Course Descriptions

English

English 9:

English 9 is a year-long course that asks students to explore and interact with their world through reading, writing, speaking, and listening. Students will practice these skills while examining novels, informational texts, poetry, short stories, and other aspects of English Language Arts. This course also focuses on the writing process through response to literature, creative writing, and connections to real-life situations and problem-solving. Students will also develop their logical thinking and multiple modes of composition through the final product, a research paper. Finally, students will practice speaking skills throughout the course through small and large group discussions and formal presentations. A passing grade in this course is required for graduation.

English 10:

English 10 is a year-long course designed to further students' English Language Arts proficiency. This course is organized around the study of various genres of literature, including novels, memoirs, informational texts, poetry, short stories, and personal essays. This course emphasizes literature analysis, argumentative writing, and honing speaking and listening skills. Students will construct multi-paragraph essays that respond to non-fiction texts, analyze literature, and persuade an audience. Analysis is a crucial skill that students will develop as they explore the significance of a piece of text and the elements of writing that create meaning. English 10 will also challenge students to grow their practical language skills through class discussions, formal and informal writing assignments, creative projects, and oral presentations. Students will continue to develop grammar, punctuation, and vocabulary skills. A passing grade in this course is required for graduation.

English 11:

English 11 is a year-long course where students work to refine their writing, literature analysis, and other language skills from previous years. In addition, they will engage in more advanced research skills as they investigate a topic of their choice. Students will interact with novels, informative texts, plays, personal essays, and poetry. Students will engage with multiple forms of writing throughout the year to continue developing their skill sets. Students will practice their close reading skills and literary analysis by looking at various texts during the year. Communication skills will focus on a combination of group presentations, group discussions, whole class discussions, and individual presentations. A passing grade in this course is required for graduation.

AP English Language and Composition:

An AP course in English Language and Composition engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer’s purposes, audience expectations, and subjects, as

well as the way genre conventions and the resources of language contribute to effectiveness in writing" (The College Board, AP English Course Description, Fall 2014).

AP English Language and Composition is organized according to the requirements and guidelines of the most current AP English Course Description; therefore, students in this introductory college-level course are expected to read critically, think analytically, and communicate clearly in writing and speech. The content of the course will be rigorous, mature, and challenging. Performance expectations are appropriately high, and students are expected to commit to a minimum of five hours of course work per week outside of class. This will include long-term reading and writing assignments, so learning to manage time effectively is extremely important.

Specific preparation for the AP English Language and Composition Exam (May) will be offered throughout the course. A student who earns a score of 3 or above on the exam will be granted college credit at most colleges and universities within the United States. It is the responsibility of the student to research whether or not his/her college(s) of choice accepts AP English Language and Composition credit.

ERWC (Expository Reading Writing Composition):

ERWC 12 is a course modeled on a traditional Senior English Language Arts course with Expository Reading and Writing Curriculum intermingled. English 12 is a rhetoric-based course that will encompass both novels and modules designed by the California State Universities and California Community Colleges and fulfills the English requirement for senior students. All seniors enrolled in this course must pass both semesters in order to walk at graduation and receive a Technology High School diploma. The goal of this course is to develop advanced critical and analytical thinking skills through argument-based reading and writing. Students will engage with texts that deal with contemporary issues, evaluating claims and writing styles of various authors and participating in thoughtful, text-based discussions while formulating their own opinions. They will defend their viewpoints in both written and verbal format. This course will be academically rigorous and intellectually challenging.

AP English Literature and Composition:

AP English Literature and Composition is an introductory college-level literary analysis course. Students develop their understanding of literature through reading and analyzing texts as they explore concepts like character, setting, structure, perspective, figurative language, and literary analysis in the context of literary works.

