# Livermore High School

2020-2021

# *LHS Mission Statement*

Our mission is to provide all students a challenging, standards-based, socially responsible education in a safe and nurturing environment.

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## LHS Vision Statement

We envision Livermore High School a premier learning community in which teachers, staff, and parents lead by example and work collaboratively to help all students strive and achieve.

The LHS teachers, staff, students and parents are working together to make this vision a reality through accomplishment of the following goals:
• Ensure a safe, inclusive and respectful educational environment in which students can actualize their potential to become physically and mentally fit, responsible, and ethical adults who make informed life-management decisions
• Provide a standards-based, comprehensive, and challenging curriculum that utilizes assessment data to continuously improve practices used to help students think critically, participate as educated members of society, and achieve their post-secondary and career goals
• Bridge communication borders to ensure all students' needs are addressed and to close achievement gaps based on cultural, ethnic, racial, gender, special needs, and economic differences
• Include up-to-date technologies in the curriculum to leverage the power of emerging technologies for instructional gain and to better align the way students are taught in school with the way the global community communicates

## LHS Student Learning Outcomes (SLOs)

LHS graduates will possess the following knowledge and skills needed for **LIFE**:

# *L.I.F.E.*

**L.** **Literacy and Critical Thinking:**
- *Skills in reading, writing, numeracy, and the clear and logical expression of ideas and opinions in a wide variety of formats to function at home and in college, the workplace, and social settings*

- *Depth of knowledge in and across the content areas of English, social science, math, science, art, business, world languages/multi-culturalism, and visual and performing arts to participate as educated members of our global society and to achieve post-high school education and career goals*

- *Information processing and analytical skills to become life-long learners and informed decision makers in a diversity of contexts*

**I.** **Innovation:**
- *Skill in understanding complex problems, recognizing new opportunities, and combining knowledge of dissimilar concepts to create new perspectives to improve efficiency and effectiveness at home and in the workplace*

- *Technological knowledge required to comfortably adapt to current and new technologies that provide access to, and tools for managing, increasingly large quantities of information*

**F.** **Fitness:**
- *Physical fitness, health, and consumer knowledge and skills to live a physically healthy life*

- *Active listening, reciprocal communication, and collaboration skills needed to build and maintain the relationships required for one's social wellness*

- *Commitment, determination, and resilience skills to maintain a strong work ethic, overcome road blocks, and thrive as an emotionally healthy being*

**E.** **Ethics:**
- *Principles, values, and dictates of conscience for functioning responsibly, ethically, and honorably when carrying out personal, social, and civic responsibilities*

# The Livermore High School Program of Studies

The high school program in the Livermore Valley Joint Unified School District consists of four years of coursework. The curriculum provides a planned sequence of educational experiences. This sequence includes a required general education program and specialized elective courses. The subject matter is organized in nine curricular departments, and each department has a sequence of courses. Certain courses are required of all students. Other elective subjects are of a student's choosing. The brief course descriptions in this manual will inform students of the general nature of each course. Students should consider them carefully, with a parent or Academic Counselor, and decide on a program of study.

# The Trimester Schedule

Livermore High School is on a trimester schedule. The trimester schedule provides increased opportunities and flexibility for our students. The school year is divided into three 12-week trimesters. There are five class periods, each class lasting 70 minutes. One trimester is equivalent to a traditional system's "semester" course. Students who successfully complete a trimester course earn 5 credits unless noted for courses offering more than 5 credits.

# Livermore High School Honor Roll

| | |
|---|---|
| LHS Honor Roll | 3.0-3.69 weighted GPA per trimester |
| LHS Principal's Honor Roll | 3.7 or higher weighted GPA per trimester |
| Academic Block | Students who earn Principal's Honor Roll for 3 consecutive trimesters |
| Academic Star | Students who earn Principal's Honor Roll for 5 consecutive trimesters |
| | Additional stars are awarded for 7 and 9 consecutive trimesters on the Principal's Honor Roll |
| Honor Cord | Students who are in the top 3 deciles after 11 consecutive trimesters |

# *Student Services*

Livermore High School
600 Maple Street
Livermore, Ca. 94550
Phone: (925) 606-4812   Fax:  (925) 606-4851
School Website: www.livermorehigh.livermoreschools.org

## Registrar
Mrs. Kate Perry                                                                                606-4812        ext. 2313

kperry@lvjusd.org

## School Counselors
| | | | |
|---|---|---|---|
| Mrs. Elaina Edwards | Students with the last names A – F | 606-4812 | ext. 2344 |
| eedwards@lvjusd.org | | | |
| Mr. Edress Waziri ewaziri@lvjusd.org | Students with the last names G-L | 606-4812 | ext. 2426 |
| Mr. Zachary Radecke zradecke@lvjusd.org | Students with the last names M- R | 606-4812 | ext. 2455 |
| Mrs. Rita Mattimore | Students with the last names S – Z | 606-4812 | ext. 2312 |
| rmattimore@lvjusd.org | | | |

## Vice Principals
| | | | |
|---|---|---|---|
| Mr. Brett Christopher | Students with the last names A–F | 606-4812 | ext. 2456 |
| bchristopher@lvjusd.org | | | |
| Mr. Darrel Avilla | Students with the last names G–L | 606-4812 | ext. 2320 |
| davilla@lvjusd.org | | | |
| Ms. Valerie Nebo vnebo@lvjusd.org | Students with the last names M-R | 606-4812 | ext. 2323 |
| Mrs. Roxana Mohammed rmohammed@lvjusd.org | Students with the  last names S-Z | 606 4812 | ext. 2322 |

## Principal
Ms. Helen Gladden                                                                            606-4812        ext. 2317

hgladden@lvjusd.org

If you need language assistance understanding this high school course catalog, please call (925) 606-4812 ext. 2303 or ext. 2315.

Si usted. necesita asistencia para entender este manual de inscripción de high school (preparatoria), por favor llame al teléfono (925) 606-4812 ext. 2303 or ext. 2315.

# *Quick Guide to LHS Online Course Registration*



Livermore High students enter their course requests online. This process will begin in Homeroom, where students will review their transcripts, the four year plan, and the course catalog to plan their course selections for the 2019-2020 school year. With the courses required for the high school graduation and college entrance requirements table found on page 12 and the Course Selection Sheet in hand, students can request their courses online in just a few easy steps.

1. Go to the Livermore High School website at: livermorehigh.livermoreschools.org
2. Across the top of the page are drop down menus.
3. From the 'Student Life' drop down menu, click on the appropriate class page and select 'Online Course Registration' to sign in and begin the registration process. Or look for the below icon of the front page of our website.



4. Select the appropriate grade level.
5. View the online tutorial for visual assistance.
6. Worksheets are available for download.
7. Login to PowerSchool
   a. User name is the Student ID#
   b. Password is student's birthdate MMDDYYYY.  No leading zeros are necessary.
   c. Example: June 3, 1998 birthdate is entered as 631998. Do not put dashes, slashes or zeros as place holders.
8. Finally, have your Parent/Guardian log in to the Parent Verification link to approve your course selections.
**REMINDER: The window for online registration is 2/24 -3/16. For questions about the course registration process, please contact the appropriate academic counselor.

Information about schedules and the Walk Through process will be sent home over summer break. Please be sure that the office has your correct address information. Schedules will not be available until your "Kick Off" date, via Schoolloop. Our office hours are Monday – Friday, 7:30 – 4:00 during the school year. Please see the main website for summer hours.

# LHS Course Catalog

The Livermore High School (LHS) Course Catalog is designed to help you develop a comprehensive high school course plan that meets your educational needs and career goals, and fulfills graduation requirements. The manual includes information about the courses offered at LHS, as well as graduation requirements, an individual graduation planning form, and a list of the four-year college admission requirements. This catalog is published annually and reflects the most current offerings; however, it cannot be assumed that every course listed here is offered each trimester. Students and parents should review the graduation and college entrance requirements (see Index) and use the 4-year plan form (for graduation planning) (see Index) to design a successful course of study. Revise your four-year course plan as your career, interests, and post-high school decisions change. Thoughtfully consider your personal motivation, goals, and interests in order to make the most appropriate choices suited to your needs. Challenge yourself with as demanding an academic plan as you can successfully achieve while balancing it with extracurricular and outside activities.

# Using the Course Catalog

- · Courses are designated by grade level: 9 (freshman), 10 (sophomore), 11 (junior), and 12 (senior).
- · Many courses have prerequisites. Identify the prerequisites and plan to take the required classes accordingly.
- · You must request a minimum of 15 courses for grades 9-12. Your current teachers know about your abilities, interests, and study habits. If you have questions about a course, ask them for their advice.
- · Seniors are not guaranteed a less than five-class-a-day schedule. **Please be sure to plan accordingly. Schedule constraints may place senior level courses during periods 4 or 5.**

# Symbols Used in the Catalog:

(H) = Honors
(P) = College prep
(a-g) = UC/CSU Approved Course
(AP) = Advanced Placement
A/B = courses that have 2 sections/trimesters
A/B/C= courses that have 3 sections/trimesters
1, 2 etc. after a course = classes that may be taken individually, but must be taken sequentially

# Schedule Change/Withdrawal from a Course

Please note the master schedule of classes is built from your course requests. Please choose your courses for the year wisely. Once you submit your course requests, any changes you request will be dependent on space availability in other courses. When you register for a two or three trimester course, you are expected to complete all trimesters associated with the course. Schedule changes can only be requested within the first five days of each trimester. If a student withdraws from a course during the first five (5) days of the trimester, the course will be dropped from the student's course history. If a student withdrawals from a course after five (5) days and up through the fourth week of the trimester, the student's course history will reflect a "W" if the student is passing, or a "WF" if the student is failing. **No withdrawals** will occur after the fourth week of the trimester.

**PLEASE NOTE: Only one schedule change per trimester will be permitted. Changes to classes may only be made by selecting your counselor on the front page of our website and filling out the schedule change request document and submitting it. Phone calls and emails concerning schedule changes will be addressed, in the order received, after the first week of the trimester.**

# Dropping Courses

- First 5 days of the trimester- drop course/ no record
- Week 2 through 4- drop course = withdrawal; W=Pass, WF= Fail
- Week 5 to end of trimester- NO withdrawals from courses

# Repeating Courses

You should repeat a course if (1) you have failed a course required for graduation, (2) you did not earn the grade to meet a prerequisite of the next level course, or (3) you did not earn a "C" or higher in a college preparatory course. Credit is earned only once for a course completed with a passing grade unless it is a course that can be repeated for credit.

# Honors Courses

Honors courses are designed for students who are interested in a more rigorous course of study and who plan on taking AP courses in future years. These courses earn a weighted grade point average for Livermore High; however, UC does not assign a weighted value to these courses when computing GPA's, except for our Honors Physics course.

# Advanced Placement (AP) Courses

With the completion of AP college-level courses and exams, you can earn college credit, earn advanced placement, and be more competitive in the admissions process. Many universities in computing a GPA will add an additional point for each trimester of approved AP courses completed with a "C" grade or higher. (See collegeboard.org or university/college admission websites for specific and additional information regarding credit for AP courses.)

Please consider the following when deciding to take an AP course:

- AP courses may require summer reading assignments to be completed **before the beginning of the fall trimester.**
- You are expected to take an AP exam in the spring if you enroll in an AP course. AP exams cost approximately $100; however, fee waivers may be available.
- Withdrawing from an AP class: You may withdraw from an AP class through the 5th day of the trimester provided there is room for additional students in a non-AP class.
- AP seminars are offered as an addendum to some AP courses. They are held in the third trimester and serve as a review course. These courses are not weighted and earn a pass/fail grade and credit of 5 elective units toward high school graduation.

More information about AP course offerings can be found in the appropriate department listing and on the LHS counselor webpage accessible through the LHS homepage.

# Regional Occupational Program (ROP)

ROP is a program to explore careers and/or college majors and to develop job skills. Seniors and juniors, as well as sophomores, 16 years and over, are eligible to enroll in ROP classes. There are a small number of ROP classes open to sophomores, regardless of age. Juniors and seniors have priority in all ROP courses. See grade level requirements under each class heading to determine eligible classes. Some ROP courses are not on the Livermore High School site. You are responsible for transportation to off- campus sites. For more information about ROP, please go to http://www.tvrop.org or see the section on Regional Occupational Program in this course catalog.

# Middle College

High school students have the opportunity to apply for Middle College, a junior and senior year program that provides dual enrollment in both high school and college. Middle College is managed by the Tri-Valley Regional Occupational Program (TVROP) and is situated on the campus of Las Positas College. The program is open to students enrolled at public high schools in Livermore, Pleasanton, and Dublin. For complete information, please visit: https://www.tvrop.org/domain/49

# Enrollment in Courses Outside of Livermore High School

Livermore High School students have an opportunity to explore classes outside of their home school site through online programs, community colleges, and classes offered at other LVJUSD school sites. Students may choose to take additional courses for one of the following reasons:

- **Acceleration:** for the purpose of advancing through a subject sequence faster
- **Augmentation:** for the purpose of personal enrichment
- **Remediation:** for the purpose of remediating a course

Not all courses taken outside of Livermore High School may be used to fulfill graduation requirements. Please see your school counselor for more information.

# Green Engineering Academy

This is a four-year California Partnership Academy (grades nine through twelve) with a focus on engineering. The Academy incorporates integrated academic and career technical education, business partnerships, mentoring, and internships. Students take courses in a cohort within Livermore High School, with a small group of partner teachers who collaborate and integrate curriculum.  The students are able to build strong relationships inside and outside the classroom.

# College Admissions Requirements

To satisfy the requirement to apply to a University of California or California State University, students must have successfully completed a specific sequence of high school courses. These courses are known as a-g requirements accepted by the universities and can be found on the "LHS Prep Courses (UC/USC a-g Courses)" page (see index).The grades earned in the a-g subjects taken in the 10th, 11th, and 12th grades are the only grades the universities will use to calculate the grade-point average for admission. All grades in "a-g" subjects must be "C" or higher. Elective courses in academic subjects give students an added opportunity to strengthen preparation for undergraduate work. Students must take fifteen "a- g" high school courses completed with a "C" or better to fulfill the UC Subject Requirements. Seven of the fifteen courses must be taken in the last two years of high school. A course is equal to an academic year or two trimesters of study.

# Laboratory Science

A student seeking admission to UC/CSU as a first-time freshman will be required to satisfactorily complete two laboratory science college preparatory courses. The UC requires that a student complete courses from two of the three disciplines of chemistry, physics, and biology (which include anatomy and physiology, biology, field biology, etc.). All of the courses taken must be from the UC list of approved lab science subject "d" courses. CSU requires that the two years of lab science include at least one biological science and at least one physical science from the UC list of approved lab science courses.

# UC and CSU Admission Requirements

Eligibility for admission is based upon several considerations; among them are the grade point average in the "a-g" subject requirements and the scores on either the SAT examination given by the College Board or the ACT given by the American College Testing Program. Please see admissions requirements for individual universities to which your student applies.

# Calculating GPA

In calculating an applicant's grade-point average for admission, use only the grades earned in the "a-g" courses (described on next page) taken in grades 10 through 12. These grades are counted as follows: A = 4 points, B = 3 points, C = 2 points, D = 1 point and F = 0. D and F grades: D and F grades in the "a-g" courses used to meet minimum requirements must be repeated. In some mathematics and foreign language courses only, a grade of C or better in more advanced coursework may validate "D" and "F" grades in earlier work. Consult with the college office of admissions directly to inquire how the university will use them in evaluating your scholarship record.

# AP Courses

College-level courses taught in high school on a variety of subjects, for students who want to challenge themselves. In addition, AP courses will be given extra weight in computing the grade point average for admissions as follows: A = 5 points, B = 4 points and C = 3 points.

# Examination Requirements

Students must submit test scores as described below:
1. One aptitude test, either a or b:
  a) Scholastic Aptitude Test (SAT Reasoning) - Verbal, mathematics, and writing scores on this test must be from the same sitting. (For more information and to register: www.collegeboard.org)
  b) American College Test with Writing (ACT)- (For more information and to register: www.actstudent.org)

# Private and Out of State Public Colleges, Military, Trade Schools

There are multiple options for post high school career paths. Each path has unique features and requirements. A few are highly selective while others admit a majority of those who apply. The task of the applicant is to find out the admissions requirements of the colleges or organizations to which you want to apply as early as possible. Information is available in the LHS Career Center via guest speakers, internet search engines, and individual college and military websites.

# LHS College Prep Courses (UC/CSU a-g Courses)

| a. Social Science 2 yrs (20 Credits) | b. English - 4 years (40 Credits) | c. Math- 3 yrs. 4 yrs. Recommended (40 Credits) | d. Lab Science- 2 yrs. 3 yrs. Recommended (20 Credits) (Courses must be at least 2 or 3 science disciplines- Biology, Chemistry or Physics |
|---|---|---|---|
| Course | Course | Course | Course |
| Social Science | English 9 A/B | Consumer Math A/B | *Life Science/ Biology* |
| (H) Social Science 9 | (H) English 9 A/B | Algebra 1 A/B | Biology A/B |
| World History 10 A/B | English 10 A/B | Algebra 1 w/ comp.& robotics A/B | Advanced Biology A/B |
| AP World History 10 A/B | (H) English 10 A/B | Geometry A/B | AP Biology A/B |
| US History 11 A/B | English 11 A/B | (H)Geometry A/B | Field Biology A/B |
| AP US History 11 A/B | (H) English 11 A/B | Algebra 2 A/B | ROP Prin. Of Biomed Sciences A/B/C |
| Civics 12 A | Expository Reading and Writing 12 A/B | (H) Algebra 2 A/B | Biology & Sustainable Ag. A/B |
| AP US Gov & Politics | AP Lang and Comp A/B | Advanced Alg A/B | Health |
| Women in American History | Comp A/B | Statistics 1-2 | |
| AP Human Geography | | AP Statistics A/B | *Physical Science/Chemistry/Physics* |
| AP Micro Economics | | Pre- Calculus A/B | Ag. Soil Chemistry A/B |
| AP Macro Economics | | AP Calculus AB | Conceptual Physics A/B |
| | | AP Calculus BC | Chemistry A/B |
| | | Calculus AB | AP Chemistry A/B |
| | | Trigonometry | (H) Physics A/B |
| | | Multivariable Calculus | Engineering Research and Design |
| | | | Engineering Physics A/B |
| | | | |
| | | | *Interdisciplinary Science* |
| | | | AP Environmental Science A/B |
| | | | AP Physics Mech. A/B |

| e. World Languages- 2 yrs. 3 yrs. Recommended (20 Credits) | f. Visual & Performing Arts- 1 yr. (10 Credits) | g. College Prep. Electives- 1 yr. (10 Credits) | g. Continued (10 Credits) |
|---|---|---|---|
| Course | Course | Course | AP Psychology A/B |
| French 1 A/B | Art 1 and 2 | Ag. Science A/B | Introduction to Sociology |
| French 2 A/B | Art 3 | Ag Anatomy & Physiology A/B | ROP Nursing Careers |
| French 3 A/B | Art 3-8 | Intro to Computer Programming | ROP Intro to Mktg. Communications |
| French 4 A/B | Ceramics 1 and 2 | Intro to Business A/B | Ornamental Horticulture |
| German 1 A/B | Ceramics 3 | Business Computer Applications A/B | AP Computer Science |
| German 2 A/B | Photo 1 and 2 | Exploring Computer Science A/B | ROP Sports Medicine |
| Latin 1 A/B | Advanced Photo 3-8 | Creative Writing | ROP Sports Medicine |
| Latin 2 A/B | Digital Photo 3 | Earth Science A/B | ROP Economics of Business Ownership |
| Latin 3 A/B | Video Production 1 and 2 | Economics 12B | ROP Internet Engineering 1 & 2 |
| AP Latin A/B | ROP Visual Communications | Business Finance A/B | ROP Criminal Justice Academy |
| Spanish 1 A/B | Animation/Clay 1-2 | Hospitality Marketing A/B | AP Macroeconimics |
| Spanish 2 A/B | AP Studio Art A/B | Psychology A/B | AP Microeconomics |
| Spanish 3 A/B | Stage Craft | Business Law A/B | |
| AP Spanish Language/ Culture | Advanced Stage Craft 2 | ROP Computer Integrated Mfg. | |
| AP Spanish Literature/ Culture | Drama 1-2 | (H) Into to Engineering | |
| Spanish for Spanish speakers 1 | Drama 3-8 | (H) ROP Civil Eng. & Architecture | |
| Spanish for Spanish speakers 2 | Show Choir A/B | Journalism 1 A/B/C | |
| | Symphonic Band A/B | Advanced Journalism A/B | |
| | Orchestra A/b | (H) Principles of Engineering | |
| | Concert Choir | ROP Medical Occupations | |
| | Chamber Choir | ROP Sports & Entertainment Mkg. | |
| | Jazz Ensemble | ROP Introduction to Health Careers | |
| | History of Art & Floral Design | ROP Digital Electronics | |
| | AP Music Theory | ROP Cybersecurity: ICT Essentials | |
| | Advanced Theater Workshop 1-2 | ROP Intro to Criminal Justice | |
| | Advanced Theater Workshop 3-8 | ROP Auto Body Repair I & II | |
| | ROP Animation/ Motion Graphics | Relationship and Human Dev. | |
| | ROP Video Game Design | ROP Developmental Psych. Child I &II | |

Post High School Plans (Circle all that apply)     UC/CSU/Private   Community College   Military   Trade School   Career   Other

# Livermore High School 4- Year Plan

| Subjects | Diploma (Credits) | College | 9th | 10th | 11th | 12th |
|---|---|---|---|---|---|---|
| a. History | 35 | 2yrs. | Social S./(Honors) | World Hist./ (AP) | U.S. Hist./ (AP) | Civics/ AP Gov. and Econ./ AP Econ. |
| b. English | 40 | 4 yrs. | Eng. 9/ (Honors) | Eng. 10/ (Honors) | Eng 11/(H)/ AP Lang. | ERWC/Comp./AP Lit. |
| c. Mathematics | 20 | 3yrs. | Alg 1/Geom./Alg 2 | Alg 1/Geom./Alg 2 | Recommended | Recommended |
| d. Lab. Science | 20 | 2yrs. | Physical/ Life: | Physical/ Life: | Recommended | Recommended |
| e. Wld Language | * OR | 2yrs. (Same) | (Year 1) | (Year 2) | Recommended | Recommended |
| f. VAPA (Visual Art/Performing Art) | * OR | 1 yr. (Same) | (VAPA) | | | |
| CTE (Careers & Tech) | * | None | Recommended | | | |
| g. Elective | 70 | 1 yr. | (College Prep. Elective) | | | |
| Health | 5 | None | Health and FIT | | | |
| Physical Education | 20 | None | PE 1 | PE 2 | | |
| CREDITS | 240 | -------- | | | | |
| Exams | -------- | SAT or ACT | -------- | PSAT | SAT or ACT | SAT or ACT |

Currently has _____ Credits

Currently needs _____ Electives

*World Language /VAPA/ CTE (30 Credits total: 20 Credits in one area and 10 in another) FAILED/ MISSING Courses

| Required Area | LHS Graduation | College Admissions |
|---|---|---|
| 1. Coursework | 240 Credits | Minimum of 15 College Prep. Courses |
| 2. Min. Grade | "D-" or higher | "C" or higher |
| 3. GPA | N/A | CSU 2.0 minimum, UC 3.0 minimum |
| 4. College Entrance Exams | N/A | SAT or ACT during junior year (Some UC majors may require SAT 2 Subj. tests) |

SAT: www.collegeboard.org
CA Colleges: www.californiacolleges.edu
UC: www.universityofcalifornia.edu
CSU: csuapply.edu
Private: www.aiccu.org
ACT: www.actstudent.org
NCAA: www.ncaa.org
Community Colleges: www.cccco.edu

# Graduation and College Entrance Requirements

| SUBJECT | LIVERMORE HIGH | UC/CSU |
|---|---|---|
| **Social Science & History** | **35 Credits**<br>Social Science 9 A<br>World History 10 A/B<br>U.S. History 11 A/B<br>1 trimester Civics 12<br>1 trimester Economics 12 | **(a) 20 Credits**<br>World History 10 A/B<br>U.S. History 11 A/B |
| **English** | **40 Credits**<br>English 9 A/B<br>English 10 A/B<br>English 11 A/B<br>English 12 A/B | **(b) 40 Credits**<br>English 9 A/B<br>English 10 A/B<br>English 11 A/B<br>English 12 A/B |
| **Mathematics** | **20 Credits**<br>Must include completion of Algebra I | **30 Credits**<br>Algebra I A/B<br>Geometry A/B<br>Algebra II A/B<br>(UC recommends 4 years/levels) |
| **Science** | **20 Credits**<br>Physical Science A/B<br>Life Science A/B<br>May be lab or non-lab sciences. | **(d) 20 Credits**<br>2 years of lab science,<br>1 life & 1 physical.<br>(3 years recommended) |
| **Career Technical Education** | **30 Credits**<br>20 credits in one area and 10 in another<br>20 Credits in one area and<br>10 in another<br>*Students must take PE until they pass the fitness gram. | Not counted in UC/CSU GPA |
| **World Language** | | **(e) 20 Credits**<br>4 trimesters (mastery of Level 2) of the same World Language<br>(UC recommends Level 3) |
| **Visual & Performing Arts** | | **(f) 10 Credits**<br>2 trimesters of the same VAPA |
| **Physical Education** | **20 Credits**<br>2 trimesters PE 1 A/B<br>2 trimesters PE 2 A/B<br>In addition to passing the fitness gram | Not counted in UC/CSU GPA |
| **Health** | **5 Credits**<br>1 trimester Health | **(g) 5 Credits** |
| **Electives** | **70 Credits**<br>16 trimesters of electives | **(g) 10 Credits**<br>from "g" category |
| **Required Tests** | | California State University:<br>SAT or ACT<br>University of California:<br>SAT or ACT<br>* 11 of the required 15 courses must be completed by end of Junior year. |

# Careers and Technology Education Department

The Careers and Technology Department consists of an Agriculture Program, a Business Program, a Consumer Family Studies Program, an Industrial Technology Program, and the Regional Occupational Program. Career Technical Education (CTE) is a program of study that involves a multi-year sequence of courses that integrates core academic knowledge with technical and occupational knowledge to provide students with a pathway to post-secondary education and careers. The ultimate goal of CTE programs in California is to have a strong, capable workforce that continues to build upon itself. The pathway is organized with introductory, concentrator, and capstone courses; all three courses need to be completed with a passing grade in order to have pathway completion. Please see Appendix for a full list of LHS courses within a pathway. Some courses request a donation to help defray the cost of consumable materials.

