2018-19 costs (subject to college discretion).

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Earning Credit

SELECTING A COURSE OF STUDY

Prior to entering grade 9, each student and a student's parents are afforded an opportunity to meet with a school counselor to choose a course of study. This session will allow all parties to review academic potential, staff recommendations and student/parent educational goals. Hopefully, this provides a sound basis for course selection decisions and for subsequent student/parent and counselor meetings. Parents are encouraged to discuss courses and programs with their son or daughter.

DEADLINES FOR ADDING/ DROPPING COURSES

- September 12, 2019 — First day to drop a first semester or full year course
- September 19, 2019 — Last day to add a first semester or full year course
- October 1, 2019 — Last day to drop a first semester or full year course
- February 3, 2020 — First day to drop a second semester course
- February 10, 2020 — Last day to add a second semester course
- February 14, 2020 — Last day to drop a second semester course

UNITS REQUIRED TO ENTER GRADE 10

Four (4) units are required for promotion to grade 10. Two of these units must come from the four academic constants of English, social studies, mathematics and science.

Students who do not meet the requirement for promotion to grade 10 may enroll in summer school. Successful completion of a summer school program may be used to meet the requirement for promotion.

UNITS REQUIRED TO ENTER GRADE 11

Eleven (11) units are required to enter grade 11.

UNITS REQUIRED TO ENTER GRADE 12

Sixteen (16) units are required to enter grade 12. To ensure that all students have the opportunity for successful progress necessary for graduation, the subject requirements necessary to enter grade 12 are:

1. 3 units in English including English 9 and English 10.
2. 3 units in social studies including one unit of United States History and Government.

EDUCATIONAL SUPPORT SERVICES

Some students may need support services as they progress toward the attainment of a diploma. At the High School, these services include: special education services for students who are approved by the Committee of Special Education, and for students who need remediation in English, social studies, mathematics and/or science and English as a New Language for students whose native language is other than English.

REGENTS EXAMS REQUIRED FOR GRADUATION

- English • Math • Global History
- U.S. History • Science

COLLEGE CREDIT

SOME COURSES WILL HAVE A "COLLEGE CREDIT" ABOVE THEM INDICATING THAT A COURSE CAN BE TAKEN FOR COLLEGE CREDIT. SOUTH COLONIE HAS ESTABLISHED A RELATIONSHIP WITH SEVERAL AREA COLLEGES THAT ALLOWS OUR STUDENTS TO EARN COLLEGE CREDIT WHILE IN HIGH SCHOOL.

STUDENTS ENROLLED IN THE COLLEGE COURSE(S) WILL RECEIVE CREDIT AND WILL HAVE A TRANSCRIPT ON FILE AT THE COLLEGE AS WOULD ANY COLLEGE STUDENT.

STUDENTS ENROLLED IN THESE COURSE(S) ARE ELIGIBLE TO RECEIVE IDENTIFICATION CARDS AND TO UTILIZE COLLEGE FACILITIES AND SERVICES.

STUDENTS WILL BE BILLED BY THE COLLEGE FOR THE TUITION AND MUST SUBMIT THE REQUIRED CERTIFICATE OF RESIDENCE FOR HVCC COURSES AT THE TIME OF ENROLLMENT.

FOR MORE INFORMATION ABOUT COLLEGE CREDIT COURSES, SEE YOUR SCHOOL COUNSELOR.

Graduation Requirements

DIPLOMA REQUIREMENTS - GRADES 9-12

| | |
|--------------------|-------------|
| English | 4 Units |
| Social Studies | 4 Units |
| Mathematics | 3 Units |
| Science | 3 Units |
| Health Education | 1/2 Unit |
| Art/Music/DDP | 1 Unit |
| Physical Education | 2 Units |
| Second Language | 3 Units |
| Electives | 2 1/2 Units |

PLEASE NOTE

All students scoring 65 percent or above on the local Grade 8 Foreign Language Proficiency Assessment are required to continue in foreign language study through grade 11 and pass, prior to graduation, a minimum of French IV, Spanish IV or the Local Comprehensive Exam in a Foreign Language.

Career & Tech Ed Courses

BOCES Career and Tech School courses are scheduled for one-half of the school day (2 1/2 hours), Monday through Friday. Students will spend half of the day at the Career and Tech School and half of the day at the high school.

Career and Tech Ed courses are available to all persons regardless of gender. Equal training and employment opportunities are an integral part of each Career and Tech program. We encourage students to become better acquainted with career opportunities in all fields.

For students to be eligible to attend the Career and Tech School, the following requirements must be met and **corresponding exit exams must be successfully completed:**

| | |
|--------------------|---------|
| English | 2 Units |
| Social Studies | 2 Units |
| Science | 2 Units |
| Mathematics | 2 Units |
| Art/Music | 1 Unit |
| Physical Education | 1 Unit |

**DETAILED DESCRIPTIONS OF ALL
BOCES CAREER & TECH SCHOOL
COURSES ARE AVAILABLE AT
WWW.CAPITALREGIONBOCES.ORG**

ADVANCED PLACEMENT COURSES

Advanced Placement courses are taught as college-level courses in content and style. Upon completing the course, the student takes the appropriate Advanced Placement Examination offered at our high school by the College Board in May for a fee of \$94. According to the College Board publication, taking the examination may offer the following benefits:

- Exemption by your college/university from beginning courses & permission to take higher-level courses in certain fields
- Academic credit awarded for exams taken
- Time to explore undergraduate subject areas that you wouldn't otherwise be able to study
- Eligibility for honors and other special programs open to students who have received AP recognition

Students and parents are encouraged to read more information at www.exploreap.org

Special Ed Continuum of Services

The academic programs of service outlined below provide access to an education and environment that appropriately meets the Individualized Education Plan (IEP) needs of special education students of South Colonie Central School District.

CONSULTANT TEACHER SERVICES

Indirect CT – Consultation provided by a certified special education teacher to the general education teacher to assist the general education teacher in adjusting the learning environment and/or modifying his/her instruction methods to meet the needs of a student with a disability who attends the general education class.

RESOURCE ROOM (5:1)

Resource room means a special education service for a student with a disability programmed in either a special education class or regular class who is in need of specialized supplemental instruction in a small group setting for a portion of the school day. Students' cognitive skills are generally within the low average to average range. Supplemental instruction is provided in addition to the general education or special education classroom instruction that the student receives. It is not provided in place of the student's regular instruction. Resource room composition and grade level combinations will vary based on student needs. Students receive the majority of their instruction in the regular education setting.

INTEGRATED CO-TEACH

Students' cognitive skills are generally within the low average to average range, and they may exhibit deficits in language development. Students in the integrated co-teaching classroom receive instruction from both a general education and a special education teacher who plan, deliver, and evaluate instruction for all students. Both educators are responsible for the implementation of students' IEPs, differentiation of instruction, assessment of student achievement, and utilization of a classroom management plan, when needed. Integrated co-teaching students are typically grouped together based on similarity of need for the purpose of receiving specially designed instruction in a general education class.

RESOURCE ROOM SUPPORTED GRADE 9 CORE COURSEWORK:

- English 9
- Global History & Geography 9
- Algebra 1 Block with/Lab
- Living Environment with/Lab

RESOURCE ROOM SUPPORTED GRADE 10 CORE COURSEWORK:

- English 10
- Global History & Geography 10
- Topics in Geometry
- Earth Science with/Lab

SPECIAL CLASS: ACADEMIC SKILLS DEVELOPMENT CLASSROOM (15:1:1)

The nature or severity of the students' disability is such that even the use of supplementary aids, the student struggles to meet grade level expectations. These students typically demonstrate cognitive, language, and/or academic deficits. They receive their core academic instruction within a special class setting (outside of the general education classroom) where targeted, Specially Designed Instruction (SDI) is delivered at a modified pace and designed to meet the needs of students in a class with a smaller student to teacher ratio. Instruction should be intensive and individualized based on the student's needs.

SPECIAL CLASS: SOCIAL EMOTIONAL CLASSROOM (8:1:1, 12:1:1)

This program is designed for students whose learner characteristics include significant behavioral management needs and below average social skills. Students may have a mental health diagnosis, which impacts relationships with peers and adults. Students may also have significant difficulties with language skills, self-regulation, transitions, and may need the support of a behavior plan. They require constant and consistent adult direction and support in a structured classroom environment. Students may struggle with attention, impulsivity, hyperactivity, and low frustration tolerance. They may also display long-standing patterns of aggression and acting out behaviors and have not responded to intensive interventions. Behaviors significantly impede their learning and the learning of others.

PROGRAM COURSEWORK FOR SPECIAL CLASSES 15:1:1 AND 8:1:1:

- General English 9-12
- General Global History & Geography 9-12, General U.S. History 11, General Social Studies 12
- General Algebra 9-10, General Consumer Mathematics 11-12
- General Living Environment with/Support, Applied Science 10-12

SPECIAL CLASS: LIFE SKILLS DEVELOPMENT CLASSROOM (12:1:2)

This program is designed for students with significant developmental delays who are generally eligible for the New York State Alternative Assessment (NYSAA) and are pursuing a Skills and Achievement Commencement Credential (SACC) or a Career Development and Occupational Studies Commencement Credential (CDOS). Learner characteristics for students in this program are characterized by intellectual disability, significant delays in academic functioning, language skills, gross and/or fine motor skills, social skills, and adaptive behavior functioning. Students may also exhibit significant behavior management needs and/or be medically fragile.

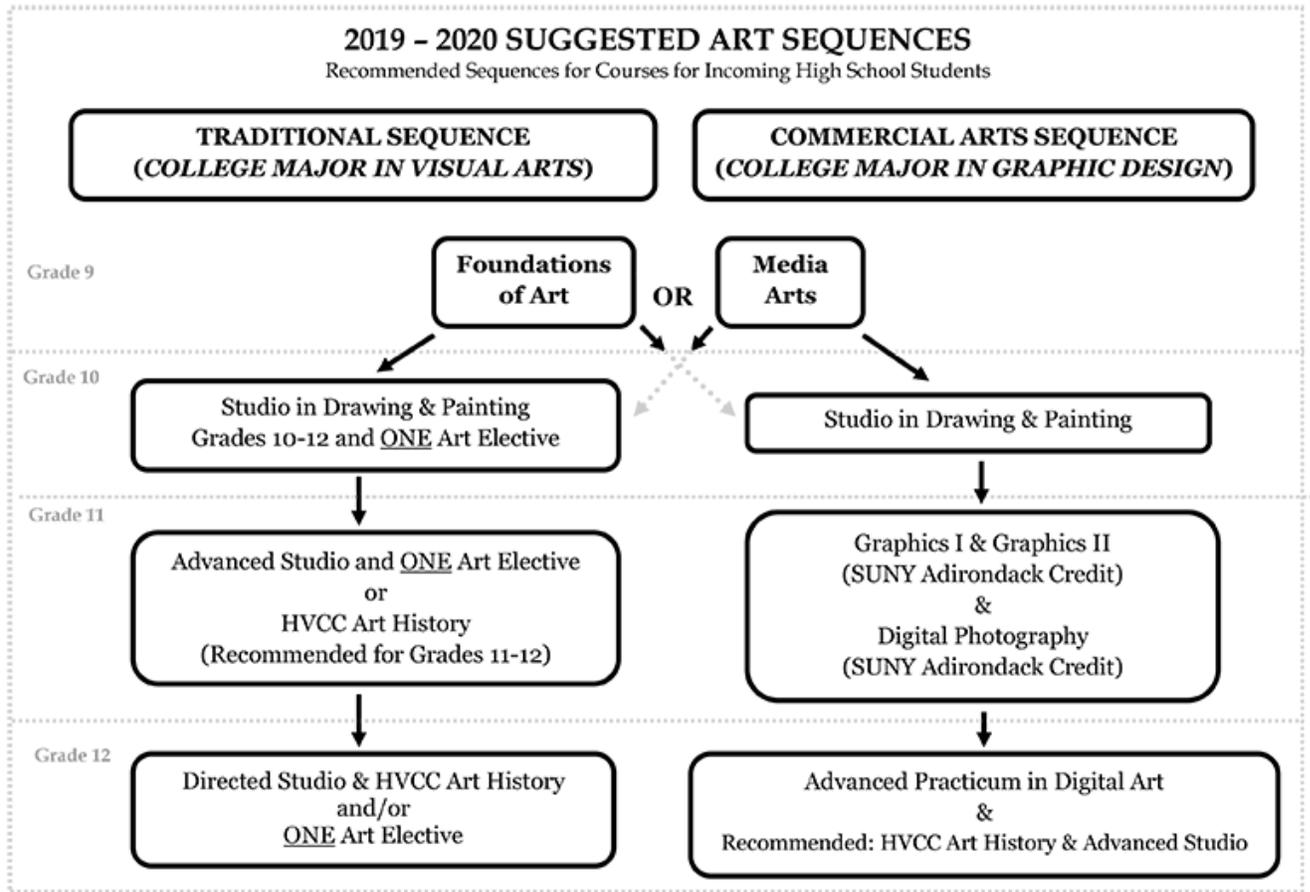
SPECIAL CLASS: AUTISM CLASSROOM/COMPREHENSIVE DEVELOPMENT PROGRAM (6:1:2, 9:1:3, 12:1:4)

This is an intensive multi-age special class program for students whose learning characteristics are consistent with a diagnosis of an Autism Spectrum Disorder, which significantly impairs their ability to be successful within the general education setting. Students may have significant needs in terms of expressive, receptive and pragmatic language skills and also present with significant behavioral and social-emotional needs. Students typically demonstrate anxiety related to social situations, transitions, and environmental changes. They may also have sensory, motor and/or adaptive needs. Students receive academic instruction within a highly structured setting which includes a detailed classroom behavioral management plan and assistive technology, as appropriate.

