

## **Entrepreneurial Studies 2016-2017**

### **Entrepreneurial Studies I: Introduction to the Practice of Innovation**

*1 term, solid, ½ credit, B*

Introduction to the Practice of Innovation – An in-depth study of the practice of innovation together with team-based idea generation.

### **Entrepreneurial Studies II: Modeling a New Venture**

*1 term, solid, 1/2 credit, B*

Application of the Practice of Innovation – This course applies the theories studied in ES1 to proposed campus-based innovations. Students are divided into teams and work through the process of understanding the constituents of the market for their proposed innovation, identifying the market's support and concerns and ultimately presenting their proposed innovation to the community for consideration. Pre-requisite: Successful completion of Entrepreneurial Studies I.

### **Entrepreneurial Studies III: The Lean Start-Up**

*1 term, solid, 1/2 credit*

Personal and Corporate Finance – This course provides an introduction to personal and corporate finance. This course includes basic spreadsheet modeling of a personal budget and a corporate balance sheet and income statement.

### **Honors Seminar: Entrepreneurial Economics**

*4 terms, non-solid, 1/2 credit*

The Rubin Café Management Team – This course is a learning lab where students run all aspects of the student-led Rubin Café.

### **Economics**

*1 term, solid, 1/2 credit, B*

This 12th-grade elective introduces students to the basic concepts of economics. Emphasis is placed on economic systems and decision making, competition and market structures, the role of labor and government, the role of financial institutions, the national and international economy and fundamental economic problems.

### **Advanced Placement Micro and Macro Economics**

*3 terms, solid, 1 1/2 credit*

Micro Economics gives students an understanding of economic principles that apply to individual decision-makers, both consumers and producers. The course examines the basic economic problems, the nature and function of markets, the theory of the firm, factor markets, and the role of government in promoting greater equity and efficiency in the economy.

Macro Economics introduces students to the measurement of economic performance, aggregate demand and supply, monetary and fiscal policy, and international economics. The course follows the description set forth in

the Advanced Placement Course Description booklet and is intended to prepare students to take the Advanced Placement Exam in Micro and Macroeconomics.

### **Financial Literacy**

*1 term, solid, ½ credit,*

The General Financial Literacy course for sophomores, juniors, and seniors encompasses standards that are essential to the development of basic financial literacy. Students will gain the information and skills to implement a life-long plan for financial success. This elective is one term solid.

## **Dance 2015-2016**

### **Dance Workshop I**

*2 terms, non-solid, ½ credit*

This course introduces students to the basics of dance. We emphasize the fundamentals of ballet and modern dance, and include other styles such as jazz, folk, and African dance. This is a technique class, and we concentrate on physical development and creative exploration of the body's movement capabilities. This course meets 2 days a week.

### **Dance Workshop II**

*2 terms, non-solid, ½ credit*

Students with previous dance experience explore more in-depth study of ballet, modern, and contemporary forms. Pointe work may be incorporated, pending faculty approval. This course is required for any student pursuing Honors in Dance.

### **Dance History and Composition**

*1 term, solid, 1/2 credit*

Dance History and Composition provides a strong historical and theoretical foundation for serious dance students. The course examines general trends in dance, and the development of dance history as it relates to the culture and civilization of the times. It explores historical roots and aesthetic philosophies through the styles of various contemporary choreographers. Class time involves lecture and discussion, video presentations, and an emphasis on reflective involvement in dance and the creation of compositional movement studies. This course is a requirement for any student pursuing Honors in Dance, preferably in the junior year

### **Body Studies**

*1 term, non-solid, ¼ credit*

This course provides elements similar to the popular "Dance for Athletes" course. Students develop body awareness and proper alignment through somatic techniques that emphasize breathing and guided imagery. Stretching the body through dance exercises and movement combinations enhances coordination, balance, and muscle memory. This class may be taken more than once and is beneficial to all who want to maximize the potential of the body. This course meets 2 days a week.

### **Dance for Athletes**

*2 terms, non-solid, ½ credit, A*

This course is a variation of Dance Workshop I and has been designed especially for young men and women involved in sport. Using basic modern and ballet movements, students experience total body awareness and

alignment for the purpose of improving muscle control, balance, and flexibility. Proper stretching techniques and injury prevention are sport-specific highlights.

### **Dance for Athletes II**

*2 terms, non-solid, ½ credit,*

This course continues the work begun in Dance for Athletes. Students work on flexibility and agility through warm up center floor and then develop muscle memory by learning dance phrases that travel through space. A unit on ballroom dance and dancing through the decades in America adds variety and socialization to the class since working in pairs or small groups occur. The students also create their own movement studies to develop their personal ideas about dance in small groups and finally as soloists by the end of the second term.

## **Music 2016-2017**

### **Private Music Lessons**

*1 - 4 terms, non-solid, ½ credit*

Culver students may take private music lessons in piano, organ, voice, band and orchestra instruments, and carillon. This is an opportunity for those who wish to seriously explore their musical studies, or for those who just want to try something new. Private lessons are usually given once per week, and students are expected to practice a minimum of 30 minutes per day. Adjunct teachers will help with the lesson times if demand exceeds the available time of current teachers. A fee is charged for lessons, but musicians who contribute to the school by being enrolled in choir, band, or orchestra may be eligible for a fee reduction. As well, students may be eligible for a reduction based on the amount of financial assistance they receive. Private lessons are scheduled for 45 minutes, one day a week.

### **History of Rock and Roll**

*1 term, non-solid, 1/4 credit*

The goals and objectives of this course are to take an in-depth look at special topics in music, to provide musical experiences through a variety of media, including live artists, introduce students to the vocabulary and language necessary to discuss with a basic degree of music literacy, performances, performers and their technique, as well as relate it meaningfully to a larger context. This course will take an in-depth look at the musical development of Rock and Roll from the early 1950's to the late 1960's. Ultimately, students will be able to formulate intelligent, literate critiques within the topic, and express those to themselves and others via writing and speaking. This course meets 2 days a week.

### **Guitar for Beginners**

*1 term, non-solid, 1/4 credit*

Have you ever wanted to learn how to play the guitar? Have you already tried online videos, books, and the help of your friends? Do your fingers hurt quickly, or do you get confused with all the lines, dots, note names, and numbers? Worry no more! Guitar for Beginners is designed for anyone who has wanted to learn how to play guitar; No previous playing experience is needed. Students can look forward to learning the note names, notation, warm-up exercises, chord names and finger choices, performance techniques, and more. Optional performance opportunities will be made available through the term. This course meets 2 times per week. There is an additional lesson fee associated with this course.

### **Beginning Music Theory & Composition**

*2 terms, non-solid, 1/2 credit*

Music Theory investigates the craft of musical composition found in the "Common Practice Period" of Western music (1600-1900), and students develop a basic understanding of musical skills. Extensive use of MIDI and music notation by computer form a basis for class activities, which include sight singing, ear training, music writing and music analysis.

**Songwriting**

*1 term, 2 days/week, non-solid, 1/4 credit*

Music speaks to the world as no other art does. The power of words combined with music ranges from literally changing history to just having a good time. If you dream of writing that hit song or you just want to set your ideas to music, you can benefit from a plethora of tools available today. Of course, your experience is your greatest asset, and there is also all that stuff you should have been learning, had you been paying attention. This course is an overview of how to seize your inner Moniot d'Arras or Schubert or Mayer or Kanye, or . . . or . . . or . . .

**Music History**

*1 terms, non-solid, ½ credit, B*

Music History surveys Western music against the background of the social, economic, political, cultural, and philosophical developments of the last 2,500 years. The class examines significant composers, their compositions, and musical styles. This course meets 2 days a week.

**Advanced Placement Music Theory**

*3 terms, solid, 1.5 credits*

This course is a continuance of the Music Theory class. Much of the same material, such as scales, intervals, melody, and harmony will be covered. Only basic concepts of each skill are taught in Music Theory, while a deeper application of each concept is covered in AP Music Theory.

**Concert Band**

*4 terms, non-solid, 1 credit, B*

Concert Band is open to any CGA or CMA musician who plays a traditional n\band instrument. The Concert Band maintains a busy performance schedule and plays a wide variety of symphonic band and wind ensemble repertoire. Musicians in the Concert Band also perform in chamber ensembles and combine with the wind players and section when the literature calls for a full orchestra.

**Percussion Ensemble**

*4 terms, non-solid, 1 credit, B*

Percussion Ensemble is open to any CMA or CGA percussionist. Members of the Percussion Ensemble serve as the percussion section of the Concert Band, Orchestra and choir when it is appropriate, as well as in various chamber ensembles. Most of the members of the *Corps of Drums* are members and often use the opportunity to develop skills and prepare for C.O.D. performances. Percussion Ensemble meets Monday, Wednesday and Thursday.

**Jazz Band**

*4 terms, non-solid, 1 credit*

Jazz Band is open by audition to any CGA or CMA musician who plays a traditional jazz band instrument. Jazz Band maintains a busy performance schedule and plays a wide variety of standard and modern repertoire, in both full ensemble and small combos. There is strong emphasis is improvisation.

**Field Music**

*4 terms, non-solid, 1 credit, B*

Field Music is open to all members of the CMA Band Company. The ensemble explores the music and logistics required by the Regimental Band of the Corps of Cadets and offers bandsmen the opportunity to focus on that portion of the music program in total. The class meets on Tuesday and Friday only, with the Wednesday drill period taking the place class on that day.

### **Choir**

*4 terms, non-solid, 1 credit, A*

Choir invites all students to improve their personal vocal skills, sing as a member of an ensemble, and experience all genres of music. Music skills, sight singing, and vocal and performance techniques are developed in choir. The curriculum provides students the opportunity to collaborate with visiting and area choirs, work with distinguished guest artists, and sing in various performances on and off campus. This course meets 3 days a week.

### **String Orchestra**

*4 terms, non-solid, 1 credit, A*

The string orchestra is open to all CMA and CGA musicians who play violin, viola, cello and string bass. The orchestra maintains a busy performance schedule and performs on and off campus several times a year. The members also perform in chamber ensembles and combine with the string orchestra when the literature calls for a full orchestra with winds..

## **Theatre 2015-2016**

### **Introduction to Theatre**

*1 term, solid, ½ credit, B*

A basic understanding of the history of theatre and the recognition of the duties and responsibilities of the personnel involved in producing live theatre will allow students to become more critical in their own theatre experiences. The course emphasizes appreciation of theatre as one of living arts, surveys theatre history and dramatic theory from the Greeks to present Broadway, and includes introduction to basic fundamentals of stagecraft in scenery, lighting, costumes, and other technical areas as well as the actor's role in the theatre. It includes lectures, films, and discussions on the practitioners and work. Attendance at live theatre productions on campus is required.