From the AP Literature course and exam description: "Issues that might, from a specific cultural viewpoint, be considered controversial, including depictions of nationalities, religions, ethnicities, dialects, gender, or class, are often represented artistically in works of literature. AP students are not expected or asked to subscribe to any one specific set of cultural or political values, but are expected to have the maturity to analyze perspectives different from their own and to question the meaning, purpose, or effect of such content within the literary work as a whole."

Math

Algebra 1:

This course is a college preparatory math class for students planning to enter a college or apprenticeship program. This course is designed for students who have done well in previous mathematics courses and want to continue to fulfill college entrance requirements. Topics include the tools of Algebra, linear equations & inequalities, absolute values, equations & inequalities involving absolute values, literal equations, systems of linear equations and inequalities, roots & exponents, polynomials, factoring, quadratic equations, parabolas. Right triangle trigonometry and Dimensional Analysis are also studied in support of Freshman Science.

Geometry:

This course is a college preparatory Plane Geometry course. Students in Geometry will explore all the basic elements of Geometry including patterns and inductive reasoning, as well as deductive reasoning and proof. Students will learn basic geometric constructions. They will consider points, lines, planes, and will study the relationship and properties of parallel and perpendicular lines, and the angles created. They will study congruent and similar figures with special emphasis on triangles as well as the transformations of the figures. Right triangle trigonometry will be a topic as well as applications and modeling using right triangle trigonometry. Students will learn about quadrilaterals and about the properties of special quadrilaterals, polygons, circles, arcs and their properties. Students will learn to visualize the relationship between three dimensional and two-dimensional objects. They will calculate surface areas and volumes of three-dimensional geometric figures and compositions.

Algebra 2:

This is a preparatory course for students planning to enter college or other programs. This course covers more advanced concepts of Algebra. Topics include analyzing equations and inequalities, graphing linear relations and functions, studying linear regression, solving systems of equations and inequalities, exploring polynomials and radical expressions, quadratic functions, conic sections, polynomial functions, rational expressions, sequences and series, exponential and logarithmic functions, and trigonometric functions as well as trigonometry with applications. There is an emphasis on functions and modeling

Algebra 2 Accelerated:

This is a one-year compaction of Algebra 2 and Precalculus designed primarily for the 11 th grade student wishing access to AP Calculus their senior year. The course has a challenging pacing and is not honors weighted.

Precalculus:

This course strengthens student understanding and combines the trigonometric,

geometric, and algebraic concepts needed to prepare students to study calculus, physics, engineering, and other sciences. Main topics of the course include: matrices, function theory and transformations, polynomials and roots, rational expressions and exponential and logarithmic functions and their application, right triangle trigonometry and its applications, trigonometric functions, inverses and their graphs, trigonometric identities, vectors, polar coordinates, DeMoivre's Theorem, parametric equations, series, sequences, limits, derivatives, position, velocity and acceleration, and introduction to parametric equations.

AP Calculus:

The AP Calculus course is, "designed to help students develop a conceptual understanding of college-level calculus content, as well as proficiency in the skills and practices needed for mathematical reasoning and problem solving. After completing the course, students should be able to apply critical thinking, reasoning, and problem-solving skills in a variety of contexts; use calculus terminology and notations appropriately; and clearly communicate their findings using mathematical evidence and justifications." It is a college level mathematics course with very high expectations. Students enrolled in this course will be prepared to take the nationwide AP exam in May. The course is designed for students who have a thorough knowledge of algebra, geometry, trigonometry, and pre-calculus. The course will be fast-paced and challenging and students will be expected to work hard throughout the year. The course curriculum follows the curriculum outlined by the College Board for AP Calculus BC. There's a wealth of information available on the College Board website: www.apcentral.collegeboard.com*

**Source: College Board AP Calculus Course and Exam Description*

AP Statistics:

This course serves as preparation for the AP exam in Statistics. AP Statistics is designed to introduce students to the major concepts and tools necessary for collecting, analyzing and drawing conclusions from data. The four major themes are exploring and describing data, sampling and experimentation, anticipating and exploring patterns using probability, statistical inference, and hypothesis testing.