PROGRAM COURSEWORK FOR SPECIAL CLASSES 12:1:2 AND 6:1:2:

- English IP 9-12
- Social Studies IP 9-12
- Mathematics IP 9-12
- Science IP 9-12
- Adaptive Physical Education 9-12
- Life Skills
- Community Experience
- Job Skills

Art Department



OTHER CONSIDERATIONS

- All incoming freshmen must take an art credit to graduate. Both Foundations of Art and Media Arts are among those that meet this requirement.
- Students who plan to study Architecture or Graphic Design usually need an art portfolio. Recommended courses that develop that portfolio are Studio in Drawing and Painting, Advanced Studio in Drawing and Painting.
- Students who are interested in seeking a career in Elementary Education or the field of Education should consider taking the following courses: Art/Special Education Internship, Crafts, Mixed Media and Crafts, Fabric and Fibers.
- College bound non-art students should consider taking the HVCC Art History course to fulfill general education requirements that most colleges have.

504 Foundations in Art

GRADES 9-12 1 UNIT

THIS COURSE IS THE FOUNDATION COURSE NEEDED FOR A SEQUENCE IN ART.

This is a survey course that covers the range of art mediums. Students will explore broad areas of drawing, painting, two and three dimensional design. Students will increase their observation skills and their ability to think creatively. They will develop an understanding of the artistic process. This course fulfills the art/music requirement for graduation.

531 Media Arts

GRADE 9-12 1 UNIT

This course uses a variety of digital mediums. Students will be introduced to Adobe Suite, using Adobe Illustrator, Adobe Photoshop, and the InDesign programs. Students will also use video, creative sound and computer art as they learn about the elements of art and principles of design. This course is designed for the student who likes working on computers and is not inclined toward traditional art mediums. It fulfills the art/music requirement for graduation.

501 Studio in Drawing and Painting

GRADES 10-12 1 UNIT

PREREQUISITE: ART 504 OR 531

This course builds on the skills learned in Foundations in Art and Media Arts. The emphasis will be on drawing and painting techniques. Students will learn to develop their own style and interests in the artwork they design. Students' course work will lead to the development of a portfolio, as students will use a range of art mediums.

502 Advanced Studio in Drawing and Painting

GRADES 10-12 1 UNIT

PREREQUISITE: ART 504 & 501

This course focuses on mastery of drawing and painting, along with developing an understanding of how Renaissance and Baroque art styles have influenced the development of painting. Students will develop a thorough knowledge of the steps involved in designing original work. Students will be able to use online and digital resources in their work. The primary mediums used in this course will be pencil, watercolor and acrylic. In the course, students will develop a college entry portfolio.

503 Directed Studies in Studio Art

GRADES 11-12 1 UNIT

PREREQUISITE: ART 502

This course centers on exploring themes with a wide range of materials. Students will be able to explore an unlimited number of styles of art, although the focus will be on contemporary art issues. Students will look at the Post-modern period of art to understand how far art has changed historically. Students will develop a concentration on a theme of their choice. Students will organize their portfolio for college admissions.

ART 101 Survey of Art History (HVCC)

GRADES 10-12 1 UNIT

This HVCC art history course starts with the late Gothic period and moves through the post-modern period. It covers Renaissance, Baroque, Rococo, Romanticism, Neoclassicism on through the modern periods of Impressionism, Cubism and Pop. Emphasis will be placed on the characteristics of artists and art movements. This is a 3-credit college-level course that is applicable for both the art and non-art student. (It usually fulfills a general-ed requirement in college.)

516 Crafts - Mixed Media

GRADES 10-12 1/2 UNIT

This course is designed to make students comfortable with a variety of craft techniques and materials. Students will work with paper, paints, wood, plastic, clay and metals as they create jewelry, folk art and other crafts.

517 Crafts - Fabric and Fibers

GRADES 10-12 1/2 UNIT

This course is designed to help students become familiar with craft techniques that relate to fabrics and fibers. Students will learn painting, cutting, quilting and weaving while creating jewelry, wall hangings, home accessories and wearable crafts.

506 Art/Special Education Internship

GRADE 11-12 1/2 UNIT

PREREQUISITE: ART 516 OR 517 AND/OR INSTRUCTOR PERMISSION

This course will introduce students to teaching and mentoring techniques for working with special needs students. Students will work with these students in either the crafts or life skills course and learn how to reteach, teach and modify lessons. Students will need to be able available to observe a special education class several times each quarter. Students must be able to be self directed in assisting special needs students.

ART 104 Basic Digital Photography (SUNY Adirondack)

GRADES 10-12 1/2 UNIT

This course introduces students to basic digital photography. The course will teach students how to take photographs and manipulate them in a digital darkroom using Adobe Photoshop. Students may choose to take this course for 3 SUNY Adirondack college credits. All students are expected to have a digital camera (not a cell phone camera). Students taking the course for college credit should have a DSLR (Digital Single Lense Reflex) camera.

ART 222 Graphics I (SUNY Adirondack)

GRADES 10-12 1/2 UNIT

Using Adobe Creative Suite, this course introduces students to various forms of digital media and the creation of forms of digital imagery. Use of industry standard computers and applications help prepare students for a career in graphic design. Students may choose to take this course for 3 SUNY Adirondack college credits.

ART 252 Graphics II (SUNY Adirondack)

GRADES 10-12 1/2 UNIT

PREREQUISITE: ART 222

Using Adobe Creative Suite, this course teaches students to use more advanced techniques to create digital imagery for both commercial and fine art purposes. Continued use of industry standard computers and applications help prepare students for a career in graphic design. Students may choose to take this course for 3 SUNY Adirondack College.

519 Digital Merchandising and Design

GRADES 10-12 1/2 UNIT

PREREQUISITE: STUDIO IN GRAPHICS I & II

Using the mobile computer lab and the Adobe Creative Suite students will study essential design concepts needed for a career in the field of computer graphics or advertising. Class will focus on creating artwork for package design, web and print advertising. Additional emphasis will be placed on the soft skills needed to present such work to a wider audience.

523 Studio in Cartooning Animation I

GRADES 10-12 1/2 UNIT

This course is designed to further develop artistic abilities in many contemporary illustrative techniques. Students will be examining many different styles of cartooning, such as comic strips, action super heroes, animals, political cartoons, fantasy, anime, paper cutouts and animation.

524 Studio in Cartooning Animation II

GRADES 10-12 1/2 UNIT

PREREQUISITE: ART 523

This course is designed to further the development of skills learned in Studio in Cartooning Animation I. Storyboard development will be explored using Adobe Photoshop and Flash. Animation in advertising, multimedia, web design, and government videos will be explored along with a variety of career options.

634 Advanced Practicum in Digital Design

GRADES 11-12 1/2 UNIT

PREREQUISITE: TWO OF THE FOLLOWING COURSES: GRAPHICS I, GRAPHICS II, DIGITAL PHOTOGRAPHY

Using industry standard computers and applications, and building on skills acquired in previous courses, this course allows students the opportunity to pursue a specific area of interest within digital arts. The instructor and student will develop a curriculum that is appropriate for this choice. Additionally, job opportunity discussions and portfolio building help students prepare for a career.

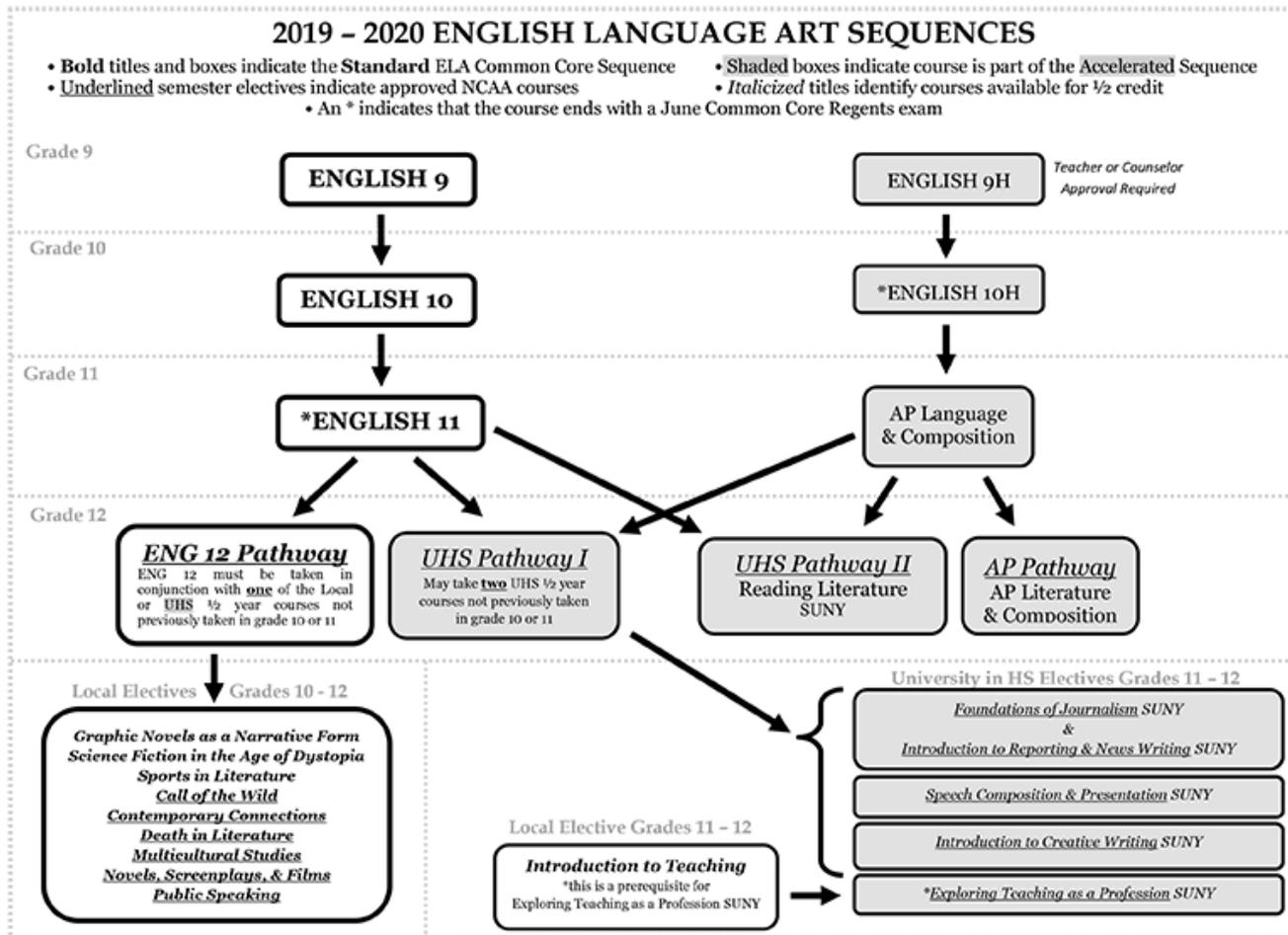
528 Sculpture

GRADES 11-12 1/2 UNIT

This course is for students who want to learn basic three dimensional construction techniques. Students will work with clay, wood, plaster and paper mediums. They will explore additive and subtractive approaches as they assemble, carve and mold materials into unique sculptures.

English Department

Students are required to earn four (4) units of English and successfully complete the Common Core ELA Regents exam, as well as the coursework for English 12 and an additional elective of their choice prior to graduation. Successful completion of the Common Core ELA Regents exam is required to fulfill the New York State English requirement towards an Advanced Regents diploma.



