

## Petaluma High School Course Catalog 2024-2025

Table of Contents:Page(s):
Graduation \& A-G Requirements ..... 2
Recommended Classes by Grade Level ..... 3-4
Agriculture. ..... 5-7
Business \& Technology. ..... 8-10
English ..... 11-14
World Languages ..... 15-18
Mathematics ..... 19-21
Physical Education ..... 22
Social Sciences ..... 23-25
Science ..... 26-30
Engineering, Manufacturing \& Automotive ..... 31-34
Visual \& Performing Arts ..... 35-39
Special Education and Non-Departmental Courses ..... 40

Four Year College Requirements vs. Graduation Requirements:

| Four Year College (A-G Requirements) | Graduation Requirements |
| :---: | :---: |
| A. History/Social Sciences - 2 years required | Social Sciences - 30 credits (3 years required) |
| B. English - 4 years required | English - 40 credits (4 years required) |
| C. Math -3 years ( 4 recommended, Math 3 or higher) | Math - 20 credits ( 2 years required, 1 year must be from Math 1) |
| D. Lab Science (2 years required, 3+ years recommended) | Science - 20 credits (2 years) 1 year of Physical, 1 year of Biological |
| E. Language Other than English - 2 years required (3 years recommended) | Foreign Language or Visual Performing Art - 10 credits in either area (1 year) |
| F. Visual \& Performing Art - 1 year required | Physical Education-20 credits (2 years required) |
| G. College Prep Elective - 1 year required | Electives - 65 credits ( 6.5 classes) <br> Human Interaction - 5 credits (1 semester) |
| *Minimum GPA 2.5 for CSU schools and minimum 3.0 GPA for UC schools. Grades must be "Cs" and higher (Ds \& Fs do not count) | $\text { Total }=220 \text { credits }$ <br> Fs $=0$ credits! <br> Testing- CAASPP in 11th for English \& Math and in 10th for Science |

- For a complete list of current approved A-G courses, click here and search code 052460.
- For a complete list of current NCAA approved courses, click here and search code 052460. Students interested in playing college level athletics should register with the NCAA by the end of their junior year.
- AP and Honors classes:
- PHS has a variety of AP and Honors classes offered each year, please note that there are some courses that have been approved for extra honors credit (grade bump) which means an: $a=5$ points, $b=4$ points, $c=3$ points.
- How is GPA determined?
- The GPA computation is based on a grading system of $A=4$ points, $B=3$ points, $C=2$ points, $D$ $=1$ point, and $\mathrm{F}=0$ points. Advanced Placement (AP) and some Honors courses earn a grade bump, $A=5, B=4, C=3, D=1$. These courses are indicated with $a+$ on the transcript.


## Recommended Classes by grade level:

## 9th Grade (Minimum 6 classes required):

1. English 9
2. Science-Physical Science
3. Math (depends on past level)
4. Human Interaction/Intro to Business (Semester of each)
5. Elective
6. PE 9

Should have 60 credits by the end of the year
10th Grade (Minimum 6 classes required):

1. English 10
2. Science-Biology
3. Math (depends on past level)
4. World History
5. Elective
6. Second year of PE

Should have 120 credits by the end of the year
11th Grade (Minimum 6 classes required):

1. English 11
2. US History
3. Science
4. Math (depends on past level)
5. Elective
6. Elective

Should have 180 credits by the end of the year
12th Grade (Minimum 5 classes required):

1. English
2. Government/Economics (semester of each)
3. Math - not required but recommended
4. Science-not required but recommended
5. Elective
6. Elective

220 credits needed to graduate!
*Students can opt to have an additional class by taking a 0 period any year of high school, classes are for the entire school year and are daily from 7:30am-8:20am
*Seniors are allowed to take an off period, if they are in good credit standing and are approved by parents, counselor, and administrator
*Semester grades of $\mathrm{A}, \mathrm{B}, \mathrm{C}$ or D earn five credits. Grades of F do not award any credit and core courses must be repeated to earn credits.

## Example Education Plan for UC/CSU Schools:

This is a suggested education plan for students who wish to be eligible for UC and CSU schools. This education plan meets the course requirements for high school graduation and minimum college entrance eligibility. This suggested education plan should be used in conjunction with courses a student is interested in, extracurricular activities, etc. Please contact the counselor with specific questions.

Please visit https://hs-articulation.ucop.edu/agcourselist for the complete list of approved A-G classes.

| A-G Requirements: |  | 9th Grade | 10th Grade | 11th Grade | 12th Grade |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 years of social science required | None | World History or Honors WH | US History or AP USH | Gov/Econ or AP Gov/Econ |
|  | 4 years of <br> English required | English 9 or Honors English 9 | English 10 or Honors English $10$ | English 11 or AP English <br> Language | ERWC or AP English Literature |
|  | 3 years of Math required, 4 recommended | Math 1 or Math 2 | Math 3 or Math 3 | Math 3 or Trigonometry or AP <br> Pre Calculus or AP Stats | Trigonometry or AP Pre Calculus or AP Statistics |
| D) | 2 years of lab science required, 3 recommended | Physical Science or Biology (regular, Honors, Community Health or Agriculture) | Biology or Chemistry (regular, Honors, Community Health or Agriculture) | Science elective: APES, <br> Anatomy \& Physiology, AP <br> Physics, Marine Science, Vet <br> Science, Ag Systems <br> Management | Science elective: APES, Anatomy \& Physiology, AP Physics, Marine Science, Vet Science, Ag Systems Management |
|  | 2 years of LOTE required, 3 recommended | Spanish or French | Spanish or French | Spanish or French | Spanish or French |
|  | 1 year of VPA required | Multiple options | Multiple options | Multiple options | Multiple options |
|  | 1 year of college prep elective required | Multiple options | Multiple options | Multiple options | Multiple options |

## AGRICULTURE

INTRODUCTION TO AGRICULTURE MECHANICS
K023NN YEAR (9-12) Prerequisite: None
This introductory agriculture class is designed to give students hands-on skills in the areas of sheet metal, plumbing, electrical, woodworking, cold metal, surveying, tool sharpening, rope work and tool identification. Students will learn beginning skills for all of these trades through classroom learning reinforced with hands-on projects. Local shops and worksites will be visited to show real-world connections to the curriculum. In addition, students will learn to use over 400 tools and materials. Students will acquire skills that may spark a career interest, or simply teach lifelong practical skills. It is highly recommended that this course be taken before other agricultural mechanics courses. Materials donation requested. This course meets the Math / Science related requirement for graduation.

## INTRODUCTION TO WELDING

K005NN YEAR (10-12) Prerequisite: Introduction to Ag Mechanics or Teacher Approval
Designed to prepare students for entry level metal fabrication skills the course includes shielded metal arc welding (SMAW), gas metal arc welding (GMAW), gas tungsten arc welding (GTAW) and oxyacetylene welding and cutting (OAW). The majority of the class includes developing welding skills used in the fabrication of mild steel. A variety of welding assignments includes the welding of various joints, thickness of metals, and welding positions. The classroom component of the course relates to the welding skills developed in the shop. Students are required to complete a variety of welding assignments during the year. Ag Mechanics is highly recommended as a prerequisite. Materials donation requested. This course meets the Math / Science related requirement for graduation.

## ADVANCED WELDING

K006NU YEAR (11-12) Prerequisite: Introduction to Welding
This class builds upon the welding skills learned in the introduction to welding class. The majority of welding exercises in this class will focus on developing skills in the area of Aluminum and Stainless Steel using the gas tungsten arc welding process (GTAW). Students will design and construct personal projects that will demonstrate and challenge their welding and fabrication skills. Students will design and create images on the plasmacam cutting table and utilize the corresponding software. Industry representatives and visits to local welding shops will focus on career opportunities in the welding industry. Materials donation requested. This course meets the Math / Science related requirement for graduation.

## SUSTAINABLE AGRICULTURAL CONSTRUCTION

J136PU YEAR (10-12) Prerequisite: Introduction to Agriculture Mechanics
Sustainable Agricultural Construction is a capstone course to build upon the skills students have learned in the Introduction to Ag Mechanics course as well as Introduction to Welding and Engineering courses. As the demand for skilled construction workers in every trade is expected to continue to be high, students will be challenged with real world application of sustainable construction practices. Students will be exposed to new technology in solar and green construction, preparing them to be successful in this high demand industry. Construction from the ground up as well as field study and seminars from industry professionals will be key components of this course.

## AGRICULTURAL SMALL ENGINES

K028NN YEAR (10-12) Prerequisite: Ag Mechanics is recommended
This course is for students who are interested in working with small engines like those used in go-karts, lawn mowers, generators and chainsaws. Students will have the opportunity to take apart and reassemble engines, to service carburetors and ignition systems, and to repair starters. Students will learn how to service valves, cylinders, and piston/ring assemblies. In addition to gasoline engines, students will learn about diesel engines used in tractors and other power machinery. Electrical power instruction includes uses of motors, automatic electrical controls and wiring of controls. This course meets the Math/ Science related requirement for graduation.

## P-SUSTAINABLE AGRICULTURE BIOLOGY

C001PU YEAR (9-10) Prerequisite: Math 1 or concurrent enrollment in Math 1 recommended Biology and Sustainable Agriculture is a one year course designed to integrate biological science practices and knowledge into the practice of sustainable agriculture. The course is organized into four major sections, or units, each with a guiding question. Unit one addresses the question, What is sustainable agriculture? Unit two, How does sustainable agriculture fit into our environment? Unit three, What molecular biology principles guide sustainable agriculture? Unit four, How do we make decisions to maximize sustainable agricultural practices with a functioning ecosystem? Within each unit, specific life science principles will be identified with agricultural principles and practices guiding acquisition of this knowledge, culminating in the development of a sustainable farm model and portfolio of supporting student research. This course meets the Life Science requirement for graduation. This course meets the Subject Area "d" requirement of the UC/CSU approved course list.

## P-AGRICULTURE AND SOIL CHEMISTRY

D005PU YEAR (10-12) Prerequisite: Biology or Sustainable Agriculture Biology
This course explores the physical and chemical nature of soil as well as the relationships between soil, plants, animals and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production. Using knowledge of scientific protocols as well as course content, students will develop an Agriscience research program to be conducted throughout the first semester. To complete the whole project, each student will investigate and test an Agriscience research question by formulating a scientific question related to the course content, formulating a hypothesis based on related research, conduction and experiment to test the hypothesis, collecting quantitative data and forming a conclusion based on analysis of the data. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience Program (SAEP). This course meets the Physical Science requirement for graduation. This course meets the Subject Area "d" of the UC/CSU approved course list.

## P-AGRICULTURE SYSTEMS MANAGEMENT

D703HU YEAR (11-12) Prerequisite: Biology and Chemistry
This Honors class combines an interdisciplinary approach to laboratory science and research with agricultural management principles. Using skills and principles learned in the course, students design systems and experiments to solve agricultural management issues currently facing the industry. The agriscience experimental research project component will allow students to research and seek solutions to relevant issues in all facets of agriculture production. Final projects will be eligible for Career Development Event competition at FFA events. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience Program (SAEP).

## P-VETERINARY SCIENCE

K071PU YEAR (11-12) Prerequisite: Biology (offered every other year)
In this advanced animal science course, students will explore the field of veterinary medicine. Course content includes: an introduction to companion and production animals, understanding the concepts of genetics and breeding programs, identification of major body systems and their treatment through various dissections, disease and disease prevention, animal nutrition and behavior, animal welfare issues and biosecurity concerns. Students will learn various technical skills, such as safe animal restraint, administering medication, applying aseptic techniques, recognizing abnormal behavior, maintaining appropriate housing, grooming, and performing administrative duties in a simulated veterinary hospital environment. This course meets the Math/Science related requirement for graduation. This course meets the Subject Area "g" of the UC / CSU approved course list.