### **Film Studies**

*1 term, solid, ½ credit, A*

This course, open to 11th- and 12th-graders explores one specific genre of film at a time, using pairs of films for comparison. Students analyze and critique film as both an art form and in comparison with other written and oral histories. The class identifies when the director may have altered historical fact and possible motives for the change. It also explores genres such as science fiction, taking into account the time period when the film was produced, the historical context of the filmmaker's argument, and why he has placed it in a different time and place.

### **Theatre Tech Workshop**

*1 term, non-solid, 1/4 credit, A*

This class will address the world of theatre technology, including lighting, sound, costumes, props and sets. Each term, the focus will concentrate on one or two aspects so that an interested student can take the class for four years and not repeat the content. No prerequisites. Open to anyone interested in learning about technical theatre. This course meets 2 days a week.

### **Acting I**

*2 terms, non-solid, ½ credit, A*

Meeting twice per week, Acting I is an introduction to the development of the physical and intellectual tools the actor needs on stage. The course begins with basic stage movement and pantomime and continues through beginning monologue and scene work. This course meets 2 days a week.

### **Acting Workshop**

*1 term, non-solid, ¼ credit, A*

The Acting Workshop deals with a different challenge in the acting process each term that it offered. Students can take as many of Acting Workshop classes as their schedule permits. Examples of past workshops are: Shakespeare, Restoration Comedy, Viewpoints, Auditioning, and Comedies. This course meets 2 days a week.

### **Honors Seminar - Acting**

*1 term, solid, 1 credit*

The Honors Seminar in Acting is a requirement for 12th graders who are pursuing Honors in Acting. The class covers the actual performance project that is the culmination of the Honors Concentration. Students will choose a variety of scenes that will allow them to explore and develop various characters. They will rehearse with fellow acting students and organize all production aspect of their scenes. They will follow a designated schedule of preparation before their pieces are performed in front of faculty and friends.

## **Visual Arts 2015-2016**

### **Visual Literacy**

*1 term, 2 days/week, non-solid, ¼ credit, B*

**\*\* This course is a pre-requisite for any Drawing, Ceramics, Painting, Sculpture and Photography courses.**

Through discussion and hands-on application of basic art materials, Visual Literacy introduces essential concepts, techniques, and procedures relating to visual expression. In our "information age," television, film, the Internet, and the print media feature images that are designed to convey information or influence attitudes, so literacy means not only the ability to read and write but also the ability to understand, interpret, and produce drawings, paintings, photographs, computer graphics, or other forms of visual expression. Students learn how to "see" images like never before, how to recognize their power to shape attitudes and perceptions, and how to create images that inspire and inform.

### **Art History I**

*2 terms, 2 days/week, non-solid, ½ credit*

Art History I is taught topically, rather than linearly and covers the modern world beginning with the early 17th century, by looking at the art of significant individuals, movements, and cultures of Europe, Asia, Africa and the Middle East. Aligned with Term 1 and 2 of Humanities 10: Global Perspectives curriculum, Art History I will deepen the student's exploration, critical analysis and understanding of the importance of humanities shared artistic heritage in architecture, sculpture, painting and other art forms.

### **Art History II**

*2 terms, 2 days/week, non-solid, ½ credit*

Art History II is taught topically, rather than linearly and covers the modern world beginning with the early 17th century, by looking at the art of significant individuals, movements, and cultures of Europe, Asia, Africa and the Middle East. Aligned with Term 3 and 4 of Humanities 10: Global Perspectives curriculum, Art History II will deepen the student's exploration, critical analysis and understanding of the importance of humanities shared artistic heritage in architecture, sculpture, painting and other art forms. Art History I is NOT a pre-requisite for Art History II.

### **Basic Videography**

*2 terms, 2 days/week, non-solid, 1/2 credit, D*

Basic Videography introduces the student to the use of video as an artistic medium. Photographic composition, narrative sequencing, and basic digital processing are the foundation of the course. Students are expected to supply their own DSLR camera capable of shooting HD video with a 32 GB SD card. Video production and editing will be complimented by examining signification historical developments in the medium and the application of aesthetic critical methods.

### **Drawing**

*2 terms, 2 days/week, non-solid, ½ credit, B*

Drawing students learn to thoughtfully employ line and value to arrive at an image while using a variety of media including pencil, inks, and charcoal. The course is designed to give experience in drawing, from simple descriptions of objects to spatial relationships. Through Drawing, students discover the art of visual communication in a step-by-step examination of common visual ideas. The lives and works of artists, significant historical developments in painting and drawing, and an introduction to aesthetic critical methods will complement this study.

### **Drawing Advanced**

*2 terms, 2 days/week, non-solid, 1/2 credit*

Portrait and Figure Drawing engages the advanced student who would like to concentrate on the human form as a vehicle for visual expression. Using various drawing materials, students develop their understanding of skeletal and muscle anatomy, learn measuring techniques and proportions for the face and figure, and deepen their experience of drawing as a means of visual communication. The lives and works of artists, whose figurative paintings and drawings present a significant contribution to the field of art history, and an introduction to aesthetic critical methods will complement this study. An Honors grade is possible with this course through reflective reading, art historical writing and portfolio performance equivalent of an additional 1 hour's work per week.

### **Ceramics**

*2 terms, 2 days/week, non-solid, ½ credit*

Ceramics stresses the creative use of clay through hand-building of both functional and purely aesthetic forms. Students explore three dimensional design, introductory glazing and surface applications. The historical study of cultures and clay, the lives and works of artists who have advanced significant work in ceramic media, and an introduction to aesthetic critical methods will complement this study.

### **Ceramics Seminar: Wheel Thrown Forms**

*2 terms, 2days/week, non-solid, ½ credit, C*

Though unknown in the America's before 1500AD, the potter's wheel significantly impacted the creation of functional forms across many cultures from far eastern Asia to Western Europe for over 5,000 years. The primary objectives of this course is to teach the art of 'thrown' forms using the potter's wheel. The work of selected cultures and artists, significant historical developments in the medium and aesthetic critical methods will complement this study. An Honors grade is possible with this course through reflective reading, art historical writing and portfolio performance equivalent of an additional 1 hour's work per week.

### **Basic Black & White Photography**

*2 terms, 2 days/week, non-solid, 1/2 credit, B*

Basic Black and White Photography is a film chemistry-based class that introduces the student to camera and darkroom techniques from film to final print. Photographic composition, film development, and basic black and

white processing are the foundation of the course. The lives of photographers, significant historical developments in the medium, and an introduction to aesthetic critical methods will complement this study. Students are required to provide and maintain a personal 35mm Manual SLR film camera.

### **Photography Advanced**

*2 terms, 2 days/week, non-solid, ½ credit, B*

This course will deepen the students understanding of the photographic process. Alternative methods, advanced composition, and creative print applications will be explored. The lives of photographers, significant historical developments in the medium and an attention to aesthetic critical methods will complement this study. An Honors grade is possible with this course through reflective reading, art historical writing and portfolio performance equivalent of an additional 1 hour's work per week.

### **Photography Seminar: Digital Still Photography**

*2 terms, 2 days/week, non-solid, 1/2 credit*

This course explores the world of fine photography using the digital SLR format. Photographic composition, color theory, and the processing of RAW data files using Photoshop CS5 are the foundation of this course. The lives of contemporary photographers, significant developments in the history of photography, and an introduction to aesthetic critical methods will complement this study. Students are required to provide and maintain a personal digital SLR camera. An Honors grade is possible with this course through reflective reading, art historical writing and portfolio performance equivalent of an additional 1 hour's work per week. Pre-requisite: Basic Black & White Photography

### **Painting**

*2 terms, 2 days/week, non-solid, 1/2 credit*

From preparatory drawings to the finished canvas, Painting enables the student to investigate the artistic process of interpreting the visual world on a two-dimensional surface. Students explore the hand/eye relationship, composition, meaning making, and expression through use of acrylic painting media. The lives of painters, significant historical developments in the medium, and an introduction to aesthetic critical methods complement this study.

### **Painting Advanced**

*2 terms, 2 days/week, non-solid, 1/2 credit*

Painting Advanced is designed for the student who would like to build upon skills and knowledge gained in Painting by investigating the possibilities of the medium from painted studies to stretched canvas. The lives of painters, significant historical developments in the medium and aesthetic critical methods will complement this study. An Honors grade is possible with this course through reflective reading, art historical writing and portfolio performance equivalent of an additional 1 hour's work per week.

### **Sculpture Form**

*2 terms, 2 days/week, nonsolid, 1/2 credit*

Sculpture Form students have the opportunity to explore the wide range of 3-dimensional visual expression from the practice of art making through the study of Art History and Art Criticism. The lives and works of artists, the foundation of visual criticism, and explorations in three-dimensional media: both additive and subtractive sculpture will be covered in an integrated comprehensive study.

### **Sculpture Seminar: Equine Sculpture**

*2 terms, 2 days/week, non-solid, 1/2 credit*

Working from live horses, students in this course will learn how to construct a wire armature and apply oil-based clay to develop and model forms. The objectives is to complete an equine sculpture in correct proportion and

anatomical structure. The work of selected cultures and artists, significant developments in the medium, and critical evaluation will complement this study. An Honors grade is possible with this course through reflective reading, art historical writing and portfolio performance equivalent of an additional 1 hour's work per week.

### **Honors Seminar: Visual Art Portfolio**

*4 terms, 3 days/week, 1 credit, C*

*(Seniors only with department permission. Pre-requisite: any three Visual Art Courses)*

Visual Art Portfolio/Honors allows the advanced visual art student to concentrate on an in-depth exploration of one or two visual art media with an emphasis of presentation and exhibition. This class addresses the needs of the individual student in preparing an honors or senior exhibition. A foundation in the elements and principles of visual composition will be the common connection between the students in this course. An individual plan of study will be developed with each student and assessed and revised, if necessary, each term. The ability to work independently is an expectation of this class.

## **ESOL 2015-2016**

The goal of the English program for international students is to prepare them for success in their academic work at the Academies. The program focuses on building and solidifying various language skills, including reading, writing, listening, and speaking, as well as improving their English grammar and vocabulary. Along with helping students to develop good study habits, the ESOL program prepares students to handle the language requirements of other courses, and also to handle a variety of assignments - from taking notes to text analysis, writing papers, preparing arguments, making presentations. In addition, the program will help students understand cultural differences and expectations in Culver classrooms.