Traditionally offered zero period to allow access with impacting regular schedule

Science

Integrated Science:

In the classroom, you will be introduced to new ideas and concepts in science and engineering. Most of these concepts will be presented in the form of a brief lecture followed by a lab or activity. The object here is not just to get the work done, but to present it in such a way that gives you the opportunity to discover and think about key science concepts. I expect each of

you to participate to the fullest. This is your time to explore, try things and discover new knowledge.

Many of the assignments and labs you do in class will be done in groups. I expect each person to play an active role in their group. This means that everyone in the group must work together to complete the tasks, discussing their ideas before moving ahead. Cooperation involves helping others understand, questioning others about their ideas, and asking questions when you are unclear on a particular point.

Biology:

This year-long study of biology is an introductory biology course taken usually taken by biology majors during their first year of college. The course is structured around the enduring understanding of four big ideas in biology and will provide a basis for students to develop a deep conceptual understanding and opportunities to integrate biological knowledge and science practices through inquiry-based activities and laboratory investigations.

AP Biology:

AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions.

AP Computer Science Principles:

In this engaging, project-based curriculum, you will develop computational thinking and programming skills through collaborative, open-ended projects that are personally meaningful to your lives. You examine how computing shapes our society by investigating and debating issues such as cybersecurity, data privacy, and digital literacy. Assignments grow in complexity as you explore programming concepts first through block-based, drag-and-drop coding in Scratch, followed by text-based coding in Python. This innovative curriculum is designed to engage all students, while also providing rigorous preparation for the AP Computer Science Principles exam. This course is offered every other year. A-G Lab Science.

Chemistry:

This is a college preparatory course whose purpose is to prepare students to: Develop analytical and critical thinking skills, develop hands-on laboratory skills that will allow the student to explore the natural world, and gain a greater understanding of chemistry.

Physics: TBA

Anatomy/Physiology:

Anatomy and Physiology at Technology High School will be offered to juniors and seniors who have completed either biology or AP biology as a science elective fulfilling a D-level science requirement. The class will explore how structure relates to function in the human body through discussion, animal dissections, lab investigations, medical case studies, medical terminology

quizzes, and student projects and presentations. This class is intended to support students with an interest in pursuing a career in the medical field or who wish to strengthen their understanding of biological systems and homeostasis. The resources include labs and activities that cover the Next Generation Science Standards (NGSS) and The Common Core Standards (CCSS) for science.

Engineering (PLTW)

Principles of Engineering:

Principles of Engineering (POE) is a high school-level survey course of engineering. The course exposes students to some of the major concepts that they will encounter in a post-secondary engineering course of study. Students will also have an opportunity to investigate engineering and high-tech careers. POE gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. APPB learning challenges students to continually hone their interpersonal skills, creative abilities, and problem-solving skills based on engineering concepts. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education.

To be successful in POE, students should have a strong foundation in scientific principles and mathematics. Students will employ engineering and scientific concepts in the solution of engineering design problems. They will also develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students will also learn how to document their work and communicate their solutions to their peers and members of the professional community.

Principles of Engineering is the foundation course in the Technology High School/ Project Lead The Way high school engineering program. The course applies and concurrently develops secondary-level knowledge and skills in mathematics, science, and technology.

Environmental Sustainability:

A relatively new and rapidly developing discipline that involves manipulating living organisms or parts of living organisms to create products useful to humans. Bioengineering is a sensitive and complicated type of engineering due to the moral and ethical decisions related to using living organisms. It is different from other traditional engineering disciplines, which primarily utilize nonliving materials and processes.

In this course students will specifically look at how environmental and biological engineering of organisms can be used to provide environmentally friendly and sustainable solutions to ensure food security for a growing world population; provide affordable, renewable energy; and provide clean safe drinking water.

