

JAMES CALDWELL HIGH SCHOOL



PROGRAM OF STUDIES

(Grade 9 offerings)

2021-2022

265 Westville Avenue
West Caldwell, NJ 07006

Ms. Lisa Blackman - Supervisor of Guidance
Ms. Trish Martin - Grade 9 Counselor

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MESSAGE FROM THE PRINCIPAL

Dear James Caldwell High School Students:

This *Program of Studies* is the map that will guide you on your high school journey. Like all successful adventurers, your journey begins with a dream. Cultivate a clear vision of the person you aspire to be academically, socially, and emotionally, and then use this handbook to map out the route that will provide you with the opportunities and experiences to realize your dream.

The Caldwell-West Caldwell Board of Education is committed to providing you with the essential resources, opportunities, and experiences that will foster and challenge you to achieve your greatest potential as a lifetime, self-directed learner; a critical and creative thinker; and a responsible, productive citizen. With this mission in mind, James Caldwell High School has developed a comprehensive curriculum to meet the academic needs and interests of all its students. The trick to navigating through so many options is to keep your dream in focus while thoughtfully considering the path you take. I recommend selecting the most challenging classes available to you, keeping in mind your unique abilities. It is also important, however, to develop a well-rounded plan that allows you to explore areas of interest and maintain a balanced and healthy lifestyle. Embrace the excitement of charting this path as you are on a journey of wonder and opportunity.

Remember, you will never be alone on this adventure. James Caldwell High School is home to talented, caring and knowledgeable educators who will serve as a priceless resource for you. If you have a question about the many possibilities that await you, or hit a roadblock along the way, know that we are here to guide you. By working collaboratively, we can help you discover your true potential and coach you through the many challenging high school academic and co-curricular experiences, so you may achieve success as it is ultimately defined by you.

Best wishes for an exciting and fulfilling school year,

Mr. James Devlin
Principal

GRADUATION REQUIREMENTS

In order to graduate from James Caldwell High School, a student must pass the NJSLA and earn 130 credits. Students in Grades 9 are required to carry 40 credits. Students are expected to meet the following minimum course requirements:

- 1 year of English for each year of attendance
- 1 year of Physical Education/Health for each year of attendance
- 3 years of Mathematics
- 1 year of World Cultures
- 2 years of United States History
- 3 years of Science
- 1 year of a Visual or Performing Art
- 1 year of a Practical Art
- 2 years of a World Language
- ½ year of Personal Finance & Literacy or Economics

◆ All Fine Arts and Music classes meet the Visual and Performing Arts requirement. All Family & Consumer Science classes, Industrial Arts & Technology, and Business classes meet the Practical Arts requirement.

◆ The remaining credits are to be chosen from the elective course offerings.

◆ The establishment of minimum curricular proficiencies in courses required for graduation shall be developed and implemented by the administration in cooperation with the faculty and approved by the Board of Education. Minimum proficiencies required for each course shall be consistent with the policies and procedures defined in N.J.A.C. 6:8-4.2. The proficiencies required for graduation shall be described to students, parents and guardians at the beginning of all course work.

◆ Under unique circumstances, programs for special education students may be adjusted in order to meet the requirements stated above.

N.J.S.A. 18A:7A-1 et seq.; 18A:33-1; 18A:35-7; N.J.A.C. 7:8-4.2

PLANNING A COURSE OF STUDY

A. Total credits required for graduation: 130. Grade level requirements:

Rising Sophomores should have completed 40 credits.

Rising Juniors should have completed 80 credits.

Rising Seniors should have completed 115 credits.

B. The 4-year graduation time frame becomes seriously jeopardized when students fail required courses, which are usually sequential in nature. **Students who fail a required course should make up the course in summer school immediately in order to graduate on time.** If a course is not offered in summer school, or if the student does not attend summer school, the student will repeat the course the next school year. Students are not permitted to take the next level of a consecutive requirement until the previous course is passed. Honors credit for any course is not available from any summer program.

C. From year to year, certain courses may not be offered if enrollment is lower than expected. Counselors will help students make alternate course selections.

WHAT MAKES A STUDENT SUCCESSFUL?

One of the most difficult decisions members of a school community are asked to make is whether particular students should or should not elect to take an Honors or Advanced Placement course or start an advanced sequence of courses in a particular subject area. Multiple criteria such as; previous grades, teacher recommendations, standardized test scores and an assessment test in the honors subject area are employed to predict those students who will meet with success in advanced courses. However, we recognize that there are no fool-proof criteria. The following guidelines serve as an accurate description of successful students, and those aspiring to enroll in an advanced program should recognize themselves as they read through the list.

- (1) Successful students want to learn, strengthen their skills, and be challenged.
- (2) Successful students read independently, regularly and widely, and they read quality works of fiction and non-fiction.
- (3) Successful students have a sense of purpose and direction. They have goals for the future and are continually working toward attaining those goals.
- (4) Successful students attend class regularly and are on time. If they miss a session, they let the instructor know why and make sure they get all assignments.
- (5) They take advantage of extra-credit opportunities if offered. They show that they care about grades and are willing to work to improve them.
- (6) They speak in class, asking key questions which show they have been listening.
- (7) They see the instructor before or after class about grades or comments made on their papers and about upcoming tests.
- (8) They turn in all assignments and make them look neat, producing a final product that reflects a caring attitude.

ACADEMIC ACHIEVEMENT POLICY

The academic achievement of students shall be measured not only in marks and/or grades, such as numerical scores, percentages or letters, but in attainment of well-defined, and Board-approved, instructional goals and objectives. This is the central purpose for which the district exists.

The instructional staff shall develop means of: (1) aiding each student in appraising his or her own progress and utilizing such knowledge in making decisions concerning future educational achievements: (2) informing parents of the achievement progress of their children. The instructional staff reports such achievement using grades, personal conferences, emails, and/or letters.

The issuance of marks and/or grades on a regular basis serves to promote a process of continuous evaluation of student performance, to inform students, parents, and counselors of progress and to provide a basis for bringing about change in student performance, if such change seems necessary.

Eligibility to attend summer school is based on attendance and completion of the course.