# Agriculture Program

The Agriculture Program at Livermore High School offers a variety of courses that develop an awareness and appreciation of the many career opportunities in agriculture. Students enrolled in agriculture are members of the FFA, a national organization with the purpose of developing leadership, cooperation, and citizenship.

**Many courses in the Agriculture program meet a-g college requirements and can be taken in lieu of regular science courses. For example, students can take Agricultural Science, Agricultural Biology, Agricultural Soils Chemistry or Advanced Interdisciplinary Science (AIS).**

<u>**FFA PARTICIPATION IS RECOMMENDED FOR ALL CLASSES IN THE PROGRAM**</u>

*Agricultural Science 1 A/B (Pg)*
**A Code: 30410**                          **B Code: 30420**
**Grade Level: 9-12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement (Elective)**
**Prerequisite:** None
**Course Description:** This is an introductory level course for students who want to explore, or who are planning to major in, an agriculture-related course of study in college or university and for students interested in the Farm to Table Career Major. The course is designed to provide students with a historical perspective of agriculture, an understanding of plant production science, and an understanding of the patterns and the trends that influence American agribusiness today and into the future. Students will learn how to select, care, and feed both large and small animals as applicable to veterinary science and other related careers. Agricultural Science 1 provides students with critical thinking and leadership skills through the Future Farmers of America (FFA). All students are members of the FFA and will have a supervised agricultural experience project (SAE).

*Biology and Sustainable Agriculture A/B (Pd)*
**A Code: 30485**                          **B Code: 30486**
**Grade Level: 10-12 (9th grade with consent of instructor)**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "d" Requirement (Lab Science)**
**Prerequisite:** Algebra 1 or concurrent enrollment in Algebra 1; Ag Science 1 or instructor approval.
**Course Description:** Agricultural Biology is a laboratory science course designed for the college-bound student. The course emphasizes detailed knowledge of the biological principles of the following areas: molecular and cellular aspects of living things, structure and function of agricultural plants and animals, genetics, physiology, plant and animal diversity and principles of classification, ecological relationships, and animal behavior. All students are members of the FFA and will have a supervised agricultural experience project (SAE).

*Agricultural Soils Chemistry A/B (Pd)*
**A Code: 30281**                          **B Code: 30282**
**Grade Level: 11-12**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "d" Requirement (Lab Science)**

**Prerequisite:** Ag Biology or Biology and Algebra I, Geometry
**Course Description:** 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 of the course. To complete that 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, conducting an experiment to test the hypothesis, collecting quantitative data, and forming a conclusion based on analysis of the data. The result of this research program will be an in-depth research and experimentation paper that is technically written, based on scientific protocol, and cited using APA formatting. Additionally, students will develop and present a capstone soil management plan for agricultural producers, using the content learned throughout the course. Throughout the course, students will be graded on participation in intra-curricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

### *Advanced Interdisciplinary Science (AIS) for Sustainable Agriculture with Honors A/B (Pd)*
**A Code: 30425**  **B Code: 30426**
**Grade Level: 11-12**
**Length: 2 trimesters -10 units**
**CTE Pathway Level: Capstone**
**Fulfills: UC "d" Requirement (Lab Science)**
**Prerequisite:** Agriculture Biology or Biology
**Course Description:** This integrated class combines an interdisciplinary approach to laboratory science and research with agricultural management principles. This course will provide the student with principles in animal science focusing on the areas of mammalian production, anatomy, physiology, reproduction, nutrition, respiration, and genetics. Using skills and principles learned in the course, including the chemical and biological principles that govern plant science and crop production, students design systems and experiments to solve agricultural management issues currently facing the industry. Additionally, students connect the products created in this class with industry activities to link real world encounters and implement skills demanded by both colleges and careers. The course culminates with an agri-science experimental research project in which students design and conduct an experiment to solve a relevant agricultural issue. Throughout the course, students will be graded on participation in intra-curricular FFA activities as well as the development and maintenance of an ongoing Supervised Agricultural Experience (SAE) program.

### *Ornamental Horticulture A/B (Pg)*
**A Code: 61018**  **B Code: 61019**
**Grade Level: 10-12**
**Length: 2 Trimesters – 10 units**
**(Elective) Fulfills: UC "g" Requirement**
**Prerequisite:** Completion of Algebra 1 or enrolled in Algebra I. Completion of Agricultural Biology or Biology.
**Course Description:** This course is designed to instruct students in the growth, production, and care of plants for ornamental purposes. Topics include plant growth needs, botanical classification, plant physiology, plant reproduction, plant diseases and pests, planting media, management practices, selection and care of plants, and careers in Ornamental Horticulture.

### *Viticulture and Crop Production Management A/B*
*(Pending Board Approval)*
**A Code: 61040**  **B Code: 61041**
**Grade Level: 11-12**
**Length: 2 Trimesters -10 units**
**Prerequisite:** Completion of Agricultural Biology or Biology
**Course Description:** Viticulture and Crop Production Management will include a multitude of "seasonal specific", hands-on activities throughout the trimesters so that students can learn about the distinct requirements and the many challenges of growing wine-grape vines. This course is designed to introduce students to the science of viticulture and current practices for establishing a vineyard. Topics covered will include site selection, site preparation, varietal selection, equipment, first season establishment, vine growth development and training, trellis systems, weed control, and vine disease control. This course will prepare our students for numerous college pathways including transfer to a four year university, pursuing an AS Degree in Viticulture and/or Enology, pursuing a Certificate of Completion in Viticulture and/or Enology or readying the student for entry into the workforce.

*History of Art and Floral Design A/B (Floriculture) (Pf)*
**A Code: 61016**                               **B Code: 61017**
**Grade Level: 10–12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "f" Requirement (Elective)**
**Prerequisite:** None
**Course Description:** History and Art of Floral Design provides an introduction to the artistic and creative approach to floral design. This includes aesthetic valuing through a series of projects in various media including tempera, paint, flowers, glass and tile. Students will be introduced to the elements and principles of visual art such as line, shape, form, color, balance, and an emphasis using floral based projects to explore the connections, relations and application of floral design.  Assignments will be based on abstract two-and three-dimensional designs, color theory, and an analytical critique of various floral artworks using design vocabulary while developing technical skills in floral art.

*Advanced Floriculture A/B*
**A Code: 61011**                               **B Code: 61012**
**Grade Level: 11–12**
**Length:  2 Trimesters – 10 units – Repeatable**
**Prerequisite:**  History of Art and Floral Design or consent of instructor.
**Course Description:** Advanced Floriculture is retail florist and greenhouse management. Students will develop their floral skills through various projects including wedding bouquets, dry flowers, artificial flowers, holiday boutiques, and special event projects. Emphasis will be placed on the operational practices of a floral business. Students will learn about merchandising, displays, handling of flowers and greens, flowers by wire, consumer relations, and employee management. Students will be involved in many community programs that need floral projects, such as retirement dinners, grand openings, school functions, etc. This class may be repeated for credit.

*Advanced Agriculture Construction Technology A/B*
**A Code: 30408**                               **B Code: 30409**
**Grade Level: 10–12**
**Length:  2 Trimesters – 10 units**
**CTE Pathway Level: Capstone**
**Prerequisite:**  Completion of Construction Technology with a grade of "C" or better
**Course Description:** This course is designed as a capstone course to provide students with expanded study in the areas of woodworking, welding, fabrication, construction and agricultural design. All students are members of the FFA and will have a supervised agricultural experience project (SAE).

*Agricultural Leadership A/B*
*(Pending Board Approval)*
**A Code: 61035**                               **B Code: 61036**
**Grade Level: 9-12**
**Length: Three Trimester – 15 units**
**Prerequisite: Students will go through an application process to be enrolled in this course.**
**Course Description:** This yearlong course is designed to engage students in experiential activities, which further their personal development and premier leadership skills. The curriculum consists of integrated performance activities that will assist in the development of critical thinking, extemporaneous speaking, conflict resolution, and group communication abilities. Written and oral skill development will be emphasized through individual and collaborative projects. Students will also be required to participate in a leadership contest, such as prepared public speaking, extemporaneous public speaking, job interview, impromptu, or parliamentary procedure. Students will work within a committee to serve a vital role in the functions of our FFA chapter.

*Agriculture Economics (Pa)*
**Code: 15081**
**Grade Level: 12**
**Length: 1 Trimester - 5 units**
**Fulfills: UC "a" Requirement**
**Prerequisite:** Completion of Agricultural Biology or consent of instructor
**Course Description:**  In addition to studying economics in grade twelve, students will also master fundamental economic concepts, applying the tools (graphs, statistics, equations) from other subject areas to the understanding of operations and institutions of economic systems.  Studied in a historic context are the basic economic principles of micro and macroeconomics,

international economics, comparative economic systems, measurement, and methods.  This course is designed for advanced study of agriculture business opportunities and economics for college bound students with an interest in agriculture.  Through the course, the students will understand and apply basic economic principles as they relate to individual consumers, production agriculture, and agri-business management.  The students will develop an Agricultural project and keep accurate agriculture records of expenses, receipts, and profit/losses.  **This course will satisfy the Economics requirement for graduation.**

*Agriculture Government (Pa)*
**Code: 15074**
**Grade Level: 12**
**Length: 1 Trimester – 5 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite:**  Completion of Agricultural Biology or consent of instructor
**Course Description**:  **This fourth year course is designed for Agriculture Science students who want to complete the Agriculture Science Pathway.** Agriculture Government fits both into the social sciences department and the agriculture department by offering an additional course that meets the requirements of the state social science standards, as well as the agricultural career pathway, which will prepare students for higher education in the agricultural industry. The course will study the US agriculture industry and the large role it has and will continue to play in our country's past, present and future. **This course will satisfy the Civics requirement for graduation.**

*Agricultural Projects*
**Code: 61030**
**Grade Level: 9-12**
**Length: 1 Trimester – 5 units (fall – summer only)**
**Prerequisite:** Concurrent enrollment in another agriculture class and teacher approval.
**Course Description:** Agricultural Projects is a course in which students may receive 5 units of credit for maintaining a supervised agriculture experience program. This class may be repeated for credits. All students are members of the FFA and will have a supervised agricultural experience project (SAE).

# Education and Child Development

***Human Development and Relationships (Pg)***
**Code: 66050**
**Grade Level:  11 - 12**
**Length: 1 Trimester – 5 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** None
**Course Description:** Human Development is a course that explores how and why people grow and learn while introducing theories of development. Students will examine stages of growth and development focusing on prenatal, infancy, toddlerhood, adolescence, and early adulthood. The class addresses dating, marriage, and parenting. Participants will practice parenting skills caring for a computerized baby. Careers relevant to the field of Human Development will be introduced and employability skills will be applied through a variety of activities.

# Business Program

The Business Education Program offers both administrative/management and technology courses and contributes both to general education and specialized training for business careers. It provides training in keyboarding, accounting, office practice, personal finance, business fundamentals, business law, and computer programs and operations. A certificate of achievement may be awarded students who achieve mastery in courses designated with "ca" behind the units earned.
The Business Department offers two distinct pathways -- Business Management and Computer Science.  Business Management suggested classes are Intro to Microsoft Word, Introduction to Business, Business Computer Applications, Personal Finance, Business Law, Agriculture Business & Economics (for those interested in an agriculture pathway) and Business Hospitality (for those interested in the Hospitality industry pathway/Home Economics Program).  For students interested in the Computer Science pathway, suggested classes are Intro to Microsoft Word, Business Computer Applications, Web Page Design, Intro to Computer Programming, Exploring Computer Science, and AP Computer Science.

***Introduction to Business A/B (Pg)***
**A Code: 46045**                                      **B Code: 46046**
**Grade Level:  9 – 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement (Elective)**
**Prerequisite:** None
**Course Description:** Introduction to Business is a two-semester elective course that introduces students to the world of business, with an emphasis on global business. Students will receive an introduction to the business world, explore the foundations of business operations, and gain the knowledge and skills required for success in today's marketplace. Marketing, economics, promotion, finance, e-commerce, and entrepreneurship will be explored.

***Business Finance A/B***
**A Code: 46075**                                      **B Code: 46076**
**Grade Level: 10–12**
**Length: 2 Trimesters – 10 units (Elective)**
**Fulfills: UC "g" Requirement**
**Prerequisite:**  Successful completion of Algebra I and II
**Course Description:** This is a class designed for students interested in a business-oriented approach to money management. Throughout the two-trimester course, mathematics is used to solve a variety of typical personal and business problems involving simple and compound interest, mortgages and insurance, purchasing a car, making a loan, taxes, budgeting, wages, checking and savings accounts, and investments.  This is a pathway course for students interested in Business Management.

# Information and Communication Technologies

**(ROP) Cybersecurity: ICT Essentials I   A/B (Pg)**
**A Code: 44410**                                     **B Code: 44411**
**Grade Level:  9 – 12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Recommended:** Algebra 1
**Fulfills: UC "g" Requirement**
**Potential College Credit**: 4
**Certification:** This is the first course in a series of three that prepares students for the Cisco CCNA Networking Certification and A+ industry certification
**Course Description:** This course provides an in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot problems. An introduction to computer networking is included. This is the first course in a series of three that prepares students for the Cisco CCNA Networking Certification and A+ industry certification.

**(ROP) Internet Engineering (CCNA1) A/B (Pg)**
**A Code: 83383**                                     **B Code: 83384**
**Grade Level:  10 – 12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Recommended: Cybersecurity: ICT Essentials I A/B**
**Fulfills: UC "g" Requirement**
**Potential College Credit**: 3
**Certification:** This is the second course in a series of three that prepares students for the Cisco CCNA Networking Certification and A+ industry certification.
**Course Description:** Internet Engineering 1 is an interdisciplinary course designed to prepare students for post-secondary success in the Information and Communication Technologies (ICT) field. The course engages students with studies of the history and implications of network communications; the protocols which make the Internet possible; how networks provide access to services; and college and career preparation in the ICT field. This course integrates the theory and application of network communications, and exposes students to media that invites them to consider how Internet engineers think, design, and solve problems. Students have several opportunities to produce college-ready writing, collaborate, research, develop study skills, and develop 21st century skills in this course. This is the second course in a series of three that prepares students for the Cisco CCNA Networking Certification and A+ industry certification.

**(ROP) Internet Engineering 2 (CCNA2) A/B/C (Pg**
**A Code: 83385**                                 **B Code: 83386**                            **C Code: 83387**
**Grade Level:  11 – 12**
**School Site: Livermore High**
**Length: 3 Trimesters – 15 units**
**Recommended: Cybersecurity, Essentials I and Internet Engineering** *(CCNA1) A/B*
**Fulfills: UC "g" Requirement**
**Potential College Credit**: 3
**Certification:** This is the third course  in a series of three that prepares students for the Cisco CCNA Networking Certification and A+ industry certification.
**Course Description:** Internet Engineering 2 is a follow-up course to Internet Engineering 1. It is designed to prepare students for postsecondary success in the Information and Communication Technologies (ICT) field.  The course engages students with studies of the network protocols which make the Internet possible; how networks communicate with one another; methods used to increase scalability, reliability, and security in the modern network; and college and career preparation in the ICT field.  This course intergrates the theory and application of network communications, exposing students to media that invites them to consider how Interenet engineers think, design, and solve problems.  Students will produce college-ready writing collaborate with peers and mentors, research solutions to complex challenges, improve student skills and strategies, and develp a Personal Learning Network.

***Introduction to Microsoft Word***
**Code: 45040**
**Grade Level: 9–12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description:** Introduction to Microsoft Word is an elective course for students seeking to develop efficient and effective use of word processing software to produce professional documents. During this course students will review proper touch-type technique for 50 keys (alphabetic, capitalization, tab, return, symbol, number, and backspace) and develop proficiency through drilling, practice, and assessment. Students will also learn basic formatting structures for professional letters, reports, memoranda, e-mail, and tables within a business context emphasizing communication, critical thinking, and technology skills.

***Intro to Computer Programming (Pg)***
**Code: 44100**
**Grade Level: 9–12**
**Length: 1 Trimester – 5 units (Elective)**
**Fulfills: UC "g" Requirement**
**Prerequisite:** Algebra I A/B
**Course Description:** Introduction to Computer Programming is an elective course that introduces students to the field of programming and computer science. Students will learn the fundamentals of good programming practice with an emphasis on sound understanding of the problem before coding and thorough commenting of code. Development of algorithms will be practiced extensively as students learn to create and use variables of different data types within control structures such as if/then statements, loops, and arrays. A variety of game programs serve as challenges for the end of the trimester.

***Exploring Computer Science A/B (Pg)***
**A Code: 82055**                              **B Code: 82056**
**Grade Level: 10–12**
**Length: 2 Trimesters – 10 units (Elective)**
**Fulfills:  UC "g" Requirement**
**Prerequisite:** Completion of Algebra I with a "B" or better or consent of instructor
**Course Description:** This course explores a variety of topics relating to technology to help narrow the student's area of interest. How we interact with computers and why that interface is important as we go about using computing to change the world. Programming and Web Design teaches fundamental programming skills,  such as control of execution flow, algorithmic approach to problem solving, and simple data structures. The Robotics and Problem Solving portion of this class teaches students to program robots to achieve specific goals, experience the engineering application of the student's code to a robotic agent, and offers the opportunity to compete with classmates for the most efficient design. The Data Analysis/Computer Ethics module addresses the value in large quantities of data and considerations that should be made in obtaining data. In short, this class is perfect for students who have an interest in the field of technology or computer science but are not quite sure what part of this vast field is right for them.

***AP Computer Science A/B (Pg)***
**A Code: 47060**                              **B Code: 47065**
**Grade Level:  10 – 12**
**Length:  2 Trimesters – 10 units (Elective)**
**Fulfills: UC "g" Requirement**
**Prerequisite**:  Exploring Computer Science (ECS) or Introduction to Computer Programming "B" or better.
**Course Description:** The AP Computer Science course is an introductory course in computer science. Because the design and implementation of computer programs as a means to solve problems involves many of the skills that are fundamental to the study of computer science, the AP Computer Science class focuses on the development of computer programs, using the Java programming language. Concurrently, this study of the design and implementation of computer programs is used as a context for introducing other important aspects of computer science, including the development and analysis of algorithms, the development and use of fundamental data structures, the application of fundamental control structures, and the study of standard algorithms and typical applications. A topic overview of the course includes:
·        Object-Oriented Program Design
·        Program Implementation
·        Program Analysis
·        Standard Data Structures
·        Standard Algorithms

· Computing in Context

***Business Computer Applications A/B***
**A Code: 46055**                                    **B Code: 46056**
**Grade Level: 9–12**
**Length: 2 Trimester – 10 units**
**Prerequisite:** Completion of Algebra 1 or Intro to Business recommended.
**Course Description:** Business Computer Applications is a one-trimester elective course that introduces students to computer operations, productivity software, desktop publishing software and effective use of the Internet as a research tool. In this course, students will learn to use office software to create business documents, including business letters, tables, spreadsheets, and charts. Students will refine PowerPoint skills and focus on delivering effective oral presentations. Students will learn to make adjustments to images and integrate images with text.

***Web Page Design***
**Code: 45005**
**Grade Level: 9–12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Computer Applications, with a grade of "C" or better, or consent of instructor
**Course Description:** Students will design personal and professional-style web pages using HTML, Adobe CS6 Dreamweaver, Fireworks, and Flash as well as some JavaScript. Topics cover page layout and design, CSS for style control as well as for manipulation of graphic and textual objects, form creation and validation, the basics of Flash animation and graphic design use of pre-designed snippets, library items, and dynamic Spry Assets for drop down menus, accordion windows, and more. Internet ethics including protecting oneself while on the web are discussed.

***Hospitality Marketing A/B (Pg)***
**A Code: 66075**                                    **B Code: 66076**
**Grade Level: 9–12**
**Length: 2 Trimesters – 10 units (Elective)**
**Fulfills: UC "g" Requirement**
**Prerequisite: None**
**Course Description:** Hospitality Marketing is a course for students interested in gaining hands-on skills in the areas of hospitality, lodging, recreation, travel, and tourism. A major focus of the course will be on the development of the hospitality industry, hotel and restaurant operations, event planning and the global tourism economy. This two-semester course is a pathway course for students interested in Culinary Arts, Hospitality, and/or Business Management.

***Business Law A/B (Pg)***
**A Code: 46065**                                    **B Code: 46066**
**Grade Level: 11–12**
**Length: 2 Trimesters – 10 units (Elective)**
**Fulfills: UC "g" Requirement**
**Prerequisite:** Introduction to Business recommended
**Course Description:** Students will develop a wide range of strategies to comprehend, interpret, and evaluate contractual agreements, forms of contracts, and contractual terms.  The US Constitution, Bill of Rights, and landmark Supreme Court decisions are studied and evaluated.  Students will participate in mock trials, criminal court visits, guest speaker visits, research law and apply law in practical problem solving projects.  Students will connect their business law skills with core subjects, communication, and research.

# ROP Economics of Business Ownership (Pg)
See Marketing, Sales, and Service for description

# Hospitality, Tourism, and Recreation Pathway

The Hospitality, Tourism, and Recreation Pathway is designed to develop competencies necessary for employment, advanced training and/or personal life, home, and management skills. This "essential living skills" program encompasses consumer education, food, nutrition, health, hospitality, family living, parenthood education, child development and guidance, interior design, housing, fashion, and textiles.

