

Architectural and Structural Engineering



Description of Pathway:

The Engineering and Design Industry Sector offers career opportunities through a variety of specializations. Employment in this area is expected to grow by 11% (or 1.5 million jobs) through 2016. Up to 6 units and industry certificates can be obtained by taking courses in this pathway.

District: Livermore Valley Joint Unified School District

School Site: Livermore and Granada

LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies	Career Technical Education Courses	Other Required Courses or Recommended Electives	Related Occupations, Certifications, and Student Clubs
SECONDARY								Occupations Requiring
	9	English	Algebra, Geometry,	Earth Science or Forensic Science	Social Science 9	Intro to Design Engineering/Architectural Design 1	Physical Education, Health, World Language	Less Than a Baccalaureate Degree
	10	English 10/Honors	Geometry or Algebra II	Biology	World History or AP World History	CAD Architectural Design 2*	Physical Education, World Language, Art, CAD Drafting Technology 2*	<ul style="list-style-type: none"> ➤ CAD Technician ➤ Construction Apprentice ➤ Engineering Assistant
	11	English 11/Honors	Algebra II, Adv Algebra or Pre-Calculus	Chemistry	U.S. History, Honors U.S. History, or AP U.S. History	CAD Architectural Design 3-8*	World Language, Art, other VPA or CAD Drafting Technology 3-8*	Occupations Requiring a Baccalaureate Degree
	12	English Composition or other English Electives	Pre-Calculus, Calculus, AP Calculus, or Statistics	Conceptual Physics or Physics	Civics/Economic or AP Civics/Economics	CAD Architectural Design 3-8*	World Language, VPA CAD Drafting Technology 3-8*	<ul style="list-style-type: none"> ➤ Architect ➤ Civil Engineer ➤ Structural Engineer ➤ Industrial Designer ➤ Teacher
*Articulated Dual Credit courses may be taken/moved to the secondary level for articulation/dual credit purposes. <i>Italicized</i> courses are Las Positas (LPC)								Industry recognized Certifications and
POSTSECONDARY	Year 13	English	Geometry	Chemistry, Physics, or Astronomy	Humanities	<i>INTD51*</i> <i>INTD61*</i>	<i>Art 10, Art 11</i>	Credentials related to this Pathway
	Year 14		Math 38	Geology	Liberal Studies	<i>ENGR 10 & 22</i>	Other GE req.	<ul style="list-style-type: none"> ➤ Teaching Credential ➤ Plan Checker
	Year 15						Upper Division Core	<ul style="list-style-type: none"> ➤ Surveyor ➤ Estimator
	Year 16						Upper Division Core	Student Clubs or Organizations

Work-Based Learning Opportunities

- Job-Shadows
- Internships
- Teacher's Aide
- JA Mentor
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