GRADING SYSTEM

The grading system carries the following characteristics:

90 -100 - Indicates excellent achievement

80 - 89 - Good

70 - 79 - Fair

65 - 69 - Poor but passing

Below 65 Failure

ACADEMIC HONOR ROLLS

High Honor Roll.....Grade Point Average.....93 or above

Honor Roll.....Grade Point Average.....90-92.9

(no grade lower than 80%)

GENERAL COLLEGE PREPARATORY REQUIREMENTS

Flexibility of Programming

Students and parents are reminded that it is possible to take subjects in vocational and technical areas, family and consumer science, art, and music in combination with college preparatory subjects and still have a sufficient number of credits to enter college. To determine whether or not choices in these areas are appropriate preparation for his/her anticipated college major, a student should consult with his/her counselor. Those who do not intend to enter college directly after high school should consider programs which include marketable skills. If such a student chooses to apply to college in the future, he/she should contact JCHS for his/her transcript.

Years	Subjects
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4	English
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3-4	Social Studies
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3-4	Mathematics (see sequence chart on page 39)
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Most colleges require 3 years of mathematics and many prefer 4 years. Students planning scientific, technical, or engineering work should consider 4-5 courses of mathematics. Students planning liberal arts studies or business administration careers should consider taking the fourth year of mathematics to remain academically competitive.

3-4	Laboratory Sciences (see sequence chart on page 40)
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At least 3 years of laboratory science are preferable. Students planning scientific, technical or engineering work should generally take 4 or more courses of laboratory science.

2-4	World Languages
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The requirements of colleges vary considerably. A few colleges require none, some require only 2 years, and some prefer 3 or 4 years. Generally, it is recommended that students with strong world language aptitude take 3 or 4 years of one world language rather than 2 years of two world languages.

ALTERNATIVES FOR STUDENTS

The following options are available to students at James Caldwell High School. All of them are subject to approval by parents and the school principal. More information and assistance can be obtained from your guidance counselor.

1. The Advanced Placement Program:

The Advanced Placement Program is part of the nationwide Advanced Placement Program of the College Board in which many young people can complete college level studies in high school. At present, 18 Advanced Placement courses are offered at James Caldwell High School; AP English Language & Composition, AP English Literature & Composition, AP U.S. History I and II, AP European History, AP U.S. Government and Politics, AP Human Geography, AP Calculus AB, AP Statistics, AP Studio Art, AP Computer Science, AP Computer Science Principles, AP Biology, AP Chemistry, AP Physics C, AP Environmental Science, AP Spanish, and AP Italian. Taking the AP examinations may include the following benefits: exemption by colleges from beginning courses and permission to take higher level courses in certain fields, academic credit for exams taken, and tuition savings. The exams are given in May of each year. Students enrolled in AP courses are strongly encouraged to take the Advanced Placement Examinations for which they will have to assume the cost. In addition to the AP exam, students will be responsible for taking a final exam to receive JCHS credit, unless they qualify for a senior exemption.

2. Early Admission to College:

If high school graduation requirements have not been satisfied but a student has passed the NJSLA, a student may enter college early under the 30 College Credit Route Program. A high school diploma from JCHS will **not** be granted; however, the student may apply to the State of N.J. for an equivalency diploma upon successful completion of his or her freshman year in college.

3. Work Study Program:

The program offered at JCHS is Cooperative Industrial Education (C.I.E.). Students earn credits towards graduation based upon their assignments. Minimum age for participation is 16 and is open only to seniors.

4. Independent Study:

A description of this program is contained in the written procedures for independent study established by JCHS and is available in the Guidance Office. Students are able to pursue more intensive work in their own area of interest, utilizing resources to be found within the school district. All Independent Study courses are graded on a pass/fail basis.

5. Vocational Time Share:

Students have the opportunity to pursue vocational programs at Essex County School of Technology in West Caldwell. Students can opt to take their academic program at JCHS for one-half day and their vocational program during the other half of the day or attend ECST full time.

6. Course Audit:

Students may attend classes in addition to their regular schedule without credit. An audit carries with it the responsibility to attend, take tests and complete all required work. This option is contingent upon teacher approval, class size, availability of equipment, etc.

7. Dual Enrollment (DE):

Dual Enrollment programs allow students to take a college level course in high school and jump start their college career. These courses introduce juniors and seniors to the rigor of college coursework early, and helps prepare them for post-secondary education. Students are able to purchase the credits at a substantially discounted rate. It is up to the discretion of colleges/universities that students pursue after high school as to whether credits are accepted. Dual Enrollment courses are denoted in the complete Program of Studies posted on the Guidance web page.

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
BUSINESS					
Introduction to Business (DE)	5	X	X	X	X
21st Century Marketing (DE)	5	X	X	X	X
COOPERATIVE INDUSTRIAL ED (CIE)					
CIE	15				X
ENGLISH					
English 9	5	X			
English 10	5		X		
English 10 Honors	5		X		
English 11 Core	2.5			X	
English 12 Core	2.5				X
AP English Language & Composition	5			X	X
AP English Literature & Composition	5				X
Banned Books*	2.5			X	X
From Page to Screen*	2.5			X	X
Monsters in Literature*	2.5			X	X
Prose & Poetry*	2.5			X	X
Reader's Choice*	2.5			X	X
Shakespeare & Popular Imagination*	2.5			X	X
Speakers, Speeches, & Speaking*	2.5			X	X
<i>*English Selective fulfills requirement</i>					
Creative Writing	2.5		X	X	X
Journalism and Publications	2.5/5		X	X	X
Freshman Honors Seminar	5	X			

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
FAMILY & CONSUMER SCIENCE					
Basic Foods	2.5	X	X	X	X
International Foods	2.5	X	X	X	X
Interior Decoration	2.5	X	X	X	X
Clothing I	2.5	X	X	X	X
Clothing II	5		X	X	X
Clothing III	5			X	X
Clothing IV	5				X
FINE ARTS					
Introduction to Draw-Paint-Design	2.5	X	X	X	X
Draw-Paint-Design I	5	X	X	X	X
Draw-Paint-Design II	5		X	X	X
Draw-Paint-Design III	5			X	X
Draw-Paint-Design IV	5				X
AP Studio Art	5				X
Computer Graphic Design I	5	X	X	X	X
Computer Graphic Design II	5		X	X	X
Introduction to Ceramics	2.5	X	X	X	X
Ceramics I	5	X	X	X	X
Ceramics II	5		X	X	X
Ceramics III	5			X	X
Ceramics IV	5				X
Digital Photography I	5	X	X	X	X
Digital Photography II	5		X	X	X
Art History	2.5			X	X

