

# "CamTech Pathway"

The framework for the program is as follows...

In ninth grade you take the ninth grade introductory course titled Foundations (composed of the three classes: Intro to Technology, Focus, and Health), wherein the student learns organizational skills useful for high school and career, some basic business/entrepreneurship skills, develops healthy lifestyle habits, and completes an introduction to each of the six Lab/Strand emphasis areas of CamTech in a problem-solving-project learning mode.



Then each student chooses a Lab/Strand emphasis area for their Sophomore and Junior years, completing at least two year-long courses in one strand.

In their Senior year students complete their final project with support from the Senior "Computer Tech & Independent Technology" course, and optionally from their Business Communications course.

There are many options to earning your CHS CamTech Certificate of Proficiency. For example, instead of Foundations (Intro to Technology), students who completed the year-long Tech course at Liberty or Skyridge can step immediately into their Lab/Strand sequence if they desire, and their 8th Tech teacher approves. Your first year of IAA, or of MST can also replace CamTech Foundations. Please speak with your counselor or any of the staff in our CamTech Pathway to learn more about options.

# CamTech College and Career Launch Pad

## CamTech Foundations - Intro to Tech (9<sup>th</sup> Grade)

Year-long suggested introductory course that introduces students to all of the CamTech Strands, and to the CamTech Senior Problem Seminar process and deliverables. This course may be waived if a student has met the requirements in 8th grade Tech or another introductory problem-solving based course, such as MST Magnet, Integrated Arts and Academics, Marketing DECA or FACSE.

### CamTech Emphasis Strands

Robotics Engineering	Visual Communications	Apps Engineering
- Robotics Eng. 1A/1B (1.0) - Robotics Eng. 2 (1.0) - Robotics/CompSci Seminar (1.0) - AP Computer Science (1.0)	- Digital Photography (.50) - Adv. Digital Photography (.50) - Graphic Design (1.0) - Digital Drawing (.50) - Website Design (1.0) - Journalism/Newspaper (1.0) - CHS Yearbook (1.0) - AP Digital Photography (1.0)	- Intro to Computer Science (1.0) - AP Computer Science (1.0) - Robotics/CompSci Seminar (1.0) - Website Design (1.0)
Fab Lab	Design Engineering	Architectural & Civil Engineering
- Engineering & CADD (1.0) - Fab lab (1.0) - Robotics/CompSci Seminar (1.0) - 3D Modeling/Prototyping (1.0)	- Engineering & CADD (1.0) - Graphic Design (1.0) - Website Design (1.0) - Robotics/CompSci Seminar (1.0) - 3D Modeling/Prototyping (1.0) - Fab Lab (1.0)	- Engineering & CADD (1.0) - Architectural Design (1.0) - Fab lab (1.0) - 3D Modeling/Prototyping (1.0)

### Internships – CamTech Problem Seminar – Senior Project

(12th Grade – 0.5 credit required, 1.0 credit possible)

- Seniors in CamTech are required to research and solve a problem as their CHS Senior Project
- Senior are enrolled "Computer Tech & Independent Technology" or "Robotics CompSci Seminar"
- Problem solution will be presented at the spring CamTech Fair
- This problem can be related to their internship or participation in interscholastic competition
- Senior Business-Engineering Communications will also earn English and CWI credit
- While an internship is not required, students will be assisted in acquiring an internship or apprenticeship that may include a summer or senior year single or double early out

Upon completion of 2 or more credits in an Emphasis Strand and CamTech "Computer Tech & Independent Technology", you qualify to walk in graduation with your CamTech Certificate of Proficiency. A few very industrious students may walk with a Double Certificate.



### CamTech Sample Schedule

Per.	9th Grd	10th Grd	11th Grd	12th Grd
1st	English	English	English	Bus/Tech Comm
2nd	-Elective-	World History	US History	Bus/Tech Comm
3rd	Math	Math	Math	Math or APCS
4th	Physical Science	Biology	Chem or Phys	-Elective-
5th	PE/Health	-Elective-	-Elective-	-Elective-
6th	CamTech Foundations	CamTech 10th	CamTech 11	-Elective-
7th			CamTech Summer Internship	CamTech Comp Tech & Ind Sty



### INTRO TO TECH / CamTech Foundations Occupational Ed. and Elective Credit

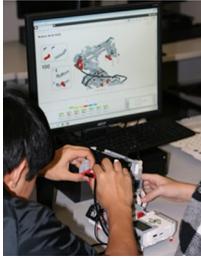
Highly recommended for entry level into Technology Programs. This introductory course will consist of six week sections on selections from the following technical areas: Digital Design, Digital Photography, Engineering & CAD, Website Design, Video Production, Robotics, Computer Programming, and Computer Animation.



