



**Jefferson
Academy High
School
Course
Description
Guide
2018-2019**

Letter from the Principal

Dear Student,

Selecting your courses for the upcoming school year should be an exciting time. As you peruse this guide, you will see the many different course offerings available to you. As a student of Jefferson Academy, you are eligible to participate in the CollegeNow program, which offers up to 45 college credits on our campus, once you meet the requirements. In addition to our CollegeNow concurrent enrollment program, we offer Honors, Advanced Placement, and other classes that will prepare you for the rigors of college. Your course selection should follow your Individual Career and Academic Plan (ICAP) that you have developed with guidance from your parents and Counselor.

If you are a freshman entering high school, you will not have an opportunity to select your courses because we are placing you on a path to success to satisfy all of your graduation requirements. As you progress through high school, you will be given more choice based on your achievements. Your GRADES matter! In the meantime, take time to read through this guide for what you will be doing your first year and beyond.

Sophomores, you will be registering for your elective classes and will be given some limited choices about your placement in core classes. Please pay attention to the ICAP you have developed to ensure that you are on track to meet your goals. Keep in mind, your choices will be seen by college admissions and the most rigorous schedule that you can handle should be pursued.

Juniors, this can be the most challenging year for your academics. Do not shy away from the challenge; embrace it. Prepare mentally and emotionally for doing your best. Choose courses that will reflect your interests, passions, and future goals. This will be the year that you must demonstrate an aptitude for success in college and the post-secondary world.

Seniors, this is your final year for selecting courses. The temptation to “take it easy” is real. Please refrain from lightening your course load. Select courses that will act as the final preparation for your success in college. Often, alumni say that their biggest regret is taking easy courses their final year. They said the transition to college was harder because they did not keep their mind and skills active. This is your final opportunity to enhance the skills and knowledge you possess before you graduate. Choose wisely.

Planning for your future is happening now. Choose wisely and ask questions. We are here to help you achieve success.

Sincerely,
Heather M. Grantham, Secondary School Principal

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Graduation Requirements

Jefferson Academy High School

English	4.0 credits	*Science must include Biology; Chemistry and/or Physics
Math	4.0 credits	
Science*.....	3.0 credits	
Social Studies**.....	4.5 credits	**Social Studies must include 1 credit of US History, 2 credits of World History and a .5 credit each of Economics, Geography and Government.
Art.....	1.5 credits	
Technology.....	1.5 credits	
Spanish.....	2.0 credits	
Physical Education***.....	2.0 credits	
Teen Choices.....	0.5 credits	
Freshman Seminar.....	0.5 credits	***PE credits can be completed through athletics.
Senior Seminar.....	0.5 credits	All students must take 1 full credit of PE during Freshman year.
Electives.....	3.0 credits	
Total credits.....	27.0 credits	

HEAR Requirements (Colorado Higher Education Admissions Requirements)

English.....	4.0 credits
Math.....	3.0 credits
Science.....	3.0 credits
Social Studies.....	3.0 credits
Foreign Language.....	1.0 credit
Academic Elective.....	2.0 credits

Students must meet these requirements to be considered for admission to a Colorado, four-year university. Jefferson Academy values a rigorous high school curriculum, thus the need for higher graduation requirements.

Requirements may be different for private or out-of-state universities—additional courses may be required.



College Now Front Range Community College

In the fall of 2015, Jefferson Academy High School was designated as a satellite campus for Front Range Community College. Courses from FRCC are offered on the JAHS campus, exclusively for JAHS students.

Courses include, but are not limited to:

English 121	English 122	Literature 115
Math 121	Math 166	Biology 111
Biology 112	Chemistry 111	Chemistry 112
Sociology 102	Psychology 102	Psychology 235
Phil 112 (Ethics)	Phil 114 (Comp Religions)	Art 110
Communications 115	US History 121	US History 122

Courses are open to students who are in 9th-12th grade and who maintain B's and better in their core courses. Student participation in the program is also dependent on courses currently enrolled in, disciplinary issues and behavior.

Additional college courses are offered through two other programs on the JAHS campus:

CU Succeed.....Calculus 1 and 2
 Colorado Christian University.....Statistics and Physics

Advanced Placement and Honors Courses

In addition to college courses, Jefferson Academy offers Advanced Placement and Honors courses including:

Advanced Placement:
 European History
 Physics
 Calculus
 Studio Art: Drawing
 Computer Science

Honors
 World History
 Biology
 Chemistry
 Geometry
 Algebra 2
 English 9
 English 10
 English 11

Special Academic Designations

Valedictorian and Salutatorian

The Valedictorian shall be the student with the highest weighted grade point average, having successfully completed a minimum of two AP or college level courses, shown outstanding personal character, and participated in at least two full seasons of "extracurricular" activity. The Salutatorian shall be the student with the second highest weighted grade point average. This person also must have successfully completed a minimum of two AP or college level courses, shown outstanding personal character, and participated in at least two full seasons of "extracurricular" activity.

Academic Letter

It is the intention of Jefferson Academy High School to offer Academic Letters on the basis of the following criteria:

- A student must have completed one full year at Jefferson Academy High School.
- A student must carry a minimum of six academic classes in a year.
- Student must receive a 3.8 or higher GPA for the academic year.

National Honor Society

Students in 11th and 12th grade who have a cumulative GPA of 3.5 or greater by the spring of their sophomore year are invited to apply to the Jefferson Academy National Honor Society. Students who are selected (application based upon character, leadership, service and scholarship) work on individual and group community service projects. These students are eligible for many scholarships for college.

Tri-M Music Honor Society

This society is made up of students who are working to grow as musicians. These students perform in and out of school and on monthly open mic nights.

Thespian Honor Society

These students are members of our Thespian Troupes #89258 and #6599. They prepare audition material, work to compete and participate at the yearly State Thespian Festival and help facilitate all productions throughout the school year. These students perform at monthly improv nights.

National Art Honor Society

Students grades 10 through 12 who are passionate about art, have a B average overall and who maintain an above average status in their art classes are invited to join the National Art Honor Society. NAHS is an arts based service club that meets every 1st and 3rd Thursday of the month during HS lunch. Members are actively committed and engaged in promoting art in our community. Each semester, members will participate in two fundraisers, a school activity and a community service project. Being a member of the National Art Honor Society means the student is a "face of art" at JA among other creative, art students in the group. As a National Art Honor Society participant, art students are recognized nationally for their merit in art.

Clubs

Jefferson Academy High School has a multitude of clubs that students can get involved in. Please see the jajags.com website for more information on each club!

Band	Book Club	Bowling Club
Chess Club	Diversity Club	Drama Club
Gaming Club	Key Club	Knit and Crochet Club
Link Leaders	Math and Science Club	
Music Ensemble	Rock Climbing Club	SLAB (Library Advisory Board)
Student Council	Debate	Writing Club

More every year!

Athletics

JEFFERSON ACADEMY SPORTS PROGRAMS

Jefferson Academy is a proud member of the Colorado High School Activities Association and Class 3A Metropolitan League. JAHS offers multiple sports for all 9th-12th graders. Athletic fees are required, if a student wants to participate. If a student athlete is ineligible during the season, they must continue to practice in order to get the Physical Education credit. Sports include:

Womens Volleyball
Mens Lacrosse
Mens and Womens Track
Mens and Womens Soccer

Mens Baseball
Mens and Womens Cross Country
Mens and Womens Basketball
Mens and Womens Golf

JA ADVANTAGE PROGRAM

This program is for Jefferson Academy High School students wishing to compete in a sport not offered at JAHS. They may do so at a school of their choice either in the school district in which they live or the district where they attend school.

NCAA REQUIREMENTS

All students interested in athletics at the NCAA Collegiate level must make sure they are eligible at the link below. Students must also register with the NCAA and ask that transcripts be submitted through the Naviance website.

http://fs.ncaa.org/Docs/eligibility_center/Important_New_Rules/2016_DI_Academic_Requirements.pdf

NAIA REQUIREMENTS

All students interested in athletics at the NAIA Collegiate level must make sure they are eligible at the link below. Students must also register with the NAIA and ask that transcripts be submitted through the Naviance website.

http://www.naia.org/fls/27900/1NAIA/legislative/rulesed/RulesEd_FreshmanEligibility_Handout.pdf

ART

The Jefferson Academy Visual Arts Program provides students with a studio based learning environment to explore their creativity through a variety of techniques and mediums. In each class, student artists are exposed to technical applications, composition and art in historical context to strengthen their skill and build upon their knowledge and appreciation for the visual arts. Classes may be repeated multiple times for advanced instruction and portfolio development. The Visual Arts Program is a vibrant and integral part of the JA learning experience where students learn to apply the language of visual expression.