001 English 9 REGENTS

1 UNIT

This is a required Common Core course for all high school students. The students will study a variety of genres which will provide them with the framework necessary to successfully complete the Common Core ELA Regents Exam in grade 11. Reading, writing, listening and speaking for analysis and comprehension will be the focus of this course. Students are expected to complete projects and research related to literature studies and classroom instruction.

writing in preparation for AP exams and the Common Core ELA Regents exam. Students who take this course must be prepared to work at an advanced level and be mature enough to handle a rigorous academic experience. It is expected that students will continue in the honors/AP program throughout high school. Placement for this course is based upon the referral of a teacher/guidance counselor.

003 English 9 Honors REGENTS

1 UNIT

This reading and writing intensive Common Core course serves as the foundation for the Advanced Placement Language and Literature Composition courses. Students will be expected to analyze literature, recognize use of rhetorical strategies, and develop a mature voice in

019 English 10 REGENTS

1 UNIT

This is a Common Core course required for all high school students. An analysis of literature will be conducted providing students with an opportunity to build on those skills acquired in grade nine. The course is designed to prepare students to meet the demands of the Common Core ELA Regents Exam in grade 11. Critical reading and writing skills are emphasized.

016 English 10 Honors

1 UNIT

This Common Core course is designed for 10th grade students formerly enrolled in the English 9 Honors course, who anticipate enrolling in advanced placement courses in grades 11 and 12. It is a challenging course aimed at preparing students to meet the rigorous demands of college-level courses. Since the focus of the course will be the reading and analysis of literature and the writing process, those students who are both strong readers and writers are encouraged to enroll. Students will be expected to complete numerous writing assignments of varying lengths as well as both long term and independent projects. Students will take the Common Core ELA Regents exam at the end of the year. Enrollment in this course is limited to those students who meet the prerequisites.

052 Contemporary Connections

GRADES 10-12

1/2 UNIT

Are you interested in reading about teenagers and learning more about yourself? This Common Core course is designed for the student who wants to examine the conflicts young people face growing up in today's diverse society. Through reading and writing, you will make connections to contemporary fictional and non-fictional characters, and you will be required to analyze their actions and motivations. You will also be expected to openly share your ideas and opinions based on your own experiences. In order to be successful in this course, class participation is mandatory. In addition, a research project using advanced research skills is required.

015 Public Speaking

GRADES 10-12

1/2 UNIT

Would you like to develop self-confidence and poise while you develop formal speaking skills? This Common Core course will help you to develop your thoughts, organization and communication skills. Emphasis will be placed on organizing, structuring, researching and delivering speeches. The students will be encouraged to develop their thoughts, feelings and personal attitudes into an effective message for specific situations. The "how to" speech, speech to convince, and several other types of speeches will be studied and presented. If you have a desire to improve your self-confidence and want to learn techniques to represent your ideas more effectively, this course will be very valuable for you. In addition, a research project using advanced research skills is required.

055 Call of the Wild

GRADES 10-12

1/2 UNIT

Have you ever imagined what it would be like to climb the world's highest peak or descend into a desert canyon? Are you concerned about the global climate and the future of our planet? This Common Core course is designed to improve and broaden your non-fiction reading and writing skills. Students will read several exciting accounts of real-life adventures, while maintaining a clear focus on how humans impact the environment. Students interested in this course should have good attendance, a strong interest in reading outside of class, and research writing proficiency.

033 Graphic Novels as a Narrative Form

GRADES 10-12

1/2 UNIT

This Common Core elective studies the graphic novel as a narrative genre encompassing nonfiction and fictional works, short stories, and epic poetry. This course will present the history surrounding the genre and will closely study the various forms of graphic novels by analyzing their use of words and images, sequential art or panels, and experimental design format that is an integral part of the medium. Students can expect a comparative study of a novel and its graphic novel counterpart to be an integral part of the course as well as various writing and research assignments about this medium.

034 Science Fiction in the Age of Dystopia

GRADES 10-12

1/2 UNIT

If the planet Earth came to an end, and we could restart human life on a different planet, what kinds of borders/boundaries would we be crossing? What would citizenship look like? Who or what could belong in the New World? How would this world be shaped as our engrained human values are confronted by a new way of life? This Common Core elective will delve into the dystopian realm through literature, discovering the dramatic changes due to our ever-evolving society afflicted by environmental disasters, plagues, and other technological advancements that change our world forever. In this course, this topic will be explored through reading, writing, and researching the world of dystopia.

058 Death as a Force in Life and Literature

GRADES 10-12

1/2 UNIT

This Common Core course will examine the impact of how death, both the expected and planned as well as the sudden and swift, impacts us as readers, but more importantly as humans. We will attempt to understand death and dying more fully in relation to life and experiences of the living. Should our understanding of death shape the way we choose to live? To address these questions, we will begin thinking through ideas and expressions of death from a variety of cultures and historical periods. Works of fiction, poetry, biography and music will provide perspectives and models for comparative inquiries into (among other things) the value of death: why are some deaths considered noble, beautiful, purposeful, or meaningful, while others are shameful, ugly, purposeless or senseless? A research project is a requirement.

035 Sports in Literature

GRADES 10-12

1/2 UNIT

For centuries, sports have shaped the core values of human culture. As they have evolved over the years, becoming an essential part of the western civilization, people have allowed these experiences to shape who they are. In recent years, the world of sports has taught lessons of determination, commitment, and perseverance, meanwhile creating a true passion for something bigger than oneself that cannot be replicated by any other venture. In this Common Core elective, students will dive into the world of sports through reading, writing and researching the various modern topics and issues our society faces today.

064 Novels, Screenplays and Films

GRADES 10-12

1/2 UNIT

This Common Core course offers an introduction to the world of filmmaking through the study of novels and screenplays. The course will focus on drama terminology, film techniques, the history of filmmaking, types and functions of films, and how novels and screenplays are adapted to the screen. Cinematic elements as well as screenwriting skills will culminate in a project demonstrating students' abilities to apply insightful knowledge toward the industry and toward multiple forms of communication. In addition, a research project using advanced research skills is required.

032 Multicultural Literature Studies

GRADES 10-12

1/2 UNIT

In our ever-changing world of globalization, understanding and appreciating diverse cultures is fast becoming an essential requirement. In this Common Core course, students will read and research the literature and cultures that span the globe, with a specific focus on Middle Eastern, Asian, and African cultures. Students will also explore the immigrant experience with the goal of achieving a deeper understanding of the challenges and struggles these individuals often endure. This course will feature various texts, both fiction and nonfiction, as well as research and presentations. Students who take this course should enjoy reading outside of class and be willing to be an active and interested member of class discussions and group research activities.

025 English 11 REGENTS

1 UNIT

This is a literature course covering a number of literary genres. The Common Core course focuses on the development of skills in the areas of vocabulary, grammar, reading comprehension, literary analysis, and critical writing. Emphasis will be placed on skills necessary for success on the Common Core ELA Regents exam given at the end of the school year. A research project, as well as the study of a Shakespearean play, will be required.

057 AP English: Language and Composition

GRADE 11 ONLY

1 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

This course concentrates on the reading and analysis of a variety of discursive prose and the study of the process of writing. Students will study the language of fiction and nonfiction from various fields and periods that will serve as models of effective styles. Students will also study Common Core specific curriculum in preparation for the Common Core ELA Regents Exam in June. This course offers a variety of writing assignments calling for the use of different styles or tones. Through such study and practice, students will gain an understanding of the principles of effective writing and become effective writers themselves. The course prepares students for the AP College Board Examination which they are expected to take in May. Students who take the course should enjoy reading and writing, and should be prepared to analyze the different works examined in class.

036 Introduction to Teaching

GRADES 11-12 1/2 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

This first semester course introduces the concepts of teaching at the secondary level. Students will learn how literacy applies to all content areas, and there will be a focus on creating resources to help facilitate learning at the high school. Students will be required to fulfill service hours in the CCHS Literacy Center. This course is open to both juniors and seniors, and it must be taken in conjunction with the second semester course Exploring Teaching as a Profession.

E TAP 201 Exploring Teaching as a Profession (University at Albany) *credits pending*

GRADE 11-12 1/2 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

This second semester course reviews and explores contemporary education with a major focus on the secondary school. There will be a major emphasis on concepts in schooling, the changing role of teachers, restructuring schools, and teaching as a career. Students will examine theories of teaching and learning for the purpose of challenging assumptions about today's schools and extending expectations concerning tomorrow's schools. Students will be required to fulfill service hours at the CCHS Literacy Center. This course is open to both juniors and seniors, and it must be taken in conjunction with the first semester course Introduction to Teaching.

A COM 203Y Speech Composition and Presentation (University at Albany) *credits pending*

GRADE 11-12 1/2 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

This semester-long course focuses on the introduction to the composition and presentation of speeches. This course includes general practice to topic development, organization, and the oral presentation of various kinds of speeches.

A ENG 102Z Introduction to Creative Writing (University at Albany) *credits pending*

GRADE 11-12 1/2 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

This semester-long course is an introductory course to creative writing. Students will practice writing multiple genres and forms, such as poetry, fiction, creative nonfiction, memoir, drama, and other literary forms.

030 English 12

GRADE 12 ONLY 1/2 UNIT

This Common Core course is required for all high school seniors who are not taking a full-year UHS or an AP pathway. Students will benefit from an in-depth review of those skills presented in grades 9-11 with an emphasis on using more sophisticated language in speaking and writing. Students will create resumes and compose personal narratives, college essays and cover letters. Students will also practice interview techniques and gain other reading and writing skills essential to success after high school. This is a first semester course only.

056 AP English: Literature and Composition

GRADE 12 ONLY 1 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

Through the examination of the elements that constitute a particular genre, this course will explore how these devices can and are manipulated to produce various forms within the genre, as well as investigate the similarities and differences between the genres. To achieve this goal, students will intensively study a few representative works from several genres and time periods, concentrating on works of literary merit. It is an intensive reading course where students can expect to write critically about different genres including narratives, poetry, drama and fiction. Students who take the course should enjoy reading and writing. The course prepares students for the AP College Board Examination which they are expected to take in May.

ENG 121 Reading Literature (University at Albany)

GRADE 12 ONLY

1 UNIT

PREREQUISITE: STUDENTS MUST HAVE AN 85+ GPA TO QUALIFY FOR THIS COURSE

In this course students will critically analyze, interpret and evaluate works of literature from a variety of genres (fiction, non-fiction, drama, short stories, poetry). Ideas, reactions and understandings of the texts will be developed and then demonstrated by oral and written responses to literature. The work in this course will foster the growth of skills necessary to achieve a higher awareness of literature, and the values and connections it has for readers. English 121 is a reading intensive course and all assigned reading must be completed for success. This is a college-based course, where students receive three credits, that must be earned through hard work and dedication.

**A JRL 100 Foundations in Journalism
(University at Albany) *credits pending***

GRADE 12 ONLY

1/2 UNIT

This course will help students become more informed about media and introduce them to the major issues in journalism. Topics range from media history to the economic structure of the industry to broad questions about the impact of media on individuals and society in a fast-changing technological society. Also addressed will be ethical and legal issues related to media practices in news media. This is the first semester of a two-semester course in journalism. *A student must earn a C or better in this course in order to take A JRL 200Z.*

**A JRL 200Z Introduction to Reporting and News
Writing (University at Albany)
*credits pending***

GRADE 12 ONLY

1/2 UNIT

PREREQUISITE: A JRL 100 WITH A GRADE OF C OR HIGHER

In this introductory workshop, students develop the skills of practicing reporters and news writers. They acquire the news judgment that allows them to identify what should be reported and written about, and they learn the fundamental forms of journalistic writing. Students familiarize themselves with journalistic sources and evaluating their reliability. They practice revision and learn about Associated Press style, civics, and rudimentary budget analysis. This is the second semester of a two-semester course in journalism.

Foreign Language Department

All students scoring 65 percent or above on the local Grade 8 Foreign Language Proficiency Assessment are required to continue in foreign language study through grade 11 and pass, prior to graduation, a minimum of French IV, Spanish IV or the Foreign Language Comprehensive Exam.

401 French 2

1 UNIT

PREREQUISITE: FRENCH 1 OR FRENCH 8

Students will develop the communicative language skills of reading, writing, speaking and listening. The cultural emphasis will be on understanding the history of the Franco-American relationship from the Revolutionary War through World War II. Students will also become familiar with Paris, City of Light, and all it has to offer. This course is part of the sequence that leads to a comprehensive French exam at the end of French 4.

412 French 3

1 UNIT

PREREQUISITE: FRENCH 2

You will continue to develop fluency in the areas of listening comprehension, speaking, reading and writing. Major topics include sports, daily routine, house and home, vacations, plane and train travel as well as talking about what things were like when you were little. Our cultural focus expands to the continent of Africa as you learn about the regions of the Maghreb and French West Africa. In addition, we will focus on several special regions of France such as Normandy and Provence. This course continues students' progression toward a local comprehensive exam in a foreign language at the end of French 4.