## P - ART \& HISTORY OF FLORAL DESIGN

M004PU YEAR (10-12) Prerequisite: None
Floriculture is an introduction to artistic and creative perception through a series of projects in various artistic media including tempera, pencil, flowers, and tile. Students will be introduced to the elements and principles of visual art design such as line, shape/form, color, balance and emphasis using a series of floral-based projects to explore the connections to visual arts design. Students will research and study floral trends to understand and develop an appreciation for floral design within historical, cultural and societal contexts. Assignments based on abstract two and three dimensional designs, culture, color and analytical critiques of various floral art works using appropriate vocabulary in conjunction with the development of technical skills in floral art will serve as a foundation for multi-part floral designs. This course meets the Foreign Language / Visual and Performing Arts requirement for graduation. This course meets the Subject Area "g" requirement of the UC / CSU approved course list.

## SUPERVISED AGRICULTURAL EXPERIENCE PROGRAM ROP (SAEP)

M073NN YEAR (9-12) Prerequisite: Concurrent enrollment in another agriculture class (offered every other year.
An on-the-job experience for students interested in agriculture. Students will be placed at work experience sites based on their interest and ability. Students' progress will be monitored and evaluated based on growth with the experience. Record keeping is a part of the course. This class will provide an excellent opportunity for an extension of classroom instruction, as concurrent enrollment in another agricultural class is required.

## BUSINESS \& TECHNOLOGY

## INTRODUCTION TO BUSINESS

M064NN SEMESTER (9) Prerequisite: None
This class is designed for college and career readiness integrated with the tools needed to succeed in high school. Academic preparation with employer demanded soft-skills (work ethic, time management, goal setting, teamwork, problem solving, positive attitude, self-confidence and persistence), technical skills to problem solve (cloud computing, MS Office, etiquette for digital and written correspondence, professional presentations and skilled touch typing) and in-depth personal interest/skill exploration and research for both postsecondary and career, make this a necessary foundational course.

## BUSINESS MATH/PERSONAL FINANCE

B000NN YEAR (11-12) Prerequisite: Must have completed (2) Math Classes
This project-based course focuses on the mathematical and critical thinking skills that help students become financially educated consumers, informed citizens, and valued employees. Students will manage personal cash flow, formulate a personal budget, understand wages and taxes, research careers and salaries, read financial reports, and understand interest calculations. Students will also use Google Sheets/MS Excel to complete financial reports. This course meets the Math requirement for graduation.

## P-ACCOUNTING

K041PU YEAR (9-12) Prerequisite: None
College business majors are required to take accounting. Be prepared for higher education and success in life. Accounting and finance professionals are needed to analyze, prepare and communicate complex financial transactions. Here students learn the fundamental skills used in business and the basic bookkeeping systems needed by everyone as a life skill. Content covered includes the traditional manual system; software applications may include Peachtree and Excel. This course meets related Math / Science requirements for graduation. This course meets the Subject Area " $g$ " of the UC/CSU approved course list.

## ADVANCED ACCOUNTING

K042NN YEAR (10-12) Prerequisite: Accounting I
This course builds on the knowledge gained in Accounting I and introduces more corporate accounting techniques. The course will prepare the student for entry-level positions in the accounting field or for advanced study of accounting in college. This course meets the Math / Science related requirement for graduation.

## P-COMPUTER GRAPHIC DESIGN

J150PU YEAR (10-12) Prerequisite: Intro to Business
This is an introductory design course that emphasizes the use of pictorial illustration for visualization and communication. Students will develop an understanding of the basic design elements and principles, composition, and typography through exercises and projects. The focus is on visual thinking, exploring the relationship between image and message, and developing multiple solutions to a given problem. Digital images will be produced using a variety of computer technologies, to include: Adobe PhotoShop, Adobe Illustrator, and Adobe InDesign. Projects are sequenced in increasing complexity, with a second semester introducing basic 3D modeling, animation and website design. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC/CSU approved course list.

## P-3D ANIMATION

J134PU YEAR (10-12) Prerequisite: Students must read at grade level, be highly motivated and have a strong ability to focus on specific details.

This course will explore the fundamentals of 3D Animation using multiple software products and the industry leading Autodesk 3D Studio Max. Basic 3D navigation and modeling will be covered. The course will also explore topics such as lighting, camera and material creation. Students will develop problem solving skills, modeling, animation and rendering skills. Students will learn traditional animation skills in the areas of storyboarding, character design, animation theory and camera layout. This course meets the Visual Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC/CSU approved course list. Articulation with SRJC credit through exam.

## P-INTRO TO COMPUTER SCIENCE

K090PU YEAR (10-12) Prerequisite: grade of C or better in Math 1
An interactive introductory course for students brand new to programming that teaches the foundations of computer science, problem solving strategies, and software design. Not only will this course prepare students for AP Computer Science A, but it will teach students how to think computationally and solve complex problems, skills that are important for every student. This course is taught using Python, which is a programming language great for beginners. It is most praised for its elegant syntax and readable code, and it's quite powerful. Python is used by many large organizations (Google and NASA for example) to do just about everything from building apps, analyzing data, system administration, and so much more. Course topics include: Computer Science, Big Data, Algorithms, Cybersecurity, Game Development and Graphics. This course meets the subject area - g requirement for the UC/CSU approved course list, and meets the Math/Science Related requirement for graduation.

## P-AP COMPUTER SCIENCE A (Java)

K091AU YEAR (10-12) Prerequisite: Grade of $C$ or better in Math 2 OR passed Intro to Computer Science, (offered every other year)

AP Computer Science A teaches object-oriented programming using the Java language and is meant to be the equivalent of a first semester, college-level course in computer science. Students will learn to design and implement computer programs that solve problems relevant to today's society, including art, media, and engineering. It will emphasize problem solving and algorithm development, and use hands-on experiences and examples so that students can apply programming tools and solve complex problems. The course will cover fundamentals of programming syntax and methodology using the Java programming language. In the first semester, students focus on the basic building blocks of computer science and programming tools. Topics include control structures, primitive and class data types such as arrays and Strings, methods, and recursions. In the second semester, students learn how to manipulate data to create more sophisticated programs, with topics including class design, algorithm development and user-defined data types. Students also prepare for and take the end-of-course AP Exam. Although passing Math 2 or Intro to Computer Science is a prerequisite; passing Math 3 (Algebra 2) or higher is strongly recommended. This course meets the subject area " $g$ " requirement for the UC/CSU approved course list, and meets the Math/Science Related requirement for graduation.

## P-AP COMPUTER SCIENCE PRINCIPLES

K092AU YEAR (10-12) Prerequisite: grade of $C$ or better in Math 1 (offered every other year)
AP Computer Science Principles is a full-year course that focuses on the seven "Big Ideas" in computer science using project-based approaches. The course introduces students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity, and how computing impacts our world. Students will develop the computational thinking skills needed to fully exploit the power of digital technology and help build a strong foundation in core programming and problem-solving. Using project based lessons and materials throughout, students will work to address real world problems and design solutions to put computational thinking into practice. These culminate in a capstone Performance Task project where students can demonstrate what they've learned, to become creators, instead of merely consumers of the technology all around them. Students also prepare for and take the end-of-course AP Exam. This course meets the subject area " g " a requirement of the UC/CSU approved course list and meets the Math/Science Related requirement for graduation.

## YEARBOOK DESIGN AND PUBLICATION

J160PU YEAR (9-12) Prerequisite: none/Teacher Approval
Yearbook Design and Publication is a year-long course designed to have students understand the role of visual art and design, and its impact on society and culture, particularly in publication mediums. The course will focus on students understanding a designer's target audience and stimulating creativity through a variety of two-dimensional media. Then, students will apply this artistic process to create designs for the yearbook publication. Finally, they will maintain the integrity of design through the editing process, while collaborating and communicating with their colleagues on the yearbook staff. The assignments in the course will demonstrate a student's ability to apply the principles of design and effectively communicate their message. Assignments will also have students process, respond to, and judge design works using their knowledge of the elements of art and the principles of design. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " f " requirement of the UC / CSU approved course list.

## P-LEGAL STUDIES

M034PU YEAR (11-12) Prerequisite: None
Come learn how to use your voice to make changes in the government that runs our lives, and how to understand and use the rights and responsibilities guaranteed to citizens of the United States. From marriage and family, contracts and insurance, criminal behavior, workplace rights, searches and seizures and just who can go in your locker and purse-come see law in action. Group and class interaction provide opportunities to discuss current events and act out and interpret legal cases. Connect everyday rules and regulations to your life! Students may transfer in at the semester. This course meets the Subject Area " g " requirement of the UC/CSU approved course list.

## P - ENTREPRENEURSHIP

J153PU YEAR (10-12) Prerequisite: None
Entrepreneurship teaches students how to start and operate a small business. Students will: identify characteristics of successful entrepreneurs; learn about the costs of running a business; market their business; keep good financial records; identify a target market; and effectively market and sell to those customers. Students will build a fictitious business and apply their knowledge to building this business, including writing a full-fledged business plan. Students will hear from guest speakers and connect with the Petaluma community. Students will also run the PHS Student Store Troy's. This course meets the Subject Area " g " requirement of the UC / CSU-approved course list.

## ENGLISH

## P-ENGLISH 9

A002PU YEAR (9) Prerequisite: none
Ninth grade English is a required, year-long literature-based course designed to develop and refine skills outlined in the Common Core State Standards. Emphasis is on reading, writing, and critical thinking, as well as speaking and listening. Students will read a variety of literary genres (novel, biography, poetry, short stories, plays, essays and non-fiction) from the District's approved core literature list, develop strategies for reading comprehension, and improve writing conventions. Writing is a major component of the course. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-ENGLISH 9 HONORS

A000HU YEAR (9) Recommended: Fall overall GPA of 3.0, at least a B in the first semester English 8 class, online application.
This course is designed to offer an approach to learning that is challenging, interesting and fast-paced for strong, capable readers who are also proficient writers. There is supplemental reading that requires students to exhibit high levels of comprehension, enjoy working at an accelerated pace, and desire a deeper analysis of the reading. Writing assignments will focus on analysis, development, organization, and language. Assignments encourage creativity, abstract thinking, and consistent goal-directed behavior. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-ENGLISH 10

A005PU YEAR (10) Prerequisite: none
Tenth grade English is a required yearlong literature-based course designed to develop and refine the skills outlined in the Common Core State Standards. Emphasis is on reading, writing and critical thinking, as well as speaking and listening. Students will read a variety of literary genres (novels, biographies, poetry, short stories, plays, essays and non-fiction) from the District's approved core literature list, develop strategies for reading comprehension and improve writing conventions. Writing is a major component of the course. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-ENGLISH 10 HONORS

AONWHU YEAR (10) Prerequisite: Qualification by application, writing sample.
Honors English 10 is a world literature course that highlights both early and modern works from around the globe. We will study fiction, nonfiction, drama, poetry, myths, and legends as well as ancient sources of wisdom such as The Bible, The Koran, and The Tao Te Ching. Writing and class discussion will be the primary methods used for response to literature. Students will also learn a variety of literary terms that will help them analyze literature and prepare them for success in Advanced Placement English courses in the coming years. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-AMERICAN LITERATURE

A008PU YEAR (11) Prerequisite: none
American Literature is a required English course for eleventh grade that will cover some highlights of the American canon, which could include Transcendentalism, Gothic literature, and more modern literature from, which may include F. Scott Fitzgerald's The Great Gatsby, Nic Stone's Dear Martin, Lorraine Hansberry's A Raisin in the Sun, and Elizabeth Acevedo's The Poet X. Emphasis is on reading, writing and critical thinking as well as speaking and listening. Writing is a major component of the course. This course meets the Subject Area " $b$ " requirement of the UC / CSU approved course list.