### Foods/Healthy Living
**Code: 65010**
**Grade Level: 9-12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description**: Foods/Healthy Living is an concentrator course emphasizing nutrition education and serves as a foundation for the Culinary Arts career pathways. This course will incorporate nutrition, food safety and sanitation, kitchen equipment, basic menu development and consumer guidelines for wise decision-making. Students learn basic knife skills and safety as well as food preparation using a variety of basic recipes.

### International Cuisine
**Code: 65000**
**Grade Level: 9-12**
**Length:  1 Trimester – 5 units**
**Prerequisite:** Completion of Foods/Healthy Living with a passing grade or 12th grade with the consent of instructor
**Course Description:** International Cuisine is a career technical course that explores cultural food traditions, ingredients, equipment, and cooking techniques from around the globe. Students will study a variety of cuisines such as Chinese, Italian, French, and Latin American. Students will explore and research additional countries and present reports to the class. They will also submit a weekly journal discussing their culinary lab experiences. Community college credit available.

### Culinary Arts 1
**Code: 65030**
**Grade Level:  11 – 12**
**Length:  1 Trimester – 5 units**
**Prerequisite:** Completion of at least two trimesters or the equivalent of foods courses completed with a grade of "C" or better.
**Course Description:** This in-depth, one-trimester course emphasizes classic culinary skills. Units include knife skills, sustainability, equipment, sauces, cooking techniques, menu development and food costing.  This course will emphasize industry standards for safety, sanitation, presentation, menu planning, and career options.  Students will submit a weekly journal discussing their culinary lab experiences.  Community college credit available.

### Culinary Arts 2- Baking and Pastry
**Code: 65035**
**Grade Level: 11-12**
**Length: 1 Trimester-5 units**
**Prerequisite:** Completion of at least two trimesters or the equivalent of foods courses completed with a grade of "C" or better.
**Course Description:** This is an intense one-trimester course featuring bakery products and other culinary production. Professional procedures in the Food Service and Hospitality sector will be emphasized while practicing industry standards for safety, sanitation, costing, presentation, menu planning, and career options.   This is a capstone/portfolio class where students will design a business plan for a food service concept.  Community College credit available.

# *Fashion and Interior Design Pathway*

*Textiles/Creative Design*
**Code: 66000**
**Grade Level:  9 -12**
**Length: 1 Trimester – 5 units**
**Prerequisites:** None
**Course Description:** Textiles/Creative Design is a course in which students develop an understanding of fibers, methods of fabric formation, and surface embellishments. A variety of techniques and mediums will be incorporated to produce creative hands-on projects. This course may be repeated for credit by completing alternate projects.

*Fashion Design 1 and 2 (Pg)*
**Code 1: 65065**                                    **Code 2: 65066**
**Grade Level:  9 - 12**
**Length:  2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Prerequisite: None**
**Course Description:** In this course, students will learn continued sewing machine basics and clothing construction.  This course incorporates the history of fashion, apparel analysis, study of current trends, fashion designers, wardrobe planning, consumer buying and shopping techniques, and textile fiber characteristics. Students will explore fashion-related careers. This course may be repeated for credit with the assignment of augmented projects.

*Interior Design 1 and 2 (Pg)*
**Code 1: 66010**                                    **Code 2: 66011**
**Grade Level:  9 - 12**
**Length: 2 Trimesters – 10 total units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** None
**Course Description:** This is an concentrator class in which students learn design concepts involving interior design, architectural styles, home construction, and household furnishings. Students will follow design elements and principles as they express their creative identity through various projects and design boards. Students will apply color, form, and function to the study of furniture and architectural styles. Careers in housing and interior design will be explored. Community college credit available

*Consumer Survival*
**Code: 66040**
**Grade Level:  11 - 12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description:** Consumer Survival is a course emphasizing instruction in independent living. The course will include exploring career and advanced education options, creating a job ready résumé, interviewing skills, personal finance, banking, and credit, consumer rights, housing options, landlord-tenant rights, and being a smart consumer.

# Green Engineering Academy Program



## Classes at LHS

**Introduction to Engineering Design**

Engineering design process, collaboration, 3D modeling/drafting and learn use of 3D printer & other tools

**Principles of Engineering**

Mechanics (static & dynamic) and energy concepts related to engineering.

**Civil Engineering and Architecture***

Building/site design, planning, and development. Architectural modeling and drafting with 3D CAD software. Surveying, soils, structural, and traffic analysis.

**Engineering Research and Design**

Student-led, open-ended design. Projects focused on sustainability/green engineering, social justice, and community service

*CEA is the only course available for non-GEA students through ROP

If you have thought about these careers, this pathway is for you!

*Mechanical Engineer*

*Civil Engineer*

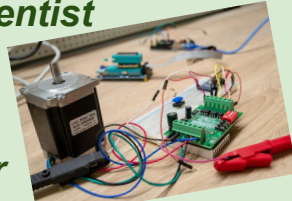*Environmental Engineer/Scientist*
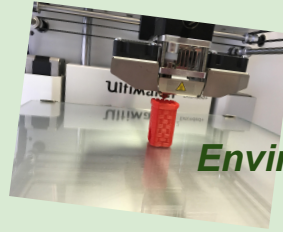
*Industrial Engineer*

*Electrical Engineer*

*Bio and Chem Engineer*

*Structural/Architectural Engineer*

*Landscape Architect*

*Architect*

*Urban Planner*

LHS GEA

EST 2010

# GREEN ENGINEERING ACADEMY AT LIVERMORE HIGH SCHOOL

**ABOUT THE ACADEMY**

The Green Engineering Academy (GEA) is a California Partnership Academy (CPA), which incorporates integrated *academic* and *career technical education*, *business partnerships, mentoring*, and *internships*. Students in grades 9-12 take courses in a cohort within Livermore High School with a small group of partner teachers who collaborate and integrate curriculum.

**CAREER FOCUS**

Our academy's career focus is Green Engineering including renewable energy, sustainability, and energy efficient manufacturing. Students will be prepared for 2-year and 4-year college degrees or apprenticeship programs.

**BENEFITS**
- Teachers and students stay together, building a supportive, family atmosphere
- Hands-on engineering projects
- Field trips and guest speakers
- Academic support and tutoring program
- Industry partnerships with mentors and internship opportunities
- Students learn skills needed in the workforce!

**CURRICULUM**
- All courses are college preparatory courses and are UC/CSU approved
- Academic courses integrate the themes of green technology, engineering, and environmental issues
- CTE courses feature the Project Lead the Way (PLTW) engineering curriculum to prepare students for careers in engineering architecture, and related technical fields

| Subject Area | 9th Grade | 10th Grade | 11th Grade | 12th Grade |
|---|---|---|---|---|
| Science | Biology (Required successful completion of or concurrent enrollment in Algebra 1A/B) Or Other college preparatory science options | Engineering Physics | Chemistry | AP Environmental Science |
| Math | Algebra 1 w/ Computing Robotics Or higher math | Non GEA Math | Non GEA Math | Non GEA Math |
| English[1] | English 9 (Regular or Honors) | English 10 (Regular or Honors) | English 11 (Regular or Honors) | Non GEA English 12 |
| Social Science[1] | Social Science | World History 10 | US History | Economics/ Civics |
| Career Technical Education (CTE) | Introduction to Engineering Design | Principles of Engineering Honors | Civil Engineering & Architecture Honors | Engineering Research and Development |

[1] Advanced Placement English and Social Science courses may be taken in place of the courses shown. Other AP classes may be taken as electives.

# Project Lead the Way-Pathways to Engineering

The CTE component of the academy will feature the Pathway to Engineering curriculum developed by Project Lead the Way (PLTW). This is a state-of-the-art, rigorous and fun pre-engineering program. This program integrates science, technology,

engineering and mathematics, and prepares students for careers in engineering industries at all levels. Green technologies are integrated into the curriculum at all levels.

# *Joining the Academy*

Students must apply to join the academy by submitting an application by **March of the preceding school year.** Please visit livermoreschools.org/gea for  an application.   For more information on the academy, contact Mrs. Karen Fletcher via email at kfletcher@lvjusd.org or (925) 606-4812.

# *Engineering and Design Program*

The Engineering and Design Program at Livermore High School offers a sequence of UC-approved elective  courses  that prepare students for college programs in engineering and careers in engineering-related industries. These courses use a fun, hands-on, project-based pre-engineering curriculum provided by Project Lead the Way (PLTW), a national leader in Science, Technology, Engineering, and Mathematics (STEM) education. It is recommended that students take these courses in the following sequence: Introduction to Engineering Design, Engineering Physics, Civil Engineering and Architecture.

***PLTW Introduction to Engineering Design A/B (Pg)***
**A Code: 52007                                         B Code: 52008**
**Grade Level:  9**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement (Elective)**
**Prerequisite:** none
**Course Description**: Introduction to Engineering Design (IED) exposes students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation.  Students will employ engineering and scientific concepts in the solution of engineering design problems. Students are trained in the use of 3D CAD/Drafting software and a 3D printer to create design solutions.

***PLTW Honors Principles of Engineering A/B (Pg)***
**A Code: 52075                                         B Code: 52076**
**Grade Level:  10**
**Length:  1 Trimester – 5 units (Elective)**
**Fulfills: UC "g" Requirement**
**Prerequisite:**  Completion of Geometry or consent of instructor.
**Course Description:** Students will explore a broad range of engineering topics, including mechanisms, energy and power, materials and structures, automation, statistics, and kinematics. Students investigate thermal energy and alternative energy applications and explore solar hydrogen systems. They use analysis of beam deflection as a context for learning about material properties and calculating the internal and external forces on an object. Students learn to control mechanical systems by investigating computer inputs and outputs and understanding hydraulic and pneumatic fluid power. Students design a projectile motion device to use as a basis for data collection, organization, and interpretation results.

***PLTW Honors Civil Engineering and Architecture A/B (Pg)***
**A Code: 52015                                         B Code: 52016**
**Grade Level:  11**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** Successful completion of Algebra, and successful completion of PLTW Introduction to Engineering Design or PLTW Principles of Engineering.
**Course Description:** Students are introduced to important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using 3D architectural design software. Students will develop skills in engineering calculations, technical representation and documentation of design solutions according to accepted technical standards, and use of current 3D architectural design and modeling software to represent and communicate solutions. Through both individual and collaborative team activities, and projects. Students will solve problems as they practice common design and development protocols such as project management and peer review.

***PLTW Engineering Research & Development A/B (Pd)***
**A Code: 30200**                             **B: Code: 30205**
**Grade Level: 12**
**Length:  2 Trimesters – 10 units**
**CTE Pathway Level: Capstone**
**Fulfills: UC "d" Requirement**
**Prerequisite:** Completion of Algebra I and Geometry; completion of two years of laboratory science including Biology, Chemistry, or Physics.
**Course Description:** Engineering Research and Development (ERD) is the capstone course in the PLTW high school engineering program. It is a science and engineering course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. Utilizing the Activity- Project-Problem-Based (APPB) teaching and learning pedagogy, students will perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams of students will design, build, and test their solution. Student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process.

# *Industrial Technology Pathway*

The Industrial Technology Program examines the wide variety of technical skills that are used in industry today. These include basic mechanical skills, safe use of tools and equipment, blueprint reading, welding, maintenance and repair of automobiles, architectural design, furniture and cabinet making, and alternative forms of energy. Learning experiences are provided by application of scientific principles to solve technological problems. Emphasis is on basic experiences and studies to further learning in engineering, technology, and the skilled trades. Courses include both elementary and advanced work in woods, metals, electronics, architectural design, technical drawing, power, energy and transportation. Career opportunities in the various fields are also explored.

***Electronics 1***
**Code: 53000**
**Grade Level:  9 – 12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description:** This is an introductory one trimester course. Half of the course will be in electron theory, component identification, safety, and bread boarding. Reading electrical drawings (schematics), basic calculations and measurement of current, voltage and resistance will be practiced. The second half of the course will introduce students to robotic control, sensors, servos, programming and construction.

***Electronics 2***
**Code: 53010**
**Grade Level:  9– 12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Electronics 1
**Course Description:** This is a continuation of Electronics 1. This course will  introduce the students to robotic control, sensors, servos, programming and construction.

***Machine Tool 1***
**Code: 55010**
**Grade Level:  9 -12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description:** This course is an introduction to the metal industry. Students use some of the traditional metal working machines and hand tools. Topics include shop safety, hand tools, lathe, milling machine, measurement, and CAD/CAM machining. Topics are taught using both class lecture and assigned projects. This course is recommended for students planning a career in the engineering or manufacturing industries.

*Machine Tool 2*
**Code: 55020**
**Grade Level:  9 -12**
**Length:  1 Trimester – 5 units**
**Prerequisite:** "C" or better in Machine Tool 1 or consent of instructor.
**Course Description:** In this second course, students use skills from Machine Tool 1 and are assigned projects that are more complex. Students are given the opportunity to produce a project on their own.

*Advanced Machine Tool 3*
**Code: 59040**
**Grade Level:  9 -12**
**Length:  1 Trimester – 5 units**
**CTE Pathway Level: Capstone**
**Prerequisite:**  "C" or better in Machine Tool 2 or consent of instructor.
**Course Description:** In this third course, students are required to design and produce projects using their own designs. There is additional emphasis on project development and technical writing. Student work on an individual basis to develop skills in advanced metal work.

*Advanced Machine Tool 4*
**Code: 59050**
**Grade Level:  10 -12**
**Length:  1 Trimester – 5 units**
**CTE Pathway Level: Capstone**
**Prerequisite:**  "C" or better in Machine Tool 3 or consent of instructor.
**Course Description:** In this course, students will design and produce projects on their own. There is additional emphasis on project development and technical writing. Students work on an individual basis. Students may also arrange with the instructor for an independent study contract to develop skills in advanced metal work.

*Power, Energy & Transportation 1 (P.E.T.)*
**Code: 56000**
**Grade Level:  9 -12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description**: P.E.T. 1 is a course that provides an overall understanding of various forms of power generation including, but not limited to, automobiles and aircraft. Basic instruction includes internal combustion engine, small engines, and exploration of alternative energy sources such as solar and wind. Students learn small engine operating principles, safe use of tools and equipment, and explore related career opportunities.

*Power, Energy & Transportation 2 (P.E.T.)*
**Code: 56020**
**Grade Level:  9 -12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  "C" or better in previous P.E.T. course
**Course Description:** P.E.T. 2 offers a more in-depth study of internal combustion engine. Specific experiments will demonstrate the effectiveness of alternative forms of energy including solar water heaters, photovoltaic and wind power generation. Experiments will be conducted in alternative forms of transportation and CO2 race-cars. The course will reinforce  the safe use of tools and equipment and continue to explore related careers.

*Construction Technology A/B (Woods and Metals)*
**A Code:  30406**                                      **B Code: 30407**
**Grade Level:  9 -12**
**Length: 2 Trimesters – 10 units**
**Prerequisite:** None
**Course Description:** This course is designed to give students a firm foundation in the use of  basic agricultural mechanics shop skills. Skills involving the proper and safe use of tools and materials will be reviewed throughout each unit. This course includes woodworking, metals projects, rope work, electrical, plumbing, masonry practices, cutting, welding, fabrication, and basic construction. Students will be provided with the opportunity to gain valuable hands-on experience in a shop setting.

*Advanced Construction Technology A/B*
**A Code: 30408**                                        **B Code: 30409**
**Grade Level:  10– 12**
**Length:  2 Trimesters – 10 units**
**CTE Pathway Level: Capstone**
**Prerequisite:**  Completion of Construction Technology A/B with a grade of "C" or better
**Course Description:** This course is designed to provide students with expanded study in the areas of woodworking, welding, fabrication, construction and agricultural design.

*Robotics A/B*
**A Code: 46005**                                        **B Code: 46006**
**Grade Level:  9 – 12**
**Length: 2 Trimesters – 10 units**
**Prerequisite:** None
**Course Description:** Robotics is an entry-level course for students interested in exploring careers in science, engineering, or technology related fields. Students will be introduced to theoretical and practical concepts related to robotics,  control systems, programming, electronics, and mechanics. Students will work in structured teams to solve problems and create robots to perform specified tasks.

# Regional Occupational Program

Tri-Valley Regional Occupational Program (ROP) offers classes to high school sophomores, juniors and seniors that explore careers and/or college majors and develop job skills. ROP classes are career-technical education classes, which earn credit in the same manner as other high school elective classes.  In most ROP classes, students can satisfy a-g requirements and earn college credit at a local community college.  Many ROP classes offer the opportunity to learn/prepare for professional certification.  Tri-Valley ROP offers classes at Amador Valley, Dublin, Foothill, Granada, and Livermore high schools.

**Community College Credit by Exam:**  Many ROP courses are articulated with local community colleges and allow students to earn college units by successfully completing the full length of the ROP course. Students must earn a grade of B or better for each semester to qualify for Credit by Exam. The college units may be transferable to UC and CSU systems as elective credit. (Further explanation/information is available from the College & Career Specialist in your Career Center and the ROP website: www.tvrop.org .)

**Registration/Eligibility:** Seniors and juniors, as well as sophomores 16 years and over, are eligible to  enroll  in  ROP classes. There is a small number of ROP classes open to sophomores regardless of age. See grade level requirements under each class heading to determine eligible classes. High school students select ROP classes using the same procedure they use to enroll in other classes at their school site. Students commit to enrollment for the duration of the class. The College and Career Specialist in the Career Center and high school counselors/vice principals are available to answer questions about ROP classes, registration, and scheduling.

**Transfers and Drops:** Students who decide to drop or change a class section due to a change in circumstances are encouraged to talk with their ROP instructor and must obtain permission from their school counselor or vice principal.

**Attendance Policy:** High school students are required to attend daily ROP classes in accordance with the district calendar at the ROP course site. Students traveling to an off-site ROP class will be asked to follow an ROP class attendance schedule that may vary on occasion from the home high school (i.e., holidays and teacher workdays.) Students suspended from their home school are also suspended from ROP.

**Types of ROP Classes:**
*Classroom/Laboratory* - School site learning environments, lecture facilities, activity labs, and workshop facilities, such as those used for automotive.

*Community Classroom* – Combines classroom education and non-paid internships. After six to twelve weeks of classroom instruction, students are placed at a community worksite. Once a student is placed, the student spends two to four days per week at his/her assigned internship. The student spends at least the same amount of time per day at the internship site as is spent at the lecture class, and may increase hours for additional credits. (Example: Classroom lecture class meets 2 hours on Monday and Wednesday; then the internship meets 2 hours on Tuesday, Thursday, and Friday.)

*Co-operative Education (Co-op)* – Involves classroom learning and a paid internship. The worksite training is similar to the Community Classroom program, but the class meets on site each day and internship/employment is generally after school hours. In the Co-Op program the student earns wages and additional credits.

Both Community Classroom and Co-operative Education programs adhere strictly to work-site rules and regulations. Any deviation may result in the student being removed from the class. Students must provide their own transportation to the training sites.

# *Regional Occupational Program Courses by Pathway*

## Arts, Media, and Entertainment

**(ROP) Animation and Motion Graphics I A/B/C (Pf)**
A Code: 83155                  B Code: 83156                  C Code: 83157
**Grade Level: 11– 12**
**School Site: Dublin High**
**Length: 2 periods per trimester for 3 trimesters – 20 units**
**Fulfills: UC "f" Requirement**
**Potential College Credit:** *Pending*
**Certification:** Prepares students for the Adobe Certified Associate and Autodesk Certified User (Dublin High School is a testing center for Certiport)
**Course Description**: Students develop their mastery of the skills required to be a professional digital graphic artist or animator. Animation and Motion Graphics combines theory, such as the 12 Principles of Animation, with the knowledge to expertly navigate and use the various digital design programs. Throughout the year, we will be using Adobe Photoshop for digital editing and pre-production, followed by ToonBoom Harmony for our 2D Animation or Autodesk Maya for our 3D work. Students learn the steps of working through a professional animation work-flow, working on our new iMac workstations daily and with access to our assortment of Wacom drawing tablets. Projects from this class are shared through internet media such as YouTube, for purposes of leaving the class with a final portfolio of your work to show to possible employers or college institutions. Students may also complete the Autodesk Certified User and Adobe Certified Associate certification exams.

**(ROP) Honors Artist Portfolio A/B/C (Pf)**
A Code: 83090                  B Code: 83091                  C Code: 83092
**Grade Level: 11– 12**
**School Site:  Dublin High**
**Length: 1 period per trimester for 3 Trimesters – 10 units – class time approximately 3:00 – 4:00 PM**
**Fulfills: UC "f" Requirement**
**Certification:** Prepares students for the Adobe Certified Associate and Autodesk Certified User (Dublin High School is a testing center for Certiport)
**Course Description:** This course is a challenging course that focuses on building a body of work for the student's professional portfolios. Successful students will demonstrate their development of technical skills and application of the elements and principles of art. The class will focus on the strengthening of independent thinking and creativity, the development of personal style and technique, as well as critical thinking skills through problem solving. This course is designed for students who are committed to improving their skills in visual art and are planning to take AP Studio Art and/or pursue art in college and career. Coursework will expose students to art through history from international cultures and movements. Students will do written analysis and critique of their own art and other artists, and review/respond to a current gallery or museum exhibition. During the class, students will write formal self and group critiques, analysis and statements about artwork. Throughout the school year, Honors Artist Portfolio students will participate in preparing and exhibiting their work publicly.

*(ROP) Video Game Art and Design A/B/C (Pf)*

**A Code: 83345**                              **B Code: 83346**                              **C Code: 83347**
**Grade Level: 11– 12**
**School Site:  Dublin High**
**Length: 1 period per trimester for 3 Trimesters – 10 units – class time approximately 3:00 – 4:00 PM**
**CTE Pathway Level: Capstone**
**Fulfills: UC "f" Requirement**
**Potential College Credits:   *Pending***
**Certification:** Prepares students for the Adobe Certified Associate and Autodesk Certified User (Dublin High School is a testing center for Certiport)
**Course Description**: Students get hands-on experience working in Autodesk Maya, learning the skills to be a 3D Modeler. Students spend the majority of the year exploring the methods used to develop 3D models for games, including the ability to prepare and generate textures for their models in Adobe Photoshop. The class also touches on game engines, such as Unreal and Unity, as well as 3D sculpture tools Zbrush and Mudbox. While exploring the development of games, students learn about ludology, the theory of gameplay, in order to understand why people play games and their reaction to game mechanics. All students will develop a portfolio of their work, which can be used when seeking internships and/or to gain admission in post-secondary game design programs.  Students may also complete the Autodesk Certified User and Adobe Certified Associate certification exams.

# *Education, Child Development, and Family Services*

*Human Development and Relationships (Pg)*
**Code: 66050**
**Grade Level:  11 - 12**
**Length: 1 Trimester – 5 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** None
**Course Description:** This is a course that explores how and why people grow and learn while introducing theories of development. Students will examine stages of growth and development focusing on prenatal, infancy, toddlerhood, adolescence, and early adulthood. The class addresses dating, marriage, and parenting. Participants will practice parenting skills caring for a computerized baby. Careers relevant to the field of Human Development will be introduced and employability skills will be applied through a variety of activities.

*(ROP) Developmental Psychology of Children I A/B/C (Pg)*
**A Code:  83130**                              **B Code:  83135**                              **C Code: 83136**
**Grade Level:  11– 12**
**School Site:  Livermore High**
**Length: 2 hr. per day for 3 Trimesters – 20 units**
**CTE Pathway Level: Capstone**
**Fulfills: UC "g" Requirement**
**Potential College Credits:**  6
**Certification:** California Commission on Teacher Credentialing (CCTC), Early Childhood Assistant, CPR Certification
**Course Description:** Interested in a career involving children?  Considering a career as a pediatrician, teacher, psychologist, or social worker?  If so, the Developmental Psychology of Children (DPOC) course is for you.  DPOC is a course that combines classroom instruction and off-campus internships.   That means you learn about the development of children, while you actually get to work with them!  Internships take place during the scheduled class time at local elementary schools, child care centers, or preschools.  Opportunities for after-school paid internships are also available.  Throughout the school year, you will study a variety of child growth and development topics, and you will learn how to work with children ages birth to adolescence. In addition, you will be trained in CPR.  After successfully completing the course, you are eligible to receive transferable college credits (for free) from Las Positas College.  Make a difference in a child's life… enroll in Developmental Psychology of Children.