413 French 4

1 UNIT

PREREQUISITE: FRENCH 3

We will concentrate on developing your listening, speaking, reading and writing skills in order to feel well prepared for the comprehensive French examination which is a requirement of the course. You will gain knowledge of the French-speaking world from primary sources by reading articles from real French magazines and newspapers. You'll research famous French-speakers and culinary treats. Major topics include ecology and the environment, education, youth hostels, driving, talking about the future and imagining what could happen.

422 Spanish 1

1 UNIT

This course teaches communicative phrases that apply to everyday situations. You will build a vocabulary base to have brief conversations and complete short writing pieces, in Spanish. You will learn about the similarities and differences between the customs of the United States and those of Spanish-speaking countries.

444 Spanish 2

1 UNIT

PREREQUISITE: SPANISH 1 OR SPANISH 8

In this course you will be asked to comprehend, speak, read and write in Spanish. You will also be exposed to a variety of cultural experiences and media resources to introduce you to the Hispanic way of life. This course continues your study, leading to a comprehensive Spanish exam at the end of Spanish 4.

442 Spanish 3

1 UNIT

PREREQUISITE: SPANISH 2

This course broadens and integrates your knowledge of the language itself, as well as your study of the cultures of Spanish-speaking countries. Through exposure to various media and authentic resources, you will further develop your communicative skills. This course continues your progress toward a comprehensive Spanish exam at the end of Spanish 4.

450 Spanish 4

1 UNIT

PREREQUISITE: SPANISH 3

In this course, your listening, writing, speaking and reading skills will develop so that you can face the final comprehensive Spanish exam with confidence. You will read articles from Spanish magazines and newspapers, children's books and readers, listen to Spanish speakers using such multimedia sources, use the Internet, learn to role-play and learn to write letters or stories in Spanish. You will further enhance your cultural knowledge of the Spanish-speaking world. You will take the final comprehensive Spanish exam in June, a requirement of the course. ¡Buena suerte!

SPA 207 Spanish Conversation & Culture (College of Saint Rose)

GRADES 10-12

1 UNIT

PREREQUISITE: SPANISH IV AND FOREIGN LANGUAGE TEACHER RECOMMENDATION

This immersion-type course is designed to further develop all skills, but with special attention dedicated to improving your listening and conversational skills in Spanish. You will learn to communicate with and comprehend other classmates, the teacher and native speakers. You will tell stories and give opinions about stories, videos, movies and authentic materials covered in class. In this course you will gain more knowledge of Latin American civilization and culture. Upon exiting the course, you will find your proficiency and comprehension greatly improved. 3 college credits are available.

421 Each One Teach One

1/2 UNIT

PREREQUISITE: COMPLETED COMPREHENSIVE EXAM OR CURRENTLY ENROLLED IN FRENCH 4 OR SPANISH 4 AND A LANGUAGE TEACHER'S RECOMMENDATION.

Three days a week you will visit an elementary school and share your knowledge of a foreign language with a class of your own. You become the teacher and develop ways to teach elementary students simple expressions including names, numbers, days, months, animals, foods, etc. Twice a week you will prepare your materials and lessons in class. This course is for students in grades 11-12. Due to the increased enrollment and limited teaching assignments available, interviews for entrance into this course will be conducted in the Spring to determine students' commitment and seriousness of purpose. Good attendance and a responsible attitude are required for this course.

ITA 100 Italian Language and Culture I (HVCC)

GRADES 10-12

1 UNIT

This course is designed to introduce the student to the Italian sound system and grammatical structure in an effort to give the student a basic understanding of the language, including listening comprehension, reading, speaking and writing skills. In addition to language skills, the course offers the student insight into Italian culture. You will enhance your language study by using computer-based foreign language instruction regularly and on an extra-study basis as part of course requirement. 3 college credits are available.

ITA 101 Italian Language and Culture II (HVCC)

GRADES 10-12

1 UNIT

PREREQUISITE: ITALIAN I

In this course you will improve your listening, reading, speaking and writing skills in Italian. You will also be exposed to a variety of authentic materials and cultural experiences to increase your knowledge of the Italian way of life. You will enhance your language study by using computer-based foreign language instruction regularly and on an extra-study basis. 3 college credits are available.

FRE 100 French Language and Culture I (HVCC)

GRADES 10-12

1 UNIT

This course is designed to introduce the student to French sound system and grammatical structure in an effort to give the student a basic understanding of the language, including listening comprehension, reading, speaking and writing skills. In addition to language skills, the course offers the student insight into Francophone cultures. 3 college credits are available. (College credit pending)

FRE 221 Intermediate French I (University at Albany)

1 UNIT

PREREQUISITE: FRENCH 4

In French 221 you will strengthen and enhance your listening, speaking, reading and writing skills. You will also improve your vocabulary as you progress through authentic text and other resources dealing with topics relevant to young people in French-speaking countries, including the French West Indies. You will take a much more active role in the learning process and learn strategies which will help you in future college courses. 4 college credits are available.

**FRE 222 Intermediate French II
(University at Albany)**

1 UNIT

*PREREQUISITE: INTERMEDIATE FRENCH I AND TEACHER
RECOMMENDATION*

In French 222 you will improve in all skill areas: listening, speaking, reading and writing. You will expand your abilities to sustain dialogues and deliver oral presentations both live and on tape. Writings on selected topics from personal essays to comments on French civilization and culture will be required for this course. Assorted reading materials and audio and video materials will form the basis for the listening and reading skills. 4 college credits may be available.

**SPN 103 Intermediate Spanish I
(University at Albany)**

1 UNIT

*PREREQUISITE: SPANISH 4 AND FOREIGN LANGUAGE
TEACHER RECOMMENDATION*

In Spanish 103 you will improve your listening, reading, speaking and writing skills. You will also improve your vocabulary as we progress through the year. You will be able to discuss current events and controversial topics in Spanish. You will take a much more active role in the learning process this year and learn strategies which will help you in future college courses. 4 college credits are available.

Health/Physical Ed. Department

800 PE 9-10 Physical Education Core Program

1/2 UNIT

The purpose of the 9-10 core program is two fold: to provide a solid foundation in skill development of a wide range of sports and to increase a student's knowledge of fitness principles and fitness activities.

801 PE 11-12 Physical Education Program

1/2 UNIT

The purpose of the 11-12 Physical Education program is to continue to emphasize the understanding of fitness principles, reviewing the benefits of maintaining fitness throughout one's life, and to encourage students to think about how they will maintain their fitness after high school. The overall program will be oriented toward lifetime sports, new games and self-improvement activities.

707 Health

SEMESTER 1/2 UNIT

708 Health

EVERY OTHER DAY 1/2 UNIT

This required course fulfills the New York State requirement of one semester of health education for high school students. This course will deal with a wide range of personal, national and worldwide health concerns. The course will emphasize understanding the mental and physical health concerns of others as well as those which relate to you personally. Some specific topics which will be dealt with in this course are as follows: personality development and patterns, stress, communicable illness, use and misuse of drug substances, consumer health practices, problem drinking, world health concerns, physical fitness, trends in eating habits and special diets.

To be successful in this course, you should be able to do a reasonable amount of outside class reading, participate in various types of class discussion groups and seek out extra information on topics covered in class with guidance from your teacher.

PHYSICAL EDUCATION

Students are required to earn 2.0 credits over four years in Physical Education.

802 Adaptive PE

1/2 UNIT

Students who are unable to participate fully in a regular physical education class due to an injury or physical disability or challenges may satisfy their graduation requirements by taking this course. Topics of study will be determined by consultation with the attending physicians to guarantee participation appropriate to the students' abilities.

807 Instructional Fitness Training

GRADES 9-12 1/2 UNIT

This semester-long course is designed for athletes to learn about various aspects of strength/fitness to enhance athletic performance. Students will be instructed in proper lifting techniques, prehabilitation strategies for injury prevention, proprioception, power, agility, speed, coordination and balance while maintaining team training activities.

PHYSICAL EDUCATION OBJECTIVES

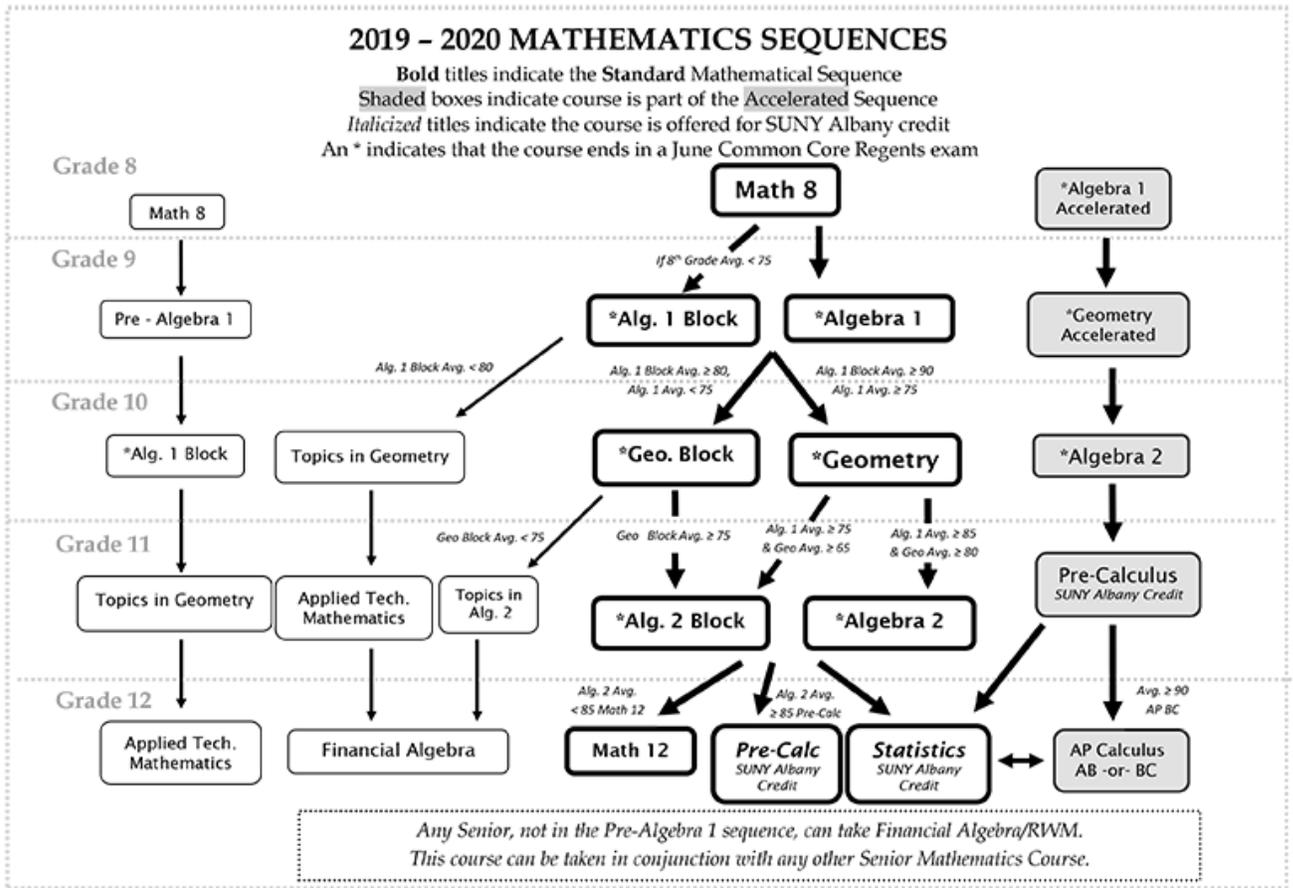
- Possess a lifelong desire to maintain a high level of physical fitness
- Maintain a life-style with healthful habits.
- Develop self control, sportsmanship and respect for others.
- Develop lifetime sports skills.
- Develop body mechanics, coordination and rhythms to live better physically.
- Possess a personal sense of self-confidence and pride.

PHYSICAL EDUCATION ACTIVITIES

| | |
|-------------------|--------------------|
| Cooperative Games | Speedball |
| Weight Training | Golf |
| Team Handball | Tennis |
| Flag Football | Soccer |
| Volleyball | Aerobics |
| Fitness | Softball |
| Cricket | Badminton |
| Track/Field | Lacrosse |
| Basketball | Yoga |
| Floor Hockey | General Move Games |
| Pickleball | |

Mathematics Department

Students are required to earn three (3) units of Mathematics and successfully complete the Algebra Common Core Regents exam prior to graduation. Successful completion of three (3) New York State Regents exams (Algebra 1, Geometry and Algebra 2) is required to fulfill the New York State Mathematics requirement towards an Advanced Regents diploma.



