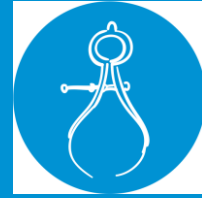


Engineering & Architecture Industry Sector



The Engineering & Design industry sector provides a strong foundation in engineering and design for students in California. The students are engaged in an instructional program that integrates academic and technical preparation and focuses on career awareness, career exploration, and career preparation.

To prepare students for the vast scope of job opportunities in this field, middle schools, high schools, regional occupational centers and programs, apprenticeship programs, community colleges, and four-year colleges and universities provide education and training in engineering related occupations.

The demand for engineers in a variety of specializations throughout the state and the nation will remain high.

Red Bluff High School currently offers two Pathways in this Industry Sector.

Engineering & Design Industry Sector Pathway:

- Architectural Design
- Environmental & Natural Science Engineering



Architectural Design

Sequence of courses in the Architectural Design pathway:

CTE courses	Related Courses
Introductory <ul style="list-style-type: none"> Introduction to Technology 	<ul style="list-style-type: none"> English Composition/Writing Physics/Applied Physics
Concentration <ul style="list-style-type: none"> Exploring Computer Science Computer Science Engineering 	<ul style="list-style-type: none"> Geology Chemistry Algebra
Capstone <ul style="list-style-type: none"> Computer Aided Drafting 	<ul style="list-style-type: none"> Geometry Trigonometry Orientation to Apprenticeship

Sample of pathway occupations: This sample of pathway occupations is organized by level of education and training required for workforce entry. Asterisked (*) occupations require certification or licensure.

Architectural Design Pathway Occupations	
High school (diploma)	<ul style="list-style-type: none"> Junior Drafter CAD Technician Construction Apprentice Engineering Aide Drafting Apprentice
Postsecondary training (certification and/or AA degree)	<ul style="list-style-type: none"> Drafter/Designer Plan Checker Engineering Technician Surveyor Estimator
College or university (bachelor's degree or higher)	<ul style="list-style-type: none"> Architect* Industrial Designer* Civil Engineer* Structural Engineer* Instructor*

Topics and contexts

1. Local building codes
2. Accurate measurement and layout techniques



Environmental & Natural Science Engineering

Sequence of courses in the Environmental & Natural Science Engineering pathway:

CTE courses	Related Courses
Introductory <ul style="list-style-type: none"> Environmental Science 	<ul style="list-style-type: none"> Physics Chemistry Biology Geology English Composition/ Writing Trigonometry
Concentration <ul style="list-style-type: none"> NASA Astrobiology Internship Year 1 	
Capstone <ul style="list-style-type: none"> NASA Astrobiology Internship Year 2 	

Sample of pathway occupations: This sample of pathway occupations is organized by level of education and training required for workforce entry. Asterisked (*) occupations require certification or licensure.

Environmental & Natural Science Engineering Pathway Occupations	
High school (diploma)	<ul style="list-style-type: none"> Environmental Sampling Assistant Hazardous Material Remover Environmental Engineering Aide Environmental Apprentice
Postsecondary training (certification and/or AA degree)	<ul style="list-style-type: none"> Environmental Sampling Technician Survey-Mapping Technician Environmental Engineering Technician Environmental Planner Assistant Journeyman Environmental Engineer
College or university (bachelor's degree or higher)	<ul style="list-style-type: none"> Survey-Mapping Engineer Environmental Engineer* Environmental Planner* Instructor*

Topics and contexts

1. Basic knowledge of global positioning systems
2. Locating and identifying characteristics of soil and geological samples