**Internship:**  Internship is a required component of the program and students must provide their own transportation.  Students

in Co-Op may earn up to five additional credits per high school semester or trimester.

*(ROP) Developmental Psychology of Children II A/B/C (Pg)*
**A Code:  83137**                                          **B Code:  83138**                                          **C Code:  83139**
**Grade Level:  12**
**School Site:  Granada High**
**Length: 2 hr. per day for 3 trimesters – 20 units**
**CTE Pathway Level: Capstone**
**Fulfills: UC "g" Requirement**
**Potential College Credits:**   6
**Certification:** California Commission on Teacher Credentialing (CCTC), Early Childhood Assistant, CPR Certification
**Course Description:** This is an advanced course in child development and education.  Students increase their knowledge, experience, and job skills at an internship placement.   Advanced projects further develop skills. Students will focus on observation of children and programs; communicating with children, staff, and parents; planning age-appropriate curriculum; and understanding the history, theories, philosophies, and legal aspects of careers related to children.

**Internship:**  Internship is a required component of the program and students must provide their own transportation.  Students in Co-op may earn up to five additional credits per high school semester or trimester.

# *Engineering and Architecture*

*(ROP) Honors Civil Engineering and Architecture A/B (Pg)*
**A Code: 52085**                                          **B Code: 52086**
**Grade Level:  11 -12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** Introduction to Engineering and Design A/B and Principals of Engineering A/B
**Course Description:** Civil engineering has a significant role in the life of every human being, though one may not truly sense its importance in our daily routines.  Architecture is the art / practice of designing and constructing buildings.  To help students explore these career fields, students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures.  In addition, students use 3D design software to design and document solutions for major course projects.  Students communicate and present solutions to their peers and members of a professional community of engineers and architects.  This course is a specialization-level course designed to follow the Project Lead the Way engineering foundation courses.

*(ROP) Honors Aerospace Engineering A/B/C (Pg)*
**A Code: 83400**                                          **B Code: 83401**               **C Code: 83402**
**Grade Level: 11 – 12**
**School Site: Foothill High**
**Length: Yearlong - 1 period per trimester for 3 trimesters – 10 units** (students may be required to have an additional open period in their schedules to allow for travel to off-campus site)
**Fulfills: UC "g" Requirement**
**Course Description:** Aerospace Engineering is a high school level course intended to propel students' learning in the fundamentals of atmospheric and space flight. As they explore the physics of flight, students bring the concepts to life by designing an airfoil, propulsion system, and rockets. They learn basic orbital mechanics using industry-standard software. They also explore robot systems through projects such as remotely operated vehicles. The course exposes students to some of the major concepts that they will encounter in a post-secondary engineering course of study in the area of aerospace engineering.

*(ROP) Honors Computer Integrated Manufacturing A/B/C (Pg)*
**A Code: 83370**                                          **B Code: 83371**                                          **C Code: 83372**
**Grade Level:  11 -12**
**School Site: Dublin High**
**Length: Yearlong - 1 period per trimester for 3 trimesters – 10 units** (students may be required to have an additional open

period in their schedules to allow for travel to off-campus site)
**Fulfills: UC "g" Requirement**
**Prerequisite:** Introduction to Engineering and Design A/B and Principals of Engineering A/B
**Course Description:** How are things made?  What processes go into creating products?  Is the process for making a water bottle the same as it is for a musical instrument?  How do assembly lines work?  How has automation changed the face of manufacturing?  While students discover the answers to these questions, they learn about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems.  This course is a specialized-level course designed to follow the Project Lead the Way engineering foundation courses.

*(ROP) Honors Digital Electronics A/B/C (Pg)*
**A Code: see website**          **B Code: see website**          **C Code: see website**
**Grade Level:  11 -12**
**School Site: Amador Valley High**
**Length: Yearlong - 1 period per trimester for 3 trimesters – 10 units** (students may be required to have an additional open period in their schedules to allow for travel to off-campus site)
**Fulfills: UC "g" Requirement**
**Course Description:** Digital Electronics is the foundation of all modern electronic devices such as mobile phones, MP3 players, laptop computers, digital cameras, and high definition televisions.  Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation.  The course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study in the area of digital electronics.  While this is one of several courses that allow student to further their engineering studies in a specific field or specialty, the logic design skills learned here are highly transferable to other engineering disciplines.

# *Health Science and Medical Technology Pathway*

*(ROP) Introduction to Health Careers A/B (Pg)*
**A Code: 83217**          **B Code: 83218**
**Grade Level:  10 - 12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Potential College Credits:**  2
**Certification**: BLS CPR Certification
**Course Description:** This course is designed to expose students to the health care industry by surveying the wide spectrum of health care occupations and equipping them with the entry level knowledge and skills that apply to a variety of health occupations.  This course is  great to take before taking Medical Occupations or Nursing Careers courses. Students who successfully complete this course will acquire the necessary knowledge and skills that will allow them to pursue an education and career in the health care industry. Students will be trained in hands-on skills, taking vitals, etc. Students will earn their Basic Life Support CPR Certification. Students will develop a professional career portfolio, job shadow health care professionals, and be required to earn volunteer service hours (outside of the school day) in the health care field and possibly qualify for the United Way Volunteer Service Award. This is highly desirable for college scholarship and entry level job applications.

*(ROP) Medical Occupations A/B/C (Pg)*
**A Code: 83210**          **B Code: 83215**          **C Code: 83216**
**Grade Level: 11– 12**
**School Site:  Granada High**
**Length: 2 periods per trimester for 3 trimesters – 20 units**
**CTE Pathway Level: Capstone**
**Fulfills: UC "g" Requirement**
**Potential College Credits:**  7
**Certification**: California Certified Medical Assistant Administrative (CCMA-A) (Must pass exam), BLS CPR Certification
**Course Description:** Medical Occupations provides an introduction and  broad  exploration into several careers within the medical field including Medical Assisting, Emergency Medicine, Veterinary Medicine, Dental Assisting/Hygienist, Geriatric

Assistant, Physical Therapy, Surgical Technician and Nursing. Instruction is combined with a hands-on learning experience through instructor approved clinical internships at local medical facilities. After completion of the course, students are eligible to take the California certification exam for Medical Assistants and become a California Certified Medical Assistant—Administrative (CCMA-A).

NOTE: Spring orientation is required in order to be enrolled in the program and must be attended by the student and parent(s).

Requirements for Clinical: 2 Step TB Clearance, Flu Shot, current immunization record, and CPR BLS Health Care Provider training. These prerequisites must be completed prior to the first day of school with the exception of the flu shot (required for all students per hospital policy) administered in October. Clinical internships require that students provide their own transportation. Students must be available for internships daily. Uniforms required.

### (ROP) Nursing Careers A/B/C (Pg)
**A Code: 83275**                          **B Code: 83280**                          **C Code: 83281**
**Grade Level: 11– 12**
**School Site: Foothill High**
**Length: 2 periods per trimester for 3 trimesters – 20 units**
**CTE Pathway Level: Capstone**
**Fulfills: UC "g" Requirement**
**Potential College Credits:** 7
**Certificate**: BLS CPR Certification
**Course Description:** Nursing Careers offers a comprehensive introduction to the field of nursing while studying the care of patients and the role nurses provide in a variety of healthcare systems. Focus is given to the various specialties within the field and studies include a basic understanding of the systems of the body, medical terminology, diseases, basic patient care, taking vital signs, charting, medical ethics and understanding patient privacy laws. Instruction is combined with a hands-on learning experience through instructor approved internships at local hospitals, clinics and physician offices.

**NOTE:** Spring orientation is required in order to be enrolled in the program and must be attended by the student and parent/guardian(s).

Requirements for Clinical: 2 Step TB Clearance, Flu Shot, current immunization record, and CPR BLS Health Care Provider training. These prerequisites must be completed prior to the first day of school with the exception of the flu shot (required for all students per hospital policy) administered in October. Clinical internships require that students provide their own transportation. Students must be available for internships between 1:00 and 4:00 pm daily. Uniforms required.

### (ROP) Principles of Biomedical Sciences A/B/C (Pd)
**A Code: 83375**                          **B Code: 83376**                          **C Code: 83377**
**Grade Level: 11– 12**
**School Site: Foothill High**
**Length: Yearlong - 1 period per trimester for 3 trimesters – 10 units** (students may be required to have an additional open period in their schedules to allow for travel to off-campus site)
**Fulfills: UC "d" Requirement**
**Course Description:** Students investigate various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. They determine the factors that led to the death of a fictional person, and investigate lifestyle choices and medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, medicine, and research processes.

### (ROP) Sports Medicine/Athletic Trainer I A/B (Pg)
**A Code: 83350**                          **B Code: 83351**
**Grade Level:  10– 12**
**School Site:  Livermore High**
**Length: 2 Trimesters, 1 period per day - 10 units**

**Fulfills: UC "g" Requirement**
**Potential College Credits:** 4
**Certification**: CPR Certification

**Course Description:** Sports Medicine - Athletic Trainer I is an exciting, growing field with employment opportunities in athletic training, sports medicine, and physical therapy. Instruction encompasses the study of Anatomy, Physiology, Nutrition, Biology and Kinesiology to understand the aspects of the field. Students are introduced to associated medical terminology and the practice of classification and assessment of injuries. Through internships students apply skills learned in class to the prevention of injuries, the understanding of human body modalities and rehabilitation, the procedures of training rooms, and the safety factors related to sports medicine.

**Internship:** Community Classroom (unpaid) Internship, <u>60 hours</u>, outside of the school day, is a required component of the program and students must provide their own transportation as necessary. Up to 5 additional units may be earned – 1 unit for every 18 hours of internship beyond the required 60 hours. Required hours will differ based on semester/trimester schedules.

*(ROP) Sports Medicine/ Athletic Trainer II A/B (Pg)*
**A Code: 83353**                                **B Code: 83354**
**Grade Level: 11-12**
**School Site: Livermore High School**
**Length: Length: 2 Trimesters, 1 period per day - 10 units**
**CTE Pathway Level: Capstone**
**Prerequisite:** Sports Medicine/ Athletic Trainer I
**Fulfills: UC "g" Requirement**
**Potential College Credits:** 4
**Certificate**: CPR Certification

**Course Description:** This course provides an excellent opportunity for students to continue exploring their interest in the fields of health science and medicine. This class provides a framework of advanced skills for understanding functional anatomy and kinesiology, building on the concepts of anatomy/physiology learned in Sports Medicine 1. The lecture/lab format focuses on clinical hands-on learning, including evaluation, assessment treatment and events, assisting the Head Athletic Trainer or Team Physician, and working with other health care professionals. Integrated throughout the course are career technical education standards, which include basic academic skills, communication, career planning, technology, problem solving, safety, responsibility, ethics, teamwork and technical knowledge.

Internship: Community Classroom (unpaid) Internship, <u>90 hours</u>, outside of the school day, is a required component of the program and students must provide their own transportation as necessary. Up to 5 additional units may be earned – 1 unit for every 18 hours of internship beyond the required 90 hours. Required hours will differ based on semester/trimester schedules.

# *Information and Communications Technologies*

*(ROP) Cybersecurity: ICT Essentials I   A/B (Pg)*
**A Code: 44410**                                **B Code: 44411**
**Grade Level:  9 – 12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Potential College Credit**: 4
**Certification:** Prepares students for an A+ Certification Exam
**Course Description:** This course provides an in-depth exposure to computer hardware and operating systems. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands-on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot problems. An introduction to computer networking is included.
*(ROP) Internet Engineering (CCNA1) A/B (Pg)*
**A Code: 83383**                                **B Code: 83384**
**Grade Level:  10 – 12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**

**Recommended: Cybersecurity: ICT Essentials I A/B**
**Fulfills: UC "g" Requirement**
**Potential College Credit**: 3
**Certification:** Prepares students for the CCENT Certification
**Course Description:** CCNA Routing and Switching curriculum is a gateway to entry-level networking jobs and IT Careers. The curriculum consists of 4, 70-hour courses: Introduction to Networks (Internet Engineering 1 (CCNA1)) Routing and Switching Essentials (Internet Engineering 2 (CCNA2)).

Internet Engineering 1 is an interdisciplinary course designed to prepare students for post-secondary success in the Information and Communication Technologies (ICT) field. The course engages students with studies of the history and implications of network communications; the protocols which make the Internet possible; how networks provide access to services; and college and career preparation in the ICT field. This course integrates the theory and application of network communications, and exposes students to media that invites them to consider how Internet engineers think, design, and solve problems. Students have several opportunities to produce college-ready writing, collaborate, research, develop study skills, and develop 21st Century skills in this course.

IMPORTANT! This is the first course in a series of three that prepares students for the Cisco CCNA Networking Certification and A+ industry certification.

***(ROP) Internet Engineering 2 (CCNA2) A/B (Pg)***
**A Code: 83385**                                      **B Code: 83386**
**Grade Level:  11 – 12**
**School Site: Livermore High**
**Length: 2 Trimesters – 10 units**
**Prerequisite: Internet Engineering (CCNA1) A/B**
**Fulfills: UC "g" Requirement**
**Potential College Credit**: 3
**Certification:** Prepares students for the CCENT Certification
**Course Description:** Internet Engineering 2 is a follow-up course to Internet Engineering 1. It is designed to prepare students for postsecondary success in the Information and Communication Technologies (ICT) field. The course engages students with studies of the network protocols that make the Internet possible; how networks communicate with one another; methods used to increase scalability, reliability, and security in the modern network; and college and career preparation in the ICT field. This course intergrates the theory and application of network communications, exposing students to media that invites them to consider how Internet engineers think, design, and solve problems. Students will produce college-ready writing, collaborate with peers and mentors, research solutions to complex challenges, improve student skills and strategies, and develp a Personal Learning Network.

# *Marketing, Sales, and Service*

***(ROP) Economics of Business Ownership A/B (Pg)***
**A Code: 83260**                    **B Code: 83265**
**Grade Level: 11 – 12**
**School School Site: Granada High**
**Length: 2 trimesters – 10 units (up to 30 units with Co-op\*\*)**
**CTE Pathway Level: Capstone**
**Fulfills: UC "g" Requirement**
**Potential College Credits:**  3
**Course Description:** Learn the process of starting and managing a business. Students with an entrepreneurial interest learn skills related to organization, effective decision making, and goal setting. Students develop comprehensive business plans including research and development of ideas, product planning, finance, and marketing. Students research how marketing, management, ethics, and communication play an important role in business success. Students gain practical experience by managing a student-run business and receive training in constructing resumes, employment applications, cover letters, and references and interviewing skills. Students complete a career portfolio to prepare for entry into the job market with a competitive edge. Business concepts and leadership skills are reinforced through co-curricular participation in the Career and Technical Student Organization, DECA\*. DECA is an integral component to this program and provides additional focus on developing written and oral presentation skills, as well as leadership and social and professional skills that will build self-confidence for college and career success. Note: students must provide their own transportation.

(*ROP) Integrated Marketing Communications (Marketing) (Pg)*
**A Code: 83268**                                    **B Code: 83269**
**Grade Level:  11-12**
**School Site: Granada High**
**Length: 2 trimesters – 10 units (up to 30 units with Co-op**)**
**Fulfills: UC "g" Requirement**
**Potential College Credits:** 3
**Course Description:** Learn about the field of marketing and the vast career opportunities within this industry.  Explore areas such as market research, product development, pricing, promotion, distribution, visual merchandising, presentation and project management through a variety of hands-on projects.  Bring your ideas and creativity!  Students receive training in constructing resumes, employment applications, cover letters and references, in addition to interviewing skills.  Students will complete a career portfolio to prepare for entry into the job market with a competitive edge.  Marketing concepts and leadership skills are reinforced through co-curricular participation in the Career and Technical Student Organization, DECA*. DECA is an integral component to this program and provides additional focus on developing written and oral presentation skills, as well as leadership and social and professional skills that will build self-confidence for college and career success. Note: students must provide their own transportation.


*(ROP) Sports and Entertainment Marketing A/B/C (Pg)*
**A Code: 83356**                        **B Code: 83357**                        **C Code: 83358**
**Grade Level: 11– 12**
**School Site: Dublin High or Foothill High**
**Length: 1 period per day for 3 trimesters – 10 units** (students may be required to have an additional open period in their schedules to allow for travel to off-campus site)
**Fulfills: UC "g" Requirement**
**Potential College Credits:**  4
**Course Description:** Learn what it takes to have a career in the field of sports and entertainment marketing. Through focused instruction on the marketing concepts and strategies, students explore the professional, college and amateur sports world, as well as a vast variety of entertainment events and how this lucrative industry reaches their target audience.   Students will plan and utilize market research; develop promotion and marketing materials for sports and entertainment events; and improve leadership skills through co-curricular participation in the Career and Technical Student Organization, DECA*. DECA is an integral component to this program and provides additional focus on developing written and oral presentation that will build self-confidence for college and career success. Students will also receive training in constructing resumes, employment applications, cover letters and references, in addition to interviewing skills, and will complete a career portfolio to prepare for entry into the job market with a competitive edge. Note: students must provide their own transportation.

*DECA, www.deca.org, prepares emerging leaders and entrepreneurs in marketing, finance, hospitality and management. DECA offers the opportunity for students to participate in competitive events throughout the year in a variety of locations at local, state and international levels.  Students have the opportunity to receive recognition, awards and scholarships. DECA is endorsed by the United States Department of Education and the California Department of Education.

** Students who are employed in a related field in which the course curriculum is directly associated to the student's "on-the-job" experience are eligible to receive variable credits based on the number of hours worked.   Students earn 1 high school credit for every 18 hours they work, up to 10-15 high school credits per year. Students are encouraged to work 10-15 hours per week at teacher approved sites in the Tri-Valley area with their current job.

# *Public Services*

**(ROP) Introduction to Criminal Justice A/B/C (Pg)**
**A Code: 83180**                                  **B Code: 83185**                                  **C Code: 83186**
**Grade Level:  10– 12**
**School Site:  Livermore High**
**Length:  Yearlong – 3 Trimesters – 15 units**
**Fulfills a-g: "g" Requirement**
**Potential College Credits:**  9
**Certification:**  CPR Certification
**Course Description:** This course provides students with a strong overview of law enforcement as a career.  Each portion of the course helps students obtain a proficiency in understanding the different components of the criminal justice system. Students are provided with an overview of career opportunities, including but not limited to sworn personnel such as police officers, sheriffs, highway patrol, correctional officers and non-sworn personnel such as dispatchers, evidence technicians, lab technicians, and attorneys.  Students study the connections between the criminal justice and court systems through laws and report writing.  The course is tied together utilizing curriculum in crime scene investigation.  Students employ skills learned with hands-on projects, including investigating a mock crime scene. To learn more about this course, see our course catalog or visit our website at www.tvrop.org

**(ROP) Criminal Justice Academy A/B/C (Pg)**
**A Code: 83187**                                  **B Code: 83188**                                  **C Code: 83189**
**Grade Level:  11– 12**
**School Site:  Las Positas College**
**Length: 2 hr. per day for 3 Trimesters – 20 units (8:00a.m. – 10:00 a.m.)**
**CTE Pathway Level: Capstone**
**Fulfills: UC "g" Requirement**
**Potential College Credits:**  13
**Certification**: CPR Certification
**Description:**  Students will have the unique opportunity to participate in a variety of exciting activities designed to enhance their learning.  Activities include field trips, career exhibitions, leadership opportunities, mentoring, ride alongs, and academy competitions. Students will complete physical training at the RTC facility in the Alameda County Sheriff's campus and have the opportunity to complete the confidence course just like a cadet!  Each student will be assigned a law enforcement professional mentor to help them develop their professional skills.

Students will learn the historical development, philosophy of law, and constitutional provisions of administrative justice. Students will explore the ethical, legal, and moral complexities of law enforcement in a democracy; they will examine the complex, dynamic relationship between communities and the justice system.  Students will write investigative reports with an emphasis on accuracy and details necessary, including arrest reports, incident reports, and miscellaneous field reports. Volunteer hours are a required component of this course.  Academy cadets will have the opportunity to wear a law enforcement uniform (uniforms required) and show commitment to the principles of public service through volunteerism.

**(ROP) Emergency Medical Responder**
**Code: 83380**
**Grade Level:  11– 12**
**School Site:  Foothill High School in the evenings**
**Length: 1 semester, 2 days per week - evenings only (Offered in Fall and Winter/ Spring) - 5 units**
**CTE Pathway Level: Capstone**
**Recommended: Completion of Biology and/ or Anatomy with a "C" or better**
**Potential College Credits:**  3
**Certification:** EMR Certification, CPR Certification
**Description:** This course develops the knowledge and skills necessary for recognizing and caring for emergency situations, including CPR, prevention of disease transmission, and automated external defibrillation. Designed for first responders in an emergency. Successful  completion of the skills test with an 80% or better qualifies students for the American Safety and Health Institute (ASHI) First Responder certificate and an American Heart Association Basic Life Support Health Care Provider certificate.  This will be offered in the evening both Fall and Spring semester. College credits available.

# *Transportation*

***Power, Energy and Transportation 1 (P.E.T)***
**Code: 56000**
**Grade Level: 9-12**
**Length: 1 Trimester - 5 units**
**Prerequisite:** None
**Course Description:** P.E.T. 1 is a course that provides an overall understanding of various forms of power generation including, but not limited to, automobiles and aircraft. Basic instruction includes internal combustion engine, small engines, and exploration of alternative energy sources such as solar and wind. Students learn small engine operating principles, safe use of tools and equipment, and explore related career opportunities.

***(ROP) Auto Body Repair* A/B/C *(Pg)***

**A Code: 83107**                                   **B Code: 83108**                                   **C Code: 83109**
**Grade Level:  10– 12**
**School Site:  Livermore High**
**Length**: Year-long – 3 Trimesters – 15 units (registration in all 3 trimesters required)
**Fulfills: UC "g" Requirement**
**Certification:** Automotive Service Excellence (ASE) Certification
**Course Description:** Examine the world of auto body repair by learning the industry skills necessary for a successful career in the field. Students explore trends and future technologies of the collision repair and refinishing industry and practice identifying auto body damage and the relationship to cost estimation.  Instruction focuses on giving students a hands-on experience in learning the skills of the trade, including how to straighten and repair auto bumper covers, replace panels, prep cars for paint, rebuild and repaint auto bodies, mig weld, and detail cars.

***(ROP) Advanced Auto Body Repair A/B/C (Pg)***

**A Code: 83126**                                   **B Code: 83127**                                   **C Code: 83128**
**Grade Level:  11– 12**
**School Site:  Livermore High**
**Length: Year-long – 3 Trimesters – 15 units (registration in all 3 trimesters required)**
**Fulfills: UC "g" Requirement**
**Prerequisite**: Completion of Auto Body Repair I
**Certification:** Automotive Service Excellence (ASE) Certification
**Course Description:** This course is for students interested in a career in auto body repair.  Students study advanced topics and complete projects that include learning the skills required for color matching to industry specifications.  Instruction focuses on students applying skills and knowledge learned to identify frame damage and methods of repair and measuring. Students will become proficient in shop management, team leadership, and business principles.

***(ROP) Automotive Technology A/B/C (Pg)***

**A Code: 83111**                                   **B Code: 83112**                                   **C Code: 83113**
**Grade Level:  10– 12**
**School Site:  Livermore High**
**Length:  Yearlong – 3 Trimesters – 15 units**
**CTE Pathway Level: Capstone**
**Potential College Credits:**  4
**Fulfills: UC "g" Requirement**
**Certification**: Automotive Service Excellence (ASE) Certification
**Course Description:** Automotive Technology is a comprehensive, hands-on course that allows students to explore and practice the necessary skills needed to repair automobile systems as well as parts. Instruction includes steering and suspension, brakes, electrical, maintenance, engine diagnostics and repair, rear axle, automatic transmissions, and emission controls. Students gain experience in tire repair, changing and high-speed tire balancing, brake and wheel bearing inspection, measuring and repairing, and front and four-wheel alignment.  Desired business and shop practices are studied, along with advanced automotive theory used in the industry.  Students   practice test preparation and procedures for the Automotive

Service Excellence (ASE) certification and learn the benefits of gaining ASE certifications. Students may work on their own or family car with approval of instructor.