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
INDUSTRIAL ARTS & TECHNOLOGY					
Architectural Design	2.5	X	X	X	X
Introduction to Technology	2.5/5	X	X	X	X
Fundamentals of Engineering	5		X	X	X
Computer Aided Design	5	X	X	X	X
Computer Science	5	X	X	X	X
AP Computer Science A	5		X	X	X
AP Computer Science Principles	5		X	X	X
Mobile App Development	2.5		X	X	X
Web Development	2.5		X	X	X
Robotics & Control	5		X	X	X
Introduction to Woodworking	2.5	X	X	X	X
Woodworking I	5	X	X	X	X
Cabinet Making & Furniture Design	5		X	X	X
Woodworking in the 21st Century	5		X	X	X
MATHEMATICS					
Algebra I	5	X			
Algebra I Concepts	5	X			
Geometry	5	X	X		
Geometry Concepts	5		X		
Geometry Honors	5	X	X		
Algebra II	5		X	X	
Algebra II Concepts	5			X	
Algebra II Honors	5		X	X	
Precalculus	5			X	X
Precalculus Honors	5			X	X

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
MATHEMATICS (continued)					
Calculus	5				X
AP Calculus AB	5				X
Mathematical Analysis	5				X
Statistics	5				X
AP Statistics	5			X	X
MUSIC AND THEATER					
Musical Performance: Band	5	X	X	X	X
Musical Performance: Chorus	5	X	X	X	X
Musical Performance: Orchestra	5	X	X	X	X
Introduction to Guitar, Keyboard & Music Theory	5		X	X	X
Introduction to Theater	2.5	X	X	X	X
Theater I	2.5	X	X	X	X
PHYSICAL EDUCATION					
Physical Education 9/Health - Safety	5	X			
Physical Education 10/Driver's Ed.	5		X		
Physical Education 11/Health - Safety	5			X	
Physical Education 12/Health - Safety	5				X
SCIENCE					
Investigations in Biology	6	X			
Biology I	6	X			
Advanced Biology	6			X	X

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
SCIENCE (continued)					
AP Biology	6			X	X
Investigations in Chemistry & Physics	6		X		
Chemistry I	6		X		X
Chemistry Honors	6		X		
Advanced Chemistry	6			X	X
AP Chemistry	6			X	X
Physics	6			X	X
AP Physics C	6			X	X
Environmental Science	6			X	X
AP Environmental Science	6			X	X
Research in Molecular Biology (DE)	6			X	X
Anatomy & Physiology (DE)	3			X	X
Marine Biology (DE)	3			X	X
Forensic Science (DE)	3			X	X
Organic Chemistry	3			X	X
SOCIAL STUDIES					
Freshman Honors Seminar	5	X			
World Cultures	5	X			
United States History I	5		X		
AP United States History I	5		X		
United States History II	5			X	
AP United States History II	5			X	
Personal Finance & Literacy	2.5		X	X	X
Economics	2.5			X	X

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
SOCIAL STUDIES (continued)					
Legal Studies	2.5			X	X
Supreme Court	2.5			X	X
Introduction to Sociology (DE)	2.5		X	X	X
American Diplomatic History	2.5			X	X
Human Behavior	2.5		X	X	X
Political Theory	2.5		X	X	X
Holocaust and Genocide (DE)	2.5			X	X
AP Human Geography	5		X	X	X
AP European History	5			X	X
AP US Government & Politics	5				X
WORLD LANGUAGES					
Spanish Communication and Culture I	5	X	X	X	X
Spanish Communication and Culture II	5		X	X	X
Spanish Communication and Culture III	5			X	X
Spanish I	5	X	X	X	X
Spanish II	5	X	X	X	X
Spanish III	5		X	X	X
Spanish IV	5			X	X
Spanish V	5				X
AP Spanish	5				X
Italian I	5	X	X	X	X
Italian II	5	X	X	X	X
Italian III	5		X	X	X
Italian IV	5			X	X
AP Italian	5				X

COURSE LISTING	CREDITS	GRADE 9	GRADE 10	GRADE 11	GRADE 12
WORLD LANGUAGES (continued)					
Latin I	5	X	X	X	X
Latin II	5		X	X	X
Latin III	5			X	X
Latin IV Honors (DE)	5				X
Classical Mythology	2.5	X	X	X	X

COURSE DESCRIPTIONS

BUSINESS

BUSINESS	Grade(s) Offered	Credits
Introduction to Business (DE)	9, 10, 11, 12	5
21st Century Marketing (DE)	9, 10, 11, 12	5

INTRODUCTION TO BUSINESS (DE)

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

This course focuses on the dynamics of business in a changing economy. Introduction to Business is designed to provide students with a background in all areas of business management including marketing, management, finance, economics, and business ethics. Topics include the global economy, free enterprise system, entrepreneurship, financial markets such as the stock market, consumer banking and money issues. This course fulfills the state requirement for Personal Financial Literacy. This is a dual enrollment course through Fairleigh Dickinson University. The classroom teacher will provide information on how interested students can register with the university for 3 college credits.

21ST CENTURY MARKETING (DE)

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

This class is designed to apply marketing concepts to trends in the real world. The class teaches students marketing foundations, strategies and functions through application based projects. The topics covered include, but are not limited to market segmentation, political and economic influences, marketing skills, promotion, and product and service management. Students can use the information learned in this class to become a more informed, proactive consumer, as well as to set the stage for further study, and a career in marketing. This is a dual enrollment course through Fairleigh Dickinson University. The classroom teacher will provide information on how interested students can register with the university for 3 college credits.

