THE GREEN ACADEMY

NOTE: **P** – course is sufficiently rigorous to meet University of California "a-g" requirement
+ – course satisfies career technical education graduation requirement

+ GREEN BIOLOGY GRADE 10 – P
This is a general Biology course aligned to the CA State Biology Standards. Particular emphasis is given to topics that relate to the energy efficiency/water conservation focus of the Green Academy.

+ GREEN CHEMISTRY GRADE 11 - P
This is a general Chemistry course aligned to the CA State Chemistry Standards. Particular emphasis is given to topics that relate to the energy efficiency/water conservation focus of the Green Academy and to air and water quality.

ENVIRONMENTAL ANALYSIS THROUGH CHEMISTRY-P - Grades 10, 11, 12
Prerequisite: Biology

Environmental Analysis through Chemistry is an introduction to the field of chemistry and its applications in environmental science. The course is aligned to the California High School Chemistry Standards. Particular emphasis will be placed on the use of chemistry in understanding soils and soil fertility, water quality, pollution, atmospheric processes, air pollution and the fate of human-produced chemical compounds in the environment.

+ GREEN MODERN EUROPEAN HISTORY – P

This course is a yearlong course that covers the major ideas and events that shaped the modern world. It traces the rise of democratic ideas from Ancient Greece and Rome, through the Enlightenment, to post-war Europe and the fall of Communism in the Soviet Union. The curriculum explores the causes and consequences of the French and Russian Revolutions, World War I and II, as well as the impact of industry and technology on global politics. Students will develop an awareness of contemporary world issues in their historic geographic, political, economic, and cultural contexts. The course incorporates content-based material from a variety of sources. As part of the Green Academy, an environmental and conservation focus will be emphasized whenever possible within each time period, with specific emphasis during the Industrial Revolution and post-WWII Era.

+ GREEN UNITED STATES HISTORY – P
The focus of this course is 20th century United States History. Throughout the year, historic events will be used as a vehicle to improve critical thinking, reading, and writing skills. Curriculum will be coordinated with the American Literature course and joint research and writing projects will provide students an opportunity to see connections across content areas. As part of the Green Academy goals, an environmental and conservation focus will be emphasized whenever possible within each time period, with specific emphasis during the Industrial Revolution, on figures throughout the course of US History and in the post-WWII Era.

+ GREEN GOVERNMENT– P - Grade 12
This class covers principles of democracy, provides an in-depth study of the US Constitution, and gives students an introduction to the American political system through a combination of participatory projects and experiential learning experiences. As a Green Academy class, an environmental focus will be taken whenever possible within the course of study.

+ GREEN ECONOMICS – P - Grade 12
Economics is a semester course required for graduation, comprised of the following units of study:

- Basic Economic Principles
- History and Comparative Systems
- Supply and Demand, and Market Organization
- Economic Performance and Measurement
- Monetary and Fiscal Policy
- Global Economics

Activities related to the stock market, global economics and other economic current events will play a central role in the course throughout the semester. The issue of water resource use will be a theme throughout all units of study, from personal usage to global water issues. Issues of personal finance will also be interwoven into the study of economics.

+ GREEN ENGLISH II, III – P - Grades 10, 11

This course is designed to foster an appreciation and understanding of the English language, and it is aligned with the California Content Standards for English at each grade level. Together we further develop and refine the reading, writing, speaking, and listening skills that students have acquired in your previous classes, giving ample opportunities to practice and improve. A cross-curricular

+ ENVIRONMENTAL HORTICULTURE - P

The first year of the CTE program will have a broad focus on the many careers that exist within the "green tech" field. Students will be following either the natural resources, or energy pathway. Our first semester will focus on water resources. Students will apply their knowledge with home water audits, propagating plants using our own garden on campus, and more. We will visit the wastewater treatment plant, have guest speakers on issues surrounding the use of water, and learn how to be employed by local cities, and organizations that work to educate people about the effects we can have, both positive and negative in regards to water use. The second semester will focus primarily on harvesting energy from renewable resources such as Solar, Wind, and Nuclear power. Students will build mock solar panels that will be installed on roofs throughout campus. Cross-curricular connections will be made through the use of the mathematics and science. Industry partners will contribute to the course by providing field trips, guest speakers, and curriculum opportunities.

+ CA LIQUID GOLD-WATER - P

This year, students will go more in depth with the skills necessary for wide scale energy efficiency and water conservation. In one semester, they will study California water use and policy and in the second semester they will learn the skills necessary to understand and use GIS and GPS remote sensing software. Students will explore career options by working with professionals in the career field of their choice through a mentorship program.

SUSTAINABLE DESIGN - P

Green Design is the third class in the Career and Technical Education (CTE) series within the Green Academy. The intent of this course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. Green Design gives students the opportunity to develop skills and understanding of course concepts through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB learning challenges students to continually hone their interpersonal skills, creative abilities and understanding of the design process. It also allows students to develop strategies to enable and direct their own learning, which is the ultimate goal of education.

The course assumes no previous knowledge, but students should be concurrently enrolled in college preparatory mathematics and science. Students will employ engineering and scientific concepts in the solution of engineering design problems. In addition, students use a state of the art 3D solid modeling design software package to help them design solutions to solve proposed problems. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course. Students will also learn how to document their work, and communicate their solutions to their peers and members of the professional community.