ADVANCED PLACEMENT (AP) STUDIO ART: DRAWING

Credit: 1.0	Semester Course
Prerequisite:	Advanced Skills
11 th and 12 th	Drawing/Painting
Grade	Permission of Instructor

The AP Studio Drawing Portfolio course is an Advanced Placement drawing/painting course designed for students who have demonstrated exceptional skill level in art and who have goals of mastery in their art making skills. Students will build a portfolio of 21 original works; a body of 8-12 are focused on a cohesive sustained investigation, and 12 works that are an exploration of a range of techniques, mediums, compositional arrangement and execution of ideas.

Self guided inquiry assignments, blog posts, participation in one on one conferencing and peer-to-peer critiques are incorporated into the course to assist students in accomplishing high standard portfolio achievements. AP Art students will assemble a body of their own personal artwork that demonstrates high level content and growth of composition, technique, and process. Portfolio development is an ongoing process in which students will be challenged in informed and critical decisions to create dynamic work in drawing, painting, printmaking, and mixed media. The three components of the portfolio to be addressed and scored are quality, concentration, and breadth. Students will submit this body of work to the College Board for scoring and the opportunity of college credit.

<http://www.imagarcia.com/ap-studio-art-drawing.html>

CREATIVE ART COMPREHENSIVE

Credit: 0.5	Quarter Course
Prerequisite:	None
9 th -12 th	Grade

Art Comprehensive is a foundational art course required for all incoming freshmen. The course establishes a basic understanding of drawing techniques and observational skills as well as development of an artistic approach to color, art elements, and design principles in composition. Students will experience a range of materials learning appropriate

techniques to execute the various projects. Art in historical relevance will be covered through Visual Thinking Strategies and critique discussions.

ART 110: ART APPRECIATION (ART HISTORY ADVANCED in Infinite Campus)

Credit: 0.5 Semester Course
Prerequisite: None
10th-12th Grade College Course

Introduces the cultural significance of the visual arts, including media, processes, techniques, traditions, and terminology.

CERAMICS/POTTERY

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive
10th-12th Grade

Ceramics studies the use of clay in both functional and fine art. Students will learn about hand building and wheel forming. They will also become familiar with firing and glazing of finished pieces. This course may be repeated for advanced instruction.

CREATIVE ART-DRAWING

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive
10th-12th Grade

Students in the drawing class are introduced to observational drawing strategies, learning to translate what is observed onto a 2-dimensional surface. Students in this class explore line variation through pen and ink, illustration and gradation through color materials such as colored pencils or oil pastel and use of

graphite and charcoal in creative renderings still subjects. Students may repeat this class for advance instruction in drawing and to refine drawing skills.

CREATIVE ART-PAINTING

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive
10th-12th Grade Recommended
Prerequisite: Drawing

This class will explore two dimensional color concepts. Skills in acrylic, and watercolor painting techniques as well as various printing techniques will be developed. Knowledge of basic drawing skills, composition and good craftsmanship are necessary for this course. Students may repeat this course for advance painting instruction, exploring oil painting and advanced printmaking techniques.

DIGITAL PHOTOGRAPHY

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive;
10th-12th Grade Recommended:
Graphic Design

This course covers foundations in photographic composition and application in digital photography. Traditional understanding of cameras, light and processing will be studied and applied through the use of contemporary digital cameras. Students are required to provide their own digital camera (types to be discussed on the first day). Student photographers will learn photo editing using Adobe Lightroom. Graphic Design or prior experience with

Photoshop is a recommended prerequisite for this course. There is no advanced section offered for Photography.

FASHION AND APPAREL

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive
10th-12th Grade

Fashion Design is an introductory course in the creation of wearable art. Students will learn machine and hand sewing techniques as well as pattern design to create costumes and Avant garde clothing. Various surface designs, such as screen printing and tie-dying will be explored along with the use of a wide range of textiles and "upcycled" materials. In conclusion to the course, students will participate in the JA Spring Arts Gala fashion show, exhibiting completed work from the class. Students may repeat this class for advance fashion design instruction.

GRAPHIC DESIGN

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive
10th-12th Grade

Graphic Design students will explore Photoshop Creative Cloud to create graphically oriented works in artistic, commercial design and communication in the visual arts. Heavy emphasis will be placed on critiquing around elements and principles of design including other art issues, such as the communication of symbolic and personal meanings. Students who repeat the graphic design course will explore graphic arts in the Adobe Illustrator program.

CREATIVE ART-SCULPTURE AND 3D DESIGN

Credit: 0.5 Quarter Course
Prerequisite Art Comprehensive
10th-12th Grade

In the sculpture course students learn to apply the properties of 3-dimensional design through construction in subtractive and additive art. Materials include plaster, wood, found object, metals and wire as well as clay. Sculpture may be repeated for advance instruction after the student completes both ceramics and sculpture at least once.

TECHNOLOGY INNOVATION AND ASSESSMENT

Credit: 0.5 Quarter Course
Prerequisite: Art Comprehensive
10th-12th Grade

We live in a world of technology. Technology Innovation will merge technology and the creative arts giving students the opportunity to explore different forms of digital media to present their ideas and creative individuality. Digital projects will include experimenting with a variety of technology, video, audio, graphics and typography. This class can count as either a tech or an art credit. Students must have a digital camera or smart phone for the class.

BUSINESS AND COMMUNICATIONS

Business and Communication courses are designed to expose students to the business and communication world through exposure to multi-faceted coursework and study.

INTRODUCTION TO BUSINESS

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

This elective course is designed to help students understand the many sides to the realm of business. Covering the topics of marketing, leadership, finance, business ownership and other business world concepts, students will get a glimpse at what being a collegiate business major looks like. Students will learn to complete projects quickly and effectively, as well as achieving an in-depth knowledge of communication through technology and interpersonally. Group projects done in class will teach students to work as a team with a creative mindset. We will also study the ideas of finance, accounting, and personal financial plans in order to be trained for financial issues that come with life. Overall the class is designed to be a fun environment that draws students toward the ideas of business and prepares them for a college environment.

INTRODUCTION TO COMMUNICATION

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

The Introduction to Communication course enables students to understand and critically evaluate the role of media in society. Course content typically includes investigation of visual images, printed material, and audio segments as tools of information, entertainment, and propaganda; improvement of presentation and evaluative skills in

relation to mass media; recognition of various techniques for delivery of a particular message; and, in some cases, creation of a media product. The course may concentrate on a particular medium.

JOURNALISM

Credit: 1.0 Semester Course
Prerequisite: None
10th-12th Grade

Journalism is a computer elective that explores and examines beginning journalism in the form of the writing, production and design of a newspaper. The dissemination of information is an important topic in an ever-changing technological society. In this class, students will learn various structures of journalistic writing and be given ample opportunity to practice and perfect news, feature, and editorial styles of writing. They will then learn to take those writing pieces and create stories and spreads using the electronic media available to us. Ultimately, they will then contribute to the creation of the new JagWire school newspaper.

JOURNALISM ADVANCED

Credit: 1.0 Semester Course
Prerequisite: None
10th-12th Grade

Journalism II is a computer elective that serves as the extension of Journalism I. In this course, students will work to perfect their design skills using Adobe Indesign, Photoshop, and Illustrator. Journalism II students are also expected to take a leadership role as editors and assistant editors of the JagWire.

Additionally, Journalism II students are in charge of the social media portions of the production of the JagWire and its articles. Journalism II students are expected to attend most after school functions to serve as reporters and gather news and information.