**Note:** Automotive Technology A, B, and C may be taken in any order or as stand-alone classes; however, Automotive Technology A, B, and C must be successfully completed to earn college credit and meet UC/ CSU "g" requirement.

# *English Department*

The English program covers the broad fields of composition, literature, and language, with training in the skills of reading, listening, speaking, and writing. The department also offers courses in special phases of reading literature, writing, speech, and journalism. In accordance with recommendations in the English Language Arts Framework for California Public Schools, electives are also offered.

*English 9 A/B (Pb)*
**A Code: 10010**                                   **B Code: 10020**
**Grade Level: 9**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "b" Requirement (English)**
**Prerequisite:** None
**Course Description**: Students will increase their vocabulary, improve their grammar, and develop their writing skills through practice of paragraph and essay writing, They will study literature and expository works, learning how to observe carefully the setting, characters, plot, conflict, and theme of short stories as well as plays and novels. They also gain experience in computer and library use for research and recreational reading.

*Honors English 9 A/B (Pb)*
**A Code: 10110**                                   **B Code: 10120**
**Grade Level: 9**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite**: Mastery of 8th grade English course content with a prior grade of "B" (3.0) or better; or consent of instructor.
**Course Description:** Honors English 9 A/B is an intensive, demanding class that emphasizes advanced composition assignments and projects, including insightful essays, oral presentations, pictorial presentations, or a combination of the above that demonstrate a student's critical thinking and awareness of the author's themes, purposes and perceptions. The student is expected to be able to apply the gained knowledge throughout the class to any literature studied. Students are expected to participate in class discussions to encourage the development of higher-level thinking skills.

*English 10 A/B (Pb)*
**A Code: 10030**                                   **B Code: 10040**
**Grade Level: 10**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:**  Passing grade in English 9 A/B or English 9 A/B Honors
**Course Description:** English 10 A/B is a survey course covering reading, writing, grammar, and vocabulary development. The literature and expository works will include short stories, novels, poetry, and drama. Students will review sentence structure, punctuation, and essay writing. Students will practice critical reading, writing, listening, and speaking skills in preparation for college and career readiness.

*Honors English 10 A/B (Pb)*
**A Code: 10130**                                   **B Code: 10140**
**Grade Level: 10**
**Length: 2 Trimester – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:** Mastery of 9th grade English course content with a prior grade of "B" (3.0) or better; or consent of instructor.
**Course Description:** Honors English 10 A/B, like regular college prep English 10, is  a survey  course covering reading, writing, grammar, and vocabulary development. The literature will include short stories, novels, poetry, and drama. Students will review sentence structure, punctuation, and essay writing. Students will practice critical reading, writing, listening, and speaking skills in preparation for college and career readiness. Please note that the additional honors

curriculum is challenging: the course requires more student writing; and the course demands advanced vocabulary (in the reading itself, in student writing, and in preparation for standardized tests such as the PSAT/SAT).

*English 11 A/B (Pb)*
**A Code: 10050**                                      **B Code: 10060**
**Grade Level: 11**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:**  Passing grade in English 10A/B or English 10 A/B Honors.
**Course Description:** Through a sequence of rigorous instruction modules designed to prepare students for the literacy demands of higher education, students will develop advanced proficiencies in expository, analytical, and argumentative reading and writing. Course texts include contemporary essays, newspaper and magazine articles, editorials, reports, biographies, memos, assorted public documents, and other non-fiction texts. Students will also study American and contemporary literature and public documents. Expository reading and writing skills will be emphasized.

*Honors English 11 A/B (Pb)*
**A Code: 10150**                                      **B Code: 10160**
**Grade Level: 11**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite**: Mastery of 10th grade English course content with a prior grade of "B" (3.0) or better; or consent of instructor.
**Course Description:** Students will study American literature, developing an awareness of the social and historical trends influencing our literature as well as an understanding of basic values, attitudes, and beliefs in our literary heritage. The course extends the English 11 curriculum through a more challenging workload and intensifies expectations to facilitate independent and critical inquiry both in and outside of the classroom. This course encourages students to look beyond surface analysis, facilitating a more complex and critical outlook on literature, its nuances, and its connection to the world's realities. Expository reading and writing skills will be emphasized.

*Composition 12 A/B (Pb)*
**A Code: 10410**                                      **B Code: 10420**
**Grade Level: 12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:**  Grade of "B" or better in prior English class, or teacher consent.
**Course Description:** Composition is a rigorous course focused on developing new, more sophisticated forms of writing. The course includes research documentation, the traditional rhetorical forms of composition, a complete review of grammar, and intensive vocabulary development. This course is designed for college-bound students.

*Expository Reading and Writing 12 A/B (Pb)*
**A Code: 10087**                                      **B Code: 10088**
**Grade Level: 12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:**  Successful completion of English 11 A/B
**Course Description:** The goal of the Expository Reading and Writing Course is to prepare college-bound seniors for the literacy demands of higher education. Students develop advanced proficiencies in expository, analytical, and argumentative reading and writing. The cornerstone of the course presents a process for helping students read, comprehend, and respond to nonfiction and literary texts. Students will practice academic and vocational reading and writing, including practice for types of placement tests many universities require. Course texts include contemporary essays, newspaper and magazine articles, editorials, reports, biographies, memos, and other non-fiction texts as well as full-length novels.

**The following English Courses may be taken for graduation and UC "b" credit.**

*Fantasy and Science Fiction (Pb)*
**Code: 10016**
**Grade Level: 12**

**Length: 1 Trimester-5 Units**
**Fulfills: 1/2 UC "b" Requirement (English)**
**Prerequisite**: English 11
**Description:** This course is designed for students who love to read this particular and popular genre of literature. Students will study the history of science fiction and read representative authors. Students will also study the evolution of fantasy literature from fairy tales and mythology to the genre's present form. Students will conduct independent research in the subject and present their findings to the class. Students will also use a wide variety of technological tools in writing papers and creating presentations.

## The following AP English courses may be taken either in 11th or 12th grade

*AP English Language and Composition A/B (Pb)*
**A Code: 10035**                                   **B Code: 10036**
**Grade Level: 11-12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:** Mastery of 10th grade English course content with a prior grade of "B" (3.0) or better; or consent of instructor.
**Course Description:** This course engages students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical context, and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading will make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the generic conventions and the resources of language contribute to effective writing. Students  will write in  informal as well as formal contexts to gain authority, and will learn to take risks in writing. Imitation exercises, and journal keeping, collaborative writing, and in-class responses will help students become increasingly aware of themselves as writers and of the techniques employed by the writers they read. Students will read a  wide variety of prose styles from many disciplines and historical periods to gain understanding of the connections between interpretive skills in reading and writing. This course is designed to prepare students for the Advanced Placement Language and Composition Exam and to provide students with an academic experience parallel to that of the college level.

*Seminar for AP English Language and Composition*
**A Code: 10037**
**Grade Level: 11-12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Completion of AP English Language Composition A/B.
**Course Description:** This course is offered in the third trimester only and is designed to provide extensive preparation for success on the Advanced Placement Exam. Students will practice AP multiple-choice questions, review rhetorical terminology in depth, and practice timed in-class responses to essay prompts. After the AP exam, students will complete a fun, open-format, group research project/presentation based on themes covered throughout the year. **Earns pass/fail credit only.**

*AP English Literature and Composition A/B (Pb)*
**A Code: 10045**                                   **B Code: 10046**
**Grade Level: 11-12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "b" Requirement (English)**
**Prerequisite:** Mastery of 11th grade English course content with a prior grade of "B" (3.0) or better; or consent of instructor.
**Course Description:** This course is designed to provide an academic experience parallel to that of the college level and focuses on extensive and intensive reading and discussion of serious, college level literature. Emphasis is placed on analysis of literary devices and thematic messages of canonical literary works from the classics up to the modern era. Students will also build a strong command of poetry analysis in addition to prose and drama. Upon completion of the course, students will be expected to take the Advanced Placement Literature and Composition Exam. Summer reading is required for this course.

*Seminar for AP English Literature*
**Code: 10047**
**Grade Level:  11 - 12**

**Length:  1 Trimester – 5 units**
**Prerequisite:**  Completion of AP English Literature & Composition A/B.
**Course Description**: This course is offered in the third trimester only. Students will review literary terms, including poetry devices and techniques, practice multiple-choice and timed-writing questions in preparation for the AP exam, and select three major works from different eras to re-study for the free response essay.  Additionally, after the AP exam, students will complete  a research based, fun, hands-on Senior Project, to be presented both orally and in writing, on a topic of choice. **Earns pass/fail credit only.**

# *English Electives*

*Creative Writing (Pg)*
**Code: 10360**
**Grade Level: 11–12**
**Length:  1 Trimester – 5 units**
**Fulfills:  UC "g" Requirement (Elective)**
**Prerequisite:** Successful completion of English 11 A/B, 11 A/B Honors, or Advanced Placement Language and Composition, AP Language and Composition, or consent of instructor.
**Course Description:** This course is student-centered, offering opportunities for students to pursue specific personal writing goals, journal writing, creative writing and technical writing. Students will have opportunities to explore related areas such as word processing and electronic publishing. Students will also explore methods of writing different genres of literature including the short story, the poem, the play, and the personal narrative. Students will study rhetorical techniques such as parallelism, figures of speech, allusion, symbolism, and imagery. Students will become critics of writing through the study of imitation of various authors.

*Journalism 1 A/B/C (Pg)*
**A Code: 10510**                                **B Code: 10520**                                **C Code: 10521**
**Grade Level: 10-12**
**Length: 3 Trimesters – 15 units**
**Fulfills:  UC "g" Requirement (Elective)**
**Prerequisite:**  Grade of "C" or better in prior English courses is suggested, or consent of instructor.
**Course Description:** Students learn journalistic writing, editing, design, and interview techniques and use those skills to produce an online newspaper. Students will practice all aspects of journalism through hands-on experience and a study of journalism-related texts. Research and analytical skills, process writing in a variety of genres, and interview skills are strongly emphasized to prepare students for career paths and for study at the college level.

*Advanced Journalism A/B/C (Pg)*
**A Code: 10530**                                **B Code: 10531**                                **C Code: 10535**
**Grade Level:  11 -12**
**Length: 3 Trimesters – 15 units**
**Fulfills:  UC "g" Requirement (Elective)**
**Prerequisite:**  Successful completion of Journalism 1 A/B/C with a grade of "B" or better.
**Course Description:** This course is a continuation of Journalism 1 A/B/C and is designed for the student who wishes to gain advanced journalism and publication skills to earn University of California and/or California State University elective "g" credit. The course requires extensive writing research, self-motivation, personal responsibility, and substantial time commitment outside of regular class time. Students have increased editorial responsibilities.

# *English Language Learner Program*

English Language Learners receive language instruction appropriate to their individual needs as determined by the English Language Proficient Assessment for California (ELPAC) and other state and district credit for English Language Development (ELD) I or ELD II. Additional ELD courses receive elective credit. ELD courses follow the CA English Language Development standards and are aligned with the CA Content Standards for English Language Arts. English Language Development is a series of levels in language acquisition designed to assist students who are speakers of another language to become fluent in English. The levels cover a range of language skills from non-English speaking to near fluency in speaking, reading and writing English.

All teachers at LHS have CLAD certification and are trained to differentiate instruction for EL students.

*English Language Development (ELD) I A/B/C*
**A Code: 10800**                **B Code: 10810**                **C Code: 10811**
**Grade Level: 9 – 12**
**Length: 3 Trimesters – 15 units**
**Prerequisite**: English Language Proficient Assessment of California (ELPAC): Beginning or Early Intermediate.
**Course Description:** Students will develop basic English skills in listening, speaking, reading and writing to begin transition to fluency and academic literacy in the English language. Students receive technology enhanced English Language Development instruction when appropriate. The course is taught by an English Language Learner (ELL) certificated teacher.

*English Language Development (ELD) II A/B/C*
**A Code: 10820**                **B Code: 10830**                **C Code: 10831**
**Grade Level: 9 – 12**
**Length: 3 Trimesters – 15 units**
**Prerequisite:** English Language Proficient Assessment of California (ELPAC): Early Intermediate, Intermediate or Early Advanced.
**Course Description:** This communication-based course will emphasize listening, speaking, reading and writing English beyond English Language Development (ELD) Level I. Students will continue to develop communication skills and academic literacy in English. Students receive technology-enhanced English Language Development instruction when appropriate. The class is taught by an English Language Learner (ELL) certified teacher.

*ELD Tutoring*
**Code: 87017**
**Grade Level: 9 -12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** None
**Course Description**: This course is designed as a tutorial in which EL students receive additional help in their core classes and learn important study skills.

# Math Course Sequence

*"Four Year Plan"*

Check Course Selection Guide for Pre-requisites, Recommendations, and Detailed Course Information.

(H) = Honors          (AP) = Advanced Placement          *Does <u>NOT</u> Fulfills UC Math Requirement

| Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|
| Algebra I<br><br>Algebra I w/ Computing Robotics* | Conceptual Geo.*<br><br>Geometry | Geometry<br><br>Algebra II<br><br><br>Consumer Math* | Pre-Calculus<br><br>Statistics<br><br>Consumer Math* |
| Geometry | Algebra II | Trigonometry<br><br>Statistics<br><br>Pre-Calculus<br><br>AP Statistics | Consumer Math*<br><br>Pre-Calculus<br><br>Statistics<br><br>AP Calculus B/C<br><br>AP Statistics |
| Algebra II | Pre-Calculus<br><br>Statistics<br><br>Trigonometry<br><br>AP Statistics | AP Statistics<br><br>Statistics<br><br>Trigonometry<br><br>Pre-Calculus<br><br>AP Calculus B/C<br><br>AP Statistics | Pre-Calculus<br><br>AP Calculus B/C<br><br>AP Statistics<br><br>Statistics<br><br>Consumer Math*<br><br>Multivariable Calculus |

# Mathematics Department

The Mathematics Program includes a standard college preparatory sequence of beginning algebra, geometry, intermediate algebra, pre-calculus, and advanced placement calculus. Basic skills courses are also offered.

### Algebra I with Computing and Robotics A/B/C (Pc)

**Intro Code: 20105**                       **A Code: 20106**                       **B Code: 20107**
**Grade Level: 9-12**
**Length: 3 Trimesters-15 units**
**Fulfills: Fulfills: UC "c" Requirement**
**Prerequisite**: Must be in Green Engineering Academy
**Course Description:** Robotics allows students to solve problems through mathematical modeling and  programming. Students use programming and robotics activities to reinforce and extend their knowledge of mathematical concepts by analyzing real life situations, identifying given information, formulating steps that a computer program could calculate to find  a solution, analyzing the results for accuracy, and revising/modifying the programming solutions as necessary. Topics covered include solving one-variable equations with multiple steps, solving and plotting absolute value equations and inequalities, linear equations, systems of linear equations and inequalities, polynomial functions, exponential and radical functions, and step and piecewise functions, evaluating, multiplying, and factoring polynomial functions, solving quadratic equations with applications, probability, statistical data analysis and visualization, and arithmetic and geometric sequences. Emphasis is placed on California State Standards.

### Algebra I A/B (Pc)

**A Code: 20037**                       **B Code: 20038**
**Grade Level: 9-12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "c" Requirement**
**Prerequisite: None**
**Course Description:** Algebra I A/B provides formal development of the algebra concepts and skills necessary for students who will take geometry and other advanced college preparatory courses. This is a fast-paced class and students should have a strong pre-algebra understanding. Topics include solving, graphing, and writing linear equations, solving and graphing linear inequalities, solving systems of linear equations, powers and exponents, quadratic equations, polynomials and factoring, proportions and rational equations, functions, radicals and connections to geometry. Students demonstrate their knowledge of basic skills, conceptual understanding, and problem solving with numbers and operations. Mathematical reasoning and communication skills are interwoven throughout the course.  Emphasis is placed on Common Core State Standards.

### Algebra I   Intro/A/B (Pc)

**Intro Code: 20075**                       **A Code: 20080**                       **B Code: 20090**
**Grade Level:  9 -12**
**Length:  3 Trimesters – 15 Units**
**Fulfills: UC/CSU "c" Requirement; Please note that the Intro course meets the LHS math requirement only**
**Description:** Algebra I provides formal development of the algebra concepts and skills necessary for students who will take geometry and other advanced college preparatory courses. Topics include solving, graphing and writing linear equations, solving and graphing linear inequalities, solving systems of linear equations, powers and exponents, quadratic equations, polynomials and factoring, proportions and rational equations, functions, radicals and connections to geometry. Students demonstrate their knowledge of basic skills, conceptual understanding and problem solving with numbers and operations. Mathematical reasoning and communication skills are interwoven throughout the course.
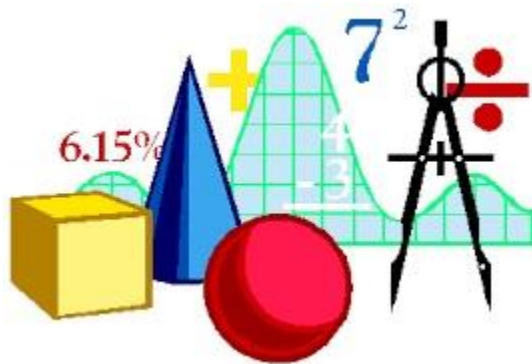
*Math Academy 1 A/B/C*
**A Code: 20025**                          **B Code: 20026**                          **C Code: 20027**
**Grade Level:  9 -12**
**Length: 2 Trimesters- 10 Units**
**Description:** Mathematics Academy provides students with formal assessments to identify skills needed to master and meet Algebra I pre-requisites. Pre-requisite units include rational numbers, variable expressions, solving linear equations, percents and ratios, rate word problems, graphing in the coordinate plane, square roots, statistics, probability and geometry. Units are standards-based and designed to meet the needs of individual students. Students will demonstrate mastery in each unit prior to moving on to Algebra I. Prospective students are submitted per Algebra I teacher recommendation and entry into the class depends upon meeting a protocol designed for student success,

*Consumer Math A/B (Pg)*
**A Code: 20681**                          **B Code: 20691**
**Grade Level: 10-12**
**Length: 2 Trimesters – 10 Units**
**Fulfills: UC/CSU "g" Requirement**
**Prerequisite:** Algebra I
**Course Description:** This course is designed to provide students with the ability to further their math skills by applying them to life applications such as budgeting money, calculating earnings, taxes, credit cards, loans, etc. Students will learn how to communicate ideas in a variety of settings, as well as employ problem-solving skills effectively. They will demonstrate application of critical thinking skills to real-life projects that show a high degree of relevance to becoming an adult consumer in the near future.  It is recommended that you take this after Geometry or Algebra 2.

*Conceptual Geometry*
**A Code: 20055**                          **B Code: 20056**
**Grade Level: 9-12**
**Length: 2 Trimesters**
**Fulfills: LHS Graduation Requirements**
**Prerequisite:** Completion of Algebra I
**Course Description:** This course will provide the student with the principles of geometry, covering all of the California Content Standards for Geometry. This course is not proof-intensive and appeals to other learning styles than traditional geometry. Extensive use of real world examples strengthens problem-solving skills to keep students motivated and focused. This course will not fulfill the prerequisite for Algebra II.

*Geometry A/B  (Pc)*
**A Code: 20121**                          **B Code: 20131**
**Grade Level:  9 – 12**
**Length: 2 Trimesters – 10units**
**Fulfills: UC "c" Requirement**
**Course Description:** This is a rigorous, fast-paced course and is designed for students who have demonstrated both talent and expertise in previous levels of math. Topics include angles, triangles, polygons, parallel lines and planes, congruence and similarity,  right triangles, circles, coordinate geometry, areas of polygons and circles, surface areas and volumes of solids, transformations, constructions, proofs and right triangle trigonometry. Emphasis is placed on deductive reasoning, logic, and problem solving through the writing of proofs. This class will spend time doing in-depth proofs using 2-column, flowchart, and paragraph styles as well as difficult coordinate geometry proofs. In addition, enrichment topics will be studied, such as symbolic logic, proving constructions are valid, unit circle trigonometry, spherical geometry, polar coordinate, and fractals. Emphasis is also placed on California state standards.

*Algebra II A/B (Pc)*
**A Code: 20173**                          **B Code: 20174**
**Grade Level 9 – 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "c" Requirement**
**Prerequisite:**  Completion of Geometry A/B with a grade of "B" or better or instructor consent.
**Course Description**: This is a rigorous course and is designed for students who have demonstrated both talent and expertise in previous levels of mathematics. This advanced course spends less time on the initial review sections and investigates new

material in greater depth. This is a second year algebra course in which students learn to express functions. This course is organized around families of functions, including linear, quadratic, exponential, logarithmic, radical, and rational functions. Concepts also expand to probability and data analysis as well as coordinate geometry and trigonometry. Higher-order analytical skills are required to examine extensive applications as part of the California State Standards.

### *Trigonometry (Pc)*
**Code: 20181**
**Grade Level: 9-12**
**Length: 1 Trimester – 5 Units**
**Fulfills: UC/CSU "c" Mathematics Requirement pending approval**
**Prerequisite:** Algebra II
**Course Description:** This course provides study of basic trigonometry before students enroll in Calculus. The scope of the course will include all elements of the foundational triangle trig functions with an emphasis toward modeling and application. There will be an in-depth study of the unit circle using both radian and degree measurement. Graphs of all six trigonometric functions and their inverses will be studied, as well as developing, solving, and verifying trigonometric identities. Additionally, a deeper understanding of expanded topics of trig, conic sections, logarithms, exponential functions, and complex numbers will be developed. This course is recommended after taking Algebra II and before the two trimester Pre-calculus course.

### *Pre-Calculus A/B (Pc)*
**A Code: 20200**                                         **B Code: 20210**
**Grade Level:  10 – 12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "c" Requirement**
**Prerequisite:**  A grade of "C" or better in Algebra II A/B.
**Course Description:** This is a rigorous course and is designed for students who have demonstrated both talent and expertise in previous levels of math. This advanced course spends less time on the initial review sections and investigates new material in greater depths. This course provides a thorough study of the algebraic and transcendental functions including modeling and applications. Vectors, matrices, polar coordinates, sequences and series, complex numbers and limits will be covered. Graphing calculators will be used in conjunction with curriculum. Higher-order analytical skills are required to examine extensive applications.
Note: Students may choose to take AB one year and BC the following year or may take one without the other.

### *AP Calculus BC A/B/C (Pc)*
**A Code: 20231**                          **B Code: 20232**                          **C Code: 20233**
**Grade Level:  11 – 12**
**Length: 3 Trimesters – 15 units**
**Fulfills:  UC "c" Requirement**
**Prerequisite:** Mastery of Pre-Calculus or Trigonometry with a grade of "B" or better or consent of instructor.
**Course Description**: This course is conducted at a rigorous pace and brings much of the previous mathematics studied into unified subject matter. Using geometrical, numerical, and analytical methods, we will study how things change. During this study, we will focus on differential and integral calculus as well as limits and series. This course is taught "workshop" style where students often work on the whiteboards in small groups to solve problems. Math labs are used to illustrate key applications. Upon completion of this course, students are expected to take the Advanced Placement Calculus BC Exam. This course is designed to provide students with an academic experience parallel to that of two semesters of a college level science/engineering calculus course.
Note: Students may choose to take AB one year and BC the following year or may take one without the other.

### *Multivariable Calculus (H) (Pc)*
**A Code: 20218**
**Grade Level: 11-12**
**Length: 1 Trimester - 5 Units**
**Fulfills:  UC/CSU "c" Requirement**
**Prerequisite: "C" or better in BC Calculus**
**Description:**  This course extends the calculus series.  Students who have successfully completed BC Calculus and intend to pursue a degree in mathematics, engineering, computer programming, or science are encouraged to enroll.  Its purpose is to promote a deeper understanding of calculus concepts by giving the opportunity for students to apply their calculus knowledge to functions of multiple variables.  Topics include vector analysis, functions in several variables, partial derivatives, multiple integration, and integration of vector valued functions, and applications.