### *ESOL (English for Speakers of other Languages)*

*2 terms, solid, 1 credit, C*

English for Speakers of other Languages is the first of two courses with these overall objectives. ESOL will cover the basics, focusing on writing clear, correct sentences, unified and coherent paragraphs, basic essay structure, initial skills in research, and journal writing. ESOL students will do both intensive and extensive reading of a variety of texts. During the semester the students will report on their independent reading both in their journals and in presentations. The grammar instruction will be purposeful with a goal of incorporating the correct grammar into the students' overall competence. To develop speaking ability and confidence, students will be making presentations, leading class discussions, and participating in role play or dramatic situations in front of others. (All students finishing ESOL move on to English 1.)

### *English 1*

*2 terms, solid, 1 credit, C*

The second course in the ESOL program is for students who have already demonstrated some solid skills in English. Students will continue to develop their overall English competency in all skill areas. English 1 will focus on writing unified and coherent paragraphs, essays using various rhetorical styles, developing more advanced research skills, and also journal and creative writing. Students will read from a variety of texts, including several novels, and will read as part of researching topics. The students will do their own independent reading and report both in their journals and in presentations. The grammar instruction will be student-centered with students working independently according to their own difficulties. To develop speaking ability and confidence, students will be making presentations, leading class discussions, and participating in role play or dramatic situations in front of others. (Students finishing English 1 move into regular humanities and literature classes with their peer groups.)

### *English Studies*

*2 terms, non solid, 1/2 credit, B*

This non-solid course serves as a bridge course for ELL students as they transition from the ESOL program into full participation in mainstream programming. English Studies partners with the mainstream Humanities classes and supports students in the development of the language skills needed for successful performance in mainstream coursework. In English Studies, the students work independently to improve their skills, and

instruction is personalized based on the particular needs of the student. Students work on a variety of advanced reading comprehension skills, vocabulary expansion, academic writing, such as critical responses and essays, skills involving research writing, advanced grammar and/or formal speaking in presentations and discussions. The bulk of the course relates directly to materials being covered in the parallel sections of humanities in which students are enrolled. In this regard, the class provides an ideal environment for students to ask questions related to assignment guidelines, teacher expectations, unfamiliar content, cultural issues and language use. The secondary focus of English Studies is to help students improve their performance in standardized testing, especially TOEFL testing. A portion of each class and homework assignments are devoted to developing students' overall language proficiency. Student eligibility for English Studies is based on teacher recommendations, ITP or iBT TOEFL testing, overall skill level and performance in mainstream classes.

## Horsemanship 2015-2016

### *Basic Equine Science*

*4 terms, non-solid, ½ credit, B*

This year-long course is for new Troopers and first-year CGA students who are evaluated and placed in classes with others of comparable riding experience. No prior riding experience is required. Lessons are conducted mounted in the "Balanced Seat." Activities include an introduction to mounted drill, Rough Riding, dressage, jumping, polo, cross-country, and trail rides. Booklet instructions include horse care, feeds, diseases, wounds, treatments, anatomy, and more. This course meets 2 days per week.

### *Advanced Equine Science*

*4 terms, non-solid, ½ credit, B*

This course, for returning Troopers and CGA students, provides advanced instruction in the "Balanced Seat," as well as fox hunting, dressage, pas de quatre, polo, jumping, polo crosse, cross-country, history of the horse and cavalry, breeds, conformation, age by teeth, horse identification, horse shoeing, hoof care, and more. This course meets 1 day per week.

### *Honors Seminar Equine Science*

*4 terms, non-solid, ½ credit*

This course is designed to provide Equine Science students with an opportunity to complete an honors project under the guidance of and for presentation to Horsemanship Department faculty. Students will pursue self-directed in-depth research in an area of equestrian studies that interests them and present their findings to Honors Seminar Advisers and interested students and faculty. This course meets 2 days per week.

## Humanities 2015-2016

Culver Academy requires 7 1/2 credits in Humanities. United States History and three 12th grade Humanities electives are required. The US History required is fulfilled through the American Studies in History, Literature and Culture course offered in the Junior year.

## 9th Grade Humanities

### **Western Perspectives – Greece through the Renaissance**

4 terms, solid, 2 credits, B

Humanities 9 is an interdisciplinary course focusing on the ancient cultures of the Mediterranean and Europe from late antiquity through the Italian and Northern renaissances. The great classical cultures centered on Athens, Jerusalem, and Rome will be studied, as will the birth and evolution of the Medieval World. The rise and diffusion of Islam from the 7th through the 15th centuries is also a major theme. Texts include Homer's *The Odyssey*, the Jewish and Christian bibles, the Qur'an, medieval or medieval-themed works, and *Romeo and Juliet*. Art, music, and architecture are also featured elements of the curriculum. Students learn to read, write, speak, and think critically about the human experience.

## 10th Grade Humanities

### **Global Perspectives – Renaissance to Modern**

4 terms, solid, 2 credits, C

Humanities 10 is an interdisciplinary course focusing on the modern world beginning with the early 17th century. Students study the literature, history and arts of Europe and non-western cultures from Asia, Africa, and the Middle East. As a result, students will gain a deeper understanding of global patterns, the world's history, multiple perspectives, and global citizenships. Early emphasis is placed on the Reformation, the scientific and industrial revolutions, and the political revolutions of the 18th and 19th centuries. Students also focus on European colonialism and its effects, the changing role of women and work, and the evolution of the concept of human rights. Overall course content, which also involves a significant current events component, is presented through the theme of globalization. Students explore and learn to think critically about topics such as progress, culture, nationalism, conflict, and global citizenship through discussions and writing in a variety of styles. Texts include *The Merchant of Venice*, *Frankenstein*, *Things Fall Apart*, *Swallows of Kabul* and *White Tiger*.

### **Global Perspectives with Advanced Placement World History**

4 terms, solid, 2 credits, D

Like Humanities 10, Global Perspectives with AP World History is an interdisciplinary course focusing on globalization in the modern world. As a result, students will gain a deeper understanding of global patterns, the world's history, multiple perspectives, and global citizenships. Students develop critical thinking, speaking and writing skills through the study of literature, history and arts from a global perspective. The class covers the world including Europe, Asia, Africa, Latin America, the Middle East, and to a lesser extent North America. Although the course emphasizes the time period since the Renaissance, the course also reviews earlier and ancient world history in order to prepare for the AP World History exam in May. Preparation for the exam also includes extensive practice analyzing documents and constructing arguments in response to college-level essay questions. Students will be expected to do most of the same readings and develop similar skills as Global Perspectives course but will also be asked to read a greater quantity of challenging readings, command a large amount of historical information, and excel on multiple choice tests. Any student may register for this course; however, department approval is required to be official registered.

## 11th Grade Humanities

### **American Studies in History, Literature, and Culture**

4 terms, solid, 2 credits, B

This course seeks to develop critical thinking, reading, speaking, and writing skills by providing an integrated, disciplinary and interdisciplinary study of American literature, history, and culture. Texts include *The Lone Ranger* and *Tonto Fistfight in Heaven*, *The Declaration of Independence*, *The Constitution of the United States of America*, *The Narrative of the Life of Frederic Douglass, an American Slave*, *The Great Gatsby*, *Of Mice and Men*, and *Raisin in the Sun*.

### **American Studies with Advanced Placement U.S. History**

4 terms, solid, 2 credit, E

The principal aim of this elective course is to prepare students for the AP U.S. History exam through the development of critical thinking, reading, speaking, and writing skills. At the same time it provides a complementary survey of American literature and culture, so as to provide an interdisciplinary understanding of the relationship between these fields in shaping the American experience. Texts include *The Crucible* and *Of Mice and Men*. Any student may register for this course; however, department approval is required to be officially scheduled.

### **American Studies with Advanced Placement English Language & Composition**

4 terms, solid, 2 credit, D

This elective seeks to develop critical thinking, reading, speaking, and writing skills by providing an integrated study of American literature, history, and culture. There is a particular focus on close reading of applicable texts and intensive writing to prepare students for the AP English Language and Composition exam. Texts include *The*

Awakening, The Color Purple, The Declaration of Independence, The Constitution of the United States of America, The Narrative of the Life of Frederic Douglass, an American Slave, The Great Gatsby, Into the Wilde, and The Crucible. Any student may register for this course; however, department approval is required to be officially scheduled.

## 12th Grade Humanities

The Humanities 12 curriculum is designed around 3 main categories: Text and Context, Writing Workshop and Citizenship. Students are required to take 1 1/2 credits by selecting one course from each category. Below is a quick reference of the course offerings:

<u>Text and Context</u>	<u>Writing Workshop</u>	<u>Citizenship</u>
African Literature	Expository Writing Workshop	American Government
Middle Eastern Lit	Imaginative Writing Workshop	Comparative Government
American Civil War	Creative Writing Workshop I	Political Economics
Myth and Literature	Honors Seminar: Creative Writing	Racism in America
Religious Texts as Literary Sources		
Shakespeare		
Speech		
Thinking Smart and Living Well		

## Text and Context Course Offerings

Select one course from the offerings listed below, or register for an AP or honors course that meets this requirement.

### **African Literature & Culture**

1 term, solid, 1/2 credit, B

This course will provide an introduction to the history, literature and culture of sub-Saharan Africa. From its ancient civilizations to its modern predicaments, the story of this continent is one of diversity and complexity. The essential question for this course is one of perspective: whose story is it to tell? Whose voice ought to be heard? Whose language should be used? We will explore issues of ethnicity, religion, colonialism, poverty and politics through a variety of readings, films, art and music. Various and often conflicting perspectives will be examined to expand our understanding of specific events and age-old questions regarding identity, death, power, forgiveness and the like. After all, the African story differs only in its context: the humanity is the same.

### **Middle Eastern Literature**

1 term, solid, 1/2 credit, B

In the post-September 11 world, understanding the Middle East is important since it figures so prominently in the politics and imagination of America. Yet despite how much we hear about the region, there is much that we don't understand about this large and diverse area that has a long and rich history. We all have opinions or ideas about the region and the people who live there, but are they valid? How do cultures and the people of the Middle East understand themselves and what shapes our understanding of them? What is the role of religion in the region? We

will approach these questions through a study of literature and religion in order to gain a better understanding of the cultures, economics, politics, history and current events of this region.

### **American Civil War**

1 term, solid, 1/2 credit, B

This course is an analysis of the American Civil War through the lenses of character, leadership and the humanities. The course asks the question: What makes a good and effective leader? The course answers the question by analyzing leadership traits, character strengths and resilience factors in the context of the Civil War, in particular the Battle of Gettysburg. The course will do in-depth reading of and writing about Michael Shaara's *The Killer Angels*, the Pulitzer Prize winning classic narrative. By integrating history, literature, and organizational theory, the course seeks to cultivate students' leadership ability, character strengths, and understanding of the culture of the Civil War in American life.