ENGLISH

ENGLISH	Grade(s) Offered	Credits
English 9	9	5
English 10 and English 10 Honors	10	5
English 11 - First Semester Core	11	2.5
English 12 - First Semester Core	12	2.5
AP English Language & Composition	11, 12	5
AP English Literature & Composition	12	5

Junior and senior English requirement (5 credits each) consist of a core & selective or full year AP course

ENGLISH SELECTIVE COURSES	Grade(s) Offered	Credits
Banned Books	11, 12	2.5
From Page to Screen	11, 12	2.5
Monsters in Literature	11, 12	2.5
Prose and Poetry	11, 12	2.5
Reader's Choice	11, 12	2.5
Shakespeare & Popular Imagination	11, 12	2.5
Speakers, Speeches, and Speaking	11, 12	2.5
ENGLISH ELECTIVE OFFERINGS	Grade(s) Offered	Credits
Creative Writing	10, 11, 12	2.5
Journalism and Publications	10, 11, 12	2.5/5
Freshman Honors Seminar	9	5

ENGLISH 9

Grade.....9

Credits.....5

Prerequisite.....None

English 9 is taught in conjunction with World Cultures. This course is intended to provide an interdisciplinary, humanities-based program for ninth graders which will allow students to study a number of different cultures from several viewpoints and from the disciplines of social studies, literature, and the arts. The politics, history, culture, economics, and social structures of these peoples will be investigated to understand their contributions to world culture. Students will develop and utilize analytical skills and research techniques through the integration of skills in reading, writing, expression, usage, and vocabulary.

FRESHMAN HONORS SEMINAR

Grade.....9
Credits.....5
Prerequisite.....None

The Freshman Honors Seminar is a humanities based elective that exposes students to an honors level curriculum that will strengthen their knowledge and skills related to the English 9 and World Cultures interdisciplinary program. Instruction, assignments, and projects in the seminar will supplement materials and concepts studied in the Social Studies and English classes. As a full-year honors level course, marking period and final grades will be weighted accordingly. This course is recommended for students who are interested in taking AP History and/or English 10 Honors in their sophomore year or either of the AP English courses in Grades 11 or 12. **This is a 5 credit course that meets regularly during normal school hours. A student's grade in this course will no longer impact English or Social Studies course grades.**

FAMILY AND CONSUMER SCIENCE

Meets the Practical Arts Requirement

FAMILY AND CONSUMER SCIENCE	Grade(s) Offered	Credits
Basic Foods	9, 10, 11, 12	2.5
International Foods	9, 10, 11, 12	2.5
Interior Decoration	9, 10, 11, 12	2.5
Clothing I	9, 10, 11, 12	2.5
Clothing II	10, 11, 12	5
Clothing III	11, 12	5
Clothing IV	12	5

BASIC FOODS

Grade.....9, 10, 11, 12

Credits.....2 ½

Prerequisite.....None

This course provides students with guidance in managing food choices. The course focuses on instruction in safety, preparation and cooking techniques. It will provide guidelines for preparing nutritious, well-balanced meals that adhere to the USDA My Plate guidelines.

INTERNATIONAL FOODS

Grade.....9, 10, 11, 12

Credits.....2 ½

Prerequisite.....Basic Foods

Students will explore different foods and cultures from around the world. Each country will be studied according to its history, agriculture, geography, climate and economy. Students will plan, prepare, cook and taste a variety of foods from various countries.

INTERIOR DECORATION

Grade.....9, 10, 11, 12

Credits.....2 ½

Prerequisite.....None

This course is an introduction to the many-faceted areas of housing. Areas to be considered are the theory and techniques involved in planning and designing the interior and exterior of homes, evaluation of floor plans, choice of color, furniture and accessories, as well as some creative individual projects.

CLOTHING I

Grade9, 10, 11, 12

Credits.....2 ½

PrerequisiteNone

Clothing I is an introductory course of study which reviews the basic essentials of sewing techniques using the sewing machine, as well as the use of sewing knowledge in problems involving new materials and techniques. Included are special techniques in fitting and development. Throughout the course, individuality is stressed.

Students are responsible for purchasing materials.

FINE ARTS

Meets the Fine and Performing Arts Requirement

FINE ARTS	Grade(s) Offered	Credits
Introduction to Draw-Paint-Design	9, 10, 11, 12	2.5
Draw-Paint-Design I	9, 10, 11, 12	5
Draw-Paint-Design II	10, 11, 12	5
Draw-Paint-Design III	11, 12	5
Draw-Paint-Design IV	12	5
AP Studio Art	12	5
Computer Graphic Design I	9, 10, 11, 12	5
Computer Graphic Design II	10, 11, 12	5
Introduction to Ceramics	9, 10, 11, 12	2.5
Ceramics I	9, 10, 11, 12	5
Ceramics II	10, 11, 12	5
Ceramics III	11, 12	5
Ceramics IV	11, 12	5
Digital Photography I	9, 10, 11, 12	5
Digital Photography II	10, 11, 12	5
Art History	11, 12	2.5

INTRODUCTION TO DRAW-PAINT- DESIGN

Grade.....9, 10, 11, 12

Credits.....2 ½

Prerequisite.....None

This half-year course focuses on the individual needs of 1st, 2nd, 3rd and 4th year students with a condensed curriculum based on the full-year courses of study. The half-year course assignments differ from those of the full-year courses to avoid repetition. The full year course is recommended for students planning to have a sequence in art. Lab fees may apply.

DRAW-PAINT- DESIGN I

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

This course is an introduction to the process of drawing, painting, and design, with a focus on the visual elements/principles as a basis for creating works that are personally expressive. Projects are introduced within the context of art history and culture. A variety of media, techniques, and projects will provide opportunities to strengthen critical/creative thinking and problem-solving skills. The analysis and critiquing of artists' works,

as well as their own self-assessments, will be a source of inspiration and will expand the students' visual dialogue, providing a deeper connection with the cultural environment in which they live. Introduction for the preparation of a personal portfolio will be included in this course. Studio fees may apply.

COMPUTER GRAPHIC DESIGN I

Grade.....9, 10, 11, 12
Credits.....5
Prerequisite.....None

This course is structured to provide students with a basic knowledge of the tools used in the computer graphic arts field. Each student will have the opportunity to create projects ranging from simple flyers to complex magazine ads and unique web pages. Assignments will include scanning photographs and artwork, retouching images, re-sizing and combining text and graphics. Using industry standard software-Adobe Photoshop and Adobe Illustrator-will provide students with a strong foundation in the technical aspects of computer-generated art. This course will begin to prepare students for future entry into the high-tech computer graphic design field.