*Statistics 1-2 (Pc)*
**1 Code: 20255**                                    **2 Code: 20256**
**Grade Level:  10 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "c" Requirement**
**Prerequisite:**  Algebra 2 course with a grade of "C" or better
**Course Description:** The purpose of this course is to introduce students to the major concepts and tools for collecting and analyzing data, and drawing conclusions. The five areas of concentration are exploring data, planning and designing a study, recognizing characteristics of data, and probability and statistical inference.

*AP Statistics A/B (Pc)*
**A Code: 20260**                                    **B Code: 20270**
**Grade Level:  11-12**
**Length: 2 Trimesters - 10 units**
**Fulfills:  UC "c" Requirement**
**Prerequisite:**  Completion of Algebra II A/B with a grade of "B" or better; or consent of  instructor
**Course Description:** The AP Statistics course introduces students to the major concepts and tools for collecting and analyzing data, and drawing conclusions. There are four conceptual themes in the course: exploring data, planning a study, anticipating patterns, probability, and statistical inference. Upon completion of the course, students will be expected to take the Advanced Placement Statistics exam.

# Non-Departmental

*Community Service\**
**Code: 84095**
**Grade Level:  11-12**
**Length:  1 Trimester - 5 units**
**Prerequisite:** Students must provide their own transportation.  Walking is also permitted.
**Course Description:** Students work at a local elementary/middle school or nonprofit agency of their own choice within the community. Students are expected to work at least 5 hours every 2 weeks during their assigned period.
Course Requirements: Parents need to sign a permission form to permit their student to be off campus.  A maximum of 20 units may be earned toward graduation.
**\*Students will receive a letter grade for this class.**

*Freshmen in Transition (FIT)*
**Code: 80009**
**Grade Level: 9**
**Length:  1  Trimester –  5  units**
**Prerequisite:** None
**Course Description:** The Freshmen in Transition (F.I.T.) course is designed to assist incoming freshmen in their high school career. Students will be introduced to many topics that will aid them in being more successful. Students will complete a 4-year plan designed to help them achieve their postsecondary goals.  Students will also explore personal aspects that affect their high school career from study skills and organization to communication and budgeting.

**L.I.F.E**
**Code: 43530**
**Grade Level: 12**
**Length:  1  Trimester –  5  units**
**Prerequisite:** None
**Course Description:** The Livermore L.I.F.E. course is designed to prepare seniors for the adult life ahead of them. Students will be introduced to many topics that will aid them in being more successful after high school. Students will also explore personal aspects that affect their life from finance to communication and personal care.

*IWE Library\**
**Code: 86117**
**Grade Level:  11 -12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Librarian approval
**Course Description:** This program is designed to give students experience in working in a library. All functions necessary for library assistantship will be taught. Students must be reliable and able to work independently.
**\*Students will receive a letter grade for this class.**


*IWE Office \**
**Code: 86118**
**Grade Level:  11 -12**
**Length: 1 Trimester – 5 units Prerequisite**:  Administrative approval
**Course Description:** This program is designed to give students an opportunity to obtain experience in various phases of school office operations. The student will be placed in a specific office.  Students gain clerical  and  other  types  of  office experience. Students must uphold confidentiality; be personable, reliable, motivated; and able to work independently.
**\*Students will receive a letter grade for this class.**


*Student Leadership A/B/C*
**A Code: 81040**                                      **B Code: 81045**                                      **C Code: 81046**
**Grade Level:  9 – 12**
**Length:  3 Trimesters – 15 units**
**Prerequisite:** Teacher recommendation, class or student body elected, or appointed position.
**Course Description:** This course teaches leadership and organizational skills which can be applied to campus and off-campus activities.
**Course Requirements:** Regular attendance; participation in activities designed to teach leadership and organizational skills; active participation in the planning of various campus activities; active membership in campus clubs, organizations, or student government, or club, class or elected or appointed student body officer. These courses may be repeated for credit.


*Teacher Aide (TA)\**
**Code for 11th grade: 86000**                    **Code for 12th grade: 86300**
**Grade Level:  11 -12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** Instructor approval
**Course Description:** This program is designed to give students an opportunity to obtain experience in various phases of classroom operations. The student may request placement with any instructor but placement is not guaranteed. Students gain clerical and other types of office experience and in some cases may assist with some teaching duties.
**\*Earns pass/fail credit only.**


*Yearbook Production A/B/C*
**A Code: 10610**                                      **B Code: 10615**                                      **C Code: 10616**
**Grade Level:  9 -12**
**Length:  2 or 3 Trimesters – 10 or 15 units**
**Prerequisite: None**
**Course Description:** Do you have a million pictures on your Instagram? Do you look at Pinterest for your creative inspiration? Do people come to you for help when their technology breaks down? Could you win an LHS trivia contest? Do you want to help produce a piece of history that will live on after you? In Yearbook class, you work on projects that match up with your strengths as we create the yearbook. Plus, we have a lot of fun and make lasting friendships in the process! We welcome all types of talent: photographers, writers, interviewers, social media experts, designers, artists, tech wizards, social butterflies, and salespeople.
Second and third year students (advanced) will have added editorial responsibilities. A substantial time commitment outside of regular class time is required. A student must sign up for 2 or 3 trimesters. This class may be repeated for credit. To repeat the course, a "B" or better must have been earned in the previous course.

# Physical Education Department

The Physical Education Program is offered throughout the four years of high school. Objectives are to develop a level of physical fitness and health that will enable the student to not only meet the physical requirements of everyday living but also enjoy life. It also strives to develop physical and sports skills along with the desire to use them for recreation during leisure periods as a student and as an adult.

NOTE: Students who do not pass the state mandated physical fitness test will be required to take 2 trimesters of upper division elective physical education yearly until they pass the test.

*PE 1 A/B*
**A Code: 20810**                                       **B Code: 20820**
**Grade Level: 9**
**Length: 2 Trimesters – 10 units**
**Prerequisite:** None
**Course Description:** PE 1 A/B consists of aquatics, fitness, individual and dual sports, rhythms and dance in the freshmen year. All students must take the state mandated fitness test.  All students must pass PE 1A/B to graduate.

*PE 2 A/B*
**A Code: 20830**                                       **B Code: 20840**
**Grade Level: 10**
**Length**:  **2 Trimesters – 10 units**
**Prerequisite:**  Successful completion of PE 1 A/B.
**Course Description:** PE 2 A/B consists of team sports, combative and self-defense, gymnastics and tumbling, and fitness. All students must pass PE 2 A/B to graduate.

*Advanced Sports Activities*
**Code: 20815**
**Grade Level:  11 -12**
**Length:  1 Trimester – 5 units -Repeatable**
**Prerequisite:** Completion of Physical Education (PE) 1 A/B and Physical Education (PE) 2 A/B
**Course Description:** This is an individual and team sports activity-based course designed for students who wish to continue physical education after successfully completing PE 1 A/B and PE 2 A/B. This course will add to the base knowledge of fitness and nutrition, and introduce a wide range of other activities, which may include archery, bowling, cycling, golf, handball, jogging, weight lifting, rock climbing, tennis, two-player volleyball, and hockey. This course may be repeated for credit.

*Human Performance*
**Fall Code: 20827**                     **Winter: 20828**                          **Spring: 20829**
**Grade Level: 10-12**
**Length:  1 Trimester – 5 units - Repeatable**
**Prerequisite:** None
**Course Description:** This class is designed to provide an opportunity during the school day for athletic  enhancement program. This class is geared toward the student who shows an above average interest and ability in physical education through participation on an athletic team. This course may be repeated for credit.

*CIF Fall Sports Exemption*
**Code: 21015**

*CIF Winter Sports Exemption*
**Code: 22015**

*CIF Spring Sports Exemption*
**Code: 23015**
**Grade Level:  10 -12**
**Length:  1 Trimester – 5 units**
**Course Description:** Available to students participating in CIF-approved sports. Many stipulations apply. See the Interscholastic Sports Exemption Contract available on the Livermore High School web page, Athletics home page under "Clearance paperwork".

# LHS Science Sequencing
# 3- Course NGSS Model

**1st Year**

Life Science

Conceptual Physics

Biology

Adv Biology w/ Research

**2nd Year**

Integrated Science

Biology

Chemistry

**3-4 Years**

Chemistry

Honors Physics or Physics

AP Biology

AP Chemistry

AP Env Science

AP Physics

Honors Physics

Field Biology

Phy/Anatomy
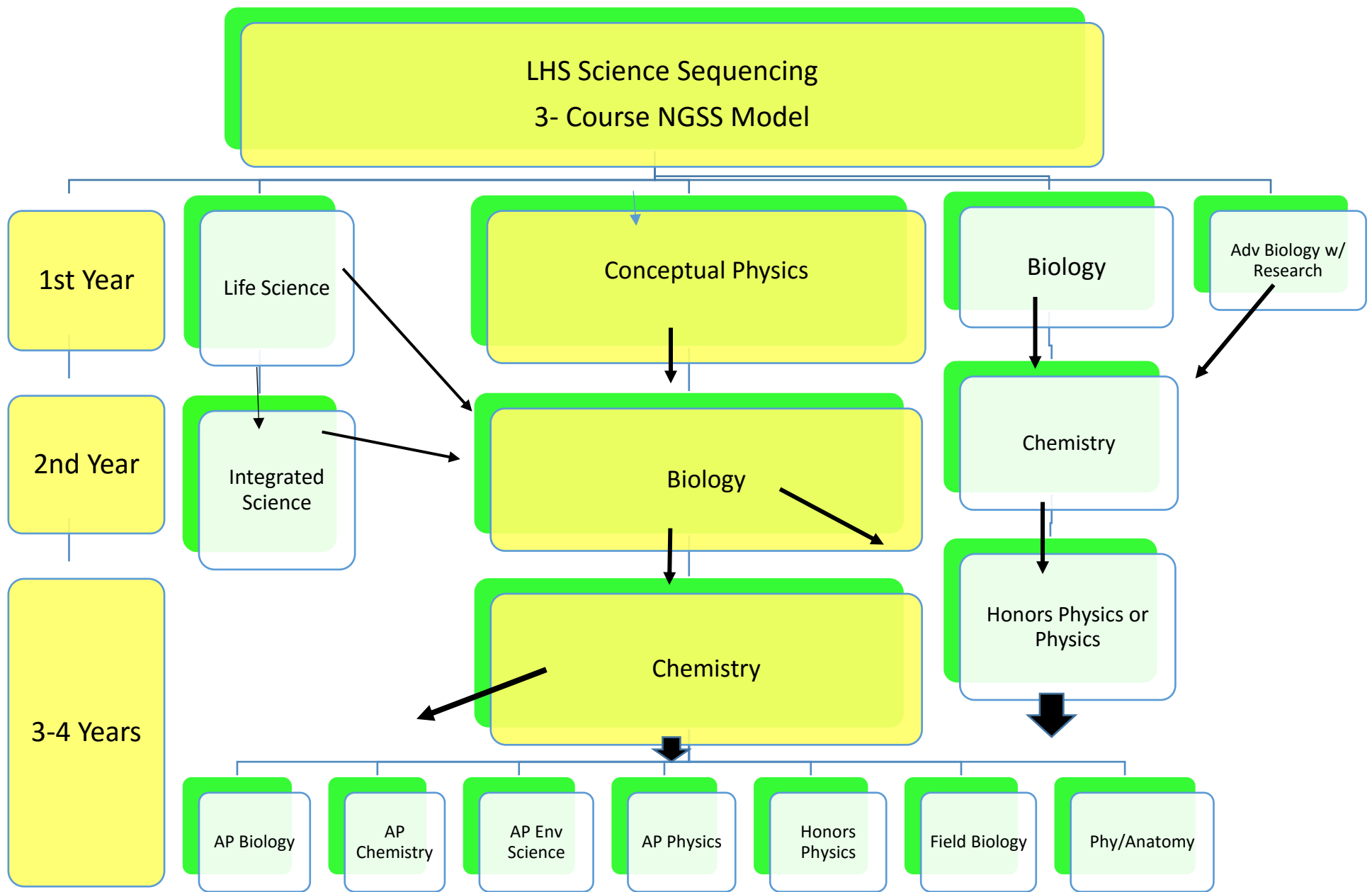
# Science Department

These are times of rapid advances in science and technology. A quality education in the process and content of science and consideration of the ethical issues associated with new technology are important aspects of the basic education of all students. One year of a physical science (i.e., Physics, Conceptual Physics, Chemistry, or Integrated Science) and one year of a biological science (i.e. Biology or Life Science) are state-mandated high school graduation requirements. Please refer to the LHS Science Sequencing flow chart on the previous page for the recommended course of study.

**New this year:** The science department recommendation for most incoming 9th grade students is Conceptual Physics. Many courses in the Agriculture program may be taken in lieu of regular science courses. See LHS College Prep Courses page for details on these courses.

*Health Education 9 (Pg)*
**Code: 30000**
**Grade Level: 9-12**
**Prerequisite:** None
**Length: 1 Trimester-5 units**
**Fulfills: UC "g" Requirement**
**Course Description:** The course will help students develop lifelong, positive attitudes and behaviors and will provide students with information, decision-making skills, and resources that will encourage thoughtful and responsible behavior. Alternate assignments will be provided upon written request for those students whose parents wish to exclude them from portions of the course.

# Biological/Life Sciences

*Life Science 1 A/B*
**A Code: 30030**                                     **B Code: 30040**
**Grade Level: 9-12**
**Length: 2 Trimesters – 10 units**
**Prerequisite:** None
**Course Description:** Life Science is a survey of life with emphasis on classroom activities. The course covers consecutive units of biological principles including the cell, metabolism, genetics, evolution, ecology and human body systems.

*Biology I A/B (Pd)*
**A Code: 30070**                                     **B Code: 30080**
**Grade Level: 9-12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "d" Requirement (Lab Science)**
**Prerequisite:** The LHS Science department strongly recommends that students should be enrolled in Geometry or higher.
**Course Description:** Biology is a highly lab-oriented course that prepares students for college biology. Topics include biochemistry, ecology, cell biology, genetics, evolution, microbiology, and human physiology.

*Advanced Biology with Research A/B (Pd)*
**A Code: 30115**                                     **B Code: 30116**
**Grade Level: 9 – 10**
**Length: 2 Trimesters – 10 units**
**Prerequisite:** Concurrent enrollment or completion of Geometry, or consent of instructor.
**Fulfills: UC "d" Requirement (Lab Science)**
**Course Description:** Advanced Biology with Research is a rigorous, lab science course designed for students who are passionate about science and plan on continuing their studies of science throughout their time in high school and into college. This course is highly lab orientated and prepares students for college biology. Topics include evolution, genetics, cell biochemistry, and human body systems. Completion of a research project and participation in the Alameda County Science Fair is required.

*AP Biology I A/B (Pd)*
**A Code: 30330**                                **B Code: 30340**
**Grade Level:  11 – 12**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "d" Requirement (Lab Science)**
**Prerequisite:** Mastery of Biology I A/B and Chemistry I A/B course content with prior grade of "B" (3.0) or better; or consent of instructor.  It is strongly recommended that students have successfully completed Algebra II or be concurrently enrolled in Algebra II.
**Course Description:** The main goals of AP Biology are to develop a conceptual framework for modern biology and enable students to design and carry out experiments using the Inquiry-Learning model. Course topics include the study of biochemistry, cellular biology, genetics, evolution, ecology, microbiology, and anatomy.  This course is the equivalent to a college introductory biology course taken by biology majors. As a result, the AP Biology program requires exceptional effort and dedication on the part of the student. There will be multiple field trips to enrich students' learning experience. Upon completion of the course, students are expected to take the Advanced Placement Biology Exam.

*Seminar AP Biology*
**Code: 30341**
**Grade Level:  11 -12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Completion of AP Biology A/B
**Course Description:** This course is offered in the third trimester only and reviews AP Biology A/B as exam preparation plus offers additional activities, field trips, labs, and technical writing for science. Students who are taking AP Biology but did not receive a grade of "A" in both Chemistry and Biology I A/B or who have a great interest in Biology should also take this seminar. **Earns pass/fail credit only.**

*Field Biology I A/B (Pd)*
**A Code: 30210**                                **B Code: 30220**
**Grade Level:  11 -12**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "d" Requirement (Lab Science)**
**Prerequisite:**  Completion of, or concurrent enrollment in Algebra I A/B. Grade of "C" or better in Biology I A/B
**Course Description:** Field Biology was developed for students with an interest in studying the native animals and plants of California through the use of field guides, preserved specimens, personal collections, and actual field studies. Students taking Field Biology are expected to have a high level of motivation for using keys to identify marine invertebrates, fish, marine mammals, land mammals, birds, insects, and native trees and shrubs. Students must learn scientific names and be able to classify organisms at all levels of taxonomic system (kingdom through species). This course is offered every other year and will be offered for the 2021-2022 school year.

*Physiology A/B (Pd)*
*Offered 2020-2021 School Year*
**A Code: 30350**                                **B Code: 30360**
**Length: 2 Trimesters- 10 Units**
**Grade Level: 11-12**
**Fulfills: UC/CSU "d" Lab Science Requirement**
**Prerequisite: Biology 1 A/B and Chemistry 1 A/B. Chemistry 1 A/B may be taken concurrently with teacher consent.**
**Course Description:** Physiology is the study of the structure and function of the human body with emphasis on anatomy and chemical principals involved. It is a lab-oriented course with major dissection. Students will engage in discussions concerning ethical and philosophical aspects of current anatomy and physiology issues. This course should be of special interest to students' intent on entering a medical related field. This course if offered every other year and will be offered in the 2021-2020 school year.

# *Physical Sciences*

(One of the following two trimester courses is required for graduation)

*Integrated Science I A/B*
**A Code: 30230**                                    **B Code: 30240**
**Grade Level:  9 – 12**
**Length: 2 Trimesters – 10 units**
**Prerequisite:** None
**Course Description:** Integrated Science I A/B combines selected topics in physical science to study aspects of Earth. The course concepts are taught from the following topics: nature of science, chemistry, astronomy, climate science, meteorology, geology and oceanography. Physical science credit will be earned.

*Chemistry A/B (Pd)*
**A Code: 30150**                                    **B Code: 30160**
**Grade Level:  10 -12**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "d" Requirement (Lab Science)**
**Prerequisite:** Completion of Biology A/B with a C or better; completion Algebra I with a C or better; or consent of instructor.
**Course Description:** Chemistry I A/B is a rigorous, lab-oriented, college preparatory science course. Emphasis is on key concepts of chemistry including mole relationships, atomic theory, solutions, electron configuration and bonding, behavior of gasses, pH, equilibrium and thermodynamics. Students will practice problem-solving through laboratory experiences. Proficiency in Algebra I is a must for success in this course.

*Advanced Chemistry (AP) A/B*
*(Pending Board Update)*
**A Code: 30170**                                    **B Code: 30180**
**Grade Level:  11 -12**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "d" Requirement (Lab Science)**
**Prerequisite:** Mastery of Chemistry 1 A/B course content with completion of or concurrent enrollment in Pre-calculus.
**Course Description:** The principal objective of this course, designed to be the equivalent of a freshmen college course is to prepare students for the Advanced Placement Chemistry examination in May. A successful score on the AP exam may give the student college chemistry credit and/or college unit credit. Some of the topics covered in AP Chemistry include structure and states of matter, reactions, stoichiometry, equilibrium, kinetics, thermodynamics and electrochemistry. The course also requires a rigorous schedule of laboratory work and practice with chemical calculations.

*Seminar for Advanced Chemistry (AP)*
**Code 30181**
**Grade Level:  11 -12**
**Length:  1 Trimester – 5 units**
**Prerequisite**:  Completion of AP Chemistry A/B
**Course Description:** This course is offered in the third trimester only and is designed to provide extensive preparation for success on the Advanced Placement exam. **Earns pass/fail credit only.**

*Conceptual Physics I A/B (Pd)*
**A Code: 30130**                                    **B Code: 30140**
**Grade Level:  10 -12**
**Length:  2 Trimesters – 10 units**
**Fulfills:**  UC "d" Requirement (Lab Science)
**Prerequisite:** Completion of or concurrent enrollment in Algebra I A/B or consent of instructor.
**Course Description:** Conceptual Physics 1 A/B is a college preparatory activity oriented course. In this course, students study similar subjects as in physics (electricity, mechanics, light and energy) without requiring higher-level math coursework.

*Physics A/B (Pd)*
**A Code: 30250**                                **B Code: 30260**
**Grade Level: 10 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "d" Requirement (Lab Science)**
**Prerequisite:** Completion of or concurrent enrollment in Algebra I A/B or consent of instructor.
**Course Description:** Physics 1 A/B is a college preparatory activity-oriented course dealing with concepts and relationships involving motion, energy, momentum, electricity, magnetism, optics and wave motion. Emphasis is on laboratory investigations and problem solving.

*Honors Physics A/B (Pd)*
**A Code: 30262**                                **B Code: 30263**
**Grade Level: 11 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "d" Requirement (Lab Science)**
**Prerequisite:** Completion of or concurrent enrollment in Pre-calculus.
**Course Description:** Honors Physics I A/I B is a rigorous course dealing with concepts and relationships involving motion, force, gravitation, momentum, energy, rotation, thermodynamics, waves, sound, light, electricity, magnetism, and special relativity. Emphasis is on laboratory investigation and problem solving. This course is recommended for students intending to pursue a college major in science or engineering.

*AP Physics C: Mechanics A/B (Pd)*
**A Code: 30265**                                **B Code: 30266**
**Grade Level: 11 -12**
**Length: 2 Trimester – 10 units**
**Prerequisite:** Completion or concurrent enrollment in AP Calculus AB or BC.
**Fulfills: UC "d" Requirement (Lab Science)**
**Course Description:** This is a college-level, lab-oriented, calculus-based physics course for students interested in college Physical Science or Engineering majors. This course will provide instruction in each of the following six content areas: kinematics; Newton's laws of motion; work, energy, and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. This course will also include a hands-on laboratory component comparable to a semester-long introductory college-level physics laboratory.

*Engineering Physics A/B (Pd)*
**A Code: 30190**                                **B Code: 30195**
**Grade Level: 10 – 12**
**Length: 2 Trimesters – 10 units (Elective)**
**Fulfills: UC "d" Requirement**
**Prerequisite:** Completion of/or concurrent enrollment in Geometry or consent of instructor.
**Course Description: This course is only for students enrolled in the Green Engineering Academy (GEA).** This course provides an introduction to essential concepts, principles, and practices of engineering and physics. The course engages students in learning physics through engineering applications and emphasizes problem solving, analytical thinking, and concept development. Students complete a series of laboratory experiments and projects, including building bridges, renewable energy systems, waste sorting robots, projectile launchers, and musical instruments. This course is a specialization-level course designed to follow the Project Lead the Way Engineering foundation courses and taught to GEA students only.

# *Interdisciplinary Science*

*AP Environmental Science A/B* **(Pd)**
*(Pending Board Update)*
**A Code: 30511**                                **B Code: 30521**
**Grade Level: 11 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "d" Requirement (Lab Science)**
**Prerequisite:** Mastery of Algebra I and one additional Laboratory Science course with a prior "B" (3.0) or better.
**Course Description:** Students gain a foundation of knowledge and skills to understand cause and management of environmental problems. Students learn basic laboratory and field techniques including specimen sampling and processing,

site monitoring, documentation, inspection, and emergency response. Students learn to incorporate academic rigor with practical application by exploring the links between environment, politics, and economics. Students also gain a broad awareness of environmental science and technological career opportunities through involvement with local environmental business, educational research institutes, and national labs. They enrich their learning potential with job shadowing, internships, and career mentoring. This course is designed to provide students with an academic experience parallel to that of the college level, while promoting critical thinking skills involved in independent research studies. Students are expected to take the Advanced Placement Environmental Science Exam.