## P-ENGLISH LANGUAGE/COMPOSITION AP

A003AU YEAR (11) Prerequisite: Qualification by application.
Advanced Placement Language and Composition is a course in rhetoric and writing which prepares students in their junior year of high school to participate in the AP examination in May. Through the course's accelerated readings and writings, students will learn how to identify, analyze and utilize the power of rhetoric to persuade an audience. The course involves an interdisciplinary study of American literature and students will connect readings and writings to history, art, music, and other disciplines in order to more completely understand rhetorical structure. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-EXPOSITORY READING AND WRITING CURRICULUM (ERWC)

A012PU YEAR (12) Prerequisite: none
This class will be dedicated to polishing students' writing skills to the point where they will be fully college and career ready. The CSU system developed the Expository Reading and Writing Course (ERWC) to prepare high school seniors for college or the workforce. This course emphasizes reading nonfiction articles, which leads to an extensive amount of writing. It gives students a process they can use to approach complex texts in any discipline. The curriculum also includes longer works, which could include Aldous Huxley's Brave New World, Mark Haddon's The Curious Incident of the Dog in the night-time, and Jon Krakauer's Into the Wild. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-ENGLISH LITERATURE/COMPOSITION AP

A014AU YEAR (12) Prerequisite: Placement by exam and teacher recommendation.
This is a college level course that prepares students for the Advanced Placement Literature and Composition exam that students take in May. The students will study English literature, American literature, and works in translation from the sixteenth century to the present day. Students will write at least four essays during every six-week grading period. All units include intense study of grammar, vocabulary, syntax, and literary devices. The students have many opportunities to practice and improve their writing. This course meets the Subject Area "b" requirement of the UC / CSU approved course list.

## P-BEGINNING AND ADVANCED JOURNALISM

## M020PU YEAR (9-12) Prerequisite: Teacher Approval

Students in this course will produce the school newspaper, The Trojan Tribune. This includes reporting, writing, advertising, ethics and responsibility of the media along with design and layout of the paper. Successful leaders are made in journalism as they run all facets of newspaper management to report the news of the school community and issues and events of concern to the students. This course meets the Subject Area " g " requirement of the UC / CSU approved course list.

## ENGLISH LANGUAGE DEVELOPMENT (ELD)

Our English Language Development Program at Petaluma High uses the current (2012) ELD State Standards to guide the design of curricular content for all students still acquiring proficiency in English. In compliance with the 2016 Education for a Global Economy (Ed.G.E) initiative, we advance literacy by using both English and a student's native language where appropriate with the goal of supporting each English learner to achieve language proficiency and meet state academic achievement goals. Students will progress through English Language Development (ELD) Levels 1,2, and 3 as appropriate for their language acquisition proficiency using the three Progress Level Descriptors (PLDs): Emerging, Expanding, and Bridging. These descriptors are determined by the English Language Proficiency Assessments for California (ELPAC), California's assessment system that is used to determine the English language proficiency of students whose primary language is not English. They are defined with both early and exit stages for each proficiency level across three modes of communication: A. Collaborative: Engagement in dialogue with others; B. Interpretive: Comprehension and analysis of written and spoken texts; C.Productive: Creation of oral presentations and written texts.

## ENGLISH LANGUAGE DEVELOPMENT (ELD) LEVEL 1 (9th/10th) and ENGLISH 1 (9th/10th). ELD LEVEL 1 (11th/12th) and English 1 (11th/12th)

M113NY (9/10), M116NY (11/12) Prerequisite: Non-English speaker.
This course is appropriate for Recently Arrived English Learners with an Emerging proficiency level of English, with an overall ELPAC Performance Level score of 1. This is a communication-based class that emphasizes communication skills, basic academic vocabulary, idiomatic expressions, and pronunciation through listening, reading, speaking, and writing. The course encourages students to experience a sense of pride and knowledge related to their own cultural heritage while also developing an understanding of our local and national culture and history. The course incorporates content tailored to the abilities and needs of the students. This course can be repeated for credit for students who remain at the ELPAC Overall Performance Level of 1.

ENGLISH LANGUAGE DEVELOPMENT (ELD) LEVEL 2 (9th/10th) and ENGLISH 2 (9th/10th). ELD LEVEL 2 (11th/12th) and English 2 (11th/12th)

M114NY (9/10), M117NY (11/12) Prerequisite: ELD 1 and/or appropriate assessment or recommendation of instructor/ELRT.

This course is appropriate for English Learners with an Expanding proficiency level of English, with an overall ELPAC Performance Level score of 2. Students will need an understanding of conversational English vocabulary and be able to adequately speak and write basic English. There is an emphasis on moving the student from basic communication towards grade level academic vocabulary across the ELA domains of listening, reading, speaking, and writing as well as all academic disciplines (math, science, social science, etc.). This course can be repeated for credit for students who remain at the ELPAC Overall Performance Level of 2.

M115NY (9/10), M118NY (11/12) Prerequisite: ELPAC level 3/Expanding/Bridging proficiency; recommendation of instructor/ELRT. NOTE: STUDENTS IN THIS COURSE ARE CONCURRENTLY ENROLLED IN A GRADE LEVEL, COLLEGE PREP ENGLISH COURSE.

The course is appropriate for English Learners with an English proficiency level that is moving from the higher end of Expanding into the Bridging level, with an ELPAC Overall Performance Level score of a 3. There will be a stronger emphasis on the academic English vocabulary and analytical skills needed to successfully enter the standard English program. Greater emphasis is placed on the Common Core academic skills, using more analytical listening, reading, speaking, and writing activities aligned with grade-level English Language Arts courses. This course can be repeated for credit for students who remain at the ELPAC Overall Performance Level of 3.

## ENGLISH LANGUAGE DEVELOPMENT (ELD) LEVEL 4 (9th/10th) and ELD LEVEL 4 (11th/12th)

M028NN (9/10), M027NN (11/12) Prerequisite: ELPAC level 4/Well developed skills; recommendation of instructor/ELRT. NOTE: STUDENTS IN THIS COURSE ARE CONCURRENTLY ENROLLED IN A GRADE LEVEL, COLLEGE PREP ENGLISH COURSE.
The course is appropriate for English Learners with an English proficiency level that shows well developed skills, with an ELPAC Overall Performance Level score of a 4. There will be a stronger emphasis on the academic English vocabulary and analytical skills needed while concurrently taking a college prep English course. Emphasis is placed on the Common Core academic skills, using more analytical listening, reading, speaking, and writing activities aligned with grade-level English Language Arts courses. This course can be repeated for credit for students who remain at the ELPAC Overall Performance Level of 4.

## WORLD LANGUAGES

## P-FRENCHI

J410PU YEAR (9-12) Prerequisite: None
This is an introductory course in French, during which students will learn to speak, read and understand a fundamental level of basic French. From being able to list and inquire about likes/dislikes, seasons, weather, time, food, order meals in French to being able to describe themselves, their surroundings and what their family is like, it is truly a rewarding year. Students will be watching short videos in authentic French, learning about Francophone (French-speaking) cultures such as geography, cuisine, music and how those values differ from one culture to another. Students will learn to speak conversationally in small groups, sing along to music, as well as read and write short paragraphs in novice French. Students begin to use the language as a vehicle for communication. Their class experience will be a communicative language environment, that largely consists of listening to and reading in French, and working to develop proficiency in speaking and writing in the target language. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-FRENCH 2

J411PU YEAR (9-12) Prerequisite: Grade of $C$ or better in French 1 or teacher recommendation.
In this class students will build on grammar and vocabulary skills introduced in French 1. Students continue to further develop and improve listening, speaking, reading and writing skills in the target language using a variety of activities, incorporating familiar vocabulary and structures. Aspects of contemporary French and other Francophone cultures are introduced through the use of media, songs, games, adapted readings and other supplemental materials. Students are assessed using a variety of formats including oral conversations, presentations, culture projects, written assessments, short compositions and other means. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-FRENCH 3

J412PU YEAR (9-12) Prerequisite: Grade of a C or better in French 2 or teacher recommendation.
This course is an exploration of language and culture, using French as the vehicle for learning and communication. During class, students will continue to develop their communicative competence through culture, authentic readings, class discussions, and daily writing. The language is presented through literature, authentic audio, history, culture, and film. In this third year, students use a variety of tenses to interpret the language and express themselves. Students explore and compare the products, practices and perspectives of the French speaking world with one's own culture. As students prepare for AP level tasks, they are also progressing toward earning the California State Seal of Biliteracy on their diploma. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-AP FRENCH LANGUAGE AND CULTURE

J448AU YEAR (10-12) Prerequisite: Grade of $B$ or better in French 3 or teacher recommendation.
The AP French Language and Culture course emphasizes communication by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. This course strives not to overemphasize grammatical accuracy at the expense of communicative competence. To best facilitate the study of language and culture, the course is taught almost exclusively in French as required by the College Board. The course content is driven by the six AP Themes: Families and Communities, Personal and Public Identities, Science and Technology, Beauty and Aesthetics, World Challenges, and Contemporary Life. Students interpret authentic works, write journal entries, formal emails, and argumentative essays in French. Although the class is geared toward the AP exam in May, the activities go well beyond the practice test exercises including songs, activities, projects and films.
The California State Seal of Biliteracy will be awarded to students upon passing the AP Exam. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-SPANISH 1

J431PU YEAR (9-12) Prerequisite: None
This is an introductory course in Spanish, during which students will learn to speak, read and understand a fundamental level of basic Spanish. From being able to list and inquire about likes/dislikes, seasons, weather, time, food, order meals in Spanish to being able to describe themselves, their surroundings and what their family is like. Students will be watching short videos in authentic Spanish, learning about Spanish-speaking cultures such as geography, cuisine, music and how those values differ from one culture to another. Students will learn to speak conversationally in small groups, sing along to music, as well as read and write short paragraphs in novice Spanish. Students begin to use the language as a vehicle for communication. The class experience will be a communicative language environment, that largely consists of listening to and reading in Spanish, and working to develop proficiency in speaking and writing in the target language. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-SPANISH 2

J432PU YEAR (9-12) Prerequisite: C or better in Spanish 1 or teacher recommendation.
In this class students will build on grammar and vocabulary skills introduced in Spanish 1. Students continue to further develop and improve listening, speaking, reading and writing skills. Emphasis is placed on comprehension of Spanish, as well as, reading and writing practice in the target language using a variety of activities incorporating familiar vocabulary and structures. Supplemental materials are introduced to enhance language use. Aspects of contemporary Spanish culture are introduced through the use of media, games, adapted readings, and other supplemental materials. In addition to written/oral tests and quizzes, students are assessed using a variety of formats: oral dialogues, presentations, written compositions and other means. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-SPANISH 3

J433PU YEAR (9-12) Prerequisite: C or better in Spanish 2 or teacher recommendation or placement test
This course is an exploration of language and culture, using the language as the vehicle for learning and communication. During class, students will continue to develop their communicative competence through culture, authentic readings, class discussions, and daily shared writing. The language is presented through literature, history, culture, and film. Students explore and compare the products, practices and perspectives of the Spanish speaking world with one's own culture. As students prepare for AP level tasks, they are also progressing toward earning the California State Seal of Biliteracy on their diploma.
This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-AP SPANISH LANGUAGE AND CULTURE

J434AU YEAR (10-12) Prerequisite: Grade of $B$ or better in Spanish 3 or teacher recommendation.
The AP Spanish Language and Culture course emphasizes communication by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. This course strives not to overemphasize grammatical accuracy at the expense of communicative competence. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish as required by the College Board. The course content is driven by the six AP Themes: Families and Communities, Personal and Public Identities, Science and Technology, Beauty and Aesthetics, World Challenges, and Contemporary Life. Students interpret authentic works, write Spanish journal entries, formal emails, and argumentative essays. Although the class is geared toward the AP exam in May, the activities go well beyond the practice test exercises. Certain literary works presented in AP Spanish Literature and Culture are also introduced. The California State Seal of Biliteracy will be awarded to students upon passing the AP Exam. This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## AP SPANISH LITERATURE AND CULTURE

J447AU YEAR (10-12) Prerequisite: Grade of B or better in AP Spanish Language and Culture or teacher recommendation.