PUBLICATION PRODUCTION: YEARBOOK

Credit: 1.0 Yearlong Course
Prerequisite: Application,
10th-12th Grade Permission of
 Instructor

In this course, students will work as a team to create the high school yearbook. Topic coverage includes media ethics, photojournalism, typography, caption and copy writing, layout and design principles, graphic design, advertising, sales, and video production, all of which are applied to the school yearbook. Yearbook design includes creating aesthetically pleasing layouts, using enhancing graphics, and effectively using color. Integral to yearbook journalism is developing and carrying out a theme, both visually and verbally, that suits Jefferson Academy. Students in this class will have a hands-on experience utilizing a variety of computer software and technology. Leadership is an expected role for all students, which will manifest in assisting others, taking responsibility for themselves and others to make a product for the school, and by representing the yearbook staff in a positive way in the school community. An application and teacher recommendations are required for these courses. This is a year-long course and students are

expected to be enrolled for the entire year, unless given permission to do otherwise. This course requires 100% student dedication and after school time is required for this class.

PERSONAL FINANCE

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

Personal Finance equips students with the fundamentals of basic financial planning and money management essential in today's fast moving economy. This course is designed to give students the advantage of understanding financial planning concepts and investment principles as they enter the financial world as young adults. Students will create their own financial plan and budget, explore saving and investing strategies, be introduced to the intricacies of credit and managing debt, and identify ways to manage risk, including the wise use of insurance.

COMPUTER TECHNOLOGY

The Computer Technology Program is designed to prepare students to thrive in a constantly evolving technological landscape.

The curriculum, assignments, and assessments for all Computer Science courses are online and are excellent preparation for future college blended/online courses.

3-D DESIGN

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
10th-12th Grade

Whether it is being used in rapid prototyping and consumer products or small-run manufacturing, 3D printing has become an important part of the workflows of many hobbyists, artists, engineers, and fabrication companies. With engineering changing rapidly and the development of additive manufacturing methods, designers and engineers are starting to push the boundaries of what is possible when designing and manufacturing components. You will discover how 3D printing is being used in the real world for both personal and professional uses. From creating art to engineering prototypes, this course will explore the expanding use of 3D printers and their place in an enhanced design workflow. You will develop your designs with the next generation of engineering tools. Technologies such as parametric design, T spline technology, and direct modeling will showcase the power of Fusion 360 and how quick it is to build complex parts. Several designs will be 3D printed.

ADOBE ANIMATE

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

Animate offers a fun learning experience because it allows the student to create animations, transformations, creative typography, and internet applications. Students will learn the basics of Animate which

include learning the Animate environment, drawing objects, working with symbols and interactivity, creating animations, and creating special effects. Students will prepare and publish movies and complex animations that run seamlessly across desktops, smart phone and tablets

ADOBE DREAMWEAVER

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

Adobe Dreamweaver allows students to quickly create Web pages without writing the code in HTML. Learn how to create webpages for the modern web; use and customize web frameworks to build responsive designs for a wide variety of desktop computers and mobile devices with a minimum of hand coding; incorporate graphics, text, animation, and video; build rich interactive applications; add links to text and images; add interactive elements to the students sites, such as HTML 5-compatible video and animation; work with HTML5 and CSS3 code and structures; and publish a finished site to the web.

ADOBE INDESIGN

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

In this class, the student will learn how to create engaging page layouts, flow and edit text, create and use styles, incorporate graphics and tables, and create PDF forms and ebooks using the professional design program Adobe InDesign.

ADVANCED PLACEMENT COMPUTER SCIENCE A

Credit: 1.0 Semester Course
Prerequisite: Java Programming,
Permission of
Instructor

10th-12th Grade

In AP Computer Science A, students learn the advanced Java programming skills needed in preparation for the AP Computer Science exam. Because the designated outcomes for the AP Computer Science exam change yearly, consult the AP web site for more information.

(<http://www.collegeboard.com/student/testing/ap/about.html>) Students will be required to take the AP Exam.

ADVANCED PLACEMENT COMPUTER SCIENCE PRINCIPLES

Credit: 1.0 Semester Course
Prerequisite: Exploring Computer
10th-12th Grade Science,
Permission of
Instructor

This course is a rigorous, entry-level computer science course that introduces high school students to the foundations of modern computing. The course covers a broad range of foundational topics such as programming, algorithms, the Internet, big data, digital privacy and security, and the societal impacts of computing. Consult the AP web site for more information.

(<http://www.collegeboard.com/student/testing/ap/about.html>) Students will be required to take the AP Exam.

ALICE 3.0

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

Alice is an innovative 3D programming environment that makes it easy to create an animation for telling a story, playing an interactive game, or a video to share on the web. Alice is a teaching tool for introductory computing. It uses 3D graphics and a drag-and-drop interface to facilitate a more engaging, less frustrating first programming experience using Java.

BUSINESS COMPUTER APPS: OFFICE 1

Credit: 0.5 Quarter Course
Prerequisite: Office 1
9th-12th Grade

Office 1 provides students with the proper knowledge, skills and procedures to create documents, workbooks and presentations using Microsoft Word, Microsoft Excel and Microsoft PowerPoint. Office 1 is required for all other computer classes.

BUSINESS COMPUTER APPS: OFFICE 2

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

Office 2 offers a deeper study of the Microsoft Office 2007 suite including Word, Excel and PowerPoint. The knowledge gained from Office 1 will be expanded as the student learns more functions available in each application.

C# PROGRAMMING

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

This course gives students who are new to programming an introduction to programming principles and concepts and hands-on coding skills by incorporating engaging new examples to introduce a variety of fundamental programming concepts, from data types and expressions to arrays and collections, all using the latest version of today's popular C# language.

EXPLORING COMPUTER SCIENCE

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

Exploring Computer Science (ECS) is designed to introduce students to the breadth of the field of computer science through an exploration of engaging and accessible topics. Rather than focusing the entire course on learning software tools or programming languages, the course is designed to focus on the conceptual ideas of computing and help students understand why certain tools or languages might be utilized to solve problems. The goal of ECS is to develop in students the computational practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today's students. Students will also be introduced to topics such as interface design, limits of computers, and societal and ethical issues.

IMMERSIVE REALITIES

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
10th-12th Grade

Virtual and mixed reality technologies are becoming booming industries. In this course you will design content for Virtual Reality and Mixed Reality. Learn how to take advantage of the newest advances in VR and MR modeling, texturing, and rendering in this course. Using Maya and Unity, you'll look at how to create assets that are efficient and effective, contributing to an overall more compelling virtual reality experience. Dive into modeling, texturing, and rendering, and learn some tips for making more sophisticated content with ambient lighting and effects. Plus, get insights on cutting-edge VR and MR techniques, such as creating content with Unity, Unreal Engine 4, Tilt Brush, SculptVR, MakeVR, and more.

INTRODUCTION TO COMPUTER TECHNOLOGY

Credit: 0.5 Quarter Course
Prerequisite: None
9th -12th Grade

Introduction to Computer Technology is designed to familiarize students with computers and their applications. Students will learn fundamental concepts of computer hardware and software and become familiar with a variety of computer applications, including word processing, spreadsheets, multimedia presentations, Adobe design software, html web design, and basic coding. Coursework also includes

activities that explore social and ethical issues related to computers.

JAVA PROGRAMMING: BEGINNING

Credit: 0.5 Quarter Course
Prerequisite: Alice 3.0 or
9th-12th Grade Permission of
 Instructor

Beginning Java Programming is an introduction to Java using a project-oriented approach to learning, presenting difficult Java programming concepts in a straightforward and exciting way! The real-world examples provided reinforce concepts and empower students to apply the knowledge acquired. This course maps the Computer Science AP examination.

JAVA GAME PROGRAMMING

Credit: 0.5 Quarter Course
Prerequisite: Java Programming
9th-12th Grade

If students are interested in creating games for the casual game market, then get ready to set the wheels in motion! This hands-on class for beginners allows students to increase their skill level along the way as they create a game full of cool artwork and intricate details. The class serves as an introduction to the field of game programming using Java. From the basics of creating simple Java programs and writing graphics code to utilizing Java's advanced 2D library and adding sound effects and music, this class will help students acquire all the skills they need to create a professional-quality, sprite-based game.