THE FOLLOWING COURSES WILL USE THE TEXAS INSTRUMENTS GRAPHING CALCULATOR

311 Pre-Algebra 1

1 UNIT

PREREQUISITE: PLACEMENT IS BASED ON MIDDLE SCHOOL MATH HISTORY AND MIDDLE SCHOOL COUNSELOR RECOMMENDATION ONLY

Pre-Algebra is a remedial course designed to prepare students for Algebra 1. The course curriculum follows a similar outline as Algebra 1, at a pace that permits time for remediation and more time for review where appropriate. There is a local midterm and a final exam in this course, which will be a cumulative exam.

302 Algebra 1

1 UNIT

PREREQUISITE: MATH 8 FINAL SCHOOL AVERAGE ABOVE 75

Algebra 1 is aligned with the Common Core Learning

Standards. Topics include linear, quadratic, and exponential functions and statistics. The course meets every day for the traditional 40 minutes, and is faster paced and more rigorous than the Algebra 1 with block. There is a local midterm exam in January and the Algebra 1 Common Core Regents Exam is given in June.

302B Algebra 1 Block

1 UNIT

PREREQUISITE: PLACEMENT IS BASED ON MIDDLE SCHOOL MATH HISTORY, GRADE 8 TEACHER RECOMMENDATION AND A MATH 8 FINAL SCHOOL AVERAGE BELOW 75

Algebra 1 block is aligned with the Common Core Learning Standards. Topics include linear, quadratic, and exponential functions and statistics. Students in this course meet every day for the traditional 40 minutes, and then for an additional 40 minutes every other day in a successive block period. There is a local midterm exam in January, and the Algebra 1 Common Core Regents is given in June.

313 Geometry

1 UNIT

PREREQUISITE: ALGEBRA 1 OR FINAL SCHOOL AVERAGE OF 90 OR HIGHER IN ALGEBRA 1 BLOCK

Geometry is aligned with the Common Core Learning Standards. Topics include geometric constructions, congruence, similarity, trigonometry, proof, volume, coordinate geometry, and circles. There is a local midterm exam in January and the Geometry Common Core Regents Exam is given in June.

313B Geometry Block

1 UNIT

PREREQUISITE: FINAL SCHOOL AVERAGES 75 OR HIGHER IN ALGEBRA 1 BLOCK, ALGEBRA 1

Geometry Block is aligned with the Common Core Learning Standards. Topics include geometric constructions, congruence, similarity, trigonometry, proof, volume, coordinate geometry, and circles. Students in this course meet every day for the traditional 40 minutes, and then an additional 40 minutes every other day in a successive block period. There is a local midterm in January, and the Geometry Common Core Regents Exam is given in June.

330 Topics in Geometry

1 UNIT

PREREQUISITE: ALGEBRA 1 BLOCK

Many Regents-level Geometry topics will be covered, but the course is not intended to prepare students for the Regents exam. This course is designed for those students who need to bolster their Algebra 1 skills while also learning new Geometry content featured on the SAT exam. A local midterm exam and a final exam are given. Following the course, students move on to either Regents Geometry or an elective.

314 Geometry Accelerated

1 UNIT

PREREQUISITE: ALGEBRA 1 ACC., MASTERY LEVEL ACHIEVED ON NYS ALGEBRA REGENTS

Geometry Accelerated is aligned with the Common Core Learning Standards. Topics include geometric constructions, congruence, similarity, trigonometry, proof, volume, coordinated geometry, and circles, however the content is enriched and explored in more depth than the traditional Geometry course. The course is rigorous and fast-paced. Students are expected to complete five math credits. There is a local midterm exam in January and the Geometry Common Core Regents Exam is given in June.

320 Topics in Algebra 2

1 UNIT

PREREQUISITE: GEOMETRY BLOCK

Students will revisit Algebra 1 topics necessary for success in Algebra 2. In addition, advanced algebraic concepts such as factoring, rational and irrational expressions, complex numbers, quadratic equations, functions, laws of exponents, and unit circle trigonometry will be introduced. A local midterm and a final exam are given. Following this course, students move on to Algebra 2 or a senior elective.

316 Algebra 2

1 UNIT

RECOMMENDATION: GEOMETRY TEACHER RECOMMENDATION AND FINAL SCHOOL AVERAGES ABOVE 85 IN ALGEBRA 1 AND 80 IN GEOMETRY

Algebra 2 is aligned with the Common Core Learning Standards. This course will cover the complex number system, transformations, vectors and matrices, rational and exponential functions, trigonometry, probability and statistics. A local midterm is given in January, and the Algebra 2 Common Core Regents is given in June.

316B Algebra 2 Block

1 UNIT

RECOMMENDATION: GEOMETRY TEACHER RECOMMENDATION AND FINAL SCHOOL AVERAGES ABOVE 75 IN ALGEBRA 1 AND 65 IN GEOMETRY OR 75 IN GEOMETRY BLOCK

Algebra 2 Block is aligned with the Common Core Learning Standards. Topics include the complex number system, transformations, vectors and matrices, rational and exponential functions, trigonometry, probability and statistics. Students in this course meet every day for the traditional 40 minutes, and then an additional 40 minutes every other day in successive block periods. A local midterm is given in January, and the Algebra 2 Common Core Regents is given in June.

324 Financial Algebra/Real World Mathematics

1 UNIT

PREREQUISITE: 3 HIGH SCHOOL MATHEMATICS CREDITS OR ADMINISTRATIVE APPROVAL

This course emphasizes contemporary applications of mathematics. Topics include, but are not limited to, personal finance, retirement and savings, automotive equity, credit card debt, personal income tax, geographic measurement, and the stock market. Students utilize Chromebooks to access mathematical features of spreadsheets and measurement tools related to Google Maps. Students learn a concept and then immediately apply it through a lab project completed and submitted online via Google Classroom. There is a local midterm and final assessment.

325 Applied Technical Mathematics

1 UNIT

PREREQUISITE: 2 HIGH SCHOOL MATHEMATICS CREDITS

The following topics are covered with an emphasis on technical and industrial applications: fractions, decimal fractions, converting units, the metric system, ratio and proportions, measurement, rearranging and substituting into formulas, and geometry. A scientific calculator is required for this course. A local midexam and a final exam are given.

356 Mathematics 12

1 UNIT

PREREQUISITE: ALGEBRA 2 OR ALGEBRA BLOCK AND RECOMMENDATION OF MATHEMATICS TEACHER

This course covers many of the Pre Calculus topics including functions, advanced algebra, and advanced geometry. The graphing calculator will be used. The course is intended to prepare students for a college Pre-Calculus course. A school midterm and a final exam are given.

**AMAT100 Pre-Calculus Mathematics
(University at Albany)**

1 UNIT

PREREQUISITE: ALGEBRA 2 TEACHER RECOMMENDATION AND FINAL SCHOOL AVERAGE ABOVE 85 IN ALGEBRA 2

The mathematics topics of functions and complex numbers are explored in more detail. New topics include advanced graphing techniques and the solution of higher degree polynomials. Activities using graphing calculators are utilized in this course. Also, the course introduces the theory of limits and the techniques of differentiation and integration. Application of these methods leads to new approaches to problem solving and extended knowledge of polynomial functions. A January midterm and a June final exam are given. Students may choose to take this course for 3 SUNY-Albany credits.

**AMAT108 Elementary Statistics
(University at Albany)**

1 UNIT

PREREQUISITE: 12TH GRADE STUDENTS WHO HAVE PASSED ALGEBRA 2 OR ALGEBRA 2 BLOCK

This course includes such topics as frequency distributions, measures of central tendency, probability and sampling, estimation, testing of hypotheses, and regression and correlation. It is suggested that students taking AP Biology and those planning on studying social studies in college (e.g. economics, psychology, political science, sociology, etc.) take statistics. A local midterm and a final assessment are given. Students may choose to take this class for 3 SUNY-Albany credits.

328 Advanced Placement Math: Calculus AB

1 UNIT

PREREQUISITE: COMPLETION OF PRE-CALCULUS AND RECOMMENDATION OF MATHEMATICS TEACHER

This course includes the basis of analytic geometry necessary for the foundation of calculus, limits, derivatives, related rates and curve sketching, elementary integration, and simple differential equations. There is a local midterm and final exam, and students are expected to take the Advanced Placement Exam in May.

329 Advanced Placement Math: Calculus BC

1 UNIT

PREREQUISITE: COMPLETION OF PRE-CALCULUS WITH A FINAL SCHOOL MARK OF 90% OR BETTER AND RECOMMENDATION OF MATHEMATICS TEACHER

This course includes all concepts found in AP Calculus AB plus the concepts of parametric curves, vectored valued functions, polar coordinates, sequences and series, and improper integrals. There is a local midterm and final exam, and students are expected to take the Advanced Placement Exam in May. Success on the AP Exam in May can earn students credit for both college Calculus I and II.

Music Department

560 Band

GRADES 9-12 1 UNIT

Students must receive the music teacher's approval before signing up for band. A basic ability to play a brass, woodwind or percussion instrument is necessary for participation in the band. Your musicianship will improve and your enjoyment of music develop as you prepare a variety of musical compositions for school and community concerts. Grade 9-12 band students will be scheduled for one of two bands based upon an audition, teacher recommendation and need for instrumentation. (Note: band, chorus and orchestra students are required to take a weekly lesson for one-half period minimum. Lessons are scheduled from study hall or lunch. Lessons are in addition to the regular daily rehearsal.)

572 Orchestra

GRADES 10-12 1 UNIT

569 Orchestra

GRADE 9 1 UNIT

Students must receive the music teacher's approval before signing up for orchestra. A basic ability to play a string instrument is necessary for participation in the orchestra. As your playing improves, you will develop musicianship and style. Your technique will get better as you prepare music for public and school concerts. The orchestra is the best place to put your music lessons to great use! Grade 11 students will be scheduled for one of two orchestras based on an audition. (Note: band, chorus and orchestra students are required to take a weekly lesson for one-half period minimum. Lessons are scheduled from study hall or lunch. Lessons are in addition to the regular daily rehearsal.)

563 Chamber Singers

1 UNIT

564 Chamber Singers

EVERY OTHER DAY 1/2 UNIT

565 Mixed Chorus

1 UNIT

Students must receive the music teacher's approval before signing up for chorus. Students who are interested in singing in a large choral group are invited to join the chorus. In chorus you will learn how to read music and develop your own singing voice. Your musicianship will improve and your enjoyment of music will develop as you prepare a variety of musical compositions for our quarterly concerts. (Note: band, chorus and orchestra students are required to take a weekly lesson for one-half period minimum. Lessons are scheduled from study hall or lunch. Lessons are in addition to the regular daily rehearsal.)

568 Mixed Chorus

EVERY OTHER DAY 1/2 UNIT

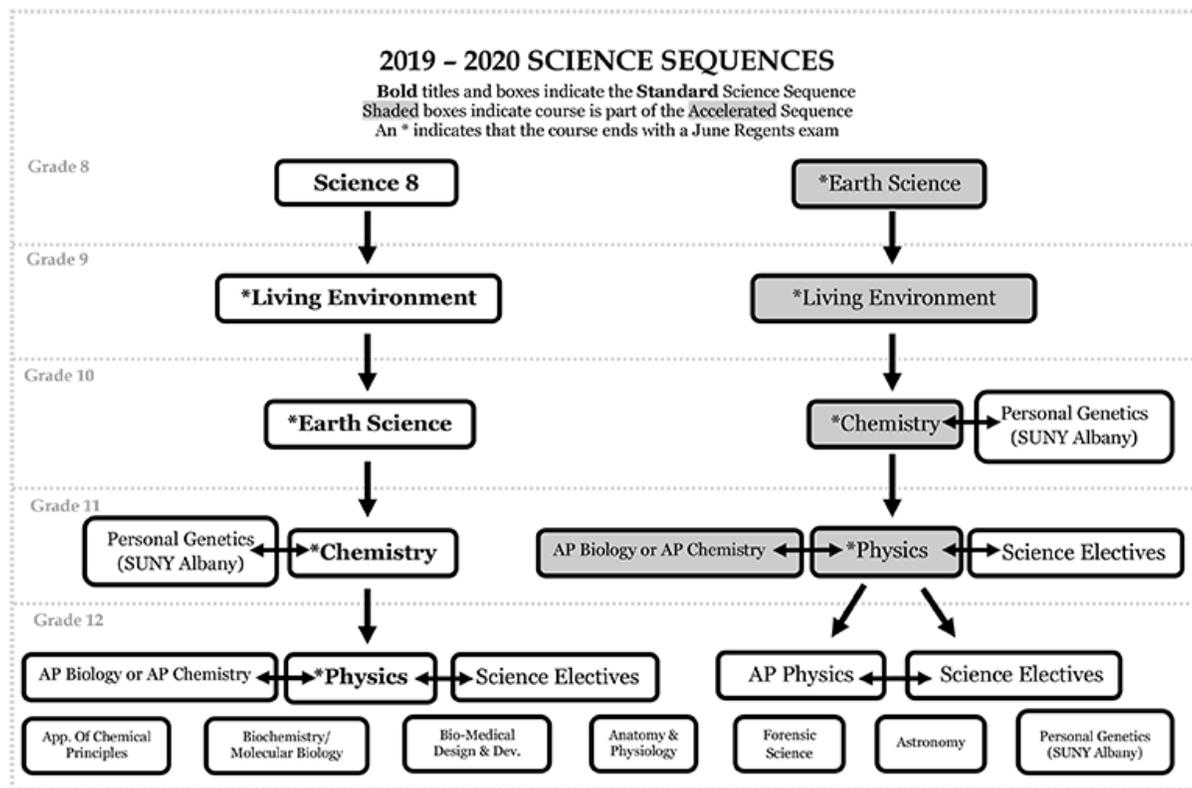
576 Music Theory I

1 UNIT

Music Theory is a course designed to acquaint you with the fundamentals of music. Emphasis is placed on notation of pitch and rhythms, scale construction, composition, listening, developing a musical vocabulary and the rudiments of music.