The most advanced year of the Spanish courses is designed to parallel the skill development of a third-year college Spanish course in advanced grammar, conversation, and literature. This class will experience Peninsular Spanish, Latin American, and U. S. Hispanic literature from the College Board reading list as well as expanding on Hispanic culture presented in AP Spanish Language and Culture. The class will be preparing for the AP Spanish Literature and Culture Exam throughout the year. The class is presented in the target language and the expectation of the teacher, students, and materials is the exclusive use of Spanish. Students are given a variation of opportunities throughout the year to speak, listen, read (interpret authentic works), and write in Spanish (art comparisons, literature comparisons, and literary analysis). This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## P-SPANISH FOR HERITAGE SPEAKERS 1

J444PU YEAR (9-12) Prerequisite: The student should have Spanish as a first language or have regular contact with Spanish language at home.

This course is designed to maintain, increase, and enhance native language academic skills. Through the study and analysis of literature, students will develop their critical thinking skills. The student will be exposed to complex grammatical concepts and structures. Students will be expected to demonstrate formal written language as developed within the framework of this class. This course meets the World Language / Visual and Performing Arts requirement for graduation. This course meets the subject area "e" requirement of the UC / CSU approved course list.

## P-SPANISH FOR HERITAGE SPEAKERS 2

J445PU YEAR (10-12) Prerequisite: Grade of C or better in Spanish for Heritage Speakers I or approval of instructor.

This is a literature-based course designed to refine the formal and written language of heritage speakers. Through the study and analysis of various literary works, students will continue to develop their critical thinking skills. The indicative and subjunctive moods will be extensively covered. This course meets the World Language / Visual and Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## AP SPANISH LANGUAGE AND CULTURE FOR HERITAGE SPEAKERS 3

J446AU YEAR (10-12) Prerequisite: Grade of B or better in Spanish For Heritage Speakers II or teacher recommendation.

The AP Spanish Language and Culture course emphasizes communication by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. This course strives not to overemphasize grammatical accuracy at the expense of communicative competence. To best facilitate the study of language and culture, the course is taught exclusively in Spanish as required by the College Board. The course content is driven by the six AP Themes: Families and Communities, Personal and Public Identities, Science and Technology, Beauty and Aesthetics, World Challenges, and Contemporary Life. Students interpret authentic works, write Spanish journal entries, formal emails, and argumentative essays. Although the class is geared toward the AP exam in May, the activities go well beyond the practice test exercises. Certain literary works presented in AP Spanish Literature and Culture are also introduced.

The California State Seal of Biliteracy will be awarded to students upon passing the AP Exam This course meets the World Language / Visual Performing Arts requirement for graduation. This course meets the Subject Area "e" requirement of the UC / CSU approved course list.

## MATHEMATICS

## P-MATH 1

B005PU YEAR (9-12) Prerequisite: None
This course is the first in the sequence of integrated and investigative high school mathematics program designed to formalize and extend the mathematics that students learned in the middle grades. It provides opportunities for using patterns, modeling, and conjecturing to build student understanding and competency in mathematics. The overarching goal of this course is to teach students how to learn math differently than they may have historically. The students will be expected to engage in collaboration, collection of data, experimentation, and conjecturing. Technology tools will also play an important role in learning. By using technology to collect, evaluate, and model data, students will be able to make conjectures and develop a robust understanding of the mathematical principles involved. This course aligns perfectly with the five goals of the UC mathematics requirement. The students will engage in mathematical sense making, make and test conjectures and justify conclusions, use mathematical models to represent real-world data, learn to provide clear and concise answers, and have computational and symbolic fluency. This course meets the math requirement for graduation and is required for a diploma. This course meets the Subject Area " C " requirement of the UC / CSU approved course list.

## MATH 1 WORKSHOP

M039NN YEAR (9-12) Prerequisite: Must be concurrently enrolled in Math 1.
This course is a support class for students who are identified as being at-risk of not passing Math 1. Some of the data points used to identify at-risk students include: having earned a D or F for the spring semester in Math 7 or 7th grade math, having a result of "Standard Not Met" on the mathematics portion of the 7th grade CAASPP, having earned a D or F for the fall semester in Math 8 of 8th grade math or having the student's current math teacher's recommendation, which is based upon the student's performance so far this spring semester in Math 8 or 8th grade math. Students will experience a collaborative approach to problem-based learning. The challenging curriculum allows them to build their knowledge of math, as well as developing confidence and a growth mindset for learning in general. Students also receive review of recent topics covered in Math 1 (including homework help and extra preparation for exams).
ACCELERATED MATH 1/2A (UC approved "c")10 credits
B013PU YEAR (9) Prerequisite: Math 8 or equivalent course with a grade of A- or higher. Please consult with your Middle school instructor.
Math $1 / 2 \mathrm{~A}$ is a fast-paced integrated math course that requires a great deal of independent work and a very strong understanding of prior mathematical content. It is the first course in the accelerated three-year high school math progression (IM1/2A - IM2B/3 - Math Analysis). As an integrated math course, the content of IM1/2A features both algebraic and geometric approaches to solving problems. Key concepts include functions (linear, exponential, and quadratic), geometric transformations and congruence, geometric constructions, linear systems of equations, angle relationships, attributes of polygons, triangle congruence, similarity, right triangle relationships, and trigonometry. This class covers the material in the Model Mathematics I course as well as portions of the Model Mathematics II course of the Integrated Pathway in the Common Core State Standards for Mathematics for California Public Schools. The Standards for Mathematical Practice will also be woven throughout lessons, student practice assignments, and assessments.

## P-MATH 2

B006PU YEAR (9-12) Prerequisite: Successful completion of Math 1 with a grade of $C$ or better or $8^{\text {th }}$ grade Math 1 with a grade of $B$ or better.
This course is the second in the sequence of classes in an integrated and investigative mathematics program. The focus is on quadratic expressions, equations, and functions; comparing their characteristics and behavior to those of linear and exponential relationships from Math 1. The need for extending the set of rational numbers arises and real and complex numbers are introduced so that all quadratic equations can be solved. The link between probability and data is explored through conditional probability and counting methods, including their use in making and evaluating decisions. The study of similarity leads to an understanding of right triangle trigonometry and connects to quadratics through Pythagorean relationships. Conic sections, especially circles, and their quadratic algebraic representations will round out the course. This course meets
the math requirement for graduation. This course meets the Subject Area "C" requirement of the UC/CSU approved course list.

## MATH 2 WORKSHOP

MO40NN $\operatorname{YEAR}$ (10-12) Prerequisite: Must be concurrently enrolled in Math 2.
This course is a support class for students who are identified as being at-risk of not passing Math 2. Some of the data points used to identify at-risk students include: having earned a D or F for the spring semester in Math 8 or 8th grade math, having a result of "Standard Not Met" on the mathematics portion of the 8th grade CAASPP, having earned a D or F for the fall semester in Math 1, having the student's current math teacher's recommendation, which is based upon the student's performance so far this spring semester in Math 1, are currently enrolled in a support class for Math 1 . Students receive previews of upcoming topics in Math 2, review of recent topics covered in Math 2 (including homework help and extra preparation for exams), and extra practice on selected math skills using an online subscription.

## P-MATH 3

B007PU YEAR (10-12) Prerequisite: Successful completion of Math 2 with a grade of a C.
This course is the third in the sequence of integrated and investigative high school mathematics classes. The program is designed to formalize and extend the mathematics that students learn in the middle grades. It provides opportunities for using patterns, modeling and conjecturing to build student understanding and competency in mathematics. The overarching goal of this course is to teach students how to learn math differently than they have historically. The students will be expected to engage in collaboration, collection of data, experimentation and conjecturing. Technology tools will also play an important role in learning and students will be using technology to collect, evaluate and model data, allowing them to make conjectures and develop a robust understanding of the mathematical principles involved. This course aligns perfectly with the five goals of the UC Mathematics requirement. The students will engage in mathematical sense making, make and test conjectures and justify conclusions, use mathematical models to represent real-world data, learn to provide clear and concise answers and have computational and symbolic fluency. This course meets the math requirement for graduation. This course meets the Subject Area "C" requirement of the UC/CSU approved course list.

## P-Trig./Math Analysis

B003PU Year (10-12) Prerequisite: Successful completion of Math 3 with a grade of $C$ or better. May be taken concurrently with AP Statistics.
This course is recognized as an advanced mathematics class, and it is often referred to as precalculus. This class will move a little slower than AP Precalculus and will spend more time on each topic for a deeper understanding. A student finishing this course will be ready to take AP Calculus here at the high school or the first course at the college level. It builds upon the topics learned in the prerequisite courses of Math 1,2 , and 3 , reviewing and further developing the student's skills in algebra and geometry as well as introducing multiple levels of advanced math topics. Such as sequences and series, analytical trigonometry, and some of the basic topics of calculus (limits, slope of tangent line and area under the curve). This course meets the math requirements for graduation and is A-G approved meeting the Subject Area "C" requirement of the UC/CSU course list.

## P- QRAT SENIOR MATH/EAP Math

B009PU YEAR (12 only) Prerequisite: Successful completion of Math 3 with a grade of $C$ or better. This course is recognized as an advanced mathematics class. The course prepares students for taking college-level precalculus and/or statistics. It builds upon the topics learned in the prerequisite courses of Math 1, Math 2, and Math 3, reviewing and further developing the student's skills in algebra, geometry and statistics, as well as introducing multiple aspects of advanced math topics, including mathematical communication and justification, various problem solving techniques, and trigonometry. This course meets the math requirement for graduation. This course meets the Subject Area " $C$ " requirement of the UC/CSU approved course list.

## P- AP PRECALCULUS

## B017AU YEAR (10-12)

In AP Precalculus, students explore everyday situations using mathematical tools and lenses. Through regular practice, students build deep mastery of modeling and functions, and they examine scenarios through multiple representations. They will learn how to observe, explore, and build mathematical meaning from dynamic systems, an important practice for thriving in an ever-changing world. AP Precalculus prepares students for other higher-level mathematics and science courses. The framework delineates content and skills common to college precalculus courses that are foundational for careers in mathematics, physics, biology, health science, social science, and data science. Students study each function type through their graphical, numerical, verbal, and analytical representations and their applications in a variety of contexts. Additionally, students apply their understanding of functions by constructing and validating appropriate function models for scenarios, sets of conditions, and data sets, thereby gaining a deeper understanding of the nature and behavior of each function type. Students also select, construct, and validate function models using transformations of functions and regressions. Through the course, students strengthen their procedural and symbolic fluency skills needed for higher-level mathematics. While studying each function type, students solve equations and construct equivalent analytic representations in both contextual and purely mathematical settings. We recommend students who finish this course with an A or B go on to Calculus BC, if they are not confident AB Calculus is still an option.

## P- AP CALCULUS AB

B018AU YEAR (11-12) Prerequisite: Successful completion of Math Analysis with a grade of $C$ or better or Math 3E with a grade of an A recommended. May be taken concurrently with AP Statistics.
This is a college level Calculus course designed for students with high mathematical motivation and ability. Topics include a study of the theory, techniques, and applications of limits, explicit and implicit differentiation, and integration. Functions, their inverses and graphs will be studied, including polynomials, trigonometric, exponential, and logarithmic functions. Students will be strongly urged to take the AP exam in the spring and may receive college credit with a passing score. This course meets the Subject Area "C" requirement of the UC / CSU approved course list.

## P- AP CALCULUS BC

B019AU YEAR (11-12) Prerequisite: Successful completion of Math Analysis with a grade of B or better or Math 3E with a grade of an A recommended. Students who have completed AP Calculus AB are eligible and encouraged to take this class. May be taken concurrently with AP Statistics.
This is a college level Calculus course designed for students with high mathematical motivation and ability. The BC course is a challenging class that covers all topics in the AP Calculus AB course plus additional topics, including the calculus of polar and vector functions, Euler's method, L'Hopital's rule, improper integrals, logistic differential equations and Taylor polynomial approximations and series. Students should plan on taking the AP Calculus BC exam offered in May, and will receive a sub-score for the AP Calculus $A B$ exam. A passing score on the AP exam (either the BC score or the AB subscore) may provide students with the opportunity to receive college credit. This course meets the Subject Area "C" requirement of the UC / CSU approved course list.