PRE-ARCHITECTURE

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

This course provides resources for an introductory course in architectural design. Considerably easier to use than other 3D software, SketchUp has found a niche in architecture, landscape design, real estate development, furniture building, and other design professions. This course provides an accessible approach that assumes no previous 3D modeling experience and explains the basic concepts involved in 3D modeling. Lessons cover architecture fundamentals such as creating walls, windows, doors, and roofs.

PRE-CIVIL ENGINEERING

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

This course provides resources for an introductory course in civil engineering design in SketchUp. The course will cover modeling site plans, terrain and elevation. The student will learn how to approach modeling site plans, buildings and site elements: from modeling each of these exterior environment elements to piecing them together to generate a singular and expressive model. The course culminates with tutorials demonstrating effective and simple ways to include grades and terrain using the Sandbox tools.

PROGRAMMING: RASPBERRY Pi

Credit: 0.5 Quarter Course
Prerequisite: Python
10th-12th Grade Programming

The Raspberry Pi is a small, affordable single-board computer that the student will use to design and develop fun and practical IoT (Internet of Things) devices while learning programming and computer hardware. In addition, students will learn how to setup the Raspberry Pi environment, get a Linux operating system running, and write and execute some basic Python code on the Raspberry Pi. Students will also learn how to use Python-based IDE (Integrated Development Environments) for the Raspberry Pi and how to trace and debug Python code on the device.

PROGRAMMING: SMARTPHONES APP DEVELOPMENT

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

This class introduces students to smartphone programming using MIT App Inventor. App Inventor is a blocks-based programming tool that allows everyone, even novices, to start programming and build fully functional apps for Android devices. Newcomers to App Inventor can have their first app up and running in an hour or less, and can program more complex apps in significantly less time than with more traditional, text-based languages. The student be led through the creation of twelve successively more complex apps that they can build and customize.

PYTHON PROGRAMMING

Credit: 0.5 Quarter Course
Prerequisite: Intro to Computer
9th-12th Grade

Python Programming will provide a gentle, yet intense, introduction to programming using Python for highly motivated students with little or no prior experience in programming. The course will focus on planning and organizing programs, as well as the grammar of the Python programming language.

PYTHON GAME PROGRAMMING

Credit: 0.5 Quarter Course
Prerequisite: Python
Programming
9th-12th Grade

Once students have an understanding of the basics of Python programming, they can now expand your abilities using the Pygame library to make games with graphics, animation, and sound.

UNITY GAME DEVELOPMENT

Credit: 0.5 Quarter Course
Prerequisite: C# Programming
9th-12th Grade

Master the Unity toolset from the ground up, adding the skills the student needs to go from application coder to game developer. Students will use the powerful C# language, Unity's intuitive workflow tools, and a state-of-the-art rendering engine to build and deploy mobile, desktop, and console games. Unity's single codebase approach minimizes inefficient switching among development tools and concentrates their attention on making great

ENGLISH 9 HONORS

Credit: 1.0 Semester Course
Prerequisite: Permission of
Previous Instructor
9th-12th Grade

English 9 Honors is a rigorous, demanding course designed to follow the English 9 curriculum with additional readings, accelerated writing projects and critical thinking skills.

ENGLISH 10

Credit: 1.0 Semester Course
Prerequisite: English 9
10th-12th Grade

In conjunction with American History, this course teaches students to examine the connections between American Literature and History of a given time period and world area. This simultaneous study immerses students in a variety of cultural contexts, giving them a more complete picture of American and world civilizations. English 10 is the continuation of English 9 and covers the period from 1900 to the recent past. Composition is emphasized, along with the study of literary conventions. Literature is selected from the Modern World (1880 to 1945), and the Contemporary World (1945 to the recent past). Writing and composition skills are enhanced in preparation for the CMAS exam.

ENGLISH 10 HONORS

Credit: 1.0 Semester Course
Prerequisite: Permission of
Previous Instructor
10th-12th Grade

Honors English/Lang Arts 10 is an academically rigorous course designed to meet the honors qualifications set forth by Jefferson Academy High School and works in conjunction with the regular English course. Students will complete all aspects of the English 10 coursework. In addition to this, students can expect Honors to be fast-paced and require them to use higher-level thinking skills (recall and recognition skills are expected to be thoroughly developed in prior grades.)

ENGLISH 11

Credit: 1.0 Semester Course
Prerequisite: English 9 and 10
11th-12th Grade

English 11 focuses on critical thinking, composition, public speaking, grammar, and literature. The overarching question is "What does it mean to be Human?" Students read and discuss Shakespeare's Hamlet and Shelley's Frankenstein. They compose, revise, and edit personal narrative essays, monologues/soliloquies, research reports, independent project blogs, and TED-style speeches. They study sentence structure, from basic to complex. They spend 20% of their class time on independent, self-directed, semester-long projects, which culminate in an evening of TEDx speeches to family, friends, and JA community.

ENGLISH 11 HONORS

Credit: 1.0 Semester Course
Prerequisite: Permission of
11th-12th Grade Previous Instructor

Honors English/Language Arts 11 is an academically rigorous course designed to meet the honors qualifications set forth by Jefferson Academy High School and works in conjunction with the regular English Language Arts 11 course. In Honors, students will write longer, more complex compositions and may encounter additional or extended reading and writing assignments.

ENGLISH 12

Credit: 1.0 Semester Course
Prerequisite: English 9, 10, 11
12th Grade

With a foundational knowledge from both American and World Literature, students in their senior year analyze several classical works of literature from all parts of the globe. Emphasis is placed on preparing students for the rigor of college, requiring participation in class discussion, thorough examinations of classical literary works and demonstration of analytical writing skills.

ENGLISH COMPOSITION I AND II (ENGLISH COMPOSITION 121 AND 122)

Credit: 0.5/crs Semester Course
Prerequisite: English 9, 10 and
11
12th Grade College Courses

This accelerated, workshop-based course emphasizes the planning, writing, and revising of college-level compositions. Students will practice writing for a variety of purposes including argumentation, evaluation, and analysis. The course also focuses on developing critical/logical thinking and reading skills, conducting

inquiry-based academic research, and producing clear and concise prose. Students who enroll in this course should expect to compose no fewer than seven pieces, including a ten- to fifteen-page academic research essay.

LITERATURE ARMAGEDDON (LITERATURE OF A PERIOD: CONTEMPORARY in Infinite Campus)

Credit: 0.5 Quarter Course
Prerequisite: English 9
10th-12th Grade

Examine techniques writers of the past and present have used to imagine the end of the world. Nuclear war, zombies, climate change, robots... unicorns? A wide variety of genres will be studied, including fiction novels and short stories, poetry, nonfiction articles and book excerpts, religious texts, documentaries and film. Various historical, political, scientific, artistic and cultural perspectives will be studied. Students will delve into creative writing (short stories, screenplays, novels, songs, and/or poetry) and literary analysis. Write the end of the world with your very own piece of creative fiction that will become a film. Celebrate the culmination of the course with a movie premiere, showcasing your movie idea.

FILM STUDIES

Credit: 0.5 Quarter Course
Prerequisite: English 9
10th-12th Grade

In this nine week course, students will study the various aspects of

filmmaking and film production. Students will view entire films and clips that illustrate the particular technique of filmmaking in question. Much like critiquing a piece of art, students will learn to analyze the artistry of a film, culminating in a final critique of a full-length film.

Lit 115: INTRODUCTION TO LITERATURE (LITERATURE in Infinite Campus)

Credit: 0.5 Semester Course
Prerequisite: English 9
10th-12th Grade College Course
This course introduces students to fiction, poetry, and drama. Emphasizes active and responsive reading.

MATHEMATICS

The Jefferson Academy Math curriculum is designed to develop students to be critical thinkers and problem solvers, to be able to analyze real-world scenarios, and effectively communicate findings.

ADVANCED PLACEMENT (AP) CALCULUS

Credit: 1.0 Semester Course
Prerequisite: Pre Calc/Trig
9th-12th Grade

This is a college level course and counts as one year of graduation requirements in mathematics. Advanced Placement Calculus AB follows the course outlined by College Board. "AP Calculus AB is roughly equivalent to a first semester college calculus course

devoted to topics in differential and integral calculus. The AP course covers topics in these areas including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results and support conclusions." All students are REQUIRED to take the AP exam. Textbook: Calculus: Concepts and Applications, Second Edition. Key Curriculum Press.