Science Department

Students are required to earn three (3) units of Science and successfully complete the Living Environment Regents exam prior to graduation. College-bound students are strongly urged to complete four (4) units of Regents science (Living Environment, Earth Science, Chemistry, and Physics). Successful completion of two (2) New York State Regents exams (Living Environment and one Physical setting) is required to fulfill the New York State Science requirement towards an Advanced Regents diploma.



214 The Living Environment **REGENTS**
1 UNIT

This course provides the student with an extensive study of the organism, from the most simple to the most complex. Anatomical and functional comparisons are made from a phylogenetic perspective. This course meets nine periods in a six day cycle to provide the laboratory time necessary to learn methods of biological investigation directly. The final examination is the New York State Living Environment Regents Examination.

200 Earth Science **REGENTS**
1 UNIT

The Regents Earth Science course builds on students prior knowledge of Science. The study of Earth material and the processes that shape the Earth are investigated. The theories that explain Earth phenomena are introduced in an inquiry based setting. Students also gain knowledge in how scientific theories become accepted and how such theories change as new knowledge/technology is discovered. The course culminates with a Regents Exam which fulfills the Physical Setting requirement for an Advanced Regents diploma.

215 Chemistry **REGENTS**
1 UNIT

This course is a broad curriculum that includes the study of matter from the subatomic level to the study of the energy produced in nuclear reactors. Students will understand the basic nature of how matter changes and the mechanisms by which these changes occur. Classes are scheduled to meet the laboratory requirement. The Regents Examination is the final examination for this course.

216 Physics **REGENTS**
1 UNIT

PREREQUISITE: ALGEBRA 1 AND GEOMETRY

Regents Physics represents a comprehensive curriculum including principles of mechanics, energy, wave phenomena, electricity, magnetism and modern physics. This course involves laboratory activities correlated with the subjects covered in class. The Regents Examination in Physics is the final examination for the course in the core science sequence.

ELECTIVES

CREDIT IN PHYSICS OR TAKING PHYSICS CONCURRENTLY IS A REQUIREMENT FOR ELECTIVES.

238 Forensic Science

1 UNIT

Forensic Science in its broadest definition is the application of science to law. This introductory course in forensics will provide chemical methods of analysis for physical evidence encountered when processing crime scenes. Among the areas to be investigated are: fingerprinting, forensic toxicology, chemistry of hairs, fibers and paint, chemical aspects of arson and explosion investigations, DNA and forensic serology. Experiments to be performed will be introduced by a simulated crime situation and chemical analysis techniques appropriate for that scenario. Classes meet six times in a six day cycle.

223 Anatomy and Physiology

1 UNIT

This course presents the fundamental principles common to all vertebrates at the anatomical and physiological levels. Significant amount of time concentrates on topics in histological and gross examination of the cat and human. Anatomical structure is then related to physiological function at the cellular level. Lecture and laboratory highly integrate this structure and function relationship. **It is very important that students understand one of the main expectations for this course is to dissect a cat for the purposes of examining and studying the anatomical features of the cat for approximately five months of the course.**

219 Biochemistry/Molecular Biology

1 UNIT

This methods course, designed for students showing a high level of skill in previous science and math courses, provides students with experience in several techniques found in biotechnology laboratories conducting research at the micro- and molecular levels. The emphasis is on mastering methods, equipment, and software. Topics/concepts/skills includes: understanding detailed protein structure, protein modeling using Jmol software, gel electrophoresis and analysis of proteins and nucleic acids, spectrophotometry, enzyme kinetics, bacterial cultivation and manipulation, bacterial transformation, DNA restriction analysis, DNA sequencing, and Polymerase Chain Reaction.

245 Bio-Medical Design and Development

1 UNIT

Students in this course will work in groups throughout the year on a real-life assistive technology design project for students with special needs at the Langan School. As part of this course, students will experience all aspects of product design. This will include scheduling, engineering

design, building and manufacturing, bench testing, clinical evaluation, marketing, and intellectual property. This course provides an extraordinary opportunity for high school students who have an interest in engineering, manufacturing, accounting, technical writing, clinical research, medicine, marketing and/or law to gain hands-on experience in real life product design.

208 Astronomy

1/2 UNIT

PREREQUISITE: REGENTS CREDIT IN PHYSICS OR TAKING PHYSICS CURRENTLY

This one semester course discusses topics in the areas of constellations, stellar evolution, the solar system as well as space flights past and present. Students will participate in class discussions, labs and projects as well as being expected to do outside observations throughout the duration of the course and create an observation log. This course provides an opportunity for students to gain knowledge and a basic understanding of the night sky objects as well as understand the importance of space research and exploration.

ACAS 100 Personal Genetics/Contemporary Issues in Life Sciences at UAlbany

1/2 UNIT

PREREQUISITE: SUCCESSFUL COMPLETION OF LIVING ENVIRONMENT, REGENTS EARTH SCIENCE, AND REGENTS CHEMISTRY (REGENTS CHEMISTRY CAN BE TAKEN CONCURRENTLY)

This course is a University in the High School course and can be taken for 3 college credits through the State University of New York at the University at Albany. Students need to fulfill certain requirements for this added benefit. It will be listed as ACAS 100 - Contemporary Issues in Life Sciences on your college transcript for students who choose this option. Due to the fact that current high school students are among the first generation that will have unprecedented access to information about their DNA, as genome sequencing and genetic testing become cheaper and more available, this issue is highly relevant for today's students. Today's students need to be engaged in discussions about the potential risks and benefits of knowing more about their DNA, as this information has both personal and social impacts. Topics to be explored include:

- An introduction to Personal Genetics
 - Using critical thinking to assess genetic risk factors
 - Genetics, jobs and your rights
 - A history of the American eugenics movement
- See next page for more description**

... Personal Genetics continued

- Genetics and reproduction
- DNA, crime and law enforcement
- Athletics, aggression and genetics
- The future of genomics

This course will provide a foundation for other science electives, such as Biochemistry/Molecular Biology and Bio-Medical Design and Development. Students interested in careers involving health care and medicine, public health and policy, law, government, scientific research, genetic counseling, biomedical science and engineering are encouraged to take this course, as future job markets and trends in these fields will be explored.

247 Applications of Chemical Principles

1 SEMESTER COURSE OFFERED FALL AND SPRING

PREREQUISITE: REGENTS CHEMISTRY

Chemistry concepts are the driving force behind so many innovations ranging from stain free clothing to home utility independence. This course is designed to expose students to concepts and career opportunities related to these emerging fields. Students attain a chemist's laboratory skill set including preparing standards and dilutions, running instrumentation and analysis. Student learn about materials and subsequent product development as this field continues to grow with nanoscale science. General areas of study include renewable energy, environmental considerations, an Internet research project and presentation on a chemistry related careers of interest of each student.

ADVANCED PLACEMENT ELECTIVES

AP courses are taught as college-level courses in content and style. Upon completing the course, the student will take the appropriate Advanced Placement Examination offered at our high school by the College Board in May for a fee of approximately \$93.

Taking the examination may offer the following benefits:

- Exemption by your college or university from beginning courses and permission to take the higher-level courses in certain fields.
- Academic credit awarded for exams taken.
- Time to explore undergraduate subject areas that you wouldn't otherwise be able to study.
- Eligibility for honors and other special programs open to students who have received AP recognition.

GRADES OF 85+ ARE STRONGLY RECOMMENDED IN MATH AND REGENTS SCIENCE COURSEWORK FOR SUCCESS IN THE FOLLOWING AP SCIENCE CLASSES ...

218 Advanced Placement Chemistry

1 UNIT

This course is the equivalent of a first year college course in chemistry. Participating colleges may grant 3-8 college credits and/or other appropriate advanced standing to students who score well on the AP Examination. There is also a final examination for the course. In general, it is for students who have completed three Regents science courses, Algebra 2, and who have a high degree of interest. The course is scheduled for nine periods in a six day cycle.

217 Advanced Placement Biology

1 UNIT

This course is the equivalent of a first year college course in biology. Participating colleges may grant 3-8 college credits and/or other appropriate advanced standing to students who score well on the AP Examination. There is also a final examination for the course. In general, it is for students who have completed three Regents science courses and who have a high degree of interest. The course is scheduled for nine periods in a six day cycle.

240 Advanced Placement Physics - C, Mechanics

1 UNIT

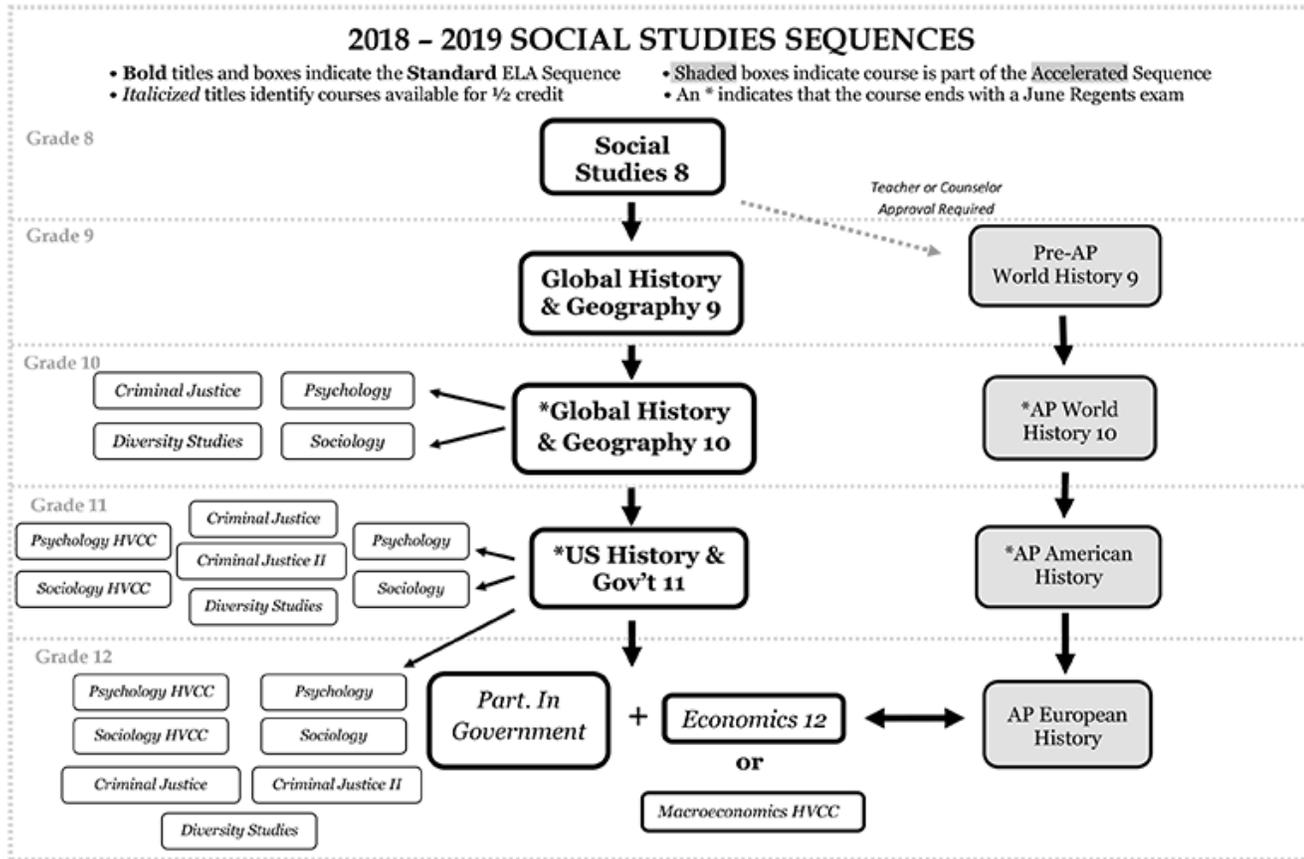
PREREQUISITE: COMPLETION OF REGENTS PHYSICS AND PRECALCULUS

COREQUISITE: ENROLLMENT IN AP CALCULUS AB OR BC

This course is equivalent of a one-semester college course in Physics. This is the C version of the AP Physics course; calculus will be used in formulating physical principles and in applying them to problems in classical mechanics. AP Physics C builds on the conceptual understanding attained in Regents Physics and normally serves as the foundation in Physics for college students majoring in science or engineering. Colleges may grant 3 or 4 credits or other appropriate advanced standing to students successful on the AP examination. This course would bolster student understanding of AP Calculus as well. Classes meet six times in a six-day cycle. There is a final examination in this class. Students are also co-enrolled in College Physics 1 (PHY 221) at Schenectady County Community College. Students who receive a C or better automatically receive 4 credits at SCCC. These credits may be transferred to other colleges.