## P- AP STATISTICS

B020AU YEAR (11-12) Prerequisite: Successful completion of Math 3 or Math 3E with a grade of $C$ or better. May be taken concurrently with Math Analysis Honors or either AP Calculus course.
This is a college level statistics course designed for students with high mathematical motivation and ability. Topics include exploring data, planning a study, anticipation patterns, and statistical inference. You will be expected to do homework regularly, which will include reading, analyzing, thinking and writing clearly. Students will be strongly urged to take the AP exam in the spring and may receive college credit for a passing grade. This course meets the Subject Area " $C$ " requirement of the UC / CSU approved course list.

## PHYSICAL EDUCATION

## PHYSICAL EDUCATION 9 (PE 9)

IO01NN YEAR (9) Prerequisite: none
In this course the students will engage in a variety of team and individual activities that promote lifelong health and fitness. These activities will encourage skill and social development as well as a general knowledge of rules and etiquette. Strength training concepts and physical fitness practices will be developed and students will participate in the California State Physical Fitness Test. Students must pass this prerequisite to go on to Physical Education Course 2 or Cross Training.

## PHYSICAL EDUCATION 10 (PE 10)

IOO2NN YEAR (10-12) Prerequisite: PE Course 9
This course is designed to promote individualized physical education and fitness. The students have the opportunity to choose among three different classes that meet State and District standards for Physical Education. The choices will allow students to further their interests in sports and fitness activities. Participation in strength training and overall physical fitness will contribute to an awareness of lifelong health-related fitness.

## STRENGTH AND CONDITIONING

IO04NN YEAR (10-12) Prerequisite: PE Course 9
The Strength and Conditioning class will be based on the PHS Physical Education Curriculum with emphasis on developing Lifetime Fitness and specifically developing and improving HEALTH RELATED (Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Flexibility and Improved Body Composition) and SKILL RELATED (Agility, Balance, Coordination, Speed, Reaction Time and Explosive Power) performance. By the end of the course the students will be able to demonstrate a satisfactory level of knowledge, technique and competency in the following areas*- General knowledge of Basic Anatomy, Physiology and Biomechanics, Nutrition, Calisthenics/Body Resistance Exercises, Running/Sprinting, Resistance Bands, Weight Training, Circuit Training, Plyometrics, Aerobics (basic/dance/water), Rowing, Jump Rope, Stretching/Yoga, Medicine Ball Training. By the end of the course, students will be able to demonstrate a satisfactory level of knowledge, technique and competency in the basic Weight Training Exercises. Students may also learn more intermediate/advanced techniques in the areas of Powerlifting (Squat/Bench/Deadlift) and Olympic Lifting (Snatch/Clean/Jerk).
*Exposure to the curriculum may be affected by facility use, equipment availability, weather, individual/class maturity and responsibility level.

## PE CROSS TRAINING

IOOONN YEAR (10-12) Prerequisite: PE Course 9
Cross Training is a class in which students will get their fitness in a variety of ways. The class will explore Yoga, Pilates, Aerobics, Aquatics, Circuit Training, Jump Rope and various types of Dance throughout the school year. The class will also learn how to do exercises involving their own body weight, exercise bands and exercise balls. The class is designed to give students many tools and ideas to be active throughout their lifetime.

## SOCIAL SCIENCES

## P-WORLD HISTORY

E002PU YEAR (10) Prerequisite: none
World History is a survey course that covers the major political, economic, cultural, and social developments from the Renaissance to the modern day. Students will develop an understanding of the human condition and the historical processes that have shaped the modern world. Major themes include the rise of democracy, competing economic and political systems, societal responses to change, and globalization. This course meets the Subject Area "a" requirement of the UC / CSU approved course list.

## P-HONORS WORLD HISTORY

E003HU YEAR (10) Prerequisite: homework assignment and application
Honors World History is a survey course that covers the major social, political, cultural, and economic developments of the last 10,000 years. This study of the human experience will span the whole of our globe, bringing to light the structure and evolution of varied cultures. Students will be challenged with a college level workload that is supported by instruction in and practice of relevant skills. This course meets the Subject Area "a" requirement of the UC / CSU approved course list.

## P-US HISTORY

F002PU YEAR (11) Prerequisite: none
United States History is a survey course that covers the major political, economic, cultural, and social developments from Reconstruction to modern day. This course picks up where their studies left off in 8th grade. Students also build upon their 10th grade study of history by focusing on global themes that intersect with the American experience. Major themes include the growth of American democracy, westward expansion, the nation's rise as a global power, and struggles for equality. This course meets the Subject Area "a" requirement of the UC / CSU approved course list.

## P-U.S. HISTORY AP

FOOOAU YEAR (11) Prerequisite: application with entrance exam
AP U.S. History is a survey course that covers the major political, economic, religious, social, intellectual, and artistic developments of the United States, from the initial colonization of North America in the early 1600s to modern day. Students will be challenged with a college level workload that is supported by instruction in and practice of relevant skills. There is the expectation that students will take the nationally given AP Exam at the end of the course, which offers the possibility to earn college credit. This course meets the Subject Area "a" requirement of the UC / CSU approved course list.

## P-AMERICAN GOVERNMENT

G003PU SEMESTER (12) Prerequisite: none
Students will examine traditional topics essential to a study of the United States Government, such as the Constitutional principles underlying federalism, the role of political parties and interest groups, and the duties and powers of the executive, legislative, and judicial branches. To ensure student comprehension of these topics, basic knowledge is reinforced through role playing, participation projects, case studies, and issue-oriented debates. This course meets the Subject Area "a" requirement of the UC / CSU approved course list.

## P-ECONOMICS

H001PU SEMESTER (12) Prerequisite: none
This is an introductory class which investigates micro and macro economics. It is an academically demanding course, which emphasizes comparative systems, supply, demand, government spending, inflation, competition and business ownership, and international trade. This course meets the Subject Area "g" requirement of the UC / CSU approved course list.

## P-AMERICAN GOVERNMENT AP

GOOOAU SEMESTER (12) Prerequisite: B or better in US History or AP US History and 3.0 GPA
recommended
This Advanced Placement course in United States government and politics is designed to give students a critical perspective on government and politics in the United States. The course involves both the study of general concepts used to interpret United States politics and the analysis of specific case studies. It also requires familiarity with the various institutions, groups, beliefs, and ideas that make up the United States political reality. The aim of this Advanced Placement course is to provide the student with a learning experience equivalent to that obtained in most college introductory American Government and Politics classes. Students are strongly encouraged to take the College Board Advanced Placement exam in the spring. This course meets the Subject Area "a" requirement of the UC / CSU approved course list.

## P-MACROECONOMICS AP

H003AU SEMESTER (12) Prerequisite: B or better in US History or AP US History and 3.0 GPA recommended

This course gives students a thorough understanding of the principles of economics that apply to an economic system as a whole dealing with the overall level of output, economic growth, monetary and fiscal policy, and international trade. Students are encouraged to take the College Board Advanced Placement exam in the spring. This course meets the Subject Area " $g$ " requirement of the UC / CSU approved course list.

## P-PSYCHOLOGY

M161PU SEMESTER (11-12) Prerequisite: none
The course provides juniors and seniors with fundamental studies and theories of psychology as they are applied to the complexities of human behavior. We will learn to examine and evaluate human behavior as it applies to our lives. This class can be the springboard for further study into the broad field of psychology. Through guest speaker presentations, the students will learn about psychology as a profession and become aware of the educational requirements that must be met to pursue such careers. Topics covered include biology and behavior, Social Psychology, personality, history and approaches, abnormal behavior and therapy, and consciousness. This is a semester course complemented by Sociology. This course meets the Subject Area " g " requirement of the UC/CSU approved course list.

## P-SOCIOLOGY

M055PU SEMESTER (11-12) Prerequisite: none
The course is an introduction to the discipline of Sociology. Students will become acquainted with the basic tenets and vocabulary used in the study of the individual as a group member. Strong emphasis will be placed on our intercultural understanding. This is a semester course complemented by Psychology. This course meets the Subject Area " g " requirement of the UC / CSU approved course list.

## P-AP PSYCHOLOGY

## M060AU YEAR (11-12) Prerequisite: application and 3.0 GPA recommended

AP Psychology is a year-long course designed to introduce students to the systematic and scientific study of the behavior and mental processes of human beings. Students are exposed to the psychological facts, principles, and phenomena associated with the major subfields within psychology. Students will be able to recognize and apply psychological principles when they encounter them in everyday situations. Through the course of study, students will become aware of the dangers of blindly accepting or rejecting any psychological theory without careful, objective evaluation. Students will also build their reading, writing, and discussion skills. There is the expectation that students will take the nationally given AP Exam at the end of the course, which offers the possibility to earn college credit. This course meets the Subject Area " g " requirement of the UC / CSU approved course list.

## SCIENCE

## P- SUSTAINABLE AGRICULTURE BIOLOGY

C001PU YEAR (9-10) Prerequisite: Math 1 or concurrent enrollment in Math 1 recommended Biology and Sustainable Agriculture is a one year course designed to integrate biological science practices and knowledge into the practice of sustainable agriculture. The course is organized into four major sections, or units, each with a guiding question. Unit one addresses the question, What is sustainable agriculture? Unit two. How does sustainable agriculture fit into our environment? Unit three, What molecular biology principles guide sustainable agriculture? Unit four, How do we make decisions to maximize sustainable agricultural practices with a functioning ecosystem? Within each unit, specific life science principles will be identified with agricultural principles and practices guiding acquisition of this knowledge, culminating in the development of a sustainable farm model and portfolio of supporting student research. This course meets the Life Science requirement for graduation. This course meets the Subject Area "d" requirement of the UC/CSU approved course list.

## P-AGRICULTURE AND SOIL CHEMISTRY <br> D005PU YEAR (10-12) Prerequisite: Biology or Sustainable Agriculture Biology

This course explores the physical and chemical nature of soil as well as the relationships between soil, plants, animals and agricultural practices. Students will examine properties of soil and land and their connections to plant and animal production. Using knowledge of scientific protocols as well as course content, students will develop an Agriscience research program to be conducted throughout the first semester. To complete the whole project, each student will investigate and test an Agriscience research question by formulating a scientific question related to the course content, formulating a hypothesis based on related research, conduction and experiment to test the hypothesis, collecting quantitative data and forming a conclusion based on analysis of the data. Throughout the course, students will be graded on participation in intracurricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience Program (SAEP). This course meets the Physical Science requirement for graduation. This course meets the Subject Area "d" of the UC/CSU approved course list.

## P- PHYSICAL SCIENCE

D002PU YEAR (9) Prerequisite: none
This is a one year laboratory course encompassing multiple areas of physical science and its relationship with the natural world around us. Students gain knowledge, skills and appreciation of science in such areas as astronomy, chemistry, geology, meteorology and physics through a variety of strategies. Students will develop skills in the manipulation of materials and equipment, as well as organizing and communicating scientific information. Appreciation and respect for the natural world will be part of the course content. Students will become aware of careers in science. Homework is required. This course meets the subject Area "d" requirement of the UC / CSU approved course list.

## P-BIOLOGY

C006PU YEAR (9-10) Prerequisite: Successful completion of one semester of physical science or for incoming 9th grade students, teacher permission plus concurrent enrollment in Math 2 recommended. Incoming 9th grade students must understand that they will NOT be allowed to take physical science at a later time and are advised that they MUST take either chemistry or physics to graduate.
This is a one-year laboratory course that explores the interrelationships of life and the physical world around us. Some areas of study include cellular and molecular biology, ecology, genetics, energy pathways of life, bioethics, evolution, and diversity. Students will become aware of science career connections. Homework is required. This course meets the Subject Area "d" requirement of the UC / CSU approved course list.