ALGEBRA 1

Credit: 1.0 Semester Course
Prerequisite: C or better in Pre-Algebra
9th-12th Grade

This course meets 9th grade Colorado standards and counts as one year of graduation requirements in mathematics. A grade of C or better is required to pass this course and earn math credit. Students will learn to demonstrate proficiency in the four basic math operations (addition, subtraction, multiplication, and division) with rational numbers and algebraic expressions. Students will manipulate, solve, and evaluate linear and quadratic equations with one variable. They will also learn to correctly graph ordered pairs on a coordinate system, interpret graphs of linear functions, write and manipulate linear, quadratic and exponential functions, and

complex text/materials. Diverse intelligences and learning styles are cultivated and higher level critical and creative thinking skills such as interpretation, problem-solving, investigation, and logic are emphasized throughout the honors course. Textbook: Algebra II, Common Core 2015, Pearson.

ALGEBRA 3

Credit: 1.0 Semester Course
Prerequisite: C or better in Algebra 2
9th-12th Grade

This course meets 12th grade Colorado standards and counts as one year of graduation requirements in mathematics. A grade of C or better is required to pass this course and earn math credit. This course reviews and extends algebraic concepts for students that have already taken Algebra 2 and is structured to prepare students for College Algebra. Topics include complex numbers, numerical tables, field properties and theorems, operations with rational and irrational expressions, factoring of rational expressions, linear equations and inequalities, quadratic equations, solving systems of linear and quadratic equations, properties of higher degree equations, and operations with rational exponents. There is also a finance unit included in this course.

Textbook: Larson College Algebra, eighth edition, Cengage Learning.

CALCULUS (CU SUCCEED)

Credit: 1.0 Semester Course
Prerequisite: Pre Calc/Trig
9th-12th Grade

Topics covered include limits, derivatives, applications of derivatives, and the definite integral.

CALCULUS 2 (CU SUCCEED)

Credit: 1.0 Semester Course
Prerequisite: Calculus 1 or AP
9th-12th Grade Calculus with 3-5

Topics covered include exponential, logarithmic, and trigonometric functions, techniques of integration, indeterminate forms, improper integrals and infinite series.

GEOMETRY

Credit: 1.0 Semester Course
Prerequisite: C or better in Algebra 1
9th-12th Grade

This course meets 10th grade Colorado standards and counts as one year of graduation requirements in mathematics. A grade of C or better is required to pass this course and earn math credit. The Geometry course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts as well as real-world problem situations. Topics include logic and proof, parallel lines and polygons, perimeter and area analysis, volume and surface area analysis, similarity and congruence, trigonometry, and analytic geometry. Emphasis will be placed on developing critical thinking skills as they relate to logical reasoning and argument. Textbook: Geometry, Common Core 2017, Pearson, 2016.

GEOMETRY HONORS

Credit: 1.0 Semester Course
Prerequisite: Algebra 1 and
9th-12th Grade Permission of
Previous Instructor

This course meets 10th grade Colorado standards and counts as one year of graduation requirements in mathematics. A grade of C or better is required to pass this course and earn math credit. Honors Geometry is an academically rigorous course designed to meet the honors qualifications set forth by Jefferson Academy High School and works in conjunction with the regular Geometry course. Students will complete all aspects of the Geometry coursework. This honors course prepares students for advanced work and engages students in enrichment opportunities. Rigor is demonstrated through sophistication and acceleration in terms of thought-provoking learning activities, challenging assessment, and more complex text/materials. Diverse intelligences and learning styles are cultivated and higher level critical and creative thinking skills such as interpretation, problem-solving, investigation, and logic are emphasized throughout the honors course. Textbook: Geometry, Common Core 2015, Pearson.

INFERENCE PROBABILITY AND STATISTICS

Credit: 1.0 Semester Course
Prerequisite: C or better in
Algebra 2 or higher
math course
9th-12th Grade College Course

The goal of this course is to introduce students to various ways to display and analyze data. Students will be introduced to different ways to collect data and set up parameters in order to conduct a meaningful experiment. They will be exposed to many different kinds of data (data used in scientific experiments, marketing schemes, population changes, psychological experiments, etc.) They will find out where patterns lie in each set of data and how to communicate those patterns to others. Lastly, they will test hypotheses from real and simulated experiments and discuss percent certainty that each hypothesis is true or false. Textbook: The Practice of Statistics, W. H. Freeman.

MATH 121 COLLEGE ALGEBRA

Credit: 1.0 Semester Course
Prerequisite: B or better in
Algebra 2 and
passing the Math
Accuplacer
9th-12th Grade College Course

This is a Front Range Community College course offered to students at the JA campus. The course explores topics including intermediate algebra, equations, and inequalities, functions and their graphs, exponential and logarithmic functions, linear and non-linear systems, selection of topics from among graphing of the conic sections, introduction to sequences and series permutations and combinations, the binomial theorem and theory of equations.

MATH 166 PRECALCULUS (PRECALCULUS HONORS in Infinite Campus)

Credit: 1.0 Semester Course
Prerequisite: C or better in Math

9th-12th Grade 121 or passing the
Math Accuplacer
College Course

Reviews college algebra and college trigonometry intended for those planning to take calculus. Topics include algebraic manipulations, properties of algebraic and trigonometric functions and their graphs, trig identities and equations, conic sections, polar coordinates and parametric equations.

PRECALCULUS AND TRIGONOMETRY (HS)

Credit: 1.0 Semester Course
Prerequisite: B or better in
Algebra 2

9th-12th Grade

This course meets 12th grade Colorado standards and counts as one year of graduation requirements in mathematics. A grade of C or better is required to pass this course and earn math credit. Pre-calculus weaves together previous study of algebra, geometry, and functions into a preparatory course for calculus. The course focuses on the mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Topics include linear, quadratic, exponential logarithmic, radical, polynomial, and rational functions; systems of equations; and conic sections. The trigonometry portion of the course

covers trigonometric ratios and functions; trigonometric identities including verification; inverse trigonometric functions; applications of trigonometry, including vectors and laws of cosine and sine; polar functions and notation; and arithmetic of complex numbers. The course will focus on applying the learned material to real-world problems involving these concepts. A graphing calculator is required for this course. Textbook: Precalculus: Graphical, Numerical, Algebraic Series, Global Edition, Pearson.

MUSIC AND THEATER

Jefferson Academy Performing arts seeks to build performing skills and provide unique opportunities for students interested in music and drama.

CHORUS- MIXED

Credit: 0.5 Quarter Course
Prerequisite: None
9th-12th Grade

Open to any student interested in building their vocal strength and learning music to be performed at the end of each quarter. The class will culminate in a performance.

CONCERT BAND

Credit: 0.5 Quarter Course
Prerequisite: None
9th-12th Grade

Concert Band is designed to promote students' technique for playing brass, woodwind, and percussion instruments and cover a variety of

band literature styles, primarily for concert performances.

THEATER/ACTING/ PERFORMANCE (IMPROV)

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

This is for students interested in building their skills for Improvisation Theater and their comfort to be in front of an audience.

MUSICAL THEATER

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

Open to students interested in performing in a Broadway style musical. Students will build performance skills through the preparation for the final performances. This class includes additional rehearsals and some off campus performances.

THEATER ARTS

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

This for any student interested in working on a production from costumes and scenery to choreography, acting and singing. The class will culminate in a production.

THEATER-STAGECRAFT

Credit: 0.5 Quarter Course
Prerequisite: None
10th-12th Grade

This course requires an active,

creative student willing to work at a variety of tasks in a hands-on environment. Students will explore technical aspects of theater including lighting, sound, costumes, set design, and stage managing. Safety and responsibility are learned and are essential elements in this class

PHYSICAL EDUCATION

Jefferson Academy High School Physical Education Department is designed to utilize all state standards within the PE Curriculum. The courses include Individual/Dual Sports and Weight Training classes. Fundamental skills and player development are introduced in all the sports classes.