### **Myth & Literature**

1 term, solid, 1/2 credit, C

In Myth and Literature, we will consider narratives and related writings from specific traditions which provide chronological/geographical variety. The aim is to understand better the literary and historical environments out of which these mythological sources emerged. Specifically, this course will introduce fundamental approaches and concepts useful for the critical analysis of literature. In order to facilitate this analysis, the mythological sources have been selected to explore the theme of "The Hero's Journey" as described by Joseph Campbell in his examination of "mono-myth." There will be regular discussion and written assignments designed to assist and assess the defined goals of this course.

### **Religious Texts as Literary Sources**

1 term, solid, 1/2 credit, B

Religious texts – narratives, poetry, dramas, and letters – help play a key role in any religion and culture. But they are also literary texts that have influenced other literary traditions, history, and fields such as archaeology. We will discuss issues such as historiography, primary versus secondary sources, oral tradition, and faith versus knowledge as we interpret religious texts and their influence on culture outside theology. This course will probe a variety of literary texts from a variety of religious traditions.

### **Shakespeare**

1 term, solid, 1/2 credit, B

This course seeks to accomplish three main goals: to provide a venue for sustained, in-depth study of two of Shakespeare's iconic plays, and to strengthen students' capacity for high-level critical reading and thinking. This approach to the study of Shakespeare also aims to improve students' metacognitive ability by providing ample opportunity for reflecting on topics related to the formulation of judgments, the revision of opinions, and the nature of learning that will be of value to students in any academic enterprise in the future.

### **Speech**

1 term, solid, 1/2 credit, B

This course is designed to give students instruction in and exposure to the art of constructing and delivering a speech. Primary emphasis is placed on extemporaneous speaking, but oratory and interpretation are also studied. Each student gives a series of speeches that employ the techniques studied. Students are also expected to write a number of compositions.

### **Literature of Behavioral Economics (Formally known as Thinking Smart, Living Well)**

1 term, solid, ½ credit, B

This class seeks to introduce students to something they think they know pretty well: their own minds. The ways that we usually talk about what we think, how we perceive, what it means to 'know something' and why we behave as we do are actually quite misleading given what science has begun to reveal about how the brain actually functions. By reading several different authors' takes on the brain, students will learn about the invisible and unconscious forces that are always at work and how they are both a blessing and a curse. By raising our awareness of what our brains do automatically, we can learn to identify moments when we need to 'push the pause button' and slow down, look again and think again. Understanding how and when our brains work well and understanding when and how they don't work quite so well can help us develop the tools we need to making living and learning better.

### **Character, Leadership and The Great War**

1 term, solid, ½ credit, B

This course is an analysis of the Great War (World War I) through an interdisciplinary study of character, leadership and the humanities. The course asks the question: What makes a good and effective leader? The course answers the question by analyzing leadership traits, character strengths, and resilience factors in the American and global context of the Great War. The course will focus on key characters and moments in the war through close, in-depth reading of memoirs, short-stories, poetry, film, and The West Point History of Warfare. The course will utilize simulations, presentations, and some research as it also uncovers Culver's own part of the World War I story. By integrating history, literature, and organizational theory, the course seeks to cultivate students' leadership ability, character strengths, and understanding of the culture of the Great War.

## **Writing Workshop Course Offerings**

Select one course from the offerings listed below, or register for an AP or honors course that meets this requirement.

### **Expository Writing Workshop**

1 term, solid, 1/2 credit, C

Expository courses explore a theme such as money, food, or protest as a way to clarify students' understanding of effective non-fiction writing. The analysis of published articles of various types with an eye to writing technique, purpose, and audience helps students write their own versions of such pieces. Expository courses require students to review and practice correct documentation and citation as they engage in some research. Students are required to review and accurately apply correct writing conventions which are crucial to unimpeded communication. Frequent writing, peer and teacher feedback, and authentic, mindful revision serve as hallmarks of the courses. Students develop an understanding of how to use organization, sentence variety, word choice, and voice/tone in the service of their ideas.

### **Imaginative Writing Workshop**

1 term, solid, 1/2 credit, C

Imaginative Writing courses explore a topic such as Devils and Dragons or moments of history to enable students to write related fiction effectively. The analysis of published work along with frequent short prompts builds awareness of specific and specialized writing techniques that make stories compelling. Imaginative Writing courses require students to review and practice correct documentation and citation as they engage in some research. Students are required to review and accurately apply correct writing conventions which are crucial to unimpeded communication. Frequent writing, peer and teacher feedback, and authentic, mindful revision serve as hallmarks of the courses. Students develop an understanding of how to use organization, sentence variety, word choice, and voice/tone in the service of their ideas.

### **Creative Writing Workshop I**

1 term, solid, 1/2 credit, C

(open to sophomores, juniors, and seniors who wish to pursue Honors in Creative Writing)

Students in this course will contribute both their own independent work and practice different techniques in and out of class in order to improve their craft. The goal is for each to create an introductory portfolio of original work while learning the processes of drafting, rewriting, and critical and peer review, culminating in a formal presentation folder

of their best work for review. Students will be encouraged to submit work during and after class to the Quill, Vedette and off campus publications. Students may apply from this course for Honors in Creative Writing.

### **Honors Seminar Creative Writing**

1 term, solid, 1/2 credit, C

This course, to be taken after Creative Writing Workshop I, provides the students with a workshop focused on the development and completion of a chapbook or portfolio of work for Honors. Students will continue to do more advanced work with revision and criticism, and develop a focus for their own writing. Students will complete more formal projects, including work with an author or authors whose work they would like to examine in a more formal way (combination of analysis, research essay, imitation of forms); or on a specific genre. There will be more formal development of peer review and critical skills, and more advanced study of various types of prose and/or poetry. By the end of the term, each Honors candidate will put together an extensive formal presentation portfolio/chapbook, to include a review of their own work in the context of other genres, and an essay on the writing process, as well as a body of original work. Students may choose to develop work from Creative Writing Workshop I, but must also produce new work for the Honors Seminar. The final portfolio or chapbook will be submitted in partial fulfillment of the requirements for Honors in Creative Writing.

### **Citizenship Course Offerings**

Select one course from the offerings listed below, or register for an AP or honors course that meets this requirement.

#### **American Government**

1 term, solid, 1/2 credit, C

In order to facilitate a personal connection and civic mindedness, this 12th-grade course focuses on the workings of our national government. The foundations of the U.S. government are laid bare by comparing the types and origins of government and by conducting an in-depth analysis of the Constitution. Political behavior focuses upon the roles played by political parties, interest groups, the voters, the electoral process, mass media, and public opinion. The course further investigates a contemporary look at the legislative, executive, and judicial branches of government. A review of civil liberties and civil rights concludes the study.

#### **Comparative Government**

1 term, solid, 1/2 credit, B

Comparative Government and Politics is an essential course of study for students in the twenty-first century. Global events that impact our lives daily underscore the importance of understanding how governments and states operate differently from the United States. This course focuses upon a theoretical framework in which to compare and contrast political systems from all parts of the world. Students should grasp the commonalities as well as the differences among the states that are studied, and they should be able to draw conclusions about those states based upon these investigations. The course takes a country-by-country approach with intense concentration upon conceptual comparisons. Following the introduction of concepts and theory and the analysis used in each country, the course progresses along much of the same path for each of the core countries to be studied. Countries that could be studied -but certainly not limited to- are Great Britain, Russia, China, Mexico, Nigeria and Iran. Students will examine the following topics: Sovereignty, authority and power; political institutions; citizens, society and the state; political and economic change and public policy.

#### **Political Economics**

1 term, solid, 1/2 credit, C

This 12th-grade course focuses on the moral issues of political economy. To study these moral issues, students will use lenses such as the justification and distribution of private property, authoritative vs. market allocation, taxation and public goods, education, discrimination, the environment, and actions of government. In this class, students will apply economic theories and concepts to the study of political action and the formation of policy in addition to learning how economic and political forces may shape the incentives and constraints of policymakers and other political actors. Finally, students will begin to make use of class analysis as a way to understand the moral issues of political economy listed above. **Note:** This is a course grounded in the controversies or disputes over the moral issues of political economy. Students wishing to take a more skill-driven, classical economics course should visit the Ron Rubin School for the Entrepreneur course listings.

### **Racism in America**

1 term, solid, ½ credit, A

This elective explores, through Aguirre & Turner's text *American Ethnicity*, the nature of racism and prejudice in American society and culture. Both sociology models and historical examples are used in analyzing the development and maintenance of racism on individual, institutional, and cultural levels. Emphasized are the enslavement and segregation of African-Americans, the historical treatment of Native Americans, the emergence of hate groups throughout the country, the internment of Japanese-Americans during World War II, and the role of anti-Semitism in the American response to the Holocaust.

## **Humanities Advanced Placement and Honors Courses**

Students who complete AP and Honors courses should review the information below to determine what courses they must take in addition to their AP and/or Honors courses for graduation.

<b><u>If you take this course:</u></b>	<b><u>You satisfy:</u></b>	<b><u>You still need to take:</u></b>
AP Government & Politics	Writing Workshop Citizenship	Text and Context
AP European History	Text and Context Writing Workshop Citizenship	None
AP English Literature	Text and Context Writing Workshop	Citizenship
Honors in Humanities, Seminar A	Text and Context	Writing Workshop (satisfied by Seminar B) Citizenship
Honors in Humanities, Seminar B	Writing Workshop	Text and Context (satisfied by Seminar A) Citizenship
Honors Seminar: Creative Writing	Writing Workshop	Text and Context Citizenship

### **Advanced Placement Government and Politics**

4 terms, solid, 2 credits, C - satisfies Writing Workshop and Citizenship. One course selection from Text & context required.

This 12th-grade elective focuses upon the study of politics and government from three perspectives: American, Comparative, and the Art of Political Writing. Through close contextual reading of the US Constitution and related documents, the American Government and Politics segment will include an investigation of the Constitutional underpinnings of U.S. democracy; political beliefs and behaviors; political parties, interest groups, and mass media; institutions of national government; public policy; and civil liberties and civil rights. Comparative Government and Politics includes an introduction into comparative politics; sovereignty, authority, and power; political institutions; citizens, society, and the state; political and economic change; and public policy. The nations of Great Britain, Russia, China, Nigeria, Iran, and Mexico will serve as paradigms for these topics of study. The Art of Political Writing will include various types of writing for political purposes. Writing briefing papers, free-response questions, expository essays, persuasive opinions, research analysis, and political editorials will expose students to the various types of political writing essential for effective written communication. Any student may register for this course; however, department approval is required to be officially scheduled.