INTRODUCTION TO CERAMICS

Grade.....9, 10, 11, 12
Credits..... 2 ½
Prerequisite.....None

This course is designed for students who have never had ceramics at the high school level. Students are taught how to build pottery by use of pinch, coil and slab methods of construction. Special emphasis is placed on surface treatments such as relief, incised design, slip trailing, inlay, sgraffito, underglazing, and other decorative techniques. Students also learn glaze application. Students are encouraged to create finished products that are aesthetically pleasing, functional and individually expressive. Lab fees may apply.

CERAMICS I

Grade.....9, 10, 11, 12
Credits.....5
Prerequisite.....None

This course is designed for beginners, as well as advanced students. The students will be taught methods of hand building such as coil, pinch, slab, glaze application, and firing processes are explained. Elements of good design are emphasized through the construction of clay objects in order to develop a sense of aesthetics and individual expression within the student. Students are given specific problem solving assignments which stress elements and principles of design, the use of the potter's wheel, glaze compositions and advanced techniques such as spouts, handles, and lids. Lab fees may apply.

DIGITAL PHOTOGRAPHY I

Grade.....9, 10, 11, 12
Credit.....5
Prerequisite.....None

This course will provide students with a variety of technical and creative skills. It will help the students become well rounded in the fundamentals of digital photography. Four areas of instruction will be emphasized: how cameras work, how composition works, how lighting works, and how to use photo editing software. Students will learn manual camera functions including control of aperture, shutter speed, and lens choice. Continued Photoshop lessons will be assigned and digital asset management using Adobe Bridge will also be taught. As the course progresses, students will become more adept at lighting, how to use photo editing software, and setting up and taking their own photos. Students will receive basic instruction, demonstration, and see samples of the desired outcomes at the beginning of each project. They will be allowed to go outside and shoot assignments, based on what they are learning. Perhaps the most useful part of classroom instruction will be daily reviews of photos students have shot the previous day(s). They will develop their own style through learning from peer and professional examples.

INDUSTRIAL ARTS AND TECHNOLOGY

Meets the Practical Arts Requirement

INDUSTRIAL ARTS AND TECHNOLOGY (STEM - Science, Technology, Engineering, Mathematics)	Grade(s) Offered	Credits
Architectural Design	9, 10, 11, 12	2.5
Introduction to Technology	9, 10, 11, 12	2.5/5
Fundamentals of Engineering	10, 11, 12	5
Computer Aided Design	9, 10, 11, 12	5
Computer Science	9, 10, 11, 12	5
AP Computer Science A	10, 11, 12	5
AP Computer Science Principles	10, 11, 12	5
Mobile App Development	10, 11, 12	2.5
Web Development	10, 11, 12	2.5
Robotics & Control	10, 11, 12	5
Introduction to Woodworking	9, 10, 11, 12	2.5
Woodworking I	9, 10, 11, 12	5
Cabinet Making & Furniture Design	10, 11, 12	5
Woodworking in the 21st Century	10, 11, 12	5

ARCHITECTURAL DESIGN

Grade.....9, 10, 11, 12

Credits.....2 ½

Prerequisite.....None

In this course students will learn the various ways to discover how architecture impacts our world. Students will learn all phases of a project from conceptual design through construction. Students will utilize the programs in the Autodesk Suite including AutoCAD and Revit, as well as Adobe Photoshop for project presentations. Students will take a virtual journey through several important historic buildings and architects. They will learn how to design and solve problems within the means of a structure. Students will build scale models to represent their design ideas. They will evaluate each other through design critiques. Students will express their ideas and solutions during final design presentations.

INTRODUCTION TO TECHNOLOGY

Grade.....9, 10, 11, 12

Credits.....2 ½ or 5

Prerequisite.....None

This course is designed for all students who use technology or aspire to pursue technology based careers. This is a Project Based Learning course in which students gain knowledge and skills by working for an extended

period of time to investigate and respond to a complex question, problem or challenge. Students in essence approach the problem as an engineer or inventor. Throughout the course students will develop critical thinking skills with the aid of the Technological Problem-Solving Model. Furthermore, students will document and communicate their design processes through project portfolios. This course will also evoke students to consider the historical and social impacts of technology on our man-made world.

COMPUTER AIDED DESIGN (CAD)

Grade.....9, 10, 11, 12
Credits.....5
Prerequisite.....None

This course will offer the students the opportunity to develop computer skills for 3-dimensional printing and CNC milling as well as technical communication skills. Students will learn mechanical and architectural design through the use of Autodesk and Vectric Aspire software. Computer Aided Design is used in a vast array of design, engineering, manufacturing and medical careers. This course will address the principle methods of design along with essential skills for manipulating the design software. Upon the completion of this class students will be able to produce computer models, technical drawings and 3-dimensional prototypes. This class will be helpful to all students pursuing technical careers and advanced woodworking classes.

COMPUTER SCIENCE

Grade.....9, 10, 11, 12
Credits.....5
Prerequisite.....Algebra I

Computer Science is designed to teach the fundamental concepts of top-down computer programming beginning with Visual Basic language and advancing to C++ language. During the first half of the course students will apply different features and capabilities of the Visual Basic language to applications provided in the areas of mathematics, probability and statistics, business, industry and education. Students will eventually progress from Visual Basic to the C++ language. In the C++ language students will create console applications and code in the same style as Java and many other popular languages.

INTRODUCTION TO WOODWORKING

Grade.....9, 10, 11, 12
Credits.....2 ½
Prerequisite.....None

This course is for anyone interested in working with wood. The class is similar to the full-year class but designed for those students with scheduling limitations or beginners just wanting to explore a new area. Lab fees may apply.

WOODWORKING I

Grade.....9, 10, 11, 12
Credits.....5
Prerequisite.....None

This course is designed for those desiring a fundamental background in basic woodworking techniques. The major emphasis is on the safe use of tools and machines common to any woodshop. Because students select their own projects to work on, different abilities and limitations as to experience can be accounted for. The student then can work at his or her own rate to complete as many projects as possible. Lab fees may apply.