INDIVIDUAL/DUAL SPORTS

Credit: 0.5 Quarter Course
Prerequisite: None
9th-12th Grade

This course involves instruction in fundamental skills for various team sports allowing for a participation in a lifetime of recreational activities. Students will demonstrate an understanding of the value of health, daily fitness, and the development of a game environment and understand the context and setting for various contests. Development of cardiovascular fitness and other components of physical fitness will also be emphasized. In this course, students may take field trips to bowling and other activities, which will be an additional fee.

TEAM SPORTS: BASKETBALL

Credit: 0.5 Quarter Course
Prerequisite: Experience in
 Basketball
9th-12th Grade 0 Hour

This course will examine basketball including team strategy, player movement / ball movement, ball screens / off ball screens, multiple offensive sets, defensive philosophy (from zone to man principles), individual skill set building, shooting the basketball correctly, how to break down film, analyzing individual and team strategy through the use of film, the recruiting process, the history of the game and the Colorado club basketball business and will have guest speakers. Exams, quizzes and a final will all be part of the curriculum.

WEIGHT TRAINING

Credit: 0.5 Quarter Course
Prerequisite: None
9th-12th Grade

This class combines weightlifting and exercises to allow students to demonstrate coordination, abdominal strength and muscle toning. The course will include performance-related components of fitness such as: balance, speed, agility, power, coordination and reaction time. Health-related elements of fitness included are cardiovascular development, endurance and flexibility. Students will complete a class portfolio to track their progress. In this course, students may take field trips to bowling and other activities, which will be an additional fee.

SPORTS MANAGEMENT

Credit: 0.5 Quarter Course
Prerequisite: None
9th-12th Grade

This course is by invitation only. In the Sports Management class, students will assist Junior High athletic coaches and their teams. Students must have an invitation and approval to take this course.

TEEN CHOICES: HEALTH

Credit: 0.5 Quarter Course
Prerequisite: None
9th-12th Grade

The class will cover health topics and information generally related to teen wellness. This is a graduation requirement typically taken in 10th grade.

SCIENCE

The Jefferson Academy Science curriculum is designed to prepare students for further study in Science at the university level. Science classes are academically rigorous. Our goal is that students become proficient in analytical thinking, scientific thought and investigation, ethics, and real world applications of science and technology.

ADVANCED PLACEMENT (AP) PHYSICS I

Credit: 1.0 Semester Course
Prerequisite: Biology & Algebra II
10th-12th Grade College Course

This course deals with the fundamental properties of matter and energy. The physical laws that describe the interaction of bodies in

motion or at rest throughout the universe will be studied. Students will learn about motion, optics, waves, momentum, energy, electromagnetic theory and light. The coursework will explore the fundamental relationships between mathematics and linear and circular motion as well as colliding bodies. This course includes a significant technology component as all laboratory experiments are performed using a laptop-based data acquisition system. The students will occasionally be required to design experiments to test a particular principle. 10th graders may take this course with the permission of their Biology teacher.

ASTRONOMY

Credit: 0.5 Quarter Course
Prerequisite: Biology
10th-12th Grade

This course is designed to gain a deeper look into and understanding of, what is beyond our planet. Students will analyze a variety of topics from the Earth, moon, solar system, different stars and even the far reaches of the galaxy. Students will look at how and why some of these objects interact with each other and students will also analyze the theories involved in space sciences and whether some of these hold substance. The class will finish with an astronomy night to try and gain a better understanding of our night sky.

BIOLOGY

Credit: 1.0 Semester Course
Prerequisite: None
9th-12th Grade

Biology is a lab/lecture science course that focuses on both the unity and diversity of life. A variety of concepts are covered at the molecular level including the cell, photosynthesis and cellular respiration, protein synthesis and genetics. The second half of the course focuses on the study of organisms from each of the five kingdoms and an extensive study of the human body. Finally, students learn about the environment and the way humans are affecting it.

BIOLOGY HONORS

Credit: 1.0 Semester Course
Prerequisite: Permission of
Previous Instructor

9th-12th Grade

Honors Biology is an academically rigorous course designed to meet the honors qualifications set forth by Jefferson Academy High School and works in conjunction with the regular Biology course. Students will complete all aspects of the Biology coursework. In addition to this, Honors students will be expected to complete more challenging coursework.

BIOLOGY I: GENERAL COLLEGE BIOLOGY 111

Credit: 1.0 Semester Course
Prerequisite: Biology and
Chemistry
10th-12th Grade College Course

Examines the fundamental molecular, cellular and genetic principles characterizing plants and animals. This includes cell structure and function, and the metabolic processes

of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. The course includes laboratory experience.

BIOLOGY 2: GENERAL COLLEGE BIOLOGY 112

Credit: 1.0 Semester Course
Prerequisite: Biology 111
10th-12th Grade College Course

A continuation of General College Biology 111. This course includes ecology, evolution, classification, structure, and function in plants and animals. This course includes laboratory experience.

CHEMISTRY

Credit: 1.0 Semester Course
Prerequisite: Biology
10th-12th Grade

This is a class designed as a standard college preparatory course. It will focus more on the qualitative aspects of chemistry than the quantitative. It is a laboratory/lecture course designed to introduce students to basic chemical concepts including basic atomic structure, chemical bonding, oxidation and reduction, rates of reactions, solution chemistry and chemical equilibrium. The laboratory component uses a sophisticated system of computerized data collection and analysis to incorporate a technology component into the curriculum. Having students deal with abstract concepts will sharpen problem-solving skills and mathematical reasoning. A scientific calculator is required for this course. 10th graders may take this course with the permission of their Biology teacher.

CHEMISTRY HONORS

Credit: 1.0 Semester Course
Prerequisite: Biology,
10th-12th Grade Permission of
Previous Instructor

Honors Chemistry is an academically rigorous course designed to meet the honors qualifications set forth by Jefferson Academy High School and works in conjunction with the regular Chemistry course. Students will complete all aspects of the Chemistry coursework. In addition to this, honors students will be expected to complete more challenging coursework. Tenth graders may take this course with the permission of their Biology teacher.

CHEMISTRY 111: GENERAL COLLEGE CHEMISTRY I WITH LAB

Credit: 1.0 Semester Course
Prerequisite: Biology, HS
10th-12th Grade Chemistry
Accuplacer Score
College Course

This course focuses on basic chemistry and measurement, matter, chemical formulas, reactions and equations, stoichiometry and thermochemistry. This course covers the development of atomic theory culminating in the use of quantum numbers to determine electron configurations of atoms, and the relationship of electron configuration to chemical bond theory and molecular orbital theory. The course includes gases, liquids, and solids and problem-solving skills are emphasized through laboratory experiments.

**CHEMISTRY 112: GENERAL
COLLEGE CHEMISTRY II WITH
LAB**

Credit: 1.0 Semester Course
Prerequisite: Chemistry 111
10th-12th Grade College Course

This course presents concepts in the areas of solution properties, chemical kinetics, chemical equilibrium, acid-base and ionic equilibrium, thermodynamics, electrochemistry, nuclear chemistry, and organic chemistry. This course emphasizes problem solving skills and descriptive contents for these topics. Laboratory experiments demonstrate qualitative and quantitative analytical techniques.

**COMPARATIVE
ANATOMY (SCIENCE SEMINAR-
FIELD BIOLOGY in Infinite
Campus)**

Credit: 0.5 Quarter Course
Prerequisite: Biology
10th-12th Grade

Have you ever wondered what a shark looks like on the inside? How about a squid? This class gives students the opportunity to explore the inner workings of various types of organisms. This class is going to be interactive, with students getting the opportunity to dissect all different types of organisms. Students will gain an understanding of animals through the study of their comparative anatomy. Students will learn the relationship between structure and function and how it relates to their unique adaptation and evolution.

EARTH SCIENCE

Credit: 1.0 Semester Course
Prerequisite: Biology
10th-12th Grade

This course is designed to engage students in understanding our planet Earth with some emphasis on basic Chemistry and Physics principles. Earth Science units will consist of in depth analysis of Rocks, Minerals, Earthquakes, Volcanoes, Rivers, Glaciers, Erosion, Atmosphere and Weather. With time remaining, a brief summary of Astronomy will be discussed. This course is a core level course and will require labs, writing assignments and data analysis. The goal of the course is to help students gain a deeper appreciation of Earth processes and how the World works around them.