### **Advanced Placement European History & Literature**

4 terms, solid, 2 credits, E - satisfies Text and Context, Writing Workshop and Citizenship requirements

This reading and writing intensive course provides a college-level introductory survey of modern European History from roughly A.D. 1300 to the present. It also prepares students for the Advanced Placement exam in European History. The goals of the course are to provide students with an overview and understanding of the themes, periods, events, and people of modern Europe; a good working knowledge of historical practice and writing; and the qualifications that will enable them to pursue upper level history, literature, political science, international relations, economics and Humanities studies in college. Students will explore the literature, art and philosophy of Europe within historical, political, economic and social contexts. These topics also help introduce them to the foundations of modern international relations, globalization, current international problems and human rights. Students will examine the inter-relationship between these topics, as well as their roles in the development of the identities of the individual, the state, the nation and Europe as an entity. Students will also consider questions of cause and effect and change over time, as well as other basic elements of practicing history. This course regularly asks for the analysis and synthesis of primary and secondary sources in written form, as well as the mastery of historical events, people, eras, and themes. While this is an interdisciplinary Humanities class, students will be fully prepared to sit for the AP European History exam in May. Any student may register for this course; however, department approval is required to be officially scheduled.

### **Advanced Placement English Literature**

3 terms, solid, 1 1/2 credits, E - this course satisfies Text and Context and Writing Workshop. One course selection from Citizenship is required.

AP English Literature offers a rigorous college-level approach to the study of literature and prepares students to take the AP English Literature exam in the spring. Organized thematically, this course requires in-depth analysis and close reading of challenging British and American poetry, drama and novels. Students are expected to write extensively and frequently on all texts covered in class, to understand and begin to use a number of the important critical approaches to analysis, and to participate in intense class discussion. Any student may register for this course; however, department approval is required to be officially scheduled.

### **Humanities Honors - Seminar A**

1 term, solid, 1/2 credit, C - satisfies Text and Context requirement. One selection from Writing Workshop and Citizenship courses is required.

Honors Seminar A allows students to pursue deep study of a topic of their choice within the expertise of our faculty and have the opportunity to graduate with honors or a concentration in humanities or global studies. In this course, students will select their honors topic and begin the literature review for their final product. In addition to time for reading and research, students will master their skills at deep analysis of singular texts (primary sources and academic research) and synthesis of an argument that is based on multiple perspectives of the selected topic. There will be interim benchmarks for honors candidates to update the Humanities Department Leadership team on their progress and metacognitive reflections. The final product for this class is to complete the reading and research phases of the honors projects. Any student may register for this course; however, department approval is required to be officially scheduled.

### **Humanities Honors - Seminar B**

1 term, solid, 1/2 credit, C - satisfies Writing Workshop requirement. One course from Citizenship is required.

In Honors Seminar B, students will begin to write their literature review of the topic they selected from the prior term. Students will master their writing skills related to synthesis of multiple perspectives. After the completion of the literature review, students will have earned the right to write original commentary on their chosen topic. Students will demonstrate their skill at constructing an argument, synthesizing multiple ideas and perspectives, and providing evidential support. There will be interim benchmarks for honors candidates to update the Humanities Department Leadership team on their progress and metacognitive reflections. The final product for this class is to complete the literature review, the original commentary, and the reflective piece for the presentation of the Honors product in the spring.

## Interdisciplinary Studies 2015-2016

### **Creative Writing Workshop**

*Solid, one term, 1/2 credit*

Students in this course will contribute both their own independent work and practice different techniques in and out of class in order to improve their craft. The goal is for each to create an introductory portfolio of original work while learning the processes of drafting, rewriting, and critical and peer review, culminating in a formal presentation folder of their best work for review. Students will be encouraged to submit work during and after class to the Quill, Vedette and off campus publications. Students may apply from this course for Honors in Creative Writing.

### **Honors Seminar: Creative Writing Workshop**

*Solid, one term, 1/2 credit*

This course, to be taken after Creative Writing Workshop I, provides the students with a workshop focused on the development and completion of a chapbook or portfolio of work for Honors. Students will continue to do more advanced work with revision and criticism, and develop a focus for their own writing. Students will complete more formal projects, including work with an author or authors whose work they would like to examine in a more formal way (combination of analysis, research essay, imitation of forms); or on a specific genre. There will be more formal development of peer review and critical skills, and more advanced study of various types of prose and/or poetry. By the end of the term, each Honors candidate will put together an extensive formal presentation portfolio/chapbook, to include a review of their own work in the context of other genres, and an essay on the writing process, as well as a body of original work. Students may choose to develop work from Creative Writing Workshop I, but must also produce new work for the Honors Seminar. The final portfolio or chapbook will be submitted in partial fulfillment of the requirements for Honors in Creative Writing.

## Leadership 2016-2017

### **Living, Learning, Leading**

*2 terms, solid, 1 credit*

Through an integrated, rigorous curriculum, the Living, Learning, Leading course exposes students to current research, case studies and literature to build a foundational understanding of the Culver mission in terms of Wellness, Learning and Leadership.

Freshmen and 4th classmen will learn about their strengths, how their brains really work, reflect upon decisions and their impact on others. They will cultivate wellness habits and experience collaborative service. As they explore the Culver mission, students are explicitly introduced to successful learning process skills such as note taking, reading, cooperative skills and best practices with technology. With these essential skills, the three core strands of wellness, learning and leadership weave together to prepare students for success and well-being at Culver and beyond.

### **Thinking and Teaming**

*1 term, non-solid, 1/4 credit, B*

Thinking and Teaming is an integrated curriculum that exposes sophomore students to critical aspects of leadership for the 21st century that include collaborative teaming, innovative thinking and responsible citizenship in a technological world. Students will learn and explore through the process of design thinking - an interdisciplinary process of collaborative learning that cultivates team building, innovation and strategic leadership. The workshop-based course weaves together themes of character and virtue, decision-making processes and communication skills as learners collectively develop frameworks for innovative problem solving and effective collaboration essential for successful leading in today's world.

### **Ethics: Virtues and Character Education**

*1 term, solid, ½ credit, B*

The Ethics course provides Juniors and 2nd Classmen with the background to be able to integrate the aspects of character and the virtues into all facets of their daily life: academic, leadership, athletic, social and religious. It introduces students to the concept of moral leadership – a balance between legitimate authority and the virtues that form the Culver Leadership culture (wisdom, courage, moderation, and justice). Coursework stresses the application of critical thinking, dilemma resolution, and ethical decision-making in the context of active leadership. The course integrates the traditional humanities disciplines – literature, history and philosophy – through readings, student writing, film analysis, and group discussions.

### **Service Leadership Practicum**

*1 term, non-solid, ¼ credit, B*

This is a one-term non-solid course with student work continuing throughout the academic year until the chosen service project has been completed. It is designed to incorporate three general elements: service, servant leadership, and critical thinking. Servant leadership is a leadership style whereas service is an action that our society connects to volunteerism. In service, the key elements of decision-making, communication, problem-solving, and the application of virtues are all integrated under the umbrella of critical thinking. Students utilize leadership experiences, academic learning, and interests to design and execute a service project that will contribute to a community of their choosing. Students are evaluated on the application of decision-making and problem solving skills, communication, planning and reflection on all aspects of their project. This course meets 1 day a week in Term 1.

## **Mathematics 2015-2016**

**Culver Academy requires three (3) credits in Math, including Introductory Algebra, Geometry and Intermediate Algebra.**

### **Pre-Algebra**

*2 terms, solid 1 credit, A*

This course is for students who need strengthening in basic skills before beginning a study of algebra. It provides background needed for a successful study of algebra and promotes a mastery of math techniques. This course does not count toward fulfilling the graduation requirement and is offered when there is sufficient need.

### **Introductory Algebra A**

*1 term, solid, 1/2 credit, B*

This introductory algebra course encourages students to develop mathematical skills, techniques, and concepts through applications and hands-on experiences. Careful thinking and systematic problem solving are stressed. The topics will focus on numerical understanding, understanding variables, solving linear equations, and basic statistics.

### **Introductory Algebra B**

*1 term, solid, 1/2 credit, B*

This introductory algebra course encourages students to develop mathematical skills, techniques, and concepts through applications and hands-on experiences. Careful thinking and systematic problem solving are stressed. The topics will focus on methods of solving systems of equations, mathematical relationships, and polynomial functions.

### **Introductory Algebra C**

*1 term, solid, 1/2 credit, B*

This introductory algebra course encourages students to develop mathematical skills, techniques, and concepts through applications and hands-on experiences. Careful thinking and systematic problem solving are stressed. The topics will focus on rational expressions, real numbers, and quadratic functions.

### **Geometry**

*2 terms, solid, 1 credit, C*

This course builds on the Algebra I foundation. The emphasis is on the traditional topics in plane, solid, and coordinate geometry. Students are also introduced to concepts in mathematical logic and trigonometry.

### **Honors Geometry**

*2 terms, solid, 1 credit, D*

This course is for students with above average math ability and background. It covers plane, solid, and coordinate geometry using deductive and inductive reasoning. Algebra skills are reviewed and trigonometry is introduced.

### **Intermediate Algebra**

*2 terms, solid, 1 credit, B*

This course focuses on the conceptual understanding of traditional algebra topics. After concepts and skills of Introductory Algebra are reviewed and extended, new topics of algebra are introduced. In particular, polynomial, trigonometric, logarithmic, and exponential functions are emphasized.

### **Honors Intermediate Algebra**

*2 terms, solid 1 credit, C*

Algebra and trigonometry are integrated in this course for students with strong records in mathematics. Concepts and techniques of algebra and trigonometric, logarithmic, and exponential functions are studied.

### **Honors Pre-Calculus**

*2 terms, solid, 1 credit, B*

Students in this course have studied trigonometry in Honors Intermediate Algebra Trigonometry. The course treats basic mathematical concepts – the number system, vectors, and functions (algebraic, exponential, logarithmic, and trigonometric) – from a modern point of view. Graphing calculators are used regularly. There is a substantial amount of analytic geometry.

### **Pre-Calculus I: College Algebra I**

*1 term, solid, ½ credit, B*

This course extends a student's work in mathematics beyond the second-year algebra level to include extensive work with linear and quadratic equations and inequalities, including graphs, exponential and logarithmic functions and graphs, and analytic geometry. Extensive use of graphing calculators (TI-83 or 84) is required.

