# ENGINEERING DESIGN

This pathway is designed to provide learning opportunities for students interested in preparing for careers in the design & production of mechanical, electrical, & computer systems. The program offers classroom, laboratory, & hands on learning. Students are engaged in academic & technical preparation as well as career exploration that emphasizes real world, relevant Science, Technology, Engineering, & Mathematics (STEM) experiences.

## SAMPLE PROGRAMS OF STUDY

A pathway is an opportunity for students to complete sequential courses in Career Technical Education, as they progress towards graduation. This increases their options by exploring careers for post secondary education and future employment.

| | 9TH GRADE | 10TH GRADE | 11TH GRADE | 12TH GRADE |
|---|---|---|---|---|
| **ENGLISH** | English 1 | English 2 | English 3 | English 4 |
| **MATH** | Math 1 | Math 2 | Math 3 | Calculus/Stats |
| **SCIENCE** | Earth Science | Biology | Chemistry | |
| **SOCIAL SCIENCE** | | World History | US History | Civics/Economics |
| **P.E.** | PE 1 | | PE 2 | Health |
| **WORLD LANGUAGE** | Spanish 1 | Spanish 2 | | |
| **VPA OF CHOICE** | | | | |

| | 9TH GRADE | 10TH GRADE | 11TH GRADE | 12TH GRADE |
|---|---|---|---|---|
| **ENGINEERING DESIGN PATHWAY** | **CDM:** Design Engineering (F) | **CDM:** Electro-Mechanical Engineering (D)* | **CDM:** Robotics & Artificial Intelligence (D) | **CDM:** Advanced Design Engineering (G) |
| | **CMHS:** Intro to Engineering Design (D) | **CMHS** Principles of Engineering (D) | **CMHS:** Aerospace Engineering (D) | **CMHS:** Engineering Design & Development (D) |
| | **EHS:** Intro to Design Engineering (F) | **EHS:** Principles of Engineering (D) | **EHS:** Computer Integrated Manufacturing (D) | **EHS:** Engineering Design & Development (D) |

**KEY: UC/CSU APPROVED D: SCIENCE, F: FINE ARTS, G: ELECTIVE
*: ARTICULATES WITH COMMUNITY COLLEGE**

## NEXT STEPS

- **TALK TO YOUR SCHOOL COUNSELOR OR ROP CAREER SPECIALIST**
- **VISIT SCHOOLINKS TO CONTINUE RESEARCHING COLLEGES & CAREERS**
- **VISIT: WEB.NMUSD.US/CTE**

## COLLEGES & MAJORS

- **Orange Coast College**
  - **Engineering**
- **Irvine Valley College**
  - **Computer-Aided Design**
  - **Design Model Making**
  - **Pre-Engineering**
- **Saddleback College**
  - **Architectural Drafting**
  - **Drafting Technology**
  - **Engineering Statistics**
  - **Manufacturing Technology**
- **CSUSD**
  - **Aerospace Engineering**
  - **Civil Engineering**
  - **Computer Engineering**
  - **Construction Engineering**
  - **Electrical Engineering**
  - **Environmental Engineering**
  - **Mechanical Engineering**
- **Cal Poly SLO**
  - **Architecture**
  - **Landscape Architecture**
- **UCI**
  - **Aerospace Engineering**
  - **Chemical Engineering**
  - **Computer Engineering**
  - **Electrical Engineering**
  - **Environmental Engineering**
  - **Material Science Engineering**
  - **Mechanical Engineering**
  - **Software Engineering**

## ENGINEERING JOBS & INCOME

**Occupation & Average Income
Source: Salary Surfer**

Aeronautical Technology: $68,000

Biomedical Instrumentation: $90,000

Computer Electronics: $51,000

Energy Systems Technology: $73,000

Laser & Optical Technology $60,000

Mechanical Drafting: $72,000

Water Technology: $80,000