FORENSIC SCIENCE

Credit: 0.5 Quarter Course
Prerequisite: Biology
10th-12th Grade

This Forensic Science course includes information on analysis of fingerprints, hair, fiber, glass, soil and chemicals found at the scene (e.g. drugs, inks and DNA). Analytical thinking is used to solve mock crimes. The major topics included in this course are an introduction to forensics and the crime scene; as well as performing several different types of forensic analyses. The final exam will be an analysis of a mock crime scene and the effectiveness of drawing conclusions and reporting the information in a trial setting. This is an upper level science course that integrates the principles of physics, chemistry, and biology.

BIOTECHNOLOGY AND GENETICS (GENETICS in Infinite Campus)

Credit: 0.5 Quarter Course
Prerequisite: Biology
10th-12th Grade

Biotechnology and Genetics is an interactive exploration into what the world of biotechnology and genetics are, the science involved, and how they can be used to make medicines, diagnose diseases and create genetically modified foods. Upon completion of the course, students will understand the complex nature of DNA replication, protein synthesis, mutations and gene expression. Additionally, students will be able to analyze case studies, create recombinant DNA, utilize gel electrophoresis and analyze ELISA test results for various purposes.

PRINCIPLES OF SUSTAINABILITY (SCIENTIFIC RESEARCH in Infinite Campus)

Credit: 0.5 Quarter Course
Prerequisite: Biology
10th-12th Grade

In this class, students will learn about the concepts of sustainability as it pertains to managing and operating a business. They will perform in-depth case studies on a number of different local businesses and evaluate their practices in sustainability. We will visit at least one local business to learn about their practices and see how they are employed first-hand. Finally, students will select two different businesses to evaluate and compare based on their sustainability

efforts. For their final project, groups of students will develop plans for how to make our school more environmentally responsible and present it to the administration.

SOCIAL STUDIES AND HUMANITIES

The Jefferson Academy Social Studies curriculum is designed to expand student knowledge, interaction, and understanding of the various social studies as well as to hone many skills that will be useful for students as they progress into their postgraduate careers. Those skills include formulating and defending social, historical and economic arguments , writing various forms of essays, debating, public speaking, and current event analysis.

ADVANCED PLACEMENT EUROPEAN HISTORY

Credit: 1.0 Semester Course
Prerequisite: World History
 United States
 History

11th-12th Grade

Advanced Placement European History is designed to examine the period of history from roughly 1400 through today. The AP College Board states that "the study of European history since 1400 introduces students to cultural, economic, political and societal developments that played a fundamental role in shaping the world in which we live. Without this knowledge, we would lack the context for understanding

the development of contemporary institutions, the role of continuity and change in present-day society and politics, and the evolution of current forms of artistic expression and intellectual discourse" (AP central, 10). In addition to providing a basic narrative of events and movements, the goals of the AP program in European History are to develop (a) an understanding of some of the principal themes in modern European History, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing. In order to achieve this understanding, this course will place a heavy expectation on students to read, write, discuss texts, books, primary documents and maps.

Students are required to take the AP exam.

ECONOMICS

Credit: 0.5 Quarter Course
Prerequisite: World History
11th-12th Grade

Based on the National Content Standards for Economics, students will study economic laws/models to understand the principles that affect market conditions, personal credit and fundamental business concepts.

ECONOMICS 202: PRINCIPLES OF MICROECONOMICS

Credit: 0.5 Semester Course
Prerequisite: World History,
Permission of
Previous Instructor
12th Grade College Course

Focuses on the consumer, the firm, the nature of cost, and how these

relate to the economy as a whole. Analyzes economic models of the consumer, perfect competition, monopoly, oligopoly and monopolistic competition. Explore economic issues including market power, population growth, positive and negative externalities, income distribution, poverty and welfare, discrimination, and international economic interdependence.

GEOGRAPHY -WORLD

Credit: 0.5 Quarter Course
Prerequisite: World History
11th-12th Grade

International Relations gives students a unique perspective of world geography, by incorporating the physical environment; the political landscape; the relationship between people and the environment; how the environment affects the population; economic development, the interdependence of regions; and the movement of people, goods, and ideas. This class blends academic theory and policy for a unique and insightful culmination of the various JA Social Science disciplines of World Geography, U.S. and World History, Civics and Economics courses. Instruction closely examines current events detailing political theories, belief systems, cultures and the complex interrelationships between the United States and various nations, nongovernmental organizations, and multinational businesses. Students gain an informed perspective into the spheres of influence that are impacting the United States and the world in its diplomatic relationships and in

shaping the geopolitical powers of today and tomorrow.

GEOGRAPHY 105: WORLD REGIONAL GEOGRAPHY

Credit: 0.5 Semester Course
Prerequisite: World History,
Permission of
Previous Instructor
12th Grade College Course

Examines the spatial distribution of environmental and societal phenomena in the world's regions; environmental phenomena may include topography, climate, and location of natural resources; societal phenomena may include patterns of population and settlement, religion, ethnicity, language, and economic development. Analyzes the characteristics that define world regions and distinguishes them from each other. Examines the relationships between physical environments and human societies. Examines globalization with emphasis on the geopolitical and economic relationships between more developed and less developed regions.

HISTORY 121: U.S. HISTORY TO RECONSTRUCTION

Credit: 1.0 Semester Course
Prerequisite: World History,
Permission of
Previous Instructor
10th-12th Grade College Course

Explores events, trends, peoples, groups, cultures, ideas, and institutions in North America and United States history, including the multiple perspectives of gender, class, and ethnicity, between the

period when Native American Indians were the sole inhabitants of North America, and the American Civil War. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. Must be taken with History 122.

HISTORY 122: U.S. HISTORY SINCE THE CIVIL WAR

Credit: 1.0 Semester Course
Prerequisite: World History,
Permission of
Previous Instructor
10th-12th Grade College Course

Explores events, trends, peoples, groups, cultures, ideas, and institutions in United States History, including the multiple perspectives of gender, class, and ethnicity, between the period of the American Civil War and the present. Focuses on developing, practicing, and strengthening the skills historians use while constructing knowledge in the discipline. Must be taken after History 121.

MODERN UNITED STATES HISTORY

Credit: 1.0 Semester Course
Prerequisite: World History
10th-12th Grade

Based on the Colorado and National Model Content Standards for History, students will develop an understanding of the chronological events and people into the processes and resources of historical inquiry. Included are the themes of political, economic and social advances from the 15th Century to today.

PHILOSOPHY 112: ETHICS

Credit: 0.5 Semester Course
Prerequisite: World History,
Permission of
Previous Instructor
10th-12th Grade College Course

Examines human life, experience, and thought in order to discover and develop the principles and values for pursuing a more fulfilled existence. Theories designed to justify ethical judgments are applied to a selection of contemporary personal and social issues.

PSYCHOLOGY 235: HUMAN GROWTH AND DEVELOPMENT

Credit: 0.5 Semester Course
Prerequisite: World History,
Permission of
Previous Instructor
10th-12th Grade College Course

This course examines human development from conception through death emphasizing physical, cognitive, emotional, and psychosocial factors.

UNITED STATES GOVERNMENT-COMPREHENSIVE

Credit: 0.5 Quarter Course
Prerequisite: None
9th Grade

Based on the Colorado Content Standards for Civics, students will study the functions of American government, from its philosophical inception to its present form. The role of national, state and local governments will be addressed, as well as the defined roles of the executive, legislative and judicial branches.

WESTERN CIVILIZATION

Credit: 1.0 Semester Course
Prerequisite: World History,
11th Grade United States
History

The Western Civilization curriculum simultaneously combines the study of literature, history, art and music spanning from approximately 1650 AD to the recent past. This course is the continuation of World History Overview, offered in the freshman year. Combining the study of these four subjects allows students to understand many disciplines more fully. The goal of this course is to develop in students the ability to see the relationship between a given time period and the literature, art and music produced during that time. Further, students will be able to write and speak about, discuss, compare and draw relationships between different time periods, cultures and philosophies.