Social Studies Department

Students are required to earn four (4) units of Social Studies and successfully complete the Global History and Geography Regents exam, the United States History and Government Regents exam, as well as the coursework for Participation in Government and Economics prior to graduation. Successful completion of two (2) New York State Regents exams (Global History and Geography, United States History and Government) are required to fulfill the New York State Social Studies requirement towards an Advanced Regents diploma.



100 Global History and Geography I (9 Regents)

1 UNIT

This course examines Global History and Geography chronologically. The grade 9 curriculum focuses on the history of civilization starting from the beginning of man through 1750 CE. This course utilizes a chronological format organized around the major themes, concepts, and enduring issues of Global History. These themes and concepts are supported by the emphasis on developing interpretation skills through the use of various primary and secondary sources. This course is a requirement for all high school students in New York.

110 Global History and Geography II (10 Regents)

1 UNIT

The grade 10 curriculum focuses on exploring more recent Global History. The course begins by examining the world in 1750 and continues chronologically up to the present. Students will study themes and enduring issues including industrialization, nationalism, imperialism, conflict, technology, and the interconnectedness of the world. Students will analyze both primary and secondary sources. Students are required to take the Global History and Geography II Regents exam. Successful completion of this course is a graduation requirement.

187 Pre-Advanced Placement World History 9

1 UNIT

Pre-Advanced Placement World History 9 the first year of the AP World Sequence and a prerequisite for AP World History. In this course students are introduced to the College Board AP World Key Concepts in World History beginning in 8000 BCE. Pre-Advanced World History 9 focuses on skills, including development of the Historical Reasoning Skills. The course emphasizes an understanding of the primary themes in World History, the ability to analyze historical evidence, and the expression of that historical understanding in writing. The course curriculum focuses on political, social and economic history of the various regions of the world.

188 Advanced Placement World History 10 (AP)

1 UNIT

Advanced Placement World History 10 is a one-year program that provides a more in-depth study of the narrative of events and movements in World History from 1200 to present. The course emphasizes an understanding of the primary themes in World History, and an ability to analyze historical evidence, and express that historical understanding in writing. The course curriculum focuses on political, social and economic history of the various regions of the world. Students will develop study skills that will be useful in college and will be required to demonstrate independent reading and writing skills. Students who are enrolled in AP World History 10 are expected to take the AP exam in May. A qualifying score on the AP exam may lead to 3-6 units of credit at participating colleges and universities. Students who are enrolled in AP World History are expected to take the AP exam in May and the Global History and Geography II Regents exam June.

120 U.S. History and Government 11 REGENTS

1 UNIT

UNITED STATES HISTORY & GOVERNMENT - GRADE 11

This course provides a chronological survey of U.S. history, with a major emphasis on the Constitution, how it has changed through the last two hundred years, and an investigation of the thirteen enduring Constitutional issues. Other areas of emphasis include: geography, demographics and the role of the United States in the global arena. Successful completion of this course is required for graduation.

190 Advanced Placement American History (AP)

1 UNIT

PREREQUISITE: RECOMMENDATION FROM GRADE 10 SOCIAL STUDIES TEACHER AND OUTSTANDING READING AND WRITING SKILLS

Advanced Placement American History is a one-year program that provides a more in-depth study of the narrative of events and movements in American History. The course emphasizes an understanding of the principle themes in American history, and an ability to analyze historical evidence, and express that historical understanding in writing. The course curriculum focuses on the political, social and economic history of the United States. Students will develop study skills that will be useful in college and will be required to demonstrate significant independent reading and writing skills. A qualifying score on the AP Exam may lead to 3-6 units of credit at certain colleges and universities. Students enrolled in the course are expected to take the AP U.S. History in May and the U.S. History and Government Regents exam in June.

ECONOMICS 12 & PARTICIPATION IN GOVERNMENT

Economics 12 and Participation in Government are each half-year courses required for graduation.

169 Economics 12

1/2 UNIT

This is a required course for all high school students. It includes the study of both microeconomic (elements of the economy) and macroeconomic (inflation, unemployment, policy goals) systems. A major focus is on the United States and its involvement in the world economy.

ECO 100 Macroeconomics (HVCC)

PREREQUISITE: STUDENTS WHO HAVE AT LEAST AN 85 OR BETTER AVERAGE IN US HISTORY AND ARE ENROLLED IN COLLEGE PREPARATORY MATH CLASSES

This course is intended to provide the student with an introduction to the fundamental concepts and principals of economics, and, in particular, to those that are a basic part of the American economic system. Students will also be provided with an understanding of the economic principles, trends, and theories related to their daily living. 3 college credits are available. This course may be substituted for Economics 12.

167 Participation in Government 12

GRADE 12

1/2 UNIT

This course is required for all high school students. The student will study the interaction between citizens and government at all levels: local, state and federal. As a culmination of the social studies program, the goals for this course include the development of individuals who have the characteristics that define a citizen: civic-mindedness, civic intelligence and civic literacy.

SOCIAL STUDIES ELECTIVES**191 Advanced Placement European History (AP)**

1 UNIT

Advanced Placement European History is a one-year program that provides a more in-depth study of the narrative of events and movements in European history. The course emphasizes an understanding of the principle themes in modern European history, and an ability to analyze historical evidence, and express that historical understanding in writing. The course curriculum focuses on the political, social and economic history of Europe. Students will develop study skills that will be useful in college and will be required to demonstrate significant independent reading and writing skills. A qualifying score on the AP Exam may lead to 3-6 units of credit at certain colleges and universities. Students enrolled in this course are expected to take the AP European History exam in May.

157 Sociology

1/2 UNIT

Do you want to study other people? We spend our lifetime being shaped by various groups, institutions and cultures into which we are born. This course will research and evaluate humans in school, in our town, our nation and across cultures, to learn how we all become effective members of society. Basic topics of study include: gender, wealth, social status and respect, group dynamics and leadership. There will be an emphasis on experiments, surveys and evaluations of real people.

SOC 100 Sociology (HVCC)

1/2 UNIT

An introduction to the scientific study of human interaction, with emphasis on societies, groups, organizations, social networks and communities, as the units of analysis. Topics covered include: culture, social structure, socialization, sex roles, groups and networks, organizations, deviance and social control, inequality and social stratification, race and ethnic relations and social institutions. 3 college credits are available.

158 Psychology

1/2 UNIT

Have you ever been interested in why people do what they do and how the brain works? Psychology deals with the human mind — its scope and function. We will explore topics like infancy, adolescence, parenting styles, sensation and perception, along with abnormal behavior.

PSY 100 Psychology (HVCC)

1/2 UNIT

A systematic empirical study of human behavior. Major topics include: research methodology, learning memory, motivation, emotion, perception, language development, intelligence, personality theories, anxiety and stress, abnormal behavior and therapy. 3 college credits are available.

171 Criminal Justice

GRADES 10-12

1/2 UNIT

This course seeks to provide students with a greater understanding of crime and criminal justice in the United States and abroad. It is an introduction, overview, and survey of the American criminal justice system and its subsystems — police, courts, juvenile justice, and corrections. The courses also explores current and future critical issues such as due process, discretion in the administration of justice, as well as police behavior and ethics in both historical and modern perspectives.

171 Criminal Justice II

GRADES 11-12

1/2 UNIT

Criminal Justice II will take a more analytical approach to examining the individual aspects of the criminal justice system and issues that continue to plague it. In order to do this, an emphasis will be placed on a deeper understanding of the current system with a focus on solutions, both locally and on a national level. This course will closely resemble a college level introduction to a criminal justice class. Like Criminal Justice I, it will be heavily dependent on classroom participation, independent study, and group projects. Anyone thinking about a career within the justice system should consider taking this course.

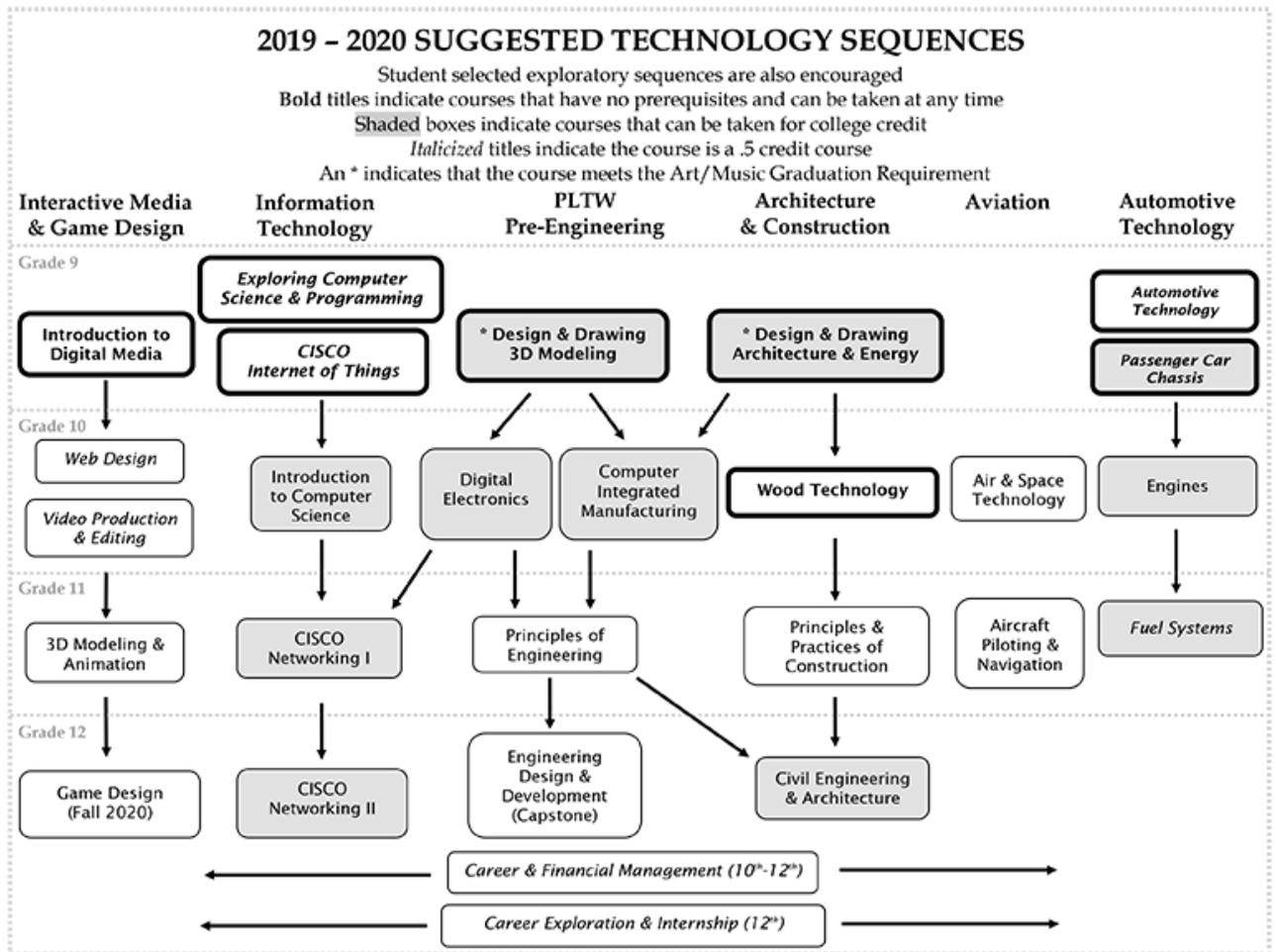
172 Diversity Studies

GRADES 10-12

1/2 UNIT

This course is intended to provide students with a Social Studies elective that will explore, investigate and afford them an opportunity to learn about real world interactions for a variety of groups. This course will offer a safe, accepting and successful learning environment for all, by increasing the awareness of issues affecting many different Americans. Diversity Studies will strengthen multicultural consciousness and allow students to see a variety of historical perspectives, by studying current issues, that range from gender identity, combatting racism, female empowerment, classism, and battling prejudice against those who are disabled. This courses aims to combat stereotypes and prejudicial behaviors and assist students in developing positive self-images.