### **Pre-Calculus II: Trigonometry**

*1 term, solid, ½ credit, B*

The traditional trigonometry functions, identities, and equations are studied extensively, as well as transformations and triangle applications. Again, the TI-83 or 84 calculator is required.

### **Pre-Calculus III: College Algebra II**

*1 term, solid, ½ credit, B*

The course is the sequel to Pre-Calculus I and is the third leg of the path a student would take from the Algebra II level to the Elements of Calculus level. The text is the same as Pre-Calculus I, with additional supplemental material on trigonometry. Polynomial and rational functions are studied, as well as additional work with matrices, sequences and series, the binomial theorem, math induction, probability, and limits. Vectors, complex numbers, parametric equations, and polar equations are also studied. The TI-83 or 84 calculator is used extensively.

*Note: Students who carry just two of the three previous courses will not be prepared to enroll in Elements of Calculus, but will have a solid background in mathematics to be successful in a pre-calculus course at the college level.*

### **Computer Programming**

*1 term, solid, ½ credit, A*

This introductory programming course develops an understanding of the relationships between mathematics, computers, and problem solving. Students learn to manipulate Karel the robot, using Java. They also learn to program their TI-calculators and work with 3-D animation. No prior knowledge of programming is required. Prerequisite is the completion of Geometry.

### **Statistics**

*1 term, solid, ½ credit, B*

This course covers topics found in an introductory college course in probability and statistics. There is an emphasis on practical applications and the appropriate handling of data. Computers and calculators are used extensively throughout the course.

### **Honors Elements of Calculus**

*2 terms, solid, 1 credit, C*

This course is offered to students who have completed Pre-Calculus or its equivalent, but who are not ready for, or are not interested in, Advanced Placement Calculus. Coverage is reduced from that of AP Calculus, but topics are covered with similar care and rigor. Upon successful completion of this course, students will be prepared to begin the calculus sequence in college.

### **Advanced Placement Statistics**

*3 terms, solid, 1½ credit, B*

This course is designed for students who have performed well in earlier mathematics courses and want the challenge of taking a college-level AP statistics course. Students study data collection through the appropriate design of experiments and surveys. There is an emphasis on organizing, summarizing, displaying, and exploring data using descriptive statistics. Students also study and apply the basic principles of probability. In addition, the binomial, normal, t, and Chi-square probability distributions are covered. Finally, there is a strong component of inferential statistics where students draw conclusions about populations from samples. Computers and calculators are used extensively throughout the course.

### **Advanced Placement Calculus BC**

*3 terms, solid, 1½ credit, D*

Students enrolling in this course need to have demonstrated competence in Pre-Calculus, only a limited review is included. The syllabus includes the topics recommended for the BC Advanced Placement program of the College Entrance Examination Board, and students are expected to take either the AB or BC level A.P. examination in calculus. Some students receive credit for advanced placement when they enter college, while others enter freshman honors sections. The TI-83 or 84 calculator is used extensively.

### **Advanced Placement Calculus AB & Advanced Placement Physics C**

*4 terms, solid, 2 credits*

This is an interdisciplinary collaborative course designed to combine science and math in a seamless study over 4 terms in preparation for both the AP Physics C: Mechanics and AP Calculus AB exams in May. AP Physics C provides a systematic introduction to the principles of classical mechanics. Topics are equivalent to those covered during a first semester physics course, including linear motion, dynamics, energy and rotation. AP Calculus AB covers limits and the concept, properties, applications and computations of derivatives and integrals. A computer and the TI-83/84 calculator are used extensively to analyze and graph data, present simulations and provide content to the course. Pre-requisite is a GPA of 3.0 or better in prior math and physics courses.

### **Honors Seminar: Mathematics**

*2 term, solid, 1 credit*

The Honors Mathematics Seminar is for students who have demonstrated exceptional ability and interest in mathematics and who are interested in pursuing the subject beyond the Advanced Placement level. Students will select topics in a range of subject areas including linear algebra, multivariable calculus, differential equations, and number theory and engage in in-depth research under the guidance of a mathematics instructor. To earn honors, each student must successfully complete a detailed report of their findings and present their results findings to a scholarly forum of faculty members. Successful completion of AP Calculus BC is a pre-requisite for this course.

### **Advanced Placement Computer Science**

*3 term, solid, 1 credit*

This is a computer programming course. Its curriculum is based on the syllabus developed by the College Board. The major emphasis in this course is on object-oriented programming, algorithms, and fundamental data structures. Programming skills and conceptual understanding are developed through a problem solving approach. The programming language used is Java. Students prepare to take the AP Examination.

## **Modern & Classical Languages 2015-2016**

### **Chinese**

#### **Chinese I**

*2 terms, solid, 1 credit, B*

Chinese 1 introduces students to the Chinese phonetic system of pronunciation and tones. It also gives them a brief picture of the Chinese the writing system (characters). The textbook is supplemented by a students' workbook and an audio CD. The phonetic system pinyin is used to help students master pronunciation and learning skills. A planned sequence of basic grammatical structures is introduced and constantly reinforced and reviewed. Students are taught to read and write 300 characters by the end of the course. Frequent oral and written tests along with basic communication tasks are part of the course. Also, basic knowledge about Chinese society and culture is introduced through videos and cuisine. At the end of the semester, students should be able to carry out very basic conversations in Mandarin Chinese relating to greetings, self-introduction, family, numbers, and school.

#### **Chinese II**

*2 terms, solid, 1 credit, B*

This is a continuation of Chinese 1 utilizing the same textbook. More grammatical structures and another 300 characters are taught as students go further with Chinese characters in terms of their structures and backgrounds. Students are required to have their computers equipped with the Chinese typing program and the Chinese keyboard is introduced. At the end of the course, students should be able to write Chinese with their computer and carry out simple daily conversations concerning age, zodiac, animals, food, clothes, vehicles, colors, shopping, locations, and time in Mandarin Chinese. They should also be able to write in simple Chinese.

### **Chinese III**

*2 terms, solid, 1 credit, B*

Maintaining the same textbook, Chinese 3 continues the sequence. Students will learn to read and write an additional 400 characters and will display their knowledge of the spoken language in a variety of classroom exercises. Key grammatical structures will continue to be introduced. Further education of Chinese society and culture also continues. By the end of the course, students will be able to carry out simple conversations on everyday topics (directions, housing, weather, vacations, and school life) in Mandarin Chinese. They should also be able to write a focused narrative using major grammatical structures.

### **Advanced Composition in Chinese**

*2 terms, solid, 1 credit*

The emphasis in this course is on writing the Chinese language at an advanced level. Through models of style, related grammar, examples of usage and exercises for writing practice, students will develop a feel for the structure needed to write correctly in Chinese. It is also a training class for Chinese key board skill - typing Chinese in a prompt and efficient way. The reading references cover a variety of authentic works and articles, including some pieces which are similar to AP Chinese readings. This is a one term course, open to students who have successfully completed Chinese III.

### **AP Chinese Language and Culture**

*3 terms, solid, 1.5 credit, C*

A continuation of Chinese 3, this course begins with a review of previously studied concepts. More key grammatical structures and an additional 400 characters are taught. Students go deeper with the Chinese way of thought in both language and culture. Short, type-written essays in Chinese are required on regular basis. By the end of the course, students should be able to carry on conversations concerning Chinese language, culture, art, music, and songs and will take the AP Chinese Language and Culture exam in May.

## **French**

### **Discovering French 1**

*2 terms, solid, 1 credit, A*

Students will discover the wonders of francophone culture and the French language through the study and use of basic vocabulary and essential grammar points, all taken contextually from authentic visual and audio sources such as advertisements, recipes, songs and television shows.

### **Exploring French 2**

*2 terms, solid, 1 credit, B*

The voyage towards proficiency in French continues with more in-depth exploration of vocabulary and grammar through an increased use of French in all four skill areas, while investigating more complex and sophisticated cultural topics such as authentic French literature and current events.

### **Living French 3**

*2 terms, solid, 1 credit, B*

Having successfully navigated the first two levels of French study, students are now prepared to live the language in an authentic manner. Just as a native *Quebecoise*, *Algerien*, *Senegalais* or *Francaise* might do, students will read authentic sources such as letters or magazine articles, listen to authentic sources such as podcasts, write professional emails and persuasive essays, and make oral presentations comparing different cultures.

#### **French 4 (Choose from four one-term courses)**

##### **Advanced Topics in French: Cinema**

*1 term, solid, ½ credit, B*

Students will study Francophone films covering a variety of directors, genres and time periods. Examples from recent years include Truffaut's *Jules et Jim*, Nuyetten's *Camille Claudel* and Kassovitz's *La Haine*. At the end of the course, students will have an understanding of French film history and be able to make intelligent contributions to discussions about French cinema.

##### **Advanced Topics in French: Cuisine**

*1 term, solid, ½ credit, B*

Students will study the culture of various francophone regions through the lens of food. They will have the opportunity to hone all of their French skills while learning about the cuisine of France, Senegal, Quebec, and the like. This student-centered, project-based class also affords students the opportunity to prepare their own francophone dishes while discovering the rich culture of food in the French speaking world.

##### **Advanced Topics in French: Culture**

*1 term, solid, ½ credit, B*

With the study of francophone cultures and histories as the context, students will increase their knowledge of and familiarity with topics of interest relevant to college level French. This course is an introduction to cultural literacy of the francophone world. Student input will help to determine the themes explored.

#### **Advanced Placement French Language and Culture**

*3 terms, solid, 1½ credits, B*

The AP French Language and Culture course engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products, both tangible (e.g., tools, books, music) and intangible (e.g., laws, conventions, institutions); practices (patterns of social interaction within a culture); and perspectives. When communicating, students in the AP French Language and Culture course demonstrate an understanding of the cultures(s), incorporate interdisciplinary topics, make comparisons between the native language and the target language and between cultures, and use the target language in real-life settings. The three modes of communication (Interpersonal, Interpretive and Presentational) are foundational to the AP French Language and Culture course. Course work provides students with opportunities to demonstrate their proficiency in each of the three modes in the Intermediate to Pre-Advanced range.

## **German**

### **Advanced Placement German**

*3 terms, solid, 1½ credit, C*

The course is similar to German 3, but the reading makes greater demands upon the students, challenging their comprehension, interpretation, thinking, and sensitivity to expression. The reading represents the best not only in German literature but also in world literature.

## Latin

### Latin 1

2 terms, solid, 1 credit, B

Latin 1 includes a study of grammar fundamentals and the reading of simple Latin prose passages. Readings contain information about ancient Rome, while cultural sections in English provide a contextual background for learning the language. The course is intended to prepare students to read Latin literature and to improve their command of the English language by studying the derivation of English words from Latin.