## P-HONORS BIOLOGY

C1NWHU YEAR (9-10) Prerequisite: B or better in 9th grade Physical Science (or) an A in both semesters of 8th grade physical science, concurrent enrollment in Math 2, completion of course application and teacher recommendations, 9th grade students must understand that they will NOT be allowed to take physical science at a later time and are advised that they MUST take either chemistry or physics to graduate.

This college prep laboratory class explores the interrelationships of life and the physical world around us. Some areas of study will include cellular and molecular biology, ecology, genetics, energy pathways of life, bioethics, evolution, and diversity. This course is designed for college-bound students with a strong aptitude in science and who consistently work independently to the best of their ability. Please note: there is no grade bump for Honors Biology. This is the first level of preparation for Honors/AP junior, senior courses. Homework is required daily. This course meets the Subject Area "d" requirement of the UC / CSU approved course list.

## P-BIOLOGY AND COMMUNITY HEALTH

C007PU YEAR (9-10) Prerequisite: Successful completion of one semester of physical science or for incoming 9th grade students, teacher permission plus concurrent enrollment in Math 2 recommended.

This is a one-year career \& technical education (CTE) laboratory course that explores the interrelationships of life and the physical world. Some areas of study include cellular and molecular biology such as pathogens and human health, ecology of disease and environmental health, genetics, energy pathways of life, bioethics, evolution, and diversity. We will focus on the application of these concepts in the healthcare setting. Students will become aware of science career connections. Homework is required. This course meets the Subject Area " d " requirement of the UC/CSU approved course list.

## P-CHEMISTRY

D009PU YEAR (10-12) Prerequisite: a grade of $C$ or better in both semesters of Biology and concurrent or previous enrollment in Math 2.
A one year course studying the composition of substances and how they change while focusing on laboratory investigations to enable students to better understand the world around them and to make intelligent consumer decisions about that world. This is a college preparatory course designed for students who have an aptitude for math and science but who may or may not plan to major in science. This course assumes no prior substantial knowledge of chemistry. It will introduce students to the concepts of atomic theory, chemical reactions, phases of matter, solutions and ions, periodic table, chemical bonding, chemical rates and equilibrium, acids and bases, and oxidation-reduction. A scientific calculator is highly recommended. A minimum of 30 minutes of homework is required on a daily basis. A commitment to complete the course is important. This course meets the subject area " $d$ " requirement of the UC / CSU approved course list.

## P-HONORS CHEMISTRY

D008HU YEAR (10-12) Prerequisite: Grade of B or better in Biology and concurrent or previous enrollment in Math 2.

This course will introduce the same concepts in P-Chemistry. Students need to have a strong aptitude for science and math, be able to comprehend and utilize concepts quickly and demonstrate the ability, initiative and motivation to work independently. Students will need to employ an above average level of analytical skill and sufficient maturity to consistently deduce underlying concepts from empirical evidence. It is the intent of this course to challenge and stimulate the student to go beyond basic principles to examine concepts and applications in greater depth and complexity. Although the course is not designed as an AP course, interested students will be helped to prepare for the AP exam. Students should be aware of the personal time commitment to complete this course. A minimum of 45 minutes of homework is required daily. A scientific calculator is required. This course meets the Subject Area "d" requirement of the UC / CSU approved course list.

## CHEMISTRY \& COMMUNITY HEALTH

D011PU YEAR (10-12) Prerequisite: Biology \& Community Health (Biology or Honors Biology OK) with a grade of C or better, Math 1, Math 2 or concurrent enrollment in Math 2.
Chemistry and Community Health is a college preparatory laboratory science course with Next Generation Science Standards for Physical Science integrated with Public and Community Health Pathway standards. This course is designed to provide students with an understanding of chemistry concepts through the study of the real world applications of chemistry on the understanding of and treatment of public health concerns. Students will engage in experiments, conduct research, complete simulations and apply knowledge of chemical bonding and atomic properties, which is foundational to pharmacology. Students will use experiments and organic chemistry concepts to assess drug reactions \& interaction, and examine the impact of environmental toxicants in community health. Using the concepts of isotopes and radioactive decay as applied in medical technology \& diagnosis. Students will use medical technology and molecular tools to understand the application of technology in solving health challenges. Students will identify environmental issues affecting health in their community and then create action plans to improve the health outcomes within the community. The course culminates with students engaging in community health by going out and educating their community about relevant health problems prevalent in that community.

## P-PHYSICS

D007PU YEAR (11-12) Prerequisite: Completion of Math 2 with a C or better
This is a survey laboratory course, which involves the main concepts of physics such as classical mechanics, heat, waves, sound, optics, electricity, magnetism, nuclear physics, and astronomy. The course is designed to help students develop problem solving and critical thinking skills, to understand and to analyze the physical world. Homework is required daily. A commitment to complete the course is important. A scientific calculator is required. This course meets the Subject Area "d" requirement of the UC / CSU approved course list.

## P-AP PHYSICS

D013AU YEAR (11-12) Prerequisite: Completion of Math 2 with a C or better
AP Physics is a quantitative study of the laws which govern the behavior of matter and energy in the universe. Students need to have a strong aptitude for science and math, be able to comprehend and utilize concepts quickly and demonstrate the ability, initiative and motivation to work independently. This course introduces the students to the mathematics of Physics, motion, force, and conservation laws, heat and energy, electricity and electromagnetism, vibration and waves, optics and light, and atoms and matter. Knowledge of algebra and basic trigonometry is required for the course; the basic ideas of calculus may be introduced in connection with physical concepts, such as acceleration and work. This course is very fast paced and mathematically oriented. Students will be expected to take the AP Physics exam which may fulfill a laboratory science requirement in
some colleges. A scientific calculator is required. Students should expect 45 minutes of homework daily and be aware of the personal time commitment to complete the course. This course meets the Subject Area "d" requirement of the UC / CSU approved course list.

## P-ANATOMY \& PHYSIOLOGY (CTE)

C004PU YEAR (11/12) Prerequisite: Completion of Biology with a B or better for both semesters recommended. Either Physical Science or Chemistry and Community Health (or other Chemistry).
This is a career technical education (CTE) laboratory course is intended for students who wish to expand their knowledge of the structure and function of the human body. Participation in all aspects of this course, including field trips, dissections, and CPR training is mandatory. A donation for supplies will be asked from each student. This course is our capstone in our Community Health Pathway and includes extensive career and technical skills development, career exploration and industry specific certification. This course meets the Subject Area "d" requirement of the UC / CSU approved course list.

## P-MARINE SCIENCES

C009PU YEAR (11-12) Prerequisite: Successful completion of Biology with a C- or better (Physical Science or Chemistry-Honors/Ag/Community Health/College Prep-recommended)
This course is designed to cover both the physical and biological aspects of the marine environment including, but not limited to: the Biology of Marine Mammals, Weather \& Climate, Zones of the Ocean Currents, Waves, Kelp Forest Ecology, Wetland Ecology, the Effects of Plastics and Pollutants on Marine Ecosystems, Ichthyology, Marine Invertebrate Biology, Marine Birds, and Aquaculture. Field trips are included and participation is an integral part of the course. Fundraising and non-school hour volunteer work (community service-based) are required. This course meets the Subject Area "d" requirement of the UC/CSU approved course list.

## P-AP ENVIRONMENTAL SCIENCE (APES)

C002AU YEAR (11-12) Prerequisite: Successful completion of Physical Science, Biology, Math 1, World History and English 10 with a C or better.
This course is designed for the college bound student with a strong aptitude for study science in the context of political/ social issues who are willing to work consistently to the best of their ability. Students must be proficient writers and critical thinkers to succeed in APES. We will look at the laws, culture and ecological foundations of environmental science. Some of the topics included are ecosystems, biodiversity, natural resources, alternative energy, and climate change. Students are expected to participate in field trips to observe salt marsh, redwood, oak grassland and other unique local ecosystems. A notebook/lab book/field journal will be kept. Field trips and required weekend work will also support local wetland conservation efforts. Students must complete a project which can range from investigation, monitoring, and evaluation of a local ecosystem to exploring the local politics of habitat conservation and/or resource management. Students will be expected to take the AP Environmental Science exam which may fulfill a laboratory science requirement in some colleges. This course meets the Subject Area "d" requirements of the UC / CSU approved course list.

## EXOTIC ANIMAL HUSBANDRY

M080PU YEAR (9-12) Prerequisite: none. This class counts as a college prep elective (G) in the A-G requirements.

This course will provide the student with principles in Animal Science, with specific focus on the creatures most commonly involved in the Global Exotic Animal Pet Trade. This course will cover a broad range of topics in the field of exotic animal husbandry including, but not limited to: genetics (wild reproduction as well as domestic production \& breeding), anatomy, physiology, reproduction, nutrition, epidemiology (zoonotic disease: identification and treatment), exhibition \& display, enclosure set-up \& construction, clinical handling and treatment, and animal ethics. This course is intended to successfully prepare those students who plan on majoring in Biological Sciences (with a focus on Herpetology or Entomology) or Agricultural Sciences (with focus on Animal Sciences) at a college or university, or students looking to pursue a career in Animal Husbandry (keeper, trainer, or care technician), Veterinary Medicine, or a career in any sector of the global Exotic Animal Pet Trade (business, breeding, trade, husbandry, conservation, etc.). Using the entirety of the resources and facilities of the Petaluma Wildlife Museum, there are ample opportunities for hands-on class participation with animals and equipment in this class enabling students to demonstrate their knowledge of restraint, handling, behavior, and treatment. Units 6-12 of the course will be framed, specifically, on creatures that we currently exhibit at the PWM. Additional emphasis will be placed on industry practices to include record keeping, public relations and communications.

## PUBLIC SPEAKING FOR ENVIRONMENTAL EDUCATION

M081PU YEAR (10-12) Prerequisite: Successful completion or concurrent enrollment in Exotic Animal Husbandry is encouraged (not required). This class counts as a college prep elective (G) in the A-G requirements.

Public Speaking for Environmental Education is an introductory communications course which includes the benefits and the process of public speaking, listening skills, tools of local expression and the importance of non-verbal delivery. Using the resources afforded by the Petaluma Wildlife Museum, students will practice and execute the fundamentals of effective use of language by delivering over 100 conservation based-tours and presentations to the over 3000 patrons that visit the Museum each year. Those skills include but are not limited to: appropriate language, stylistic devices, tone, audience attitude, speech purposes, and guidelines for effective delivery. With a concentration both on basic techniques of speaking, and a more practical side of preparation, this course is applicable for both those who want to speak effectively in the workplace and community, and those who want to reach their maximum potential in their professional lives.

## ENGINEERING, MANUFACTURING \& AUTOMOTIVE

## INTRODUCTION TO ENGINEERING DESIGN AND MANUFACTURING

## K020PU <br> YEAR (9-12) Prerequisite: none

Introduction to Engineering Design (IED) is a high school level course that is appropriate for students who are interested in design and engineering. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global, and human impacts, engineering standards, and technical documentation and manufacturing process. IED gives students the opportunity to develop skills and understanding of the design and manufacturing concepts through activity-project and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education. The course assumes no previous knowledge, but students should be concurrently enrolled in college preparatory mathematics and science. Students will employ engineering, scientific and manufacturing concepts in the solution of engineering design and manufacturing problems that supports STEM (Science, Technology, Engineering and Math). In addition, students use a state of 3D solid modeling design software packages to help them design solutions to solve proposed problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course. Students will also learn how to document their work, and communicate their solutions to their peers and members of the professional community. Introduction to Engineering Design is one of three foundation courses in the Project Lead the Way high school pre-engineering program. The course applies and concurrently develops secondary-level knowledge and skills in mathematics, science, and technology. This course meets the Math / Science related requirement for graduation. This course meets the Subject Area " $g$ " requirements of the UC /CSU approved course list.