MATHEMATICS

Math course sequence is found on page 39

MATHEMATICS	Grade(s) Offered	Credits
Algebra I	9	5
Algebra I Concepts	9	5
Geometry	9, 10	5
Geometry Concepts	10	5
Geometry Honors	9, 10	5
Algebra II	10, 11	5
Algebra II Concepts	11	5
Algebra II Honors	10, 11	5
Precalculus	11, 12	5
Precalculus Honors	11, 12	5
Calculus	12	5
AP Calculus AB	12	5
Mathematical Analysis	12	5
Statistics	12	5
AP Statistics	11, 12	5

ALGEBRA I

Grade.....9

Credits.....5

Prerequisite.....None

This course exposes students to an introduction to the structure of the real number system and the language and symbols of algebra. Students who successfully complete this course are expected to develop mastery and proficiency in the following areas: operations of real numbers, open sentences in one variable, open sentences in two variables, solution of a variety of verbal problems, graphing and variety of linear functions, solution of a system of equations and inequalities, factoring of polynomial expressions, simplification of algebraic expressions, simplification of expressions containing radicals and/or exponents, matrices and determinants, and probability. This course helps to meet the requirements for passing the NJSLA.

ALGEBRA I CONCEPTS

Grade.....9

Credits.....5

Prerequisite.....None

The Algebra I Concepts course content is similar to Algebra I. This course will focus on the development of

problem solving. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: operations of real numbers, open sentences in one variable, open sentences in two variables, solution of a variety of verbal problems, graphing a variety of linear functions, solution of a system of equations and inequalities, factoring of polynomial expressions, simplification of algebraic expressions, simplification of expressions containing radicals and/or exponents, matrices and determinants, and probability. This course helps to meet the requirements for passing the NJSLA.

GEOMETRY

Grade.....9, 10
Credits.....5
Prerequisite.....Algebra I

This course is designed to give students an understanding of the nature of a mathematical system and an appreciation of the basic structure of geometry. Emphasis is placed on the role of the inductive and deductive reasoning in mathematical situations. It is expected that a student who successfully completes this course will have developed mastery and proficiency in the following areas: postulates and theorems of geometry, deductive reasoning of a proof, angle relationships and parallelism, proof of congruency in triangles, proof of similarity in polygons, computation of areas of polygons and circles, solution of numerical exercises relevant to circles, arcs, angles and segments, basic constructions, knowledge of coordinate geometry by determining equations of lines, simple probability, right triangle trigonometry, and volumes of solids. The Geometry course helps to meet the requirements for passing the NJSLA.

GEOMETRY HONORS

Grade.....9, 10
Credits.....5
Prerequisites.....Algebra I and application process

This is a course in plane and solid geometry designed for students who will take Precalculus and Calculus. Emphasis is placed on proof and discovery. The student is encouraged to investigate and/or develop new proofs. It is expected that a student who successfully completes this course will have developed mastery and proficiencies in the following areas: postulates and theorems of geometry, proof by deductive reasoning, knowledge of angle relationships and parallelism, proof of congruency in triangles and similarity in polygons, computation of areas and volumes, solution of numerical exercises and proofs, basic constructions, knowledge of coordinates, solution of involved proofs, solution of problems in analytic geometry, simple probability, and right triangle trigonometry. The course helps to meet the requirements for passing the NJSLA.

MUSIC AND THEATER

Meets the Fine and Performing Arts requirement

NOTE: Students may sing in Chorus and play in Band and/or Orchestra on one registration.

MUSIC AND THEATER	Grade(s) Offered	Credits
Musical Performance: Band	9, 10, 11, 12	5
Musical Performance: Chorus	9, 10, 11, 12	5
Musical Performance: Orchestra	9, 10, 11, 12	5
Introduction to Guitar, Keyboard, & Music Theory	10, 11, 12	5
Introduction to Theater	9, 10, 11, 12	2.5
Theater I	9, 10, 11, 12	2.5

MUSICAL PERFORMANCE: BAND

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....Ability to play a band instrument

Beginners need the instructor’s permission to register. Band is an exciting and serious performance course designed to continue a student’s study of a musical instrument. Literature studied consists of standard band literature, and orchestral transcriptions. Each student’s experience in band is composed of participation in the concert band. *Band students are required to participate in all public performances, as these events serve as the culminating activities of the class learning experience. The performance outlets consist of evening concerts, school concerts, tours, recitals, pep rallies, the Memorial Day parade, commemorative events such as the Senior Awards Program and graduation. Each student receives a rehearsal and performance calendar prior to each semester and commits him/herself to that calendar upon entering the course.

MUSICAL PERFORMANCE: CHORUS

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

The Women’s Chorus and Concert Chorus are open to all students interested in studying and performing representative choral literature from the Renaissance through the Modern Period. The Women’s Chorus is open to 9th and 10th grade girls. The Concert Chorus is open to all boys (grades 9-12) and 11th and 12th grade girls. Development of the singing voice and ensemble singing techniques are the core of the learning experience. Chorus students are required to participate in all public performances as these events serve as the culminating activities of the learning process.

MUSICAL PERFORMANCE: ORCHESTRA

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....Ability to play an orchestral stringed instrument - Registration in Band for winds

The Orchestra includes all string players in the orchestra and woodwind, brass, and percussionists enrolled in Band who may request participation in this ensemble. The instructors decide participation in order to maintain a balanced instrumentation in proportion to the string section. The orchestra studies and performs orchestral literature from the Baroque to the Modern periods. Occasionally, the class performs to accompany the Chorus.

Field trips may include exchanges, orchestra festivals, and concerts. Students enrolled in the class agree to participate in all rehearsals, concerts, trips, and functions of the orchestra upon enrolling in the course.

INTRODUCTION TO THEATRE

Grade.....**9, 10, 11, 12**
Credits.....**2 ½**
Prerequisite.....**None**

Introduction to Theatre is a half-year elective that serves as an introduction and overview to the fundamentals of play production and stage terminology. The course will expose students to the many theatrical roles of actor, audience, playwright, technician, designer, critic, director, and researcher. The course is primarily an acting course and fundamentals in acting will be covered including the following: movement, voice and speech, monologue study and scene study. Through guided improvisation activities and ensemble-building games, students will affirm their own identities and creative decision-making skills while also discovering how to use their bodies and voices as their primary tools for acting before progressing to scene study. The Instructional techniques used to teach the course will be modeling, using theatre resources for reading material handouts, collaborative learning, project-based learning activities, discussion, research based learning, and potentially class trips. Students are required to either be involved with the fall drama or attend a performance and write a critique.