### Latin 2

2 terms, solid, 1 credit, B

Latin 2 provides a thorough review of material studied in Latin 1 and presents new forms and syntax to prepare the student to translate Latin literature. In this course, students begin to examine passages of original Latin, while continuing to learn about the life and customs of the ancient Romans through their readings. The course further emphasizes the linguistic relationship and debt of the English language to Latin.

### Latin 3 / Honors Latin 3

2 terms, solid, 1 credit, C

Honors Latin 3 embark on the final book of the *Ecce Romani* series, building on the first two years of study, and focuses on the reading of authentic Latin texts. Readings begin with selections of Roman history from the 4th century A.D. writer Eutropius, and continue with writings from some of the most important authors of the late Republic and early Empire, including Cicero, Julius Caesar, Augustus Caesar, and Petronius. Students also gain an introduction to Latin poetry through the writings of Catullus, Horace, Vergil and Ovid, some of the finest poets of Western civilization. The book concludes with selections from Pliny, whose letters chronicle the devastating eruption of Mount Vesuvius in 79 A.D. Both courses use the same text and workbook, with the primary differences being pacing and the quantity of material covered. Honors Latin 3 is designed to prepare students to advance to the AP course.

### Latin Lyric Poetry

1 term, solid, 1/2 credit

The course will include selections from the Roman poets Catullus and Horace. The poems of Catullus will treat many topics, including people whose behavior Catullus did not like, what constitutes good poetry, and affection for his friends or anger at people who betrayed him. Most, however, will revolve around his passionate love affair with a woman who he refers to in his poems as Lesbia. Many of the selected poems of Horace, one of the great poets of the Augustan Age, reflect the Epicurean philosophy and his literary preoccupation with the ineluctability and universality of death, in which he exhorts the reader to adopt the Epicurean view of enjoying life while one can and living for the moment. In addition to translation and analyzing poems, students will learn the rules of prosody and figures of speech found in Latin poetry.

### Advanced Placement Latin

3 terms, solid, 1½ credit, C

AP Latin devotes three terms to an in-depth study of two Roman authors, one prose writer (Caesar), and one poet (Vergil). The class will read selections from Caesar's *De Bello Gallico*, the collected reports about his campaigns in the conquest of Gaul, for years a standard school text admired for its straightforward Latin and for its historical interest. For the Vergil section of the course, we will read excerpts from the *Aeneid*, lingering over many of the epic's most compelling passages, including the description of the fall of Troy and the account of Aeneas's ill-fated love affair with Carthaginian queen Dido. Class discussions will revolve around some of the dominant themes of Roman literature: the discord between personal choice and civic obligation, the relationship between human beings and the gods, and the brutal martial reality involved in establishing and maintaining an empire. This course prepares students to take the College Board Advanced Placement exam in Latin.

## Spanish

### Spanish 1

*2 terms, solid, 1 credit, B*

This is the first in a three-year sequence designed to develop communicative competency. The text focuses on basic, high-frequency language functions, and subsequent lessons include cultural briefs and address a unique set of clearly identified language performances. Active participation is encouraged through student-centered activities. Grammar is introduced lexically and then reinforced through a formal explanation of structure. Continual reinforcement of key concepts encourages mastery. Audio files, sound recordings, authentic texts, and written exercises ensure ample practice in all four language skills.

### Spanish 2

*2 terms, solid, 1 credit, B*

This course continues the development of the four language skills begun in the first year. It offers rich and varied ancillaries to guide the student toward proficiency in speaking, listening, reading, and writing. Culture is incorporated into each lesson, focusing on peninsular as well as Latin American customs and history. In addition to cultural prologues accompanying each lesson, the text includes contemporary active vocabulary in dialogue and narrative style. Grammar exercises and creative vocabulary drills are recorded for classroom use.

### Honors Spanish 2

*2 terms, solid, 1 credit, B*

This course offers the motivated student an in-depth study of Spanish grammar, presented in 14 lessons in which vocabulary and structure are introduced through pictures, dialogues, and reading selections. While understanding and speaking are important goals, increased emphasis is given to broadening the vocabulary base and developing reading and writing skills. Students achieving the course objectives will express themselves with some oral fluency, understand a moderate rate of spoken Spanish, read with comprehension material within their range of interest, and write with a reasonable degree of accuracy.

### Spanish 3

*2 terms, solid, 1 credit, B*

This course includes an interactive, conversationally oriented review focusing on basic, high-frequency vocabulary and structures followed by new vocabulary and more sophisticated grammar structures. Culture is incorporated into each lesson, as is longer narrative material. The student works toward a better command of the spoken language and an improvement in writing skills.

### Honors Spanish 3

*2 terms, solid, 1 credits, B*

This course is a flexible, innovative Spanish program designed for students who have mastered the fundamentals and are ready to apply their abilities. The text includes standard vocabulary as well as colloquial Spanish that students may use for writing about and discussing issues having to do with education, ecology, dating, the media, stereotypes, sports, and the cinema, among others. Some of the more troublesome and complex points of Spanish grammar are featured in each lesson. Students achieving the course objectives will be able to speak and write confidently and with a high degree of accuracy about a variety of topics.

### **Spanish 4 (Choose from four one-term courses)**

#### **Advanced Topics in Spanish: Conversation**

*1 term, solid, ½ credit, B*

This course will provide students with on-going oral practice intended to strengthen their verbal skills. Topics for this course may include current events in the Spanish-speaking world, art, music, and other topics that serve to broaden the students' vocabulary base and cultural awareness. This one-term course, conducted entirely in

Spanish, is open to students who have successfully completed Spanish 3, 3H, 4, or AP, but enrollment is subject to departmental approval.

### **Advanced Topics in Spanish: Syntax Review**

*1 term, solid, ½ credit, B*

The course reviews those grammatical topics in the Spanish language that tend to present particular challenges to speakers of English. Videos, short reading selections, and audio files that integrate grammar in authentic situations will serve as catalysts for topics such as verb tense formation and use, the subjunctive mode, “to be” in Spanish, and other relevant grammar points. This one-term course is open to students who have successfully completed Spanish 3, 3H, 4, or AP, but enrollment is subject to departmental approval.

### **Advanced Topics in Spanish: Culture and Cuisine**

*1 term, solid, ½ credit*

This course will explore the histories and resources of Spain and the New World to discover how different Hispanic cuisines have evolved, how these cuisines affect daily life and traditions, their effect on the social structures and economies of these countries and how other cuisines influenced the modern version of “Typical” dishes and menus.

The culminating project will include the development of a menu based on native products from the Americas, planning a small buffet for the Class which will be presented by the class and critiqued by the Spanish Department and the GSI. All instruction and resources used will be in Spanish so a proficiency level in the 4 skills as outlined by the ACTFL is required. A Guest Lecturer, short films and a field trip to the Pilsen Neighborhood in Chicago are included in this course.

This one-term course is open to students who have successfully completed Spanish 3, 3H, 4, or AP, but enrollment is subject to departmental approval.

### **Advanced Topics in Spanish: Literary Genres**

*1 term, solid, ½ credit, B*

The course exposes students to a wealth of literary genres, such as the short story, folk tales, legends, poetry, and drama. These genres will provide a catalyst for a variety of related writing and speaking activities. This course may include guest instructors who will work with students in their genre specialty. The course is conducted entirely in Spanish and is open to students who have successfully completed Spanish 3, 3H, 4, or AP, but enrollment is subject to departmental approval.

### **Advanced Topics in Spanish: Hispanic Art**

*1 term, solid, ½ credit, B*

The goal of this course is to explore the wealth of visual arts created by Spanish and Latin American artists. The artists' works will provide a catalyst for a variety of related writing and speaking activities. Conducted entirely in Spanish, this course is open to students who have successfully completed Spanish 3, 3H, 4, or AP, but enrollment is subject to departmental approval.

### **Advanced Placement Spanish Language**

*3 terms, solid, 1½ credit, C*

This course will develop proficiency in Spanish with no specific emphasis on literary analysis. The focus is the development of listening, speaking, reading, and writing skills with the following objectives: the ability to comprehend formal and informal spoken Spanish; the acquisition of vocabulary and a grasp of structure to allow the easy, accurate reading of a wide range of written material; the ability to compose expository passages; and the ability to express ideas orally with accuracy and fluency.

### **Honors Seminar - Modern & Classical Language**

*2 terms, solid, 1 credit, A*

The Honors Seminar in Modern & Classical Languages permits students to expand their knowledge of the target language, literature, and culture by completing a research paper or project under the guidance of an honors advisor. This course is a solid, 2-term course in which honors candidates will have time to select, develop and complete their paper or project. A student's topic must be approved by their faculty advisor and

then the student will defend their project in the target language (English in the case of a student pursuing Honors in Latin) before a committee from the Department of Modern & Classical Language.

## Science 2015 - 2016

**To realize the Science Department mission - develop scientifically literate citizens - and Science Department understandings, a student must complete at least six terms of science. Students must earn at least one (1) credit in each of the core disciplines of Physics, Chemistry and Life Sciences.**

### Physics

*2 terms, solid, 1 credit, B*

How do things move and why do they move that way? If energy is conserved, why do we have to conserve energy? How is the world different at its extremes? How do we know what we know? These four questions guide the course, which emphasizes a conceptual understanding of physics while studying the causes and effects of motion, conservation of energy and momentum, the nature of matter, and the origin and nature of waves. Hands-on activities such as measuring the strength of nuclear radiation of different sources or exploring the relationship between the temperature of an object and the rate at which it cools play a significant role in our learning process. *Students will have the option to pursue honors in this course by successfully completing several alternative activities and assessments.* Most new students who have yet to have a high school physics experience should register for Physics. Prerequisite: Successful completion of Pre-Algebra.

### Chemistry

*2 terms, solid, 1 credit, B*

In this basic chemistry course equal emphasis is placed on the theoretical and descriptive areas of study. Experiments involve quantitative and qualitative aspects. Hands-on activities involve a spiraling curriculum, inquiry, applications to the real world, and cooperative team work. The course introduces topics and examines relationships in the following sequence: the metric system and unit conversions, atomic structure, periodicity, bonding, formula writing and nomenclature, chemical reactions and equation writing, mole concept, stoichiometry, state of matter, gas laws, solutions, equilibrium, and acid/base chemistry. *Students will have the option to pursue honors in this course by successfully completing several alternative activities and assessments.*

Prerequisites: Successful completion of Introductory Algebra A and Physics or Physics placement test.