WORLD HISTORY

Credit: 1.0 Semester Course
Prerequisite: None
9th Grade

The World History curriculum simultaneously combines the study of literature, history, and art spanning from prehistory to approximately 1650 AD. Combining the study of these subjects allows students to understand likenesses and differences seen in human behavior, cultures, and political and social thought patterns more fully. The goal of this course is to develop in students the ability to see the relationship between a given time period and the literature, art and social/political

behavior seen during that time. Further, students will be able to write and speak about, discuss, compare and draw relationships between different time periods, cultures and philosophies.

WORLD HISTORY HONORS

Credit: 1.0 Semester Course
Prerequisite: Permission of
9th Grade Previous Instructor

Honors World History-Overview is an academically rigorous course designed to meet the honors qualifications set forth by Jefferson Academy High School and works in conjunction with the regular World History-Overview course. Students will complete all aspects of the World History-Overview coursework. In addition to this, Honors students will be expected to complete more rigorous coursework and participation in higher level class discussions.

SPECIAL PROGRAMS

Special programs at Jefferson Academy are classes designed to enrich and prepare for skills needed outside of the school curriculum. JAHS faculty believe in students having a plan, being strong writers, speakers, team members and leaders.

EXECUTIVE INTERNSHIP

Credit: 0.5 Quarter Course
Prerequisite: Interest in Field
12th Grade

This program offers seniors an

opportunity to earn high school credit and gain experience in a chosen professional/technical career under the supervision of an experienced employer before going to college. Interns need to talk to the High School Counselor in the spring of their junior year.

LEADERSHIP: STUDENT COUNCIL

Credit: 0.5 Year-long Course
Prerequisite: Elected
9th-12th Grade

Student government is composed of responsible and motivated student leaders who wish to be actively involved in establishing and maintaining communications within the school and promoting and maintaining school pride and spirit. Elections take place in the spring for terms to be served the following year. Students will be required to plan, run and clean up after various events. Grades will be earned based on participation in events and the leadership shown in the various events.

OFFICE/TEACHER AIDE (OFFICE AID in Infinite Campus)

Credit: 0.5 Quarter Course
Prerequisite: Permission of
Counselor
10th-12th Grade

This option provides an opportunity for students to receive practical work experience with various subject area teachers. Students must arrange enrollment in advance by filling out an application. Requirements: 1) No more than 1.5 credits may be earned in high school. 2) Students must have

a 3.0 cumulative GPA. 3) If student has ever broken a previous contract, they may not participate. 4) If student has ever received less than a "B" grade in a TA class they may not participate again.

SEMINAR-FRESHMEN

Credit: 0.5 Quarter Course
Prerequisite: None
9th Grade

Using the curriculum Career Choices, this course is designed to help freshman students engage in an interactive learning process, helping them develop the knowledge, skills, and attitudes needed to successfully: examine their own lives, explore and evaluate a wide range of education and career options, and make reasoned and researched goals for their future. This course facilitates the in-depth exploration of three fundamental questions: Who am I? What do I want? and How do I get it? These questions drive the academically-integrated curriculum, making it relevant, rigorous, and relationship-rich. The course culminates with students developing an individualized, online, 10-year plan that motivates them to envision a self-sufficient, productive life beyond high school, college or post-secondary training.

SEMINAR-SENIOR

Credit: 0.5 Quarter Course
Prerequisite: None
12th Grade

Senior Seminar is designed to prepare senior level students for post-secondary options. Included in the course curriculum is career

development, financial development, college research, applications and financial aid, paper writing and presentation skills among other content.

STANDARDIZED TEST PREP

Credit: 0.5 Quarter Course
Prerequisite: None
11th Grade

This course will examine the SAT test and will allow students to study for the exam that they will take in the spring of their junior year. Online resources including the PSAT website and KHAN Academy will be utilized.

STUDY SKILLS

Credit: 0.5 Quarter Course
Prerequisite: Permission of
 Instructor

9th-12th Grade

REFERRED BY SPECIAL EDUCATION
Jefferson Academy offers academic assistance to students who qualify with a current IEP. See the Guidance Counselor or Special Education staff for more information.

TUTORING PRACTICUM: ELEMENTARY TUTOR

Credit: 0.5 Quarter Course
Prerequisite: Permission of
 Counselor

10th-12th Grade

Students will work with individuals or small groups of children in the elementary or junior high. The tutor will assist the children in areas including reading, writing, math and other projects.

WRITING CENTER TUTOR
(TUTORING PRACTICUM in
Infinite Campus)

Credit: 0.5 Semester Course
Prerequisite: Permission of
Instructor

11th-12th Grade

The JA Writing Center provides one-on-one peer tutoring for writing assignments in all grade levels and classes. It is held during before and after school on Tuesdays, Wednesdays, and Thursdays. Tutors receive hands-on work experience as well as training and support from faculty mentors. To be nominated, students must be an incoming junior or senior who consistently demonstrates the following: strong writing skills in a range of disciplines (English, science, history, etc.); interpersonal communication skills; patience; and a strong work ethic. Students must also be able to work all three days each week (Tuesday through Thursday) either in the morning or afternoon. Blocks: Before school and 9th hour.

WORLD LANGUAGES

Our mission is to empower and inspire our students to use Spanish in the classroom as well as in real world scenarios. We also aim to make our students lifelong language learners with the ability to communicate with people from diverse cultures.

SPANISH 1

Credit: 1.0 Semester Course
Prerequisite: None

9th-12th Grade

In Spanish 1, students will learn foundational vocabulary and grammar needed for basic communication in the language. They will learn to introduce themselves and others, describe their interests and hobbies, as well as talk about food and nutrition. Students will also learn to describe their family members and where they go in their free time. In addition, students will learn aspects of Latin American and Spanish culture through a variety of avenues. Upon the successful completion of Spanish 1, students will have a basic foundation in reading, writing, listening and speaking. As with other Spanish classes at JA, about 90% of instruction will be in the target language and students will be expected to use as much Spanish as possible every day.

SPANISH 2

Credit: 1.0 Semester Course
Prerequisite: Spanish 1
9th-12th Grade

In Spanish 2, students will review skills for learning and communicating in the Spanish language. This course will focus on more complex vocabulary and grammar. In addition to the present tense, they will learn different verb tenses such as the preterit and imperfect past, present progressive, as well as commands. In this class, students will learn how to talk about extracurricular activities, describe their daily routines, give directions how to get places, and describe what they were like as kids. They will read materials in Spanish such as short stories and also write

short essays. In addition, students will learn aspects of Latin American and Spanish culture through a variety of avenues. As with other Spanish classes at JA, about 90% of instruction will be in the target language and students will be expected to use as much Spanish as possible every day.

SPANISH 3

Credit: 1.0 Semester Course
Prerequisite: Spanish 2
9th-12th Grade

Spanish 3 is an intensive language and culture course in which students will be expected to communicate almost entirely in Spanish. They will continue to learn Spanish grammar and expand their vocabulary while further developing their reading, writing, listening, and speaking skills. Students will learn how to tell stories in the past, describe art and music, and use commands to give advice on nutrition and health. They will also learn deeper aspects of Latin American and Spanish culture through a variety of avenues such as current events, music, novellas, film, and projects. Upon successful completion of Spanish III, students will have an intermediate level in oral and written communication. This course will prepare students for Spanish IV and help them place into college-level Spanish courses. As with other Spanish classes at JA, about 90% of instruction will be in the target language and students will be expected to use as much Spanish as possible every day.

SPANISH 4

Credit: 1.0 Semester Course

Prerequisite: Spanish 3
9th-12th Grade

This course will continue students' development of skills acquired in previous Spanish classes at the high school level. It encompasses oral communication, reading, comprehension, grammar, and composition. Students taking this course, emphasizing the use of Spanish for active communication, have the following objectives:

- Comprehend formal and informal spoken Spanish
- Acquire vocabulary and a grasp of structure to allow the easy, accurate reading of newspaper and magazine articles, dealing with Hispanic culture and literature
- Compose formal and informal correspondence
- Express ideas orally with accuracy and fluency

This course is conducted entirely in Spanish. It seeks to develop language skills that are useful in themselves and that can be applied to various activities and disciplines rather than to the mastery of any specific subject matter. This course will give students a head start in college Spanish and for some enable them to test out of lower-level Spanish classes. As with other Spanish classes at JA, about 90% of instruction will be in the target language and students will be expected to use as much Spanish as possible every day.