***Seminar for AP Environmental Science***
**Code: 30522**
**Grade Level:  11 -12**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Completion of AP Environmental Science A/B.
**Course Description:** This course is offered in the third trimester only and is designed to provide extensive preparation for success on the Advanced Placement exam. **Earns pass/fail credit only.**

# Social Science Department

The Social Science Program includes those courses that are designed to contribute directly to the development of good citizenship. These courses include Global Studies, World History, U.S. History, Economics, and Civics, all of which are high school graduation requirements.

# Grade Level Courses

***Social Science 9 (Pa)***
**Code: 15010**
**Grade Level: 9**
**Length:  1 Trimester-5 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite:** None
**Course Description:** Social Science is required for all ninth grade students. The National Geography Content Standards provides a foundation for study of the physical, economic, political and cultural characteristics in various areas such as Latin America, Russia and Eastern Europe, the Middle East, Africa, and Asia. Topics include comparisons of developed and underdeveloped areas in these geographical regions and analyzing instances of modern nation building. This course provides students with opportunities to explore human behavior through the study of the individual, groups and cultures. Reading to understand and making connections between geographic themes are essential components in this course. Students demonstrate their knowledge through written and oral reports, essays, projects and research paper using technology.

***Honors Social Science 9 (Pa)***
**Code: 15100**
**Grade Level: 9**
**Length:  1 Trimester – 5 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite: None**
C**ourse Description:** This course focuses on the same themes as the 9th grade Social Science course with emphasis on advanced thinking, reading and writing skills. The National Geography Content Standards provides  a foundation for  study of the physical, economic, political and cultural characteristics in various areas, such as Latin America, Russia, and Eastern Europe, the Middle East, Africa, and Asia. Topics include comparisons of developed and underdeveloped areas in these geographical regions and analyzing instances of modern nation building. This course provides students with the opportunities to explore human behavior through the study of the individual, groups and cultures in relationship to land and locations. Reading to understand and making connections between geographic themes are essential components in this course. Students demonstrate their knowledge through written and oral reports, essays, projects and research papers using technology. Also required is a major research paper and extensive writing.

*AP Human Geography A/B (Pa)*
**A: Code: 15115**                                    **B Code: 15116**
**Grade Level: 9-12**
**Length: 2 Trimesters- 10 units**
**Fulfills: UC "a" Requirement**
**Prerequisite:** None
**Course Description:** This two-trimester course of study focuses on the distribution, processes, and effects of human populations on the planet. Students follow the AP curriculum, studying seven major units. This includes topics such as population, migration, culture, religion, ethnicity, political geography, economic development, industry, agriculture, and urban geography. Student participation includes discussion of current issues facing human populations. Students experience a wide variety of hands-on learning, including small projects that help them gain a sense of the effects humans have on the planet. Writing requirements include answering short constructed response questions.

*World History 10 A/B (Pa)*
**A Code: 15030**                                    **B Code: 15040**
**Grade Level: 10**
**Length: 2 Trimesters- 10 units**
**Fulfills: UC "a" Requirement**
**Prerequisite:** Sophomore standing
**Course Description**: This course is required for all tenth grade students and follows the California State Content Standards for History/Social Science. Students trace the rise of democratic ideas and the historical roots of current world issues as they pertain to international relations. Emphasis is placed on western civilizations as the source of American political institutions, laws and ideology. Students build timelines, world maps and essays as they research people and events. Activities include oral presentation, collaborative research and historical interpretation, and reading literature from and about the period being studied.

*AP World History 10 A/B (Pa)*
**A Code: 15125**                                    **B Code: 15126**
**Grade Level: 10**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite:** 10th grade standing
**Course Description:** The AP World History course is a two-trimester course intended to prepare students for the AP World History Exam offered by the College Board. The course highlights the nature of social changes and their causes and consequences, as well as comparisons among major societies. The course is organized into six periods of world history: The Rise of Agricultural Civilizations, The Classical Period, The post Classical Period, The World Shrinks, Industrial and Western Hegemony, and the 20th Century. Specific themes provide further organization to the course, along with consistent attention to contacts among societies that form the core of world history as a field of study. Evaluations and assessments are intended to  be similar to those likely to appear on an AP exam. Enrollment in Seminar for AP World History is strongly recommended.

*Seminar for AP World History*
**Code: 15127**
**Grade Level: 10**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Completion of AP World History
**Course Description:** This course is offered during the third trimester only. The seminar is for students who have previously completed two trimesters of AP World History. The intent of the course is to enhance the preparation of students for the College Board AP test that is administered each May. Students will review released exams, some subject matter and multiple-choice questions. Students will also practice essays to prepare for the document-based essay and long essay on the AP exam. **Earns pass/fail credit only.**

*U.S. History 11 A/B (Pa)*
**A Code: 15050**                                    **B Code: 15060**
**Grade Level: 11**
**Length:   2 Trimesters – 10 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite:** None
**Course Description:** This required course for students in grade eleven follows the California State Content Standards for

History/Social Science. Students study the major turning points in American history in the 20th century. Topics include technology and a corporate economy, the change in the ethical composition of American society, the movement toward equal rights, the role of the United States as a major world power, the expanding role of a federal government and federal court, and the continuing tension between the individual and the state. Students consider the major social problems of our time and trace their causes in historical events. Students experience a wide variety of "hands-on" and active learning strategies. Writing requirements include a persuasive essay and a research paper.

*AP U.S. History 11 A/B (Pa)*
**A Code: 15160**                                    **B Code: 15170**
**Grade Level: 11**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite:** None
**Course Description:** The Advanced Placement United States History course is designed to provide students with analytic skills and the factual knowledge necessary to deal critically with the problems and materials in United States history. The program prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students learn to analyze historical material, their relevance to a given interpretive problem, their reliability, and their importance. Students learn to weigh the evidence and interpretations presented in historical scholarship. Upon completion, students will be expected to take the Advanced Placement United States History Exam.  Enrollment in Seminar for AP US History is strongly recommended.

*Seminar for AP U.S. History*
**Code: 15171**
**Grade Level: 11**
**Length:  1 Trimester – 5 units**
**Prerequisite:**  Completion of AP US History
**Course Description:** This course is offered in trimester three only. It provides students with extensive practice for Advanced Placement Exam offered in May, as well as additional exploration of topics in U.S. History through the use of simulations, mock trials, debates, and Socratic Seminars. **Earns pass/fail credit only.**

*Civics (Pa)*
**Code: 15070**
**Grade Level: 12**
**Length:  1 Trimester – 5 units**
**Fulfills: UC "a" Requirement**
**Prerequisite:**  None
**Course Description:** This course is required of all seniors and follows the California State Content Standards for History/Social Science for grade twelve "Principles of American Democracy." Students in grade twelve pursue a deeper understanding of the institutions of American government. An emphasis is placed on analyzing  the  relationship  among federal, state and local governments, with particular attention paid to important historical documents such as The Federalist Papers. These periodicals related to current economic and business standards represent the culmination of civil literacy as students prepare to vote, participate in community activities, and assume the responsibilities of citizenship. Reading requirements include current events, the textbook and other sources. Writing requirements include a research paper. *Students may also take Agricultural Government to fulfill this requirement.

*AP U.S. Government and Politics 12 A (Pa)*
*(Pending Board Update)*
**Code: 15090**
**Grade Level: 12**
**Length:  1 Trimester – 5 units**
**Fulfills:  UC "a" Requirement**
**Prerequisite:** None
**Course Description:**  This  course will give students an analytical perspective on government and  politics in the United States. The course includes both the study of general concepts used to interpret U.S. public policy and the role politics plays in the formulation and implementation of public policy. It requires students to become familiar with the various institutions, groups, beliefs, and ideas that constitute U.S. politics. Students will become acquainted with a variety of theoretical perspectives, behaviors and outcomes. Upon completion of the course, students will be expected to take the AP U.S. Government and Politics Exam. This course is designed to provide students with an academic experience parallel to a college

class. Students who take this course are encouraged to take the Seminar for AP U.S. Government as well.

*Seminar for AP U.S. Government*
**Code: 15091**
**Grade Level: 12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** Completion of AP U.S. Government
**Course Description:** This course will provide students with three important learning opportunities. It will provide time to study the U.S. federal budget, federal bureaucracy, and specific areas of public policy- Social Welfare, Defense, and Environment. **Earns pass/fail credit only.**

*Economics 12 (Pa)*
**Code: 15080**
**Grade Level: 12**
**Length:  1 Trimester – 5 units**
**Fulfills: UC "a" Requirement**
**Prerequisite:** None
**Course Description:** Students will master fundamental economic concepts, applying the tools (graphs, statistics, and equations) from other subject areas to the understanding of operations and institution of economic systems. This course is required of all seniors and follows the California State Content Standards for History/Social Science. Students analyze the elements of the United States market economy in a global setting, the influence of the U.S. government on the American economy and the elements of the United States labor market. Students explore the principles of micro- and macro-economics, international economics, comparative economics systems, measurements and methods. Reading requirements include newspapers and bureaucracy and specific areas of public policy—Social Welfare, Defense, and Environment. *Students may also take Agricultural Economics to fulfill this requirement.

*AP Macroeconomics (Pg)*
**Code: 15255**
**Grade Level: 12**
**Length: 1 Trimester-5 units**
**Fulfills:  UC "g" Requirement**
**Prerequisite:** Beginning Algebra course with a prior grade of "B" (3.0) or better; or consent of instructor.
**Course Description:** Macroeconomics examines larger economic concepts, such as employment rates, inflation, government spending, taxes and production. Students will learn to identify trends in our economy and use these trends to develop performance measures and predictors of how our economy will grow or decline. This course is designed to provide students with an academic experience parallel to that of a college level course. Upon completion of this course, students will be expected to take the Advanced Placement Macroeconomics Exam.

*AP Microeconomics (Pg)*
**Code: 15256**
**Grade Level: 12**
**Length:  1 Trimester – 5 units**
**Fulfills:  UC "g" Requirement**
**Prerequisite:** Beginning Algebra course content with prior grade of B (3.0) or better; or consent of instructor.
**Course Description**: Microeconomics teaches students how patterns of economic behavior help predict the way consumers react under different economic conditions. The course focuses on the nature and function of markets, the role of scarcity and competition, and the effect of economic influences upon decision-making. The course is designed to provide students with an academic experience parallel to that of a college level course.  Upon completion of this course, students will be expected to  take the Advanced Placement Microeconomics Exam.

**Students in the **Agriculture** program may choose to take **Agriculture Economics** and **Agriculture Civics** to satisfy high school graduation requirements.

# *Social Science Electives*

*Introduction to Sociology (Pg)*
**Code: 15450**
**Grade Level:  11 -12**
**Length: 1 Trimester – 5 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** None
**Course Description:**  The course is an introduction to sociology with emphasis on group and individual behaviors.  This course examines two major theories in sociology: 1) social organization, and 2) social change and disorganization. These two theories are examined in the following topic areas: difference, relationships, and movement. Students will examine theories of race and ethnicity, gender, and class. In addition, students will explore theories of families, education, and  crime  and deviance. At the end of the course, students will be prepared to enroll and have success in college-level sociology courses.

*Women in American History (Pa)*
**Code: 15400**
**Grade Level:  10 - 12**
**Length:  1 Trimester – 5 units**
**Fulfills:  Pending UC "a" approval**
**Prerequisite:** Priority enrollment will be given to students in grade 11 or 12 who have completed U.S. history or are concurrently enrolled.
**Course Description:** This class will explore the unique experiences of women throughout U.S. History. These experiences are rooted in race and socioeconomic status.  Students will analyze past historical movements and focus on how women of all  races have contributed to our history by exploring themes such as immigration and civil rights. We will explore how women have been strong activists to bring about social, economic, and political change. If you enjoy history and are interested in women's challenges and contributions, this is the class for you!

*Positive Psychology (Pg)*
**Code: 15235**
**Grade Level: 10, 11, & 12**
**Length: 1 Trimester**
**Fulfills: UC "g" Requirement**
**Prerequisite: None**
**Course Description:** For years, psychology has been the study of what troubles the human mind. For example, why do certain individuals develop depression or abuse substances? What makes us happy, healthy, resilient, and content in our lives? Positive psychology is the scientific study of what goes right in our life, from birth to death and all the stops in between. In this course you will learn what positive psychology is and what positive psychologists have learned about the good life and how it can be encouraged in your own lives. The course will focus on the psychological aspects of a fulfilling and flourishing life. Topics include happiness, self-esteem, empathy, friendship, goal setting, love, achievement, creativity, mindfulness, and humor. If you have ever wondered what the secrets of happiness are, this is your chance to learn some ways to increase your own levels of happiness. This will be accomplished through lectures, class discussions of relevant topics, small projects, and in-class activities. Assignments include readings, film analysis, quizzes, and small group projects.

*Psychology A/B (Pg)*
**A Code: 15240**                                      **B Code: 15250**
**Grade Level:  10 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** None
**Course Description:** This course explores the personality theories of Freud, Jung, Erickson, and Maslow. The  course examines emotional development, state of consciousness, attitudes, life cycles, some abnormal psychology, ritual, and issues of death. The course emphasizes identifying the factors that influence human behavior so the individual can better understand his/her own behavior, the behavior of others, and his/her relationships.

*AP Psychology A/B (Pg)*
**A Code: 15245**                                    **B Code: 15246**
**Grade Level:  10 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "g" Requirement**
**Prerequisite:** None
**Course Description:** This Advanced Placement Psychology course will introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals. Students are exposed to the psychological facts, principles, and phenomena associated with each of the major subfields within psychology. They will also learn about the methods psychologists use in their science and practice. Upon completion of this course, students will be expected to take the Advanced Placement Psychology Exam. This course is designed to provide Students with an academic experience parallel to that of the college level. It is recommended that students strongly consider taking the Psychology AP Seminar.

*Seminar for AP Psychology*
**Code: 15247**
**Grade Level: 10-12**
**Length: 1 Trimester – 5 units**
**Prerequisite:** Completion of AP Psychology
**Course Description**: This class will be offered trimester 3 only and will be designed to review all major concepts in an engaging way to help students succeed on the AP exam in Psychology. We will review key concepts in social psychology, learning theory, psychological disorders and treatment, and human memory. The seminar will allow time for more in-depth discussion, group based projects, and films related to topics like schizophrenia, amnesia, and other disorders of the mind. We will do specific test prep in the areas of objective questions and free response question strategies. **Earns pass/fail credit only.**

*History of the Korean and Vietnam Wars*
**Code: 15420**
**Grade Level:  11 -12**
**Length: 1 Trimester – 5 units**
**Prerequisite:**  Students must be in grade 11 or 12 and earn a "C" or better in U.S. History.
**Course Description:** This course will study the involvement of the United States military in the Korean War (1950-1953) and the Vietnam War (1945-1975). This class will focus on the political aspects that caused the U.S. to enter each of these conflicts as well as study specific military subjects such as weapons, tactics, battles, and styles of leadership unique to each war. It will also compare and contrast the two different wars and demonstrate how each contributed to the U.S. role in the modern world and how each was an integral part of the Cold War (1945-1989).

*Sports in Society*
**Code: 15253**
**Grade Level:  11 -12**
**Length: 1 Trimester – 5 units**
**Prerequisite**:  None
**Course Description:** This class will provide students with the opportunity to study the realm of sports, the history of sports, and the place of sports in society so that students will gain an understanding of the cultural and social impact and value of sports. Students will study sports in the social and historical context of different eras, populations, and geographic regions relative to development, participation, and spectatorship. Students will analyze the creation and evolution of American sports such as football, baseball, and basketball, as well as modern Olympic events and other sports from around the world. Students will explore current social and cultural issues surrounding sports today: drug use, violence on and off the field, money and professionalism, and the role of the media.

# Visual and Performing Arts

Each of the arts contains a distinct body of knowledge and skills that characterize the power of each to expand the perceptual, intellectual, cultural and spiritual dimensions of human experience.  This capacity of human beings to create and appreciate the arts is just one of the many reasons to teach the arts in schools. Study and practice in the arts refine students' abilities to perceive aesthetically, to make connections between works of art and the lives people live, and to discuss visual, kinesthetic, and auditory relationships. Students learn to locate works of art in time and place, make reasoned judgments about them, and investigate how artworks create meaning. The Visual Art Program includes courses in drawing and painting, sculpture, ceramics, crafts, home crafts, batik and textiles, animation, Claymation, photography, and video production and Advanced Placement Studio Art.

**Note:**  Students must complete both the 1st and 2nd portions of the same visual art course in order to receive UC "f" credit.

***A lab materials donation may be requested to cover the supplies needed for personal use/consumption in classes in this department***

***Photography 1-2 (Pf)***
*(Pending Board Update)*
**1 Code: 60210**                                    **2 Code: 60220**
**Grade Level:  10 - 12**
**Length: 2 Trimester – 10 units**
**Prerequisite for Photo 1:** None
**Prerequisite for Photo2:** Photo 1
**Fulfills:  UC "f" Requirement (Visual & Performing Arts) when both Photo 1 and Photo 2 are completed**
**Course Description:** This course is an introduction to the basic fundamentals of photography. Students spend the first trimester exploring traditional Black and White photography. Students learn processes including camera mechanics/handling, correct film exposure, film processing, photo enlargement, and composition. The class emphasizes hands-on projects but includes tests and quizzes as well as other written work. During the second trimester, students explore digital photography through the use digital cameras, scanners, and computers for creating and manipulating digital images. Students will be required to analyze, evaluate, and write descriptive responses to all work individually produced in the class as well as evaluate peer work and give feedback. This course will also explore the history of photography and career opportunities. Students will read about, analyze, discuss, evaluate and interpret current issues, techniques, styles, and materials relating to art and photography. Students will have cameras and equipment provided for their use. A lab materials donation may be requested to help cover the supplies needed for personal/use consumption.

***Advanced Photography 3-8 (Pf)***
*(Pending Board Update)*
**Code: 60143**
**Grade Level:  10 -12**
**Length:  1 Trimester – 5 units per course**
**Fulfills: 1/2 UC "f" Requirement (Visual and Performing Arts. Fulfills "f" requirement of Visual and Performing Arts when repeated**
**Prerequisite:** Photography 1 and 2 with a grade of "B" or better or consent of the instructor.
**Course Description:** This course provides students with the opportunity to pursue advanced techniques relating to photography with an emphasis on expressing complex ideas and concepts through the use of art. This course is designed for students who have a strong grasp for the fundamentals of photography and wish to develop personal style in order to communicate their ideas. In addition to traditional photographic processes, students will learn advanced techniques in studio lighting and flashes, digital cameras and editing.  Students will learn the history of photography, how it has impacted both society and culture, and its impact on the art world from its creation to present day. This course focuses on examining the digital culture and how it has affected image making and interpretation. Students will examine, analyze, discuss, and evaluate current trends in art and photography, and how this relates to contemporary art as well as their own practice. Students will also evaluate and discuss the effectiveness of their own artistic creations.  This course may be repeated for credit.

***Video Production 1-2 (Pf)***
*(Pending Board Update)*
**1 Code: 60200**                                    **2 Code: 60205**
**Grade Level:  9 -12**
**Length:  1 Trimester – 5 units per course**
**Fulfills:  UC "f" Requirement**

**Course Description:** Video 1: This course is offered to students who are interested in creating quality artwork using video and audio. Students will learn about the elements and principles of art/design in how they relate to video and audio. Throughout the trimester, students will also analyze work, present their work to peers, collaborate with students, and research influential individuals in the world of video productions.

Video 2: This course allows students to continue to build their pre-production, production, and post-production skills by working on a variety of activities. Students will dive deeper into reading and writing screenplays, building shot lists, and creating storyboards. Students will record footage using higher-level cameras and lenses. Students will experience different roles on a film set. Students will improve their editing skills while creating a documentary, a silent or interpretive film, a scene recreation, and a commercial. Students will explore audio through Sound Effects and Foley work. Students will analyze and discuss media related to class activities.

*Video Production 3-8  (Pf)*
*(Pending Board Update)*
**A Code: 60206**                    **B Code: 60216**                    **C Code: 60226**
**Grade Level:  10 - 12**
**Length: 1 Trimester – 5 units (repeatable 3 times)**
**Fulfills:  UC "f" Requirement**
**Prerequisite: Successful completion of Video Productions 1 & 2 with a "B" or better; or consent of instructor.**
**Course Description:** This course focuses on independent filmmaking, including the roles of the writer, cinematographer, director, and producer. Students experience the creative organizational and technical aspects of filmmaking. Each unit introduces new concepts and skills, which transition into the next. Students learn and apply each concept or skill in the production of their independent film projects. Each unit is embedded with multiple written components based on the needs of the project. These include but are not limited to treatments, screenplays, release forms, contracts, production logs and schedules, critiques, and self-reflections.

*Art 1-2 (Pf)*
*(Pending Board Update)*
**1 Code: 60030**                    **2 Code: 60040**
**Grade Level:  9 -12**
**Length:  1 trimester – 5 units per course**
**Fulfills: UC "f" Requirement (Visual & Performing Arts) when both Art 1 and Art 2 are completed**
**Prerequisite for Art 1:** None
**Prerequisite for Art 2:**  Art 1
**Course Description:** This is a studio art class with emphasis on drawing and painting. The course will emphasize the basic elements of art and principles of design. Various drawing and painting techniques will be introduced to the students and they will have the opportunity to create works in various mediums. Students will prepare a digital portfolio of their own work that includes a written criteria for the selection of body of work. This course may be repeated for credit.

*Art 3-8 (Pf)*
*(Pending Board Update)*
**Code: 60043**
**Grade Level:  10 -12**
**Length: 1 trimester – 5 units per course**
**Fulfills:  UC "f" Requirement when repeated**
**Prerequisite:** Successful completion of Art 1 and 2 with a grade of "B" or better; or consent of instructor.
**Course Description:** This course is an extension of Art 1-2, intended for the art student who desires more emphasis on individual skill development. The course will enhance the student's knowledge of art through application of the State Visual Arts Standards and the Common Core. It is designed to accommodate the highly motivated advanced art student. Students are encouraged to explore and develops proficiency in a range of mediums including drawing, painting, graphic design, and a variety of other mediums.   Emphasis will be on building a portfolio of finished work and formulating goals for careers in the arts.  This course may be repeated for credit up to 5 times.

*AP Art and Design A/B (Pf)*
*(Formerly AP Studio Art)*
*(Pending Board Update)*
**A Code: 60180**                    **B Code: 60185**
**Grade Level:  11 -12**
**Length:  2 Trimester – 10 units**
**Fulfills:  UC "f" Requirement**

**Prerequisite:** Completion of two semesters with a grade of "B" or better in one discipline Drawing, Photography, or Ceramics (3-D) or consent of instructor.

**Course Description:** This course provides students with an opportunity to pursue quality of both production and experience in art. This course is designed for highly motivated students who are seriously interested in the study of art. Major areas are constants in a student's work: the student concentration on particular visual interest or problem and the student's need for breadth of experience in the formal, technical and expressive means of the artist. Artwork will reflect these three areas of concern: a sense of quality, concentration, and breadth. Group and individual critiques will enable students to learn to analyze their own work and their peers' work, assessing both strengths and weaknesses. Upon completion of the course, students will be expected to submit an AP Studio Art Portfolio for evaluation. Students select the works that best exhibit a synthesis of form, technique and content to demonstrate a depth of investigation, process of discovery, a serious grounding in visual principles and material techniques. This course provides an academic experience parallel to that of the college level. This course may be repeated for credit.

*Ceramics 1-2 (Pf)*
*(Pending Board Update)*
**1 Code: 60130**                                    **2 Code: 60140**
**Grade Level:  9 -12**
**Length:  1 Trimester – 5 units per course**
**Fulfills:  UC "f" Requirement (Visual & Performing Arts) when both Ceramics 1 and Ceramics 2 are completed**
**Prerequisite for Ceramics 1**: None
**Prerequisite for Ceramics 2:**  Ceramics 1
**Course Description:** Students will be introduced to the basic fundamentals of ceramics including hand building, throwing on the wheel, sculpture, surface decoration, types of firing and glaze techniques. As students learn more complex techniques, they will be encouraged to create examples that reflect their individual expression. Students will be required to analyze and evaluate their work. This class will emphasize hands-on projects but will also include written work.