Design and Development:

Engineering Design and Development is a required full year, full credit capstone course for the Project Lead The Way Engineering pathway offered at Grade 11 at THS. This course involves extensive engineering research in designing and constructing solutions to an open ended engineering problem. This course simulates industry practices and procedures for designing and developing a product. You will work in teams for most assignments and apply principles

developed in this course and preceding courses. As part of the process, you present progress reports, submit a final written report and defend your solutions to a panel of outside reviewers. A-G Elective

Social Studies

World History:

This is a year-long course that challenges students to become historians, social scientists, economists, political scientists, and philosophers. The study of history should be relevant to the world around us and especially relevant to the lives of the students. We will highlight people, places, events, issues, themes, and movements across modern history. We will analyze and evaluate how different civilizations worked together or against each other during certain eras. Students will make connections with how decisions made in the past continue to impact and affects our world, and also evaluate how ideas spread, change and inspire people, for better or worse. A passing grade in this course is required to graduate.

U.S. History:

This course focuses on the major developments and turning points in United States History from the late nineteenth century to the present. Throughout the course, students will look at our nation's history through the lens of a historian while developing skills such as analyzing primary and secondary sources, composing historical narratives and arguments based on textual evidence, determining cause and effect, evaluating continuity and change over time, assessing historical significance, and evaluating how ideas spread, change, and inspire people. Students will also make connections to how past decisions and developments impact and affect our world today.

AP US History:

This is an introductory college-level U.S. history course. Students cultivate their understanding of U.S. history from c. 1491 CE to the present through analyzing historical sources and learning to make connections and craft historical arguments as they explore concepts like American and national identity; work, exchange, and technology; geography and the environment; migration and settlement; politics and power; America in the world; American and regional culture; and social structures.

Government:

In this course, students apply knowledge gained in previous years of study to pursue a deeper understanding of American government. Although this course is traditionally taught for a semester, given the importance and breadth of this content area, teachers may want to expand it into a yearlong course. Students consider the role of and necessity for government as they think about How much power should government have over its citizens? They consider how government can attain goals sanctioned by the majority while protecting its citizens from the abuse of power by asking What are the trade-offs between majority rule and the protection of

individual rights? They will review and expand their knowledge of the key elements of a representative form of democracy, such as the idea that the authority to govern resides in its citizens. Their study will be grounded in the understanding that all citizens have certain inalienable rights such as due process, what to believe, and where and how to live. This course is the culmination of the civic literacy strand of history–social studies that prepares students to vote and to be informed, skilled, and engaged participants in civic life. As this course progresses, students will learn about the responsibilities they have or will soon have as voting members of an informed electorate. They consider the following question: What rights and responsibilities does a citizen have in a democracy? They will learn about the benefits to democracy of an electorate willing to compromise, practice genuine tolerance and respect toward others, and actively engage in an ethical and civil society. They will discover that all citizens have the power to elect and change their representatives—a power protected by free speech, thought, and assembly guarantees. They will learn that all citizens deserve equal treatment under the law, safeguarded from arbitrary or discriminatory treatment by the government. Students will review how these benefits developed in history, such as the broadening of the franchise from white males with property, to all white males, then to men and women of color, and finally, to eighteen- to twenty-one-year-olds.

AP Government:

This is an introductory college-level course in U.S. government and politics. Students cultivate their understanding of U.S. government and politics through analysis of data and text-based sources as they explore topics like constitutionalism, liberty and order, civic participation in a representative democracy, competing policy-making interests,
and methods of political analysis.