### Biology

*2 terms, solid, 1 credit, B*

This lab-centered introductory course clarifies and broadens biological concepts and stresses unifying science principles. Major themes include biochemistry, cellular structure and function, genetics, evolution, ecology, and kingdom diversity. Content is strengthened with guided or independent experiments, and multimedia computers are used both as learning aids and as the medium for creative projects. Local field trips strengthen the lessons centered on ecological and environmental applications. Students should leave with a greater understanding and appreciation for life, a solid understanding of scientific methodology, and the ability to apply what they have learned to global issues. *Students will have the option to pursue honors in this course by successfully completing several alternative activities and assessments.* Pre-requisites: Successful completion of Chemistry.

### Human Anatomy & Physiology: Structure

*1 term, solid, ½ credit, B*

This introductory course emphasizes nomenclature and location of body structures and the physiological functions of body parts. Students discover the scientific process through a study of body systems whose primary responsibility is support and protection. Units covered include basic chemistry, genetics, cell structure and metabolism, tissues, integumentary system, skeletal system, muscular system, and nervous system.

**Human Anatomy & Physiology: Transportation**

*1 term, solid, ½ credit, C*

This introductory anatomy course is similar to the previous course, but with an emphasis on the study of the body systems whose primary responsibility is transportation. Units covered include cell structure and metabolism, tissues, digestion and nutrition, respiratory system, blood and blood cells, cardiovascular system, and urinary system.

**Equine Veterinary Science**

*1 term, solid, 1/2 credit, B*

This course is designed for students with an interest in horses. Students will study the principles and practical application of feeding and nutrition, reproduction, genetics, wellness, lameness, farrier science, equine behavior, facility design and management. Practical application is emphasized with live animal evaluation. Prerequisite: Biology

**Astronomy**

*1 term, solid, 1/2 credit, A*

Students apply their knowledge of physics and chemistry to investigate the behavior of astronomical objects. They will learn about the motion of objects in the sky, the solar system and its origin, stars and their evolution, and properties of galaxies. Other topics may include cosmology and life on other planets. Prerequisites: Physics, Chemistry and Geometry.

**Environmental Science**

*1 term, solid, ½ credit, B*

Using our environment as a living laboratory, students in Environmental Science will discover the interconnectedness of the Earth, nature, and society. Students will build upon understandings from previous biological and physical science courses to examine the natural environment and explore the complexities behind the global and local decisions we make as humans and how these decisions impact the environment and the life it supports. Connections will be made to economics, politics, and sociology as students address environmental issues involving sustainability, resource management, and global changes. Students will participate in a class research project in coordination with a local organization, which will require excursions outside the normal class day.

**Engineering I**

*1 term, solid, 1/2 credit, C*

In this course, the student is introduced to the Engineering profession through participation, as a member of a team, in a student-driven design project. The design projects will be multi-disciplinary in nature including but not limited to applications from civil, chemical, electrical, computer, biological and mechanical engineering. The design teams will use principles from science, economics and math to brainstorm, design and propose their ideas. Students will also learn the fundamentals of visual, oral and written technological communication along with a core set of computer-aided engineering modeling and analysis tools. Pre-requisite: Physics and Chemistry.

**Engineering II**

*1 term, solid, 1/2 credit, B*

This course is a continuation of Engineering I. The design teams will build, test and evaluate a prototype of the design proposed in the first term. Each team will present their prototype and project documentation in a final design review before a multi-disciplinary group of faculty and staff. Pre-requisite: Engineering I.

**Honors Seminar: Science Research**

*2 terms, solid, 1 credit, D*

This laboratory science course provides the competency to plan and execute a self-directed scientific research project to fulfill requirements for graduating with Honors in Science. Research projects that qualify for local, state, national, or international competitions will be submitted. It is anticipated that as a student proceeds through and reflects upon the research phase of this course, the student will increase his/her appreciation for science and developed a working awareness of the interrelationship of science, technology, and society.

**Advanced Placement Biology**

*3 terms, solid, 1½ credits, D*

Advanced Placement Biology is engages students in the rigorous study of biological concepts in preparation for the AP Exam and possible advanced standing in their freshman year at college. Accompanied by in-depth laboratory experiments, this course provides a thorough background in methods used by biologists in solving research problems and biological principles including ecology, biochemistry, Mendelian genetics, evolution, genetic biotechnology, cellular structure and physiology, animal/plant structure and physiology, and animal behavior. Emphasis is placed on the integration of biological principles and other science disciplines.

**Advanced Placement Chemistry**

*3 terms, solid, 1½ credits, C*

Advanced Placement Chemistry is the equivalent of a rigorous freshmen college course in general chemistry. Emphasis is placed on the theoretical aspects of chemistry and how these principles apply to the real world. Quantum theory of atomic structure is dealt with, as are modern theories of chemical bonding. In addition, the elements of physical chemistry, including stoichiometry, thermodynamics, chemical equilibrium, chemical kinetics, and electrochemistry are studied. Much effort is made to follow the Recommended Laboratory Program for Advanced Placement Chemistry from the College Board. Additional topics include some basics of inorganic and organic chemistry, as well of biochemistry. Students enrolled in the course are expected to take the Advanced Placement Chemistry Exam in May. Pre-requisite: Successful completion of Chemistry.

**Advanced Placement Environmental Science**

*3 terms, solid, 1 ½ credit, C*

The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. Using our environment as a living laboratory, students in AP Environmental Science will discover the interconnectedness of the Earth, nature, and society. Students will build upon understandings from previous science courses to examine the natural environment and explore the complexities behind the global and local decisions we make as humans and how these decisions impact the environment and the life it supports. Connections will be made to economics, politics, and sociology as students address environmental issues involving sustainability, resource management, and global changes. Students will participate in a class research project which will require excursions outside the normal class day. Students enrolled in the course are expected to take the Advanced Placement Exam in Environmental Science.

**Advanced Placement Physics C: Mechanics**

*2 terms, solid, 1 credit, D*

Advanced Placement Physics C provides a systematic introduction to the principles of classical mechanics and emphasizes problem-solving. Topics are limited to those covered during a first semester physics course taken by science majors in college. Mathematics is used to understand the physics of the topics, and calculus will be used to derive equations and solve problems. Computers are used extensively to analyze and graph data, present simulations, and provide content. The goal of this course is to prepare the student for the required Mechanics section of the Advanced Placement Physics C test in May. Pre-requisites: GPA of 3.0 or better in

prior math courses. If the student has not yet completed Calculus, enrollment in a Calculus course in Terms 1 and 2 is required. Advanced Placement Physics C: Mechanics is only offered in Term 3 and 4.

### **Advanced Placement Physics 1**

*3 terms, solid, 1½ credits, D*

Advanced Placement Physics 1 provides the opportunity for an in-depth, student-led inquiry of topics, as 25% of course time will be devoted to laboratory work, but it also maintains a strong emphasis on problem-solving using skills from algebra and geometry courses. Topics in AP Physics 1 include motion, forces, momentum, energy, rotational motion, sound and simple circuits. The goal is to prepare students for the required AP exam in May.

### **Advanced Placement Physics C and Advanced Placement Calculus AB**

*4 terms, solid, 2 credits*

This is an interdisciplinary collaborative course designed to combine science and math in a seamless study over 4 terms in preparation for both the AP Physics C: Mechanics and AP Calculus AB exams in May. AP Physics C provides a systematic introduction to the principles of classical mechanics. Topics are equivalent to those covered during a first semester physics course, including linear motion, dynamics, energy and rotation. AP Calculus AB covers limits and the concept, properties, applications and computations of derivatives and integrals. A computer and the TI-83/84 calculator are used extensively to analyze and graph data, present simulations and provide content to the course. Pre-requisite is a GPA of 3.0 or better in prior math and physics courses.

### **Advanced Placement Psychology**

*1 term, solid, 1/2 credit*

The AP Psychology course is designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They also learn about the ethics and methods psychologists use in their science and practice. (Students must also complete Abnormal Psychology and Neuropsychology to be enrolled in AP Psychology).

## **Wellness 2015-2016**

**Culver Academy requires 1/2 credit in Wellness. Wellness courses are automatically scheduled for every student each year.**

### **Foundations of Health Behavior**

*2 terms, solid, 1 credit, B*

This 10th-grade course focuses on the influence of the physical, emotional, mental, moral, social, and spiritual dimensions of health knowledge, attitudes, and behavior. Students examine the health of the whole person through a variety of classroom and movement settings. They will demonstrate an understanding of the health dimensions and their relationship to various health topics.

### **Principles of Lifetime Fitness**

*1 term, non-solid, ¼ credit, A*

An 11th-grade course, each student will receive instruction in First Aid/CPR and will have the opportunity to be certified by the American Red Cross. Students will also examine the importance of developing healthy fitness activities and will learn the rules, skills, attitudes, and behaviors of two lifetime sports. This course meets 2 days per week.

**Life-Guarding**

*1 term, non-solid, ¼ credit, A*

Each student will receive instruction in First Aid, CPR, and life guarding, working toward certification by the American Red Cross. The course will be taught by an ARC certified instructor. This course will suffice for the 11th-grade Wellness Education credit. Interested students must pass a swim test to qualify for the course. This course meets 2 days a week.

**Health Issues**

*1 term, solid, ½ credit, B*

This 12th-grade course will provide students with opportunities to acquire a deep understanding of personal, community, and world health issues. Students will engage in student-centered discussions, group work, report writing, and survey/investigations. The emphasis will be on critical thinking and a moral interpretation of health information and health behavior. Students will examine biochemical, sociological, and psychological concepts that relate to happiness, addiction, the well-being of others, and the basic human desires. Discussion topics include decision-making, stress and time management, nutrition, disease prevention, college issues, and life span/aging issues.

**Strength and Conditioning**

*1 term, non-solid elective, ¼ credit, A*

This elective, open to any student, will teach the correct methods of strength training, plyometrics, flexibility, muscular endurance training, and cardiovascular endurance training. Students will participate in a personalized weight-training program that will address their specific personal/sport fitness goals. Students will research various workout programs, nutrition, and other strength and conditioning topics.

**Honors Seminar: Wellness**

*2 terms, solid & non-solid, .75 credit, C*

The Honors Seminar in Wellness is for the Senior or 1st Classman who has demonstrated a high level of achievement and interest in personal and community wellness. The student must be willing to pursue independent study of a proposed topic under the guidance of a faculty advisor.

Students will select topics to study in depth, to be approved by the Honors Board of three Wellness Department instructors. Each student will complete a written project according to the original proposal, successfully complete an oral defense of the project and make a formal presentation to select members of the Wellness faculty.