## MANUFACTURING AND DESIGN (METAL 1) <br> K010PU YEAR (9-12) Prerequisite: none

The major focus of this course is to expose students to industry safety practices, product design process, research and analysis, teamwork, engineering standards, and technical documentation, and manufacturing processes through metal working.
Areas of study are, oxyacetylene welding, sheet metal layout \& fabrication, sand casting, metal forging, manual lathe machining, manual mill machining, drill press use, metal grinding, 3D printing, metal art, CAD (computer aided design), shop math, metallurgy, metrology tools \& practices.Industry and career exploration through virtual and physical field trips, and guest speakers, job shadowing.

- Students can earn Titans of CNC academy CAD certificates.
- Students can earn (NIMS) Measurement, Materials, Safety credentials.
- Students can participate in SkillsUSA competitions.
- This course meets the Math / Science related requirement for graduation.
- This course meets the Subject Area "F" requirements of the UC/CSU A-G course list.


## ADVANCED MANUFACTURING TECH / METAL ART (METAL 2)

## K011PU Prerequisite Grades (10-12): Completion of Manufacturing and Design

Recommended: Intro to engineering / Math- trigonometry and geometry.
Advanced Manufacturing students prepare to earn industry certifications and community college credits. Students learn advanced manual machining practices, CAD and CAM computer software, CNC machine programming and operation, advanced 3D printing. Students will design and manufacture products related to the curriculum, design and manufacture products of their choosing using the available shop equipment. Students also will be enrolled in the NASA Hunch program and build hardware for NASA space missions. Industry and career exploration through virtual and physical field trips, and guest speakers, job shadowing.

- Students can earn Titans of CNC academy CAD/CAM/CNC certificates.
- Students can earn (NIMS) Job Planning Benchwork Layout credentials.
- Students can earn 3.0 units of college credit through SRJC (MACH51A Test)
- Students can earn Haas CNC Mill operator certifications.
- Students can earn NASA Hunch participation certificates.
- Students can participate in SkillsUSA competitions.
- Students can apply to earn sponsored scholarships
- This course meets the Visual and Performing Arts requirement for graduation.
- This course meets the subject "F" requirements of the UC/CSU A_G course list.


## PRODUCT DEVELOPMENT \& MANUFACTURING (METAL 3)

K012PU Prerequisite Grades (11-12): Completion of Advanced Manufacturing 2
Recommended: Intro to engineering / Math- trigonometry and geometry.
Third year Advanced Manufacturing students prepare to earn industry certifications and community college credits. Students learn advanced manual machining practices, CAD and CAM computer software, CNC machine programming and operation, advanced 3D printing. Students will design and manufacture products related to the curriculum, design and manufacture products of their choosing using the available shop equipment. Students will also be enrolled in the NASA Hunch program and build real hardware for NASA space missions.

- Students can earn Titans of CNC academy CAD/CAM/CNC certificates.
- Students can earn (NIMS) Manual Lathe \& Mill credentials .
- Students can earn Haas CNC Lathe operator certifications.
- Students can earn NASA Hunch participation certificates.
- Students can participate in SkillsUSA competitions.
- Students can apply to earn sponsored scholarships


## NIMS (NATIONAL INSTITUTE FOR METALWORKING SKILLS) CREDENTIALING YEAR (Metal 4)

K149PU Prerequisite Grades (12) Completion of Product Development \& Manufacturing year 3
Recommended: Intro to engineering / CIM / Math- trigonometry and geometry.
Fourth year Advanced Manufacturing students continue to earn industry certifications. Students learn advanced manual machining practices, CAD and CAM computer software, CNC machine programming and operation, advanced 3D printing. Students will design and manufacture products related to the curriculum, design and manufacture products of their choosing using the available shop equipment. Students will also be enrolled in the NASA Hunch program and build real hardware for NASA space missions. A 4th year student will have opportunities to job shadow or enter CTMA apprenticeships.

- Students can earn Titans of CNC academy CAD/CAM/CNC certificates.
- Students can earn (NIMS) CNC credentials .
- Students can earn NASA Hunch participation certificates.
- Students can participate in SkillsUSA competitions.
- Students can apply to earn sponsored scholarships


## AUTO ENGINEERING (Auto 1)

M059PU YEAR (10-12) Prerequisite: none
This course is split into $60 \%$ Classroom Lecture \& Study, $40 \%$ Lab/Shop time. The beginning automotive course offers students the opportunity to study how automotive systems work such as aerodynamics, engines, ignition, electrical, brakes, drive train, suspension, fuel systems, fuel injection, computer controls, vehicle sensors, and lighting systems. We also study how to perform proper vehicle maintenance, perform tire repairs, use precision measurement tools, how to use automotive equipment, and how to properly use hand tools. We study shop safety procedures, automotive careers, and current automotive market trends. Students will also get to spend a few weeks in the Metal shop making gas welding, and sheet metal projects that they get to take home.

- This course meets the related Math/Science subject requirement for high school.
- Students earn genuine factory training certifications from Ford Motor Company.
- This course meets subject area "G" of the UC/CSU approved course list.
- Students can take the SRJC (CBE) AUTO80 test, and can earn 3.0 college unit's.


## AUTOMOTIVE TECHNOLOGY (Auto 2)

K025PU YEAR (10-12) Prerequisite: Automotive Engineering
This course is split into $20 \%$ Classroom Lecture \& Study, $80 \%$ Lab/Shop time. This course offers training in engine repair/rebuilding, dyno testing and tuning, advanced engine diagnostics, advanced electrical diagnostics, advanced electrical diagnostics, brake diagnostics and repair, suspension repairs, HVAC theory and diagnostics, advanced computer controls, vehicle restoration, and laser wheel alignments. Students will also have opportunities to participate in job shadows, field trips, and other experiences designed to show students the diverse careers found in the automotive industry. Successful completion of this course could lead to an entry-level position in the field of automotive mechanics. The instructor will assist with job referrals and recommendations.

- This course meets the Elective subject requirement for high school graduation.
- Students earn genuine factory training certifications from Ford Motor Company.
- This course meets subject area "G" of the UC/CSU approved course list.
- Students will take the SRJC (CBE) AUTO80 test, and can earn 3.0 college unit's.
- Students will take ASE entry level certification tests.
- Students can compete in SkillsUSA Competitions.


## AUTOMOTIVE TECHNOLOGY (Auto 3)

K026PU YEAR (11-12) Prerequisite: Automotive Engineering \& Auto 2
This course is split into $20 \%$ Classroom Lecture \& Study, $80 \%$ Lab/Shop time. This course is currently combined with the Auto 2 course. Auto 3 students will continue studying advanced automotive diagnostics, study Hybrid \& EV technologies, and refine their working knowledge of automotive repairs, and industry procedures. Auto 3 students will be given advanced work during class, and train to pass ASE certification tests, and compete in SkillsUSA automotive competitions. Students will also have opportunities to participate in job shadows, field trips, and other experiences designed to show students the diverse careers found in the automotive industry. Successful completion of this course could lead to an entry-level position in the field of automotive mechanics. The instructor will assist with job referrals and recommendations.

- This course meets the Elective subject requirement for high school graduation.
- Students earn genuine factory training certifications from Ford Motor Company.
- This course meets subject area "G" of the UC/CSU approved course list.
- Students will take the SRJC (CBE) AUTO80 test 3 units (unless passed prior)
- Students will take ASE entry level tests.
- Students can compete in SkillsUSA Competitions.


## AUTOMOTIVE TECHNOLOGY (Auto 4)

K027PU YEAR (12) Prerequisite: Automotive Engineering \& Auto $2 / 3$
This course is split into $20 \%$ Classroom Lecture \& Study, $80 \%$ Lab/Shop time. This course is currently combined with the Auto $2 / 3$ course. Auto 4 students will continue studying advanced automotive diagnostics, study Hybrid \& EV technologies, and refine their working knowledge of automotive repairs, and industry procedures. Auto 4 students will be given advanced work during class, and train to pass ASE certifications tests, and compete in SkillsUSA automotive competitions. Students will also have opportunities to participate in job shadows, field trips, and other experiences designed to show students the diverse careers found in the automotive industry. Successful completion of this course could lead to an entry-level position in the field of automotive mechanics. The instructor will assist with job referrals and recommendations.

- This course meets the Elective subject requirement for high school graduation.
- Students earn genuine factory training certifications from Ford Motor Company.
- This course meets subject area "G" of the UC/CSU approved course list.
- Students will take the SRJC (CBE) AUTO80 test units (unless passed prior).
- Students will take ASE entry level tests.
- Students can compete in SkillsUSA Competitions.


## VISUAL \& PERFORMING ARTS

P-DRAMA

J011PU YEAR (9-12) Prerequisite: none
This class is an introduction to the theater and acting class combined. Students learn theater terminology, vocal and physical expression, and the traditions of the theater while performing in monologs, directed scenes with classmates, improvisations, and theater games. An important aspect of the class is the viewing and written analysis of both professional and amateur work and a written character analysis for each role undertaken. Beginning students work along with advanced students at levels appropriate to their individual experiences. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " f " requirement of the UC/CSU approved course list.

## P-SYMPHONIC / MARCHING BAND

J362PU YEAR (9-12) Prerequisite: Approval of instructor
This intermediate instrumental performing ensemble is open to students by approval of the instructor. Students must have good command of their instrument and be able to read music of easy/medium difficulty. Students will learn intermediate musical techniques on their instruments including: some major, minor, and chromatic scales; rhythm exercises; and arpeggio exercises. Students will learn to sight read easy/medium level music while observing dynamics, key signatures, tempo markings, and articulations. In addition to the techniques of rehearsal and performance, the students will learn the theory and history of the music performed. Students are expected to perform at a wide variety of events, including school concerts, sporting events, parades, and regional competitions, and are expected to observe the proper performance etiquette appropriate for the occasion. All band members are expected to march, to learn the fundamentals of marching technique, and can travel on the annual music performance trip (to locations such as Disneyland). Course may be repeated for additional credit. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement for the UC/CSU approved course list.

## P-WIND ENSEMBLE / MARCHING BAND <br> J523PU YEAR (9-12) Prerequisite: Approval of instructor

This advanced instrumental performing ensemble is open to students by approval of the instructor. Students must have a very good command of their instrument and be able to read music of medium-advanced difficulty. Students will learn advanced musical techniques on their instruments including: all major, minor, and chromatic scales; rhythm exercises; and arpeggio exercises. Students will learn to sight-read medium-difficult level music while observing dynamics, key signatures, tempo markings and articulations. In addition to the techniques of rehearsal and performance, the students will learn the theory and history of the music performed. Students are expected to perform at a wide variety of events, including school concerts, sporting events, parades, and regional competitions and are expected to observe the proper performance etiquette appropriate for the occasion. All band members are expected to march and can travel on the annual music performance trip (to locations such as Disneyland). Course may be repeated for additional credit. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC/CSU approved course list.

## P-JAZZ BAND I/ JUNIOR VARSITY JAZZ ENSEMBLE

J364PU YEAR (9-12) Prerequisite: Must take either Wind Ensemble or Symphonic Band concurrently and have approval of the instructor.

This beginning jazz performance ensemble is open by approval of the instructor to saxophone, trumpet, trombone, electric guitar, bass guitar, piano and drum-set musicians. The students will learn how to read jazz charts, read complex rhythms, play in different jazz styles, improvise solos, and improve their sight-reading
skills. Students will learn the fundamentals of jazz including melody, harmony, rhythm, scales, improvisational technique, and jazz history. Students will be able to perform "Big Band" charts and know the proper performance etiquette for jazz concerts. Students will be expected to perform at a few select concerts and can travel on the annual music performance trip (to locations such as Disneyland). This course may be repeated for additional credit. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC / CSU approved course list.

## P-JAZZ BAND II /VARSITY JAZZ ENSEMBLE

J365PU YEAR (9-12) Prerequisite: Must take either Wind Ensemble or Symphonic Band concurrently and have approval of the instructor.