## **ROBOTICS & ENGINEERING 1A & 1B**

**Occupational Ed. & Elective Credit**

Students will build and program robots. Focuses on engineering concepts and problem-solving. Basics of sensors, end effectors, movement, and controllers. 1B adds a focus on robots in industrial settings for hazardous environments. Individualized pro-



## **Learn To Code** Becoming A Developer Starts Here

### **INTRODUCTION to COMPUTER SCIENCE**

#### **AND CODING**

**Occupational Ed. & Elective Credit**

In the Coding Elements course students will introduced to Java, Python, RobotC, and other languages to solve everyday problems. In Minecraft students will design and publish their mods they create.

### **Robotics Engineering 2**

**Occup. Ed. & Elective Credit**

Physics of robotics and engineering; advanced programming in C; building robots to solve specific problems, and designing/constructing specialized parts for robotics; individual and team-based projects.



### **ARCHITECTURAL DESIGN**

**Occupational Ed., Fine Arts Elective Credit**

This course will study and apply hands-on skills relating to Architectural Design and CAD. Activities will include design and layouts of floor plans, roofs, elevations, plot plans, and more. The engineering of 3D computer and physical models will be created to reinforce architectural concepts and design methods.



### **WEBSITE DESIGN**

**Occupational Ed., Fine Arts Elective Credit**

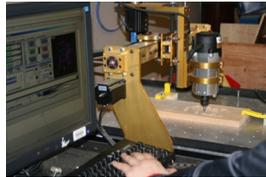
Focus will be on web-site design and layout. Graphic editing, site organization, and navigation will also be applied. Other areas include html/css coding, animation, and multimedia (audio/video). Adobe CS, WordPress, and related software.



### **FAB LAB**

**Occupational Ed. & Elective Credit**

FABrication Laboratory is an activity-based course introducing students to a variety of knowledge and skills in the Machine Shop, Woodworking, CAD, 3D Printing, CNC, and Ind. Manufacturing. Students will be building a variety of products..



### **DIGITAL PHOTOGRAPHY & ADV. DIG. PHOTO**

**Occupational Ed., Fine Arts & Elective Credit**



Move into the digital age working with cameras that are so much more than you average point and shoot. We will take you through the shooting basics with

Canon cameras and then into the digital darkroom, using Photoshop to produce amazing images that you always wanted to create. ADV: Work in camera RAW and cover photo manipulations, panoramic, HDR technology, modeling photos, telephoto, senior portraits, and product photography.

### **Graphic Design**

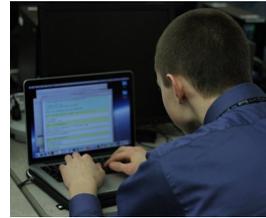
**Occupational Ed. & Fine Arts Elective Credit**

This course is designed for students interested in graphics and creative arts. You will be using Photoshop, Illustrator, and InDesign for your designs. Your creative technical skills will grow and you'll produce images you never thought possible.



### **AP COMPUTER SCIENCE**

**Occupational Ed. | Elective Credit**



Students will learn programming in Java as they prepare for the AP Computer Science test. While most of our programming projects will be completed in class, students should have access to a computer/internet at home capable of running a current Java integrated development environment.

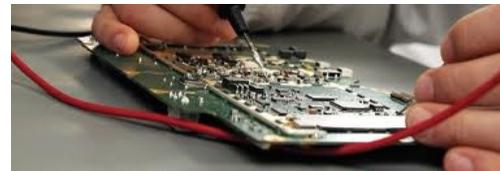
### **BUSINESS/STEM WORK BASED LEARNING or INTERNSHIP (DO)**

**Occupational Ed., Elective**

Earn school credit for working or interning outside of school, keeping your own late-start or early release schedule.



Students will receive credit based on their performance at the work or internship site, completion of school assignments and paperwork related to the program, and a minimum of 90 or 180 hours (depends on your other CTE courses) of documented time per semester credit. This course may be started anytime during the school year.



### **ROBOTICS/COMPUTER SCIENCE SEMINAR**

**Occupational Ed. & Elective Credit**

Individualized, intensive preparation for STEM Junior or Senior Engineering Project and internship if available in specialized field of study related to Computer Science, Mechanical or Electrical Engineering or Robotics. Preparation for Senior Project Presentation and career/educational options related to the Senior Engineering Project. Individualized, team-based projects are mandatory.

# Camas High School



The CamTech Program is an opportunity for students to become part of a larger family with similar interests in STEM (Science, Technology, Engineering and Math) areas that satisfy the State Personalized Pathway Requirements. The CamTech program provides applied opportunities for like-minded students wanting to explore or pursue skills and knowledge in technical occupations and skilled areas. In addition, students are prepared for professional internship opportunities in their junior/senior years. Students completing one or more of the CamTech Strand areas of study are recognized at graduation and will have better opportunities when competing for future employment and college entrance. All students at grade level are welcome in our CamTech program. Major areas of study include: Engineering Robotics & Manufacturing; Digital Computer Design and Publishing; Computer Science and Game Programming, Construction and Machine Tool Fabrication.

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