THEATRE I

Grade.....**9, 10, 11, 12**
Credits.....**2½**
Prerequisite.....**None (Introduction to Theatre preferred)**

This course is an in-depth review and analysis of acting with a focus on scene study. It will provide students who have an interest in theatrical studies an opportunity to deepen their knowledge on many theatrical roles of actors, audiences, playwrights, technicians, designers, critics, directors, and researchers with emphasis on a student centered approach that allows for students to actively engage in performances and production skills. The intent of this class is to afford students the opportunity to enrich their passion for theater, while providing a deep understanding of theatrical content knowledge. Material from Introduction to Theatre will be reviewed before progressing to scene study. Scene study will include American classics such as Glass Menagerie, a Shakespeare unit, a stage combat unit with guest artist, audition workshop unit, and a wildcard scene. Participation in or attendance at the spring musical is required.

PHYSICAL EDUCATION

The Physical Education units incorporate aspects of skill development, concepts/strategies, and overall fitness in accordance with the most up-to-date New Jersey Core Curriculum Content Standards. Each unit will be approximately three (3) weeks long.

Team and Individual sports will follow the following sequence:

- Introduction of unit
- Skill development
- Practice
- Introduction of rules & game play
- Competitive game play/tournaments

PHYSICAL EDUCATION	Grade(s) Offered	Credits
Physical Education 9/Health - Safety (marking period 2)	9	5
Physical Education 10/Driver’s Ed. (marking period 1)	10	5
Physical Education 11/Health - Safety (marking period 3)	11	5
Physical Education 12/Health - Safety (marking period 4)	12	5

PHYSICAL EDUCATION 9 & HEALTH / SAFETY

Grade.....9
Credits.....5
Prerequisite.....None

Physical Education is a required subject for all pupils. Health Education is a one marking period course offered at James Caldwell High School as part of the Grade 9 Health and Physical Education curriculum. Health Education replaces Physical Education during this time period and students remain with their assigned Health and Physical Education teacher. During the marking period of health, students are graded like other academic courses; however this marking period is incorporated into their overall Health and Physical Education cumulative grade for the year. This course has been designed to help students acquire the knowledge and skills necessary to effectively respond to emergency situations. After completing this course, students will be able to recognize and provide basic care for injuries and sudden illnesses, including an AED for victims of sudden cardiac arrest, until advanced medical personnel arrive and take over.

SCIENCE

Science course sequence chart can be found on page 40

SCIENCE	Grade(s) Offered	Credits
Investigations in Biology	9	6
Biology I	9	6
Advanced Biology	11, 12	6
AP Biology	11, 12	6
Investigations in Chemistry & Physics	10	6
Chemistry I	10, 12	6
Chemistry Honors	10	6
Advanced Chemistry	11, 12	6
AP Chemistry	11, 12	6
Physics	11, 12	6
AP Physics C	11, 12	6
Environmental Science	11, 12	6
AP Environmental Science	11, 12	6
Research in Molecular Biology (DE)	11, 12	6
Anatomy & Physiology (DE)	11, 12	3
Marine Biology (DE)	11, 12	3
Forensic Science (DE)	11, 12	3
Organic Chemistry	11, 12	3

INVESTIGATIONS IN BIOLOGY

Grade.....9

Credits.....6

Prerequisite.....None

Investigations in Biology is a laboratory-oriented course that stresses the five essential units of Biology science: Structure and Function, Matter and Energy in Organisms & Ecosystems, Interdependent Relationships in Ecosystems, Inheritance & Variation of Traits, and Natural Selection & Evolution. Each unit focuses on understanding the *main* scientific principles; data collection, graphing, and analysis; and communication of ideas. Classroom structure encourages emphasis on student organization and study skills.

BIOLOGY I

Grade.....9
Credits.....6
Prerequisite.....None

Biology I is a laboratory-oriented course that stresses the five essential units of Biological science: Structure and Function, Matter and Energy in Organisms & Ecosystems, Interdependent Relationships in Ecosystems, Inheritance & Variation of Traits, and Natural Selection & Evolution. Students should be comfortable with faster pace instruction and more independent learning than Investigations in Biology.

SOCIAL STUDIES

SOCIAL STUDIES	Grade(s) Offered	Credits
Freshman Honors Seminar	9	5
World Cultures	9	5
United States History I	10	5
Advanced Placement US History I	10	5
United States History II	11	5
Advanced Placement US History II	11	5
Personal Finance & Literacy	10, 11, 12	2.5
Economics	11, 12	2.5
SOCIAL STUDIES ELECTIVES	Grade(s) Offered	Credits
Legal Studies	11, 12	2.5
Supreme Court	11, 12	2.5
Introduction to Sociology (DE)	10, 11, 12	2.5
American Diplomatic History	11, 12	2.5
Human Behavior	10, 11, 12	2.5
Political Theory	10, 11, 12	2.5
Holocaust & Genocide (DE)	11, 12	2.5
Advanced Placement Human Geography	10, 11, 12	5
Advanced Placement European History	11, 12	5
Advanced Placement US Government and Politics	12	5

FRESHMAN HONORS SEMINAR

Grade.....9

Credits.....5

Prerequisite.....None

The Freshman Honors Seminar is a humanities based elective that exposes students to an honors level curriculum that will strengthen their knowledge and skills related to the English 9 and World Cultures interdisciplinary program. Instruction, assignments, and projects in the seminar will supplement materials and concepts studied in the Social Studies and English classes. As a full-year honors level course, marking period and final grades will be weighted accordingly. This course is recommended for students who are interested in taking AP History and/or English 10 Honors in their sophomore year or either of the AP English courses in Grades 11 or 12. **This course is a 5 credit course that meets regularly during normal school hours. A student's grade in this course will no longer impact English or Social Studies course grades.**

WORLD CULTURES

Grade.....9

Credits.....5

Prerequisite.....None

World Cultures is taught in conjunction with English 9. This course is intended to provide an interdisciplinary, humanities-based program for ninth graders which will allow students to study a number of different cultures from several viewpoints. The politics, history, culture, economics, and social structures of these peoples will be investigated to understand their contributions to a world culture. Units on culture and the cultural experience in America will also be studied. Students will develop and utilize analytical skills and research techniques through the integration of skills in reading, writing, expression, usage, and vocabulary.

