



PREPARING STUDENTS FOR
FUTURE
CAREERS



Azusa
Unified School District

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ONE PROGRAM MANY OPPORTUNITIES COLLEGE & CAREER READY

LABS



ALTERNATIVE ENERGY

Wind turbines • mathematics • calculating voltage output • solar panels • photovoltaic processes • hydrogen fuel cell cars • alternative energy sources • solar cookers

BIOMEDICAL ENGINEERING

Training requirements • designing prosthetics • materials science • sensors • stents • muscle function analysis • craniotomy • organ replacement

COMPUTER AIDED DRAFTING & DESIGN

CAD systems • coordinates • drawing & editing lines • drawing circles & arcs • isometric drawings • multiview drawings • scale drawings • symbols • hand sketches • floor plans

COMPUTER GRAPHICS & GAME DEVELOPMENT

Computer graphic systems • stop motion animation • the design process • adding titles & credits • adding audio • logos, icons & symbols • technical drawings • Moviestorm • multimedia

DIGITAL MANUFACTURING

3D printing • numbering systems • CNC • FDM Technology • 3D coordinate programming • the design process • prototyping • 3D printing application & exploration

ENERGY & POWER

Stirling Engines • forms of energy & conversions • engine systems • ignition systems • distance calculations • Mousetrap Racers • alternative power sources • mass, force & friction

FLIGHT & DRONE TECHNOLOGY

History & future of rocketry/flight systems • space exploration • aerodynamics • rocket design, construction & launching • unmanned flight • programming • center of gravity

HOME MAINTENANCE SYSTEMS

Tools, terminology & safety • measurements • plumbing • electrical • HVAC • energy efficiency • estimation & budgeting • smart home technology • home automation & security

INTRO TO COMPUTER SCIENCE

What is computer science? • history of computers • how computers work • information & data • binary numbers • logic statements & truth tables • software vs. hardware

INTRO TO ENGINEERING & DESIGN

What is engineering? • history & innovation • design notebook • functions & disciplines • the design process • critical design review • technical communication • reverse engineering

NURSING

Infection • sanitation • effective communication skills • vital signs • phlebotomy • sensing patient health • measurements, dilutions & calculations • patient education • suturing

PERSONAL FINANCE

Money & income • fixed vs. variable expenses • budgeting • goal setting • banking basics • insurance • financial planning • emergency funds • financial portfolios • savings & investments

PNEUMATICS

Graphic symbols • measuring and controlling airflow • regulator testing • force, pressure, and area • sequencing circuits • Pascal's law • cylinder fundamentals • compressed air filters

ROBOTICS

VEX Robot • robotic systems • programming robots • calculating wheel circumference • measuring distances • robot components • sensors • coordinate mapping • time vs. power • programming

STRUCTURAL ENGINEERING

Structural systems • beam design, construction & testing • truss design, construction & testing • the design process • tension, compression, torsion & shear • bridge designs

VIDEO PRODUCTION

The three stages of video production – pre-production, production, post-production • composition • the rule of thirds



Ask your guidance counselor how you can take advantage of this unique opportunity