Technology Department



The technology department listing is divided into several areas of specialization including:

- ARCHITECTURE & CONSTRUCTION PAGE 29**
- AUTOMOTIVE & TRANSPORTATION PAGE 29**
- COMMUNICATIONS PAGE 30**
- MANUFACTURING PAGE 30**
- INFORMATION TECHNOLOGY PAGE 31**
- CAREER EXPLORATION PAGE 31**
- PRE-ENGINEERING (PLTW) PAGE 32-33**

Architecture and Construction

CAST 104 Civil Engineering & Architecture (RIT) (PLTW)

GRADE 10-12 1 UNIT
This course simulates what Architects and Civil Engineers experience when developing a property, including project planning, site planning, building design, project documentation and presentation. Students use AutoCAD and Revit.

705 Principles and Practices of Light Construction

GRADES 10-12 1 UNIT
PREREQUISITE: WOOD TECHNOLOGY
RECOMMENDED: DDP ARCHITECTURE AND ENERGY
Comprehensive study of residential and light commercial construction with emphasis on utilization of wood. Introduction to New York State Building Code.

CAD 100 Design & Drawing for Production/Architecture & Energy/Topics in 2D Auto CAD (HVCC)

GRADES 9-12 1 UNIT
Utilizing current computer aided drafting (CAD) software, students will apply standard drafting theory to a diverse set of two-dimensional computer aided drafting applications. Topics included in this comprehensive, introductory level course are: preliminary CAD software techniques, basic computer skills, creation and editing of geometry, plotting, single and multiple view drawings, coordinated systems, dimensioning and basic block use. Students will also study alternative energy technologies through experimentation.

Automotive and Transportation

684 Aircraft Piloting and Navigation

GRADES 11-12 1 UNIT
Students taking this course will learn the basics of flight control and procedures, air traffic control procedures, visual and electronic navigation and flight weather. This course is patterned from a typical "ground school" offered by many flight schools. Practical skills will be practiced and tested using a computer flight simulator. Students completing this course will be well prepared to enroll in any FAA certified private pilot licensing program.

AUT 120 Engines (HVCC)

GRADES 10-12 1 UNIT
Classroom and laboratory work covers the theory of operation and repair of the gasoline engine including valves and valve train, piston and connecting rod assembly, crankshaft and bearings. The laboratory work covers inspection, diagnosis and repair procedures for all types of automotive engines. 6 college credits are available.

AUT 140 Fuel Systems (HVCC)

GRADES 10-12 1/2 UNIT
This course is an in-depth study of the theory, operation and correct repair procedures for the fuel delivery systems used on gasoline engine equipped vehicles. The following topics will be covered: storage systems, fuel pumps (mechanical and electrical), electronic fuel injection, turbocharging, exhaust sensors, carburetion and emissions testing. Laboratory sessions will cover the diagnosis and repair of component parts. Related fuel system testing and adjustments will be stressed. 4 college credits are available.

673 Automotive Technology

GRADES 9-12 1/2 UNIT
This is an introductory course to the world of automotive design, function, and repair. Coursework will include proper tool identification and usage. This is followed by small engine disassembly and inspection including a re-assembly process that, if successful, will result in a functioning engine. Students may bring their own small engine projects or one will be assigned to them. Basic automotive systems are then briefly covered through traditional and electronic mediums. There is also a unit on metalwork and welding/cutting which provides for students an opportunity to gain experience in metal formation and fabrication.

AUT 145 Passenger Car Chassis I (HVCC)

GRADES 9-12 1/2 UNIT
This course is designed to introduce students to a comprehensive, in-depth study of chassis operation. Topics covered will include front and rear suspension variations, braking systems, and body design/construction. Emphasis is placed on hands-on learning and project-based lessons.

693 Air and Space Technology

GRADE 10-12 1 UNIT
A project based course applying engineering and science concepts to design materials and processes. Units of study will cover engineering design, history of flight, astronomy/navigation, rocketry, propulsion, physics of space, and space life sciences.

Communications

CMP 125 Introduction to Digital Media

GRADES 9-12 1 UNIT

This is an exploratory class where students use Adobe Photoshop, Illustrator, and Autodesk 3D Studio Max. The focus is on using the design process, software tools and various output options to solve visual design challenges. Projects might include the creation of a video game character, photo collage for a website, laser engraved pendant or animated web graphic.

657 3D Modeling and Animation

GRADES 10-12 1 UNIT

PREREQUISITE: INTRODUCTION TO DIGITAL MEDIA

Students will learn to use the latest version of 3D Studio Max's advanced tool for modeling and animating characters. Students will receive hands-on training that addresses real world situations for motion graphic designers, animators and game creators. Instruction will encompass Max's user interface, as well as learning the basics of modeling, material creation, animating objects, cameras and scene generation. Students should have a strong background in working with Photoshop for this course.

DART 115 Video Production and Editing

GRADES 10-12 1/2 UNIT

This course teaches students how to use a camera to achieve properly composed video for a variety of situations. Film editing techniques and Computer Graphics ("CG") special effects are explored using Adobe Premier and After Effects. Possible projects include a music video, movie genre switch, parody commercial, artistic film or photo montage.

DART 120 Web Design

GRADES 10-12 1/2 UNIT

This course focuses on web design fundamentals and created graphics for Internet use. Topics include layout and design, navigation, interactive media. Students will eventually create their own websites on a topic of their choice. A brief introduction to HTML and CSS is also included.

Manufacturing

667 Wood Technology

GRADES 9-12 1 UNIT

This is an activity centered course in the woodworking area. Students will use various tools and equipment study the systems of manufacturing and construction. Projects will be made and taken home.

Information Technology

655 Internet of Things

GRADES 9-12 1/2 UNIT

Nearly every object can now be connected to the Internet. From washing machines to sophisticated components of an airplane's jet engine, even organic items like crops and cows. The ability to connect things and capture useful data is transforming organizations in every industry and opening doors for new career specializations. Discover the basis of this exciting and emerging field using fun, hands-on activities to model securely connecting sensors to cloud services over IP networks and collecting data in an end-to-end IoT (Internet of Things) system.

470 Introduction to Computer Science (Siena)

GRADES 10-12 1 UNIT

PREREQUISITE: INTRODUCTION TO COMPUTER PROGRAMMING

RECOMMENDED: 85 OR BETTER IN ALGEBRA I

This is a college level course that focuses on the world of computing and computer science. It builds upon skills that students learned in Introduction to Programming. Students will learn how to program and solve problems using a Python programming environment. Lab activities include multi-media applications in programming and robotics. Students will also acquire knowledge about computer systems, in general, both hardware and software.

CIS 120 CISCO Networking I (HVCC)

GRADES 11-12 1 UNIT

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

Career Exploration

478 Career Exploration Internship Program (CEIP)

GRADE 12 1/2 UNIT

RECOMMENDED: CAREER & FINANCIAL MANAGEMENT, PART A

This course combines classroom instruction with workplace internships. It is designed to assist the student in navigating the transition from high school to a career. Topics covered in the classroom include workplace laws and safety regulations, resume writing and interview skills. Students then gain experience in specific career areas through an unpaid internship. Internships may occur outside of the school day. In addition, students must

656 Exploring Computer Science & Programming

GRADES 9-12 1/2 UNIT

This class is designed for students with little or no computer programming experience. We will program robots and use online, block type programming language to complete game-like challenges. Some text programming with HTML, CSS, Javascript and Python will also be explored. Topics related to Computer Science will also be covered.

CAST 103 Digital Electronics (RIT) (PLTW)

GRADES 10-12 1 UNIT

Digital Electronics is an introduction to the devices and controls found in computers and other digital equipment. Students study the application of logic devices (gates, inverters, flip-flops and clocks) and Boolean algebra to specific devices. Hands-on laboratory exercises and computer simulations of electronic circuits make the theory come alive. By wiring circuits and making the circuits work, students develop troubleshooting skills necessary to analyze digital systems. 4 college credits are available.

CIS 121 CISCO Networking II (HVCC)

1 UNIT

PREREQUISITE: CISCO NETWORKING I

This course describes the architecture, components, and operations of routers and switches in a large and complex network. Students will learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with OSPF, EIGRP, STP, and VTP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills to implement DHCP and DNS operations in a network.

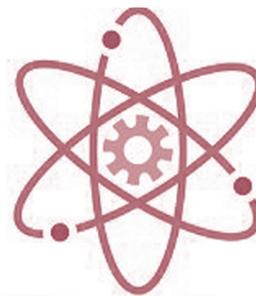
provide their own transportation. Credit is awarded based on successful completion of in school instruction and 54 internship hours. Grade: Pass or Fail.

462 Career and Financial Management, Part A

GRADE 10-12 1/2 UNIT

This course provides students with an opportunity to learn about the features of our economy, explore a variety of careers, learn the skills and competencies needed for success in the workplace and to begin to become financially literate.

Pre-Engineering (PLTW)



PROJECT LEAD THE WAY
PLTW

Project Lead the Way Inc. (PLTW) is a national program that forms partnerships among public schools, higher education institutions and the private sector to increase the quantity and quality of engineers and engineering technologists graduating from our nation’s college and universities.

Project Lead the Way has developed a four-year sequence of courses which, when combined with college preparatory mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering and engineering technology prior to entering college. Project Lead the Way courses in the Technology Department are:

* Students can choose classes from multiple areas of specialization, as long as the prerequisites are met

- Design and Drawing for Production DDP/3D Mechanical Modeling
- Digital Electronics
- Principles of Engineering
- Computer Integrated Manufacturing
- Engineering Design and Development (Capstone)
- Civil Engineering and Architecture (optional)

SUGGESTED SCHEDULE

| | | |
|----------|----------|---|
| Grade 9 | CAST 101 | Design and Drawing for Production/3D Mechanical Modeling (RIT college credit available) |
| Grade 10 | CAST 105 | Computer Integrated Manufacturing (RIT college credit available) |
| | CAST 103 | Digital Electronics (RIT college credit available) (fit in schedule grades 10-12) |
| Grade 11 | CAST 102 | Principles of Engineering |
| Grade 12 | 675 | Engineering Design and Development (Capstone) |

IN ADDITION, STUDENTS CAN CHOOSE TO TAKE CIVIL ENGINEERING AND ARCHITECTURE, SCHEDULE PERMITTING

Course descriptions on next page ...

Pre-Engineering (PLTW)

CAST 101 Design and Drawing for Production/3D Mechanical Modeling (RIT)

GRADES 9-12 1 UNIT

This is a 3D solid modeling course that emphasizes the process of engineering design. Students will use Autodesk Inventor software to create 3D solid models and assemblies. This course follows the New York State Design and Drawing for Production syllabus. 4 college credits are available.

CAST 102 Principles of Engineering

1 UNIT

This course provides a solid foundation in Technology relating to mechanical, electrical, and civil engineering. Specific units of study include instruction in technical measurement, technical resource familiarization, properties and testing of materials, electrical and electronic systems, thermodynamics and hydraulic power systems. This course is highly recommended for students considering a career in any field of engineering. It will provide the essential fundamentals to successfully begin a college engineering program.

CAST 105 Computer Integrated Manufacturing (RIT)

1 UNIT

PREREQUISITE: DDP/CAD

CIM is a course that applies principles of rapid prototyping, robotics and automation. This course builds upon the computer solid modeling skills developed in Introduction to Engineering Design. Students will use computer controlled rapid prototyping and CNC equipment to solve problems by constructing actual models of their three-dimensional designs. Students will also be introduced to the fundamentals of robotics and how this equipment is used in an automated manufacturing environment. Students will evaluate their design solutions using various techniques of analysis, and making appropriate modifications before producing their prototypes.

CAST 103 Digital Electronics (RIT)

GRADE 10-12 1 UNIT

Digital electronics is an introduction to the devices and controls found in computers and other digital equipment. Students study the application of logic devices (gates, inverters, flip-flops and clocks) and Boolean algebra to specific devices. Hands-on laboratory exercises and computer simulation of electronic circuits make the theory come alive. By wiring circuits and making the circuits work, students develop troubleshooting skills necessary to analyze digital systems. 4 college credits are available.

675 Engineering Design & Development (Capstone)

1 UNIT

PREREQUISITE: PRINCIPLES OF ENGINEERING

This course is the culmination of Project Lead the Way's Sequence of courses. Seniors work in groups throughout the year to plan, design, build, test and document a project of their choosing.