*Ceramics 3-8 (Pf)*
*(Pending Board Update)*
**Code: 60141**
**Grade Level:  10 -12**
**Length:  1 Trimester – 5 units per course**
**Fulfills:  UC "f" Requirement when repeated**
**Prerequisite:**  Completion of Ceramics 1 & 2 with grade of "B" or better and/or consent of instructor.
**Course Description:**  This course provides students the opportunity to pursue advanced ceramic techniques with emphasis on expressing complex ideas and concepts through the use of art. This course is designed for students who have strong hand building and/or wheel throwing skills and wish to develop a personal style in order to communicate their ideas. Students will study historical and contemporary styles to become aware of the diverse social, economic, and political developments reflected in the work examined. This course will focus in the relationship of the artist, process, and product. Students will examine, analyze, discuss, and evaluate current trends in ceramic arts and how it relates to contemporary art as well as their own.

# The Performing Arts Program

The Drama Program includes all levels of dramatic performance and processes in acting, designing and producing informal and formal theatre productions. Courses include Drama, Stagecraft, and Advanced Theatre Workshop.
NOTE: Students must complete both the 1 and 2 portions of the same performing arts course in order to receive UC "f" credit.

### Theatre Arts 1-2
*(Formerly Drama 1-2 A/B)*
*(Pending Board Update)*

| | | |
|---|---|---|
| **A1 Code: 70410** | **B1 Code: see website** | **C1 Code: see website** |
| **A2 Code: 70420** | **B2 Code: see website** | **C2 Code: see website** |

**Grade Level:** 9-1
**Length: 2 Trimesters – 5 units per course**
**Fulfills: UC "f" Requirement (Visual & Performing Arts)**
**Prerequisite: None**
**Course Description:** Students will learn the basics of dramatic performance and literature and are provided exposure to technical theatre. Students will learn the foundations of performance including pantomime, improvisation, voice, diction, movement, and technical theatre. Students will complete a variety of performance pieces and written assignments that will demonstrate practical and critical thinking skills and meet performance criteria.

### Theatre Arts 3-8
*(Formerly Drama 3-8)*
*(Pending Board Update)*

| | | |
|---|---|---|
| **A Code: 70430** | **B Code: see website** | **C Code: see website** |

**Grade Level:** 10 -12
**Length: 1 Trimester – 5 units per course**
**Fulfills: UC "f" Requirement**
**Pre-requisite: Theatre Arts 1 & Theatre Arts 2**
**Course Description:** Students will take the skills and knowledge they obtained in the yearlong coursework of Theatre Arts 1 and Theatre Arts 2 and use them to produce informal and formal performances that will steadily grow longer in time and in difficulty.  Students will work in larger and larger groups until eventually the class culminates with a performance that utilizes all the students working as a single, cohesive unit just as they would in a real theatre.
*This course can be repeated for credit.

### Stagecraft 1-2
*(Pending Board Update*

| | | |
|---|---|---|
| **A Code: 70490** | **B Code: see website** | **C Code: see website** |
| **A Code: 70495** | **B Code: see website** | **C Code: see website** |

**Grade Level:  9 - 12**
**Length:  2 Trimesters – 10 units**
**Fulfills:  UC "f" Requirement**
**Prerequisite: None**
**Course Description:** Students will learn the basics of technical theatre and are provided exposure to dramatic performance and literature. Stagecraft students will make design choices using text analysis, character research, dramaturgy, reflection, and revision to create technical scenic elements effectively defining the world of the play. Student technical staff will design all technical elements (i.e., sets, props, costumes, hair and make-up, lighting, sound and multimedia effects) and provide technical support during performances. Students undergo the entire rehearsal/production process as designers and technical support members, documenting that process with written assignments that will demonstrate practical and critical thinking skills and meet performance criteria.

### Stagecraft 3-8
*(Pending Board Update)*

| | | |
|---|---|---|
| **A Code: 70496** | **B Code: see website** | **C Code: see website** |

**Grade Level: 10-12**
**Length: 1 Trimesters – 5 units per course**

**Fulfills: UC "f" Requirement**
**Prerequisite: Stagecraft 2**
**Course Description:** Students will learn the basics of technical theatre and are provided exposure to dramatic performance and literature. Stagecraft students will make design choices using text analysis, character research, dramaturgy, reflection, and revision to create technical scenic elements effectively defining the world of the play. Student technical staff will design all technical elements (i.e., sets, props, costumes, hair and make-up, lighting, sound and multimedia effects) and provide technical support during performances. Students undergo the entire rehearsal/production process as designers and technical support members, documenting that process with written assignments that will demonstrate practical and critical thinking skills and meet performance criteria. *The course can be repeated for credit.

*Advanced Theatre Workshop (Pf)*
*(Formerly Advanced Theatre Workshop 1-2)*
*(Pending Board Update*
**Code: 70450**        **B Code: see website**        **C Code: see website**
**Grade Level: 9 -12**
**Length: 1 trimester- 5 Units per course**
**Fulfills: UC "f" Requirement**
**Prerequisite: By Audition only**
**Course Description:** Students will learn the basics of dramatic performance and the rehearsal and performance process. Students, as cast members, will make acting choices using script/text analysis, character research, dramaturgy, reflection, and revision to create characterizations effectively portraying their role(s) in the theatre work. Students will learn the foundations of performance, including: pantomime, improvisation, voice, diction, movement, and character development. Both cast and technical support crews will learn how to integrate technical elements with the actors performing the script/text and, through the rehearsal process, together create a true performance ensemble. *The course can be repeated for credit.

*Theatre Production*
*Formerly Advanced Theatre Workshop 3-8*
*(Pending Board approval)*
**A Code: 70480**        **B Code: see website**        **C Code: see website**
**Grade Level: 11 -12**
**Length: 1 Trimester – 5 units per course**
**Fulfills: UC "f" Requirement**
**Prerequisite: Stagecraft 3-6 or Advanced Theatre Workshop or Consent of Instructor**
**Course Description:** Theatre Production is the most advanced level of the Advanced Theatre Arts or Stagecraft courses. Project-based, this course is an exploration and practical application of theatre technology and play production for advanced level students to experience in-depth study and training in one specific area of their choice in either directing, designing or managing a production. Students will complete a production portfolio during the process to document their entire production experience. *This course can be repeated for credit.

*Writing for Stage and Screen A/B/C*
**A Code: see website**        **B Code: see website**        **C Code: see website**
**Grade Level: 9-12**
**Length: 1 Trimester – 5 units per course**
**Fulfills: UC "f" Requirement**
**Prerequisite: Video Production 1 or Theatre Arts 1-2 or instructor consent**
**Course Description:** This course, designed to meet the needs of both theatre and video production students, focuses on the art of writing scripts for both the movie industry and for the theatrical stage. Students will first learn basic formatting of scripts and the differences between scripts for filming and scripts for performing and what information each script needs. Then, utilizing a two-tiered approach, students will begin the writing, feedback, and revision process for scripts in both disciplines. The class will culminate with each student choosing a script they have previously written in the class and developing it into a full one-act play or short film, which will be archived for possible performing/filming in future advanced classes. *The course can be repeated for credit.

# *Music Program*

The Music Program includes all phases of vocal and instrumental music and provides for both participation and music appreciation. Courses include Choir, Treble Choir, Chamber Chorale, Orchestra, Jazz Ensemble, Symphonic Band, and Music Composition.

### *Concert Choir A/B/C (Pf)*
*(Pending Board Update*

**A Code: 70010**                      **B Code: 70020**                      **C Code: 70021**

**Grade Level: 9-12**
**Length: 3 Trimesters – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisite:** None
**Course Description:** (Large Ensemble) The Concert Choir is designed for students to learn to increase their vocal skills, explore, and study choral music. The students receive instruction in vocal development and technique, music reading, and music theory. A wide variety of choral literature and music styles are presented. The students learn stylistic interpretation, performance practice, critical analysis and observation techniques, and leadership skills. Students learn how to work as a cohesive unit while contributing individual talent to the group. Members of the class are introduced to solo, ensemble, and independent singing.
The students are involved in choir tours to exchange music with other high schools, and attend clinics and music festivals. This choir performs in at least two major concerts, which are mandatory. This class may be repeated for credit.

### *Chamber Choir A/B/C*
*(Pending Board Update*

**A Code: 87060**                      **B Code: 87061**                      **C Code: 87062**

**Grade Level: 9-12**
**Length: 2-3 Trimesters – 10-15 units**
**Fulfills: UC "f" Requirements**
**Prerequisite:** Two trimesters of Concert Choir and teacher recommendation
**Course Description:** (Small Ensemble) the Chamber Chorale is an advanced choir for singers to obtain an in-depth study of choral music. The students receive advanced instruction in vocal development and technique, advanced sight-reading, and music theory. A wide variety of chamber choral literatures, both sacred and secular, and music styles are presented. The students learn stylistic interpretation, performance, practice, critical analysis and observation techniques, aesthetic sensitivity, and assume advanced leadership responsibilities. Advanced ear training, pitch discrimination, and vocal blend are taught to perfect the group's total sound. Members of this class participate in solo, ensemble, and increasingly independent singing. Performance is a major component of this class. Material and literature are directly related to performance and attendance at all performances is mandatory. This class tours yearly and participates in music festivals and competitions, which are graded and rated. This course may be repeated for credit.

### *Show Choir A/B/C (Pf)*
*(Pending Board Update)*

**A Code: 87050**                      **B Code: 87055**                      **C Code: 87056**

**Grade Level: 9 -12**
**Length: 3 Trimesters – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisite:** Two trimesters of concert choir and teacher recommendation
**Course Description:** Show Choir is a choral/movement study that focuses on bodily/kinesthetic and vocal performance. The music styles include contemporary a cappella, jazz, popular, and musical theater. Individual and ensemble singing and movement, vocal and dance technique, literature for concerts, and competitions are emphasized. Regular rehearsal participation, a high level of performance, and attendance at all performances are required. This class may be repeated for credit.

*Concert Band A/B/C (Pf)*
*(Pending Board Update)*
**A Code: 70280**                    **B Code: 70281**                    **C Code: 70282**
**Grade Level: 9-12**
**Length: Year Long – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisites:** None
Previous experience on a wind band instrument and/or instructor approval
**Course Description:** Concert Band is a yearlong, performance-oriented class designed to allow intermediate level musicians to improve and maximize their capabilities on their given instrument. Students will learn and perform music from the concert/symphonic band repertory. Performances will include a fall, winter, and spring concert, and festivals/competitions in which the ensemble is entered. Attendance at all performances is required. Participation in Marching Band is also required.

*String Orchestra A/B/C (Pf)*
*(Pending Board Update)*
**A Code: 70330**                    **B Code: 70331**                    **C Code: 70332**
**Grade Level: 9-12**
**Length: Year Long – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisites:** None
Previous experience on an orchestral string instrument and/or instructor approval
**Course Description:** String Orchestra is a yearlong, performance-oriented class designed to allow intermediate-advanced level musicians to improve and maximize their capabilities on their given instrument. Students will learn and perform music from the string orchestra and full orchestra repertory. Performances will include a fall, winter and spring concert, and festivals/competitions in which the ensemble is entered. Attendance at all performances is required.

*Chamber Orchestra Honors A/B/C*
*(Pending Board Update)*
**A Code: 70340**                    **B Code: 70341**                    **C Code: 70342**
**Grade Level: 10-12**
**Length: Year Long – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisites:** At least two years of experience in an instrumental class; audition, and/or instructor's approval.
**Course Description:** Chamber Orchestra Honors is a yearlong, performance-oriented class designed to allow experienced musicians to improve and maximize their capabilities on their given instrument. Students will learn and perform advanced music from the orchestral repertory. Performances will include a fall, winter, and spring concert, and festivals/competitions in which the ensemble is entered. Attendance at all performances is required. As part of the honors program, students will also complete a series of theoretical and research based requirements including but not limited to solo & ensemble performances, all state auditions, class recitals, and a research portfolio.

*Jazz Band Honors A/B/C (Pf)*
*(Pending Board Update)*
**A Code: 70075**                    **B Code: 70076**                    **C Code: 70077**
**Grade Level: 9-12**
**Length: Year Long – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisites:** Previous experience on a jazz band instrument, concurrent enrollment in Concert Band or Symphonic Band, audition and/or instructor approval
**Description:** Jazz Band Honors is a yearlong, performance-oriented class designed to allow experienced musicians to improve and maximize their capabilities on their given instrument. Students will learn and perform advanced level music from the Rock, Funk, Latin and Jazz band repertory. Performances will include a fall, winter, and spring concert, and festivals/competitions in which the ensemble is entered. Attendance at all performances is required. As part of the honors program, students will also complete a series of theoretical and research-based requirements including but not limited to all state and honor band auditions, class recitals, jazz solo transcriptions, and a research portfolio. Concurrent participation in the Concert Band or Symphonic Band class is also required.

***Symphonic Band Honors A/B/C (Pf)***
*(Pending Board Update)*

**A Code: 70270**                                   **B Code: 70271**                                   **C Code: 70272**
**Grade Level: 9-12**
**Length: Year Long – 15 units**
**Fulfills: UC "f" Requirements**
**Prerequisites:** Previous experience on a wind band instrument, at least one year of participation in the Concert Band class and/or instructor's approval, and audition.
**Course Description:** Symphonic Band Honors is a yearlong, performance-oriented class designed to allow experienced musicians to improve and maximize their capabilities on their given instrument. Students will learn and perform advanced music from the concert/symphonic band repertory. Performances will include a fall, winter, and spring concert, and festivals/competitions in which the ensemble is entered. Attendance at all performances is required. As part of the honors program, students will also complete a series of theoretical and research based requirements including but not limited to solo & ensemble performances, all state auditions, class recitals, and a research portfolio. Participation in Marching Band is a requirement of all band students.

# *World Languages Department*

The Languages Program at LHS emphasizes a functional knowledge of the languages and includes courses in French, German, Latin, and Spanish.  The language courses are designed to help students become articulate citizens in the international world in which we live today. French, German, Latin, and Spanish are demanding courses and success requires good study skills and  a strong academic foundation. Language teachers have observed that students with C's or lower in their academic courses in middle school are likely to find language classes extremely difficult. The learning of a new language requires daily memorization as well as understanding and application of grammar. Students are expected to attend class regularly and participate in all classroom activities. Additional daily review outside of class time is very important for success in a language course. Students who have taken two (2) years of a language at middle school should enroll in the 2nd year of the same foreign language at Livermore High School.

***French 1 A/B (Pe)***
**A Code: 40010**                                   **B Code: 40020**
**Grade Level: 9-12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite**: Current high school students: "C" or better in English strongly recommended; incoming 9th grade students "B" or better in 8th grade English strongly recommended.
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in the language and understand its applications within the community on a personal and professional basis. Students will demonstrate greater cultural sensitivity, and have an appreciation for the diverse cultural heritage of our world and its people.

***French 2 A/B (Pe)***
**A Code: 40030**                                   **B Code: 40040**
**Grade Level:  9 - 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** "C" or better in French 1B strongly recommended and teacher's recommendation.
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in the language and understand its applications within the community on a personal and professional basis.

***French 3 A/B (Pe)***
**A Code: 40050**                                   **B Code: 40060**
**Grade Level:  9 - 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** "C" or better in French 2B strongly recommended
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in the language, and understand its applications within the community on a personal and professional basis. Students will demonstrate greater

cultural sensitivity and have an appreciation for the diverse cultural heritage of our world and its people.

*French 4 A/B (Pe)*
**A Code: 40065**                                    **B Code: 40066**
**Grade Level:  10 - 12**
**Length: 2 Trimesters – 10 units**
**Fulfills:  UC "e" Requirement**
**Prerequisite:** "C" or better in French 3B strongly recommended
Students will be able to communicate at an appropriate level of proficiency in the language, will demonstrate greater cultural sensitivity, and will have an appreciation for the diverse cultural heritage of language. Students will understand its applications within the community on a personal level and have an appreciation for the diverse cultural heritage of our world and its people.

*German 1 A/B (Pe)*
**A Code: 40410**                                    **B Code: 40420**
**Grade Level: 9-12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** Current high school students: "C" or better in English strongly recommended; Incoming 9th grade students "B" or better in 8th grade English strongly recommended.
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in the language and understand its applications within the community on a personal and professional basis. Students will demonstrate greater cultural sensitivity and have an appreciation for the diverse cultural heritage of our world and its people.

*German 2 A/B (Pe)*
**A Code: 40430**                                    **B Code: 40440**
**Grade Level:  10 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:**  "C" or better in German 1 B strongly recommended
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in language and understand its applications within the community on a personal and professional basis.

*German 3 A/B (Pe)*
**A Code: 40450**                                    **B Code: 40460**
**Grade Level: 11–12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** C" or better in German 2 B strongly recommended
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in the language and understand its applications within the community on a personal and professional basis. Students will demonstrate greater cultural sensitivity and have an appreciation for the diverse cultural heritage of our world and its people.

*AP German 4 A/B (Pe)*
**A Code: 40070**                                    **B Code: 40080**
**Grade Level: 11–12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:**  "C" or better in previous German 3 B course
**Course Description:** AP German 4 B is conducted only in German. Students will communicate at an appropriate level of proficiency in the language and understand its applications within the community on a personal and professional basis. Students will demonstrate greater cultural sensitivity and have an appreciation for the diverse cultural heritage of our world and its people.

*Latin 1 A/B (Pe)*
**A Code: 40700**                                     **B Code: 40705**
**Grade Level: 9 - 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** None
**Course Description:** Latin 1 is an introductory course that explores the structure and roots of Latin. Latin 1 combines the traditional grammar approach to 1st year Latin with a fluency approach to reading, oral communication, and cumulative vocabulary development. Students will learn and practice grammatical structure and function. Students will practice speaking with other students on various topics and read authentic Roman writings that correspond to content vocabulary lists. Throughout Latin 1, students will study Roman history, geography, and mythology; learn the basic geography of ancient Italy and its neighbors; and make connections between Latin roots.

*Latin 2 A/B (Pe)*
**A Code: 40710**                                     **B Code: 40715**
**Grade Level: 10-12**
**Length: 2 Trimesters-10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** "C" or better in Latin 1B course
**Course Description**: Latin 2 is an intermediate course that adds upon the language concepts in Latin 1 to nearly complete the study of Latin grammar and increase vocabulary reservoirs in preparation for reading ancient Roman literature. The class will also include a more detailed study of Roman mythology, history, and politics.

*Latin 3 A/B (Pe)*
**A Code: 40716**                                     **B Code: 40717**
**Grade Level: 11 - 12**
**Length: 2 Trimesters 10-Units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** Latin 2 A/B
**Course Description:** Latin 3 is an advanced course in which students utilize their previous two years of grammar study, adding to it as they encounter new structures in the process of translating and examining authentic Latin Literature. Students increase fluency as they read from poets, orators, and historians of the late Roman Republic and the early Roman Empire. They apply historical, social, and political context to readings and examine authors' motives for writing and authors' attitudes towards others in the classical world. In the process, students explore and learn to recognize literary aspects of Latin prose and poetry.

*AP Latin A/B (Pe)*
**A Code: 40720**                                     **B Code: 40721**
**Grade Level: 11-12**
**Length: 2 Trimesters – 10 Units**
**Fulfills: UC "e" Requirement**
**Prerequisites:** Latin 3 A/B (or Latin 2 A/B with consent of instructor).
**Course Description:** AP Latin involves the study of two works of classical Latin literature: The Gallic Wars, by Gaius Julius Caesar, and the Aeneid, by Publius Vergilius Maro (Vergil). Students will read in English and in Latin from the two texts, examining literary elements, historical context, and universal themes, also preparing for the AP Latin exam that corresponds to the course.

*Spanish 1 A/B (Pe)*
**A Code: 40210**                                     **B Code: 40220**
**Grade Level: 9 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** Current high school students: "C" or better in English strongly recommended. Incoming 9th grade students "B" or better in 8th grade English strongly recommended.
**Course Description:** Spanish level 1 introduces the fundamentals of the Spanish language receptive skills of listening and reading comprehension, and the productive skills of speaking and writing. Students will advance from beginner to novice, using three modes of communication: interpersonal, analytical, and presentational. They will learn about various Hispanic cultures and will compare and contrast the language and culture with their own.

*Spanish 2 A/B (Pe)*
**A Code: 40230**                               **B Code: 40240**
**Grade Level:  9 - 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:**  "C" or better in Spanish 1 B strongly recommended
**Course Description:** Spanish level 2 expands the first year knowledge of the Spanish language receptive skills of listening and reading comprehension, and the productive skills of speaking and writing, with increasingly complex concepts in language. Students will advance from novice to intermediate, emphasizing the three modes of communication: interpersonal, analytical, and presentational. They will continue to compare and contrast Hispanic culture and language with their own.

*Spanish 3 A/B (Pe)*
**A Code: 40250**                               **B Code: 40260**
**Grade Level:  9 – 12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:**  "C" or above in Spanish 2 B
**Course Description:** Students will be able to communicate at an appropriate level of proficiency in the language, and understand its applications within the community on a personal and professional basis. Students will demonstrate greater cultural sensitivity  and have an appreciation for the diverse cultural heritage of our world and its people.

*AP Spanish: Language and Culture (Pe)*
**A Code: 40270**                               **B Code: 40280**
**Grade Level:  11 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:**  "B:" or better in Spanish 3B or equivalent course.
Students will be able to communicate at an appropriate level of proficiency in the language and teacher's recommendation.
**Course Description:** Spanish 4 A/B is conducted only in Spanish.  Students review all Spanish grammar, write weekly compositions, and read original Spanish texts. Students have the option to take the Spanish Advanced Placement exam for college credit and the SAT II Spanish Subject test. The course incorporates a wide variety of academic and cultural topics. The course is designed to allow students to review and apply the concepts of the previous three years.

*AP Spanish: Literature and Culture (Pe)*
**A Code: 40310**                               **B Code: 40320**
**Grade Level:  10 -12**
**Length:  2 Trimester – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:**  "B" or above in Spanish 3B or Spanish 4B
**Course Description:** This class is a continuation of Spanish 4 A/B. This course is conducted in Spanish. Students in AP Spanish 5 A/B have the option of taking the Advanced Placement exam for college credit in May, and the SAT II Spanish Achievement tests.

*AP Spanish Seminar*
**Code: 40285**
**Grade Level:  11 - 12**
**Length: 1 Trimester – 5 units**
**Prerequisite:**  Completion of AP Spanish.
**Course Description:** This course is offered in the third trimester only and is designed to provide extensive preparation for success on the Advanced Placement exam. **Earns pass/fail credit only.**

*Spanish for Spanish Speakers 1 A/B (Pe)*
**A Code: 40390**                               **B Code: 40395**
**Grade Level:  9 -12**
**Length:  2 Trimester – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** Teacher recommendation

**Course Description:** To participate in this course, students must have a formal exposure to Spanish, including a grammatical basis, to be able to express ideas in spoken and written form. The class provides students the opportunity to study and learn about the Spanish language and syntax, the culture and history associated with Spanish speaking countries, and literary works written in Spanish. The course is designed for students whose primary language is Spanish and would benefit from further development of academic Spanish.  The course is taught primarily in Spanish.

*Spanish for Spanish Speakers 2 A/B (Pe)*
**A Code: 40396**                                    **B Code: 40397**
**Grade Level:  10 -12**
**Length: 2 Trimesters – 10 units**
**Fulfills: UC "e" Requirement**
**Prerequisite:** Completion of Spanish for Spanish Speakers 1 with a "C" or better
**Course Description:** The emphasis of this course is to develop, maintain, and enhance proficiency in Spanish. Acquiring proficiency includes focus on reinforcing listening, speaking, reading, and writing skills with the linguistic  structures  of Spanish grammar. Concepts include the cultural significance of political and social issues. This course will prepare students to communicate effectively through oral and written text of prepared debates or presentations in response to a variety of issues and complex literary works written in Spanish. This course is for students who have command of the Spanish language, is taught primarily in Spanish, focuses on language and syntax, and focuses on the culture and history associated with Spanish- speaking countries.

# Index

# *Today is a Great Day to be a Cowboy!*

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