Economics:

The study of twelfth-grade economics provides students with a unique opportunity to consider the impact of choice on individuals, groups, and institutions. It offers a lens to understand and analyze human behavior, and it builds a student's ability to make informed decisions based on relevant economic information such as an analysis of costs and benefits; the trade-offs between consumption, investment, and savings; the availability and allocation of natural resources; the distribution of resources among investors, managers, workers, and innovation; the role of the government in supporting, taxing, and investing in industries; and human and physical capital. Economics functions as a lens through which to consider the impact of governmental action (or inaction) on the lives of citizens. Understanding how the economy functions and how economic reasoning can inform decision making will provide students with the tools to become financially literate and independent. Economics is the study of how people choose to use resources. It is also a discipline that analyzes how to promote productive economic activities such as entrepreneurship, education and government investment in infrastructure, and research; it studies how to promote full employment, fair wage growth, and return on capital; it explores how to avoid financial dislocations and predatory business practices; and it argues how best to provide basic safety-net supports such as retirement for each citizen. The resources people use are land, labor, and capital; these resources are finite, or what some people call scarce. Scarcity

means that resources, such as natural and human resources, are limited in quantity compared with the competing demands for their use. In this one-semester economics course, students examine more deeply the choices they make and explore how these choices have consequences that ripple across the world.

AP Macroeconomics:

This is an introductory college-level macroeconomics course. Students cultivate their understanding of the principles that apply to an economic system as a whole by using principles and models to describe economic situations and predict and explain outcomes with graphs, charts, and data as they explore concepts like economic measurements, markets, macroeconomic models, and macroeconomic policies.

Physical Education

9th Grade:

Students demonstrate knowledge of and competency in motor skills, movement patterns, and strategies needed to perform a variety of physical activities. Students achieve a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, principles, and strategies. Students demonstrate knowledge of psychological and sociological concepts, principles, and strategies that apply to the learning and performance of physical activity.

Visual/Performing Arts

Band:

Students will develop their aural and technical skills. Students will be able to meet or exceed benchmarks set forth in the California VAPA Standards. Students will be able to experience authentic performance opportunities.

Instrumental Music:

Instrumental Music is an intro course to music. Students will learn how to read music, musical notation, rhythms, and basic composition. All instruments are available to learn! Chord shapes and patterns will be taught to guitar and piano students. Students will perform in class. This course is open to those with a musical background wanting to learn a secondary instrument.

Drama Production Class:

This is a performance and production based class, meaning the two plays we put on become our curriculum. Most of the work we do in class is done with the goal of producing a high quality show and a performance class means we can significantly reduce the amount of after school rehearsals! We will also make time for improv, monologues, and establishing a foundation in the history of theater and other aspects of drama during class, whenever possible. Students are expected to participate in all aspects of producing a show (acting, singing, dancing, costume

management, set design, makeup tutorials, etc.) during class. If any students would rather not perform in front of an audience, they can take on other responsibilities for our performances (set crew, lighting, sound) but they must be willing to participate in acting, singing, and dancing during class. Additionally, since we do not have a separate Technical Theatre Class at our school, it is expected that all students will take their turn participating in bake sales, thrift store shopping and costume design, set design, gathering props, designing flyers, or other extra activities, as needed.

Digital Photography 1:

In this course students will gain skills in photo composition, photo editing techniques, to produce creative products. Participants gain useful, real world skills in time management, teamwork, and design principles.

Students will be given challenging real world projects and assignments typical of the graphic design and publishing industries. High quality work is expected and students will be given opportunities to redo work until it meets standards specified during instruction. Classroom activities will include reading, research, projects, and problem solving. Students will often work in teams, but will be expected to complete individual assignments in relation to the team's work. By the end of this course, students will be able to:

- *Know how to use various features of the camera to have creative control of your photographs.*
- *Be able to decide what type of lighting to use in each situation to produce optimum results.*
- *See how photographic composition can make or break a photograph*
- *Understand how to use photo editing software to improve the overall appearance of images*

Digital Photography 1 - Yearbook:

Yearbook is a year-long course designed to enhance students' creative and critical thinking while understanding the role of visual art and design in publication mediums. Students will use online publishing software to develop skills in writing, written and visual communication, art design and page layout, photography, and typography. Throughout the course, students will use creativity in design elements by creating layouts, coordinating colors, fonts, shapes, and photos, to artistically create pages for the school yearbook. The artistic element is prevalent in all units and aspects of the course, including photography, through the basics of and the more advanced elements of photography as art and in representing the culture and meaning of the school and its activities and events. Students will collaborate on all elements of the design process.