This advanced jazz performance ensemble is open by approval of the instructor to saxophone, trumpet, trombone, electric guitar, bass guitar, piano, and drum-set musicians. The students will learn how to read jazz charts, read complex rhythms, play in different jazz styles, improvise solos, and improve their sight-reading skills. Students will learn the fundamentals of jazz including melody, harmony, rhythm, scales, improvisational technique, and jazz history. Students will be able to perform "Big Band" charts and know the proper performance etiquette for jazz concerts. Students will be expected to perform at a variety of concerts, and may travel on the annual music performance trip (to locations such as Disneyland). This course may be repeated for additional credit. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " f " requirement of the UC / CSU approved course list.

## P-CHAMBER CHOIR

## J366PU YEAR (9-12) No Prerequisite

This is a beginning/intermediate singing group, and all entry level and experienced students will be accepted . Entry level and experienced students will be accepted. This course will include multi-voice part ensemble singing (soprano, alto, baritone, etc.), the fundamentals of vocal production, learning to read music notation, and beginning music theory. Proper rehearsal techniques, performance skills and ensemble etiquette will also be stressed. Additional time will be required outside of class for performances. Students can travel on the annual music performance trip to locations such as Disneyland). This class may be repeated for credit. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " f " requirement of the UC / CSU approved course list.

## P-ART 1

J120PU YEAR (9-12) Prerequisite: none
This is a College Prep course based on the Common Core Visual Arts Standards. Students will be introduced to drawing, painting, and sculpture. This course is designed to open students to the vast world of art and artists. Students will explore a range of methods and materials. Creative problem solving is at the root of the art process. Critical thinking skills will be refined through critique and reflection. Students will begin to develop a portfolio of artwork and develop an individual style.
This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " f " requirement of the UC/CSU approved course list.

## P-ART 2

J121PU YEAR (10-12) Prerequisite: Completion of Art 1 with a grade of $C$ or better or by approval of instructor (a grade of $B$ or higher is recommended by instructor)

This College Prep course is designed for students to build on their acquired skills developed in Art 1, with more complex projects in terms of technique, design, and intent. This course is based on the Common Core Visual Arts Standards. Students will continue to develop their personal style while exploring a variety of mediums.

Problem solving through the creative process will be deepened. Art history and critique will continue as an important thread throughout the course. Students will develop an individual body/series of artwork to be added to their portfolios.

This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC/CSU approved course list.
P-AP Drawing (may not be offered every year)
J123AU YEAR (11-12) Prerequisite: Completion of Art 2 with a grade of $A$, or by approval of the instructor.
AP Studio courses are rigorous and designed for highly motivated students who are interested in taking art at the college level and/or are career-minded in the field of Visual Arts. These students should already be familiar with, have knowledge of, and demonstrate an ability to excel at creating high school level art. This is a homework-intensive course; students should expect to spend time outside of class in order to successfully complete projects. It is expected that students interested in taking AP Art have completed Art 1 and Art 2 , to be ready for the demanding nature of the AP courses.
Students will independently investigate an area of concentration in their artwork that is informed by research and exploration. Students will develop and execute originality of voice, artistic intent, experimentation and creative problem solving. The quality of artwork should reflect mastery of technique at a college level. Students will focus on: mark-making, line quality, surface, light and shade, and composition. Students can include: drawing, painting, printmaking and mixed media for their AP College Board submissions. Students will also be required to have a journal for documenting their process, ideas and evidence of practice. Students' portfolios will be submitted to the AP College Board for review in May. Students may repeat this class twice for development of their portfolio. This course meets the Visual and Performing Arts requirements for graduation. This course meets the Subject Area " $F$ " requirement of the US/CSU approved course list.

## Portfolio Components/ Requirements:

Section 1: Sustained investigation
*15 original works of Art: 60\% of Score (digital images submitted)
*document in writing your process

## Section 2: Selected works

*5 original works of Art: 40\% of Score (digital images submitted)
*document in writing your investigation

## College credits:

A completed portfolio should demonstrate a sophisticated and advanced level of creativity and mastery of technique. With a "passing" score, students will earn college credit in Visual Art or Humanities at colleges and universities. *see the AP Central website for more information:collegeboard.org

## P-PHOTOGRAPHY 1

J140PU YEAR (11-12) Prerequisite: none *(Open to 10th graders who have completed Art I, on a space-available basis)
This course is a comprehensive introduction to photography, both digital and analog, with an emphasis on artistic practice. Students will explore a range of techniques and artistic approaches through focused projects that challenge expectations and expand visual skills, building proficiency through direct experience. In support of this practice, students will learn principles of composition by analyzing exemplary works from historical and contemporary photographers, as well as by reflecting on their own work. Students will learn the operation of the camera (both digital and film), as well as darkroom skills and techniques, and digital editing using Adobe Photoshop and similar applications. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " f " requirement of the UC/CSU approved course list.

## P-ADVANCED PHOTOGRAPHY

J141PU YEAR (11-12) Prerequisite: successful completion of Photography. Course may be repeated for credit.

This course is a deeper dive into film and digital photography. Students learn advanced darkroom techniques, and develop increasing proficiency with Photoshop and digital processing. Project assignments are more complex, and also more conceptual, providing opportunities to develop a coherent personal vision and deepen artistic practice overall, toward compiling a portfolio of work for presentation and exhibition, including submitting work to local, national and international photography competitions. Students will leave this class with the knowledge and experience to pursue higher studies and/or internships toward a career in photography. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC/CSU approved course list.

## BROADCAST JOURNALISM

J166PU YEAR (9-12) Prerequisite: Approval of instructor

Students will learn the fundamentals of broadcast journalism through practical experiences in class and in the field. Students will learn - through extensive hands-on experiences - how to write, report, produce and edit news and feature stories for broadcast. The class will also prepare students for college and career readiness by developing technical skills such as interviewing skills, video-editing, camera operations, Tricaster operator, studio lighting, audio engineering, podcasting, and social media production. This course meets the Subject Area " $f$ " requirement of the UC/CSU approved course list. This course also meets the California Career Technical Standards for the Arts, Media, and Entertainment Pathway.

## BROADCAST 2

J168PU YEAR (10-12) Prerequisite: Broadcast I and Approval of instructor
Broadcast II is a college and career technical education course which integrates Visual and Performing Arts and CTE standards for the Media Arts Production Pathway. Students will build on the skills learned in Broadcast I while adding to their Career \& Technical Education portfolio by learning management skills as well as continuing to develop and hone their technical and journalistic skills. The course is project-based and - at its core - is designed to provide the student with the skills and knowledge required for a career in the broadcasting industry. As such, students will develop in-depth and themed broadcast program concepts with more analytical research, oral communication, and diverse video production opportunities. They will also be introduced to Broadcast 2.0 concepts which take traditional broadcast skills and apply them to the latest social media environments such as Instagram, TikTok, and Snapchat. A key aspect of Broadcast II is laying the foundation for an entirely student-run program. To this end, Broadcast II students will be responsible for teaching and managing Broadcast 1 students in the various tasks required to run Trojan Broadcast Channel. They will learn how to teach relevant and specific skills, how to manage teams, and how to run the various operations required to successfully produce content for Trojan Broadcast Channel's daily announcements and segments. Students in Broadcast II will continue to support and produce content for the Trojan Broadcast Channel but in a more senior and advanced capacity.

## BROADCAST 3

J169PU YEAR (11-12) Prerequisite: Broadcast I and Approval of instructor
Broadcast III is a College and Career Technical Education capstone course in the Arts, Media, and Entertainment Pathway. Students taking this yearlong course will follow the Production and Managerial Pathway while building upon the skills and experiences gained in Broadcast Journalism and Broadcast II. Students will deepen their competencies in content creation, media production, and project management in a project-based learning environment. A core focus of Broadcast III will be developing student's managerial and business acumen. Students will be required to manage production teams as well as create a portfolio of broadcast and social media content that meet current industry standards. Students will also be instructed in how to establish a media production business with the goal of proposing and implementing a business plan by the second semester of the course.

## P-WEB DESIGN/GRAPHIC DESIGN II

## M075NN YEAR (10-12) Prerequisite: Graphic Design I or instructor approval

Web Design/Graphic Design II is a full-year, project-based course that expands on graphic design principles and practices introduced in Graphic Design I, with a focus on website design. Students continue working in Photoshop, Illustrator, and InDesign, and learn to use DreamWeaver to create responsive, dynamic websites, which form the core of the course. Students further develop creative and collaborative approaches to projects, engage in design thinking and problem-solving, deepen understanding of composition and layout, and build concepts such as site mapping, interactivity, and user experience. Integrated throughout the course will be enhanced understanding of core design elements such as text design and typography, color theory, marketing/brand identity, client management, professional process and practices, and other skills that maximize employability. Students will work individually and collaboratively with each other as well as with clients from within the school and the wider community, on real-world and prototype projects. Over the course of the year students will create professional-quality websites, including final portfolios highlighting their work. This course meets the Visual and Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement of the UC / CSU approved course list.

## ARCHITECTURAL DESIGN

J155PU YEAR (9-12) Prerequisite: None
Students will be introduced to the Architectural Design Process, including sketching, critical analysis, and problem-solving the latest industry CAD and BIM software, and the methods and techniques used in the field of Architecture. Students will complete the necessary drawings for a working set of construction documents. These are similar to the submittal sets used in industry: Site, Foundation, Floor, and Framing Plans; Sections, Exterior Elevations, and Construction Details. Upon completion, students will understand the use of CAD in developing architectural designs and how to systematically complete an architectural PAGE 33 project. Donation to cover Labs and consumables is requested. This course meets the Visual Performing Arts requirement for graduation. This course meets the Subject Area " $f$ " requirement for the UC / CSU approved course list. This course also meets the California Career Technical Standards for the Engineering and Design Industry Sector-Architectural and Structural Engineering Pathway.

## SPECIAL EDUCATION

## STUDY SKILLS

M006NN YEAR (9-12)
Study Skills is a support class offered through the special education program to students who qualify for special education services. The program is designed to support students with diagnosed disabilities by teaching them strategies and providing academic tools as well as direct and small group instruction. Study skills class is designed to help student needs documented in their Individual Education Plans. Emphasis is placed on Transition work, Goal attainment, and support of General Education Content. This class is a non A-G class (The College Entrance Requirements are a sequence of high school courses that students must complete to be eligible for admission to the UCs and CSU programs) and all students with IEPs are placed in one period of study skills for the school year.

## ALGEBRA ACADEMY

K081RN YEAR (9)
For students with IEPs only, a math review class before taking Math 1.
Counts towards Math/Science related credits.

## NON-DEPARTMENTAL

## FRESHMAN FOUNDATIONS (Human Interaction/Introduction to Business)

## L001NN/M064NN 2 SEMESTER LENGTH CLASSES (9)

This course offers foundational instruction in two critical areas. Through the district-mandated Human Interaction curriculum, students learn specifics of individual, physical, and social growth. Students also learn about the life cycle, relationships, family, sexuality, addictive behavior, conflict resolution, and nutrition. Through the Introduction to Business class, students develop foundational skills in the key components of technology to support his or her ongoing academic work. Elements include Microsoft Office skills, Google, computer graphics, entrepreneurship, finance, law, media/communications, and marketing. These linked semester courses provide the foundation for the four years of high school.

## ASB STUDENT GOVERNMENT/LEADERSHIP

M067PU YEAR (9-12) Prerequisite: Application and interview required, elections held for some positions
This course provides practice in democratic leadership in actual school situations planning and organizing assemblies, meetings, social and recreational events, rallies, elections, service activities, community and other events. It affords student leaders opportunities to develop speaking and writing skills; improve courtesy, poise and appearance; work with peers of diverse backgrounds and attitudes, and share responsibilities with adults, to handle income and expenditures, and to develop an appreciation for law and order. Counts as a college prep " $G$ " elective for A-G requirements.

## INSIDE WORK EXPERIENCE

MIWENN YEAR (11-12) Prerequisite: Regular daily attendance
Students develop critical and personal skills to assist teachers or clerical staff with daily duties.