VOCATIONAL TECHNICAL OPPORTUNITIES

Students who wish to pursue a vocational-technical program may attend Essex County Schools of Technology (ECST). The programs are generally 3-4 year programs and should begin in freshman or sophomore year. Students can opt to divide their day between the vocational school and JCHS or attend ECST full time. Admission is based on attendance records, as well as motivation, space availability and individual program requirements. See the website for more information: www.essextech.org/west-caldwell-tech/

ESSEX COUNTY SCHOOL OF TECHNOLOGY CAREER & TECHNICAL EDUCATION (CTE) PROGRAMS

● Agricultural, Food & Natural Resources	● Hospitality & Tourism
● Architecture & Construction	● Human Services
● Art, A/V Technology & Communication	● Information Technology
● Business Management & Administration	● Law, Public Safety, Corrections & Security
● Education & Training	● Manufacturing
● Finance	● Marketing
● Government & Public Administration	● Science, Technology, Engineering & Mathematics
● Health Science	● Transportation, Distribution & Logistics

WORLD LANGUAGES

WORLD LANGUAGES	Grade(s) Offered	Credits
Spanish Communication and Culture I	9, 10, 11, 12	5
Spanish Communication and Culture II	10, 11, 12	5
Spanish Communication and Culture III	11, 12	5
Spanish I	9, 10, 11, 12	5
Spanish II	9, 10, 11, 12	5
Spanish III	10, 11, 12	5
Spanish IV	11, 12	5
Spanish V	12	5
AP Spanish	12	5
Italian I	9, 10, 11, 12	5
Italian II	9, 10, 11, 12	5
Italian III	10, 11, 12	5
Italian IV	11, 12	5
AP Italian	12	5
Latin I	9, 10, 11, 12	5
Latin II	10, 11, 12	5
Latin III	11, 12	5
Latin IV Honors DE	12	5
Classical Mythology	9, 10, 11, 12	2.5

SPANISH – COMMUNICATION AND CULTURE I

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

This course is an introduction to the Spanish language and culture, emphasizing cultural knowledge and exploration with basic interpersonal conversational skills that allow students to exchange basic needs and preferences in the target language. The language is presented within the context of the contemporary Spanish speaking world and its culture. Authentic materials and technology will be used to enhance the topics covered. Students will learn to perform basic language functions such as asking questions and describing themselves and the world around them. Students will be able to perform these tasks at an appropriate level of accuracy

using interpersonal, interpretive, and presentational modes. Students will learn about the geography of the Spanish-speaking world as well as how Spanish-speaking countries have influenced the culture of the United States. Students will study Hispanic music and an in-depth study of the Dominican Republic.

SPANISH I

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

The student will learn the basic skills of comprehension, speaking, reading, and writing. Emphasis is placed on pronunciation, correct structural usage, and acquisition of active and relevant vocabulary. Oral drills, dictation, dialogues, narrative reading for comprehension, and cultural focus contribute to the basis for mastery on a beginning level.

SPANISH II

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....Spanish I

Students will further develop their novice level Spanish language skills. New vocabulary and grammar increase the students’ range of ability to communicate. Authentic cross-cultural activities further build students’ language ability and knowledge of other cultures. Technology continues to be an integral part of the program.

ITALIAN I

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

The students will learn the basic skills of comprehension, speaking, and writing. Emphasis is placed on pronunciation, correct structural usage and acquisition of active and relevant vocabulary. Dialogues, narrative reading and cultural focus contribute to the basics for mastery at the introductory level.

ITALIAN II

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....Italian I

The students will learn advanced skills of comprehension, speaking, reading and writing. Emphasis will be placed on speaking, grammar points and cultural units. Advanced speaking activities, short stories of comprehension and a cultural focus will contribute to the language at an intermediate level.

LATIN I

Grade.....9, 10, 11, 12

Credits.....5

Prerequisite.....None

Latin I is designed to prepare students to develop the capacity to read simple Latin with some ease. To this end, grammatical structures are stressed. Vocabulary building is an integral part of the course. In addition, various aspects of Roman culture are studied. The use and application of Latin in the modern world is emphasized.

CLASSICAL MYTHOLOGY

Grade.....9, 10, 11, 12

Credits.....2.5

Prerequisite.....none

This course will present an overview of mythology in terms of definitions, interpretations, and influences, in

relationship to saga, legend, folklore, and in conjunction with etiology, allegory, and ritual. Students will be provided an expansive background for the understanding of Greco-Roman civilization and culture. This course will demonstrate an interdisciplinary approach dependent upon exposure to and integration of methodologies in the disciplines of literature, geography, history, art and architecture, psychology, and religion. This course is designed for students wanting an overview of the Classical mythological landscape and how it has evolved from the Greco-Roman ages. *This course is an elective and does not meet the Graduation Requirement for World Language. Pending Board Approval.*

SEQUENCES OF MATHEMATICS COURSES

GRADE 9	GRADE 10	GRADE 11	GRADE 12
Algebra I Concepts	Geometry Concepts	Algebra II Concepts	Math Analysis
Algebra I	Geometry Or Geometry Honors	Algebra II Or Algebra II Honors	Precalculus Or Precalculus Honors Or Math Analysis Or Statistics
Geometry	Algebra II	Precalculus Or Precalculus Honors Or AP Statistics	Calculus Or AP Calculus Or Statistics Or AP Statistics
Geometry Honors	Algebra II Honors	Precalculus Or Precalculus Honors Or AP Statistics	Calculus Or AP Calculus Or Statistics Or AP Statistics

SEQUENCES OF SCIENCE COURSES

GRADE 9	GRADE 10	GRADE 11	GRADE 12
Investigations in Biology (with lab)	Investigations in Chemistry & Physics (with lab)	Environmental Science (full year)	Chemistry Or Electives I
Biology I	Chemistry I Or Chemistry Honors	Physics Or Environmental Science Or Electives I or II	Physics Or Environmental Science Or Electives I or II

ELECTIVES I

- Anatomy & Physiology (½ year)
 - Forensics (½ year)
 - Marine Biology (½ year)

Prerequisites for Electives I: Biology I or Investigations in Biology AND Chemistry I or Environmental Science

ELECTIVES II

- Advanced Biology
- Advanced Chemistry
- Organic Chemistry (½ year)
 - AP Biology
 - AP Chemistry
- AP Environmental Science
 - AP Physics C
- Research in Molecular Biology

Prerequisite for Electives II: Chemistry I