Additionally, part of this course focuses on advertising and marketing. Tributes to seniors will be designed to provide a meaningful culmination, and students will design advertisements for business sponsors. The yearbook class is a small business within the school, focusing on designing a historically accurate and visually appealing record of the school year.

Digital Film:

In this course we will be covering various types of digital film and how to create videos. Students will use Adobe Premiere, a top of the line video editing program on campus, to create their own videos, and at times collaborating with their peers as well. We will make lyrics music videos, movie trailers, infomercials, school-related videos, stop motion, foley effect, and perhaps even watching some films to discuss the history and evolution of the film world. The possibilities are endless.

Electives

Freshmen Essentials:

Freshmen Essentials is a class designed to support the academic and personal success of all our students. Topics covered include effective study skills, investigation of students' learning styles, goal setting, techniques to overcome test anxiety, time management skills, etc.

We also hope to cover topics of : money management, job interviews, resumes, mental and physical health, sexual health, car buying, loans/money unit, colleges and career info, etc. This class really is there to support the freshmen in their transition to high school, and the "real world". We will do everything in our power to help keep the students organized and on task with all their classes here at Tech High.

ASB - Student Leadership:

This class is designed to teach leadership skills and governmental structure within a business setting; the class will ultimately enhance school pride, spirit, and culture as well as a student's individual knowledge of a working government. The class focus on standards designed by the California Association of Directors of Activities and Common Core State Standards, including written and oral communication, service learning, presentation skills, community service, government hierarchy, procedures and elections, personal and social development, goal setting, group dynamics, business marketing, finance accounting, advertising, business law, and research while positively impacting the entire student body and staff. Students are expected to participate in activities and events outside of class including attending at least one school board meeting or PTSA meeting each semester.

Spanish 1, 2, 3:

Most of our class time will be spent using Spanish and not just simply talking about it. We are expected to use and experiment with new grammatical structures, and to work actively with classmates in Spanish – NOT in English. Our goal is to try to teach and encourage one another at all times. Making mistakes is part of the learning process. These mistakes will help us to learn and to gain confidence in our ability to communicate in Spanish. For review and additional practice, take advantage of the online digital resources (you have access to all Spanish 1, Spanish 2, and Spanish 3 resources) at my.hrw.com.

AP Spanish:

The AP Spanish Language and Culture course emphasizes communication (understanding and being understood by others) by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP Spanish Language and Cultural course strive not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish.
The AP Spanish Language and Culture course
engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, and institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions).

Internship:

The internship is a work-based learning experience that provides you the opportunity to apply your technical and academic skills in a professional setting. You will develop and practice the duties and responsibilities of high-skilled career areas, including terminology, climate, protocol, and other information that will enable you to analyze and revise your meaningful future plans. This course exposes you to the career readiness skills needed for a successful internship and prepares you for the world of work. The internship is supported with activities and assignments to deepen and enhance the experience. The structure of the internship aligns with local policy and program expectations for internships across two semesters. The first semester focuses on preparing you for your internship as well as building a general career plan through in class activities and Counseling 6 class at Santa Rosa Junior College including conducting informational interviews, job shadowing and finding your internship. The second semester has you performing your internship. Partnered with Santa Rosa Junior College, students earn both college credit and high school credit. A-G Elective

Senior Essentials:

This course will focus on what you need to survive in the real world- the things that everyone wishes they learned in high school. This course will use personal finance as the skeleton with supplemental topics chosen by each Senior class. Upon completion, students will be ready and prepared to tackle their late teens and early twenties with strong interpersonal skills, confidence, and other skills needed to tackle today's world.