

	<b>Pathway: Design/Pre-Construction</b>
	<b>Plan of Study: Computer Aided Drafting (CAD)</b>

**Career Goal (O\*Net Code):** 17-3011.01 Architectural Drafters, 17-3011.02 Civil Drafters, 17-3013.00 Mechanical Drafters, 17-1021.00 Cartographers and Photogrammetrists, 17-3012.01 and 17-3012.02 Electrical Drafters, 17-3019.99 Drafters, 17-3031.01 Surveying Technicians, 17-3031.02 Mapping Technicians, 51-4012.00 Numerical Tool and Process Control Programmers, 51-6092.00 Fabric and Apparel Patternmakers

**Suggested High School Courses**

<b>High School</b> <small>* Default includes CDHE Higher Education Admission Requirements</small>	9 <sup>th</sup>	<b>Core Academic Courses*:</b>	English 9, World Civilizations, Intro to Geography, Algebra I, Introduction to Physical Science, Integrated Science	<b>Suggested Electives:</b> Business Principles Career Connections Business Tech 1
		<b>Career Path Courses:</b>	Tech Studies, Design Projects, Beginning Woods,	
	10 <sup>th</sup>	<b>Core Academic Courses*:</b>	English 10, US History (Electives: Anthropology, World Geography), Geometry or Algebra 11 Biology, Astronomy (Elective) Foreign Language I	<b>Suggested Electives:</b> Business Principles Career Connections Business Tech 1 Advanced Business Tech 2 Web Design 1
		<b>Career Path Courses:</b>	Tech Studies, Design Projects, Beginning Woods, Advanced Woods, Digital Photography	
	11 <sup>th</sup>	<b>Core Academic Courses*:</b>	English Elective (American Literature, Journalism, Creative Writing, Drama/Debate, etc.), Western Civilization or AP European History (Electives: AP Human Geography, Anthropology, Colorado History, World Religions, Film History, Intro to Law, Russian History, Sociology, World Geography, or Psychology), Algebra II, Probability and Statistics or Pre-Calculus, Chemistry, (Electives: Astronomy, Zoology, Plant Science, Genetics or Meteorology)	<b>Suggested Electives:</b> Arapahoe Douglas Career and Technical School. www.actsinfo.org Business Tech 1 Advanced Business Tech 2 Integrated Bus Tech 3 Web Design 1 or 11
		<b>Career Path Courses:</b>	Tech Studies, Design Projects, Beginning Woods, Advanced Woods, Advanced Graphic Design, Digital Photography	
	12 <sup>th</sup>	<b>Core Academic Courses*:</b>	English Literature, World Literature, Government, Economics/Civics (Electives: AP Human Geography, Anthropology, Colorado History, World Religions, Film History, Intro. to Law, Russian History, Sociology, World Geography or Psychology), Trigonometry, Pre-Calculus, Probability and Statistics, Calculus or AP Statistics Physics, (Electives: Astronomy, Zoology, Plant Science, Genetics or Meteorology)	<b>Suggested Electives:</b> Arapahoe Douglas Career and Technical School. www.actsinfo.org Business Tech 1 Advanced Business Tech 2 Integrated Bus Tech 3 Web Design 1 or 11
		<b>Career Path Courses:</b>	Any above Tech Ed classes or other CTE Course, Academic Internship/ Community Employment Experience/ PET; ACTS, PSEO	

**Secondary to Postsecondary Linkages & Certifications**

<b>Recognition for Advanced Learning</b>	<b>Postsecondary Credit Options:</b> ACP (Advanced Credit Pathway), PSEO (Post Secondary Enrollment Options - 11 <sup>th</sup> and 12 <sup>th</sup> grade, up to two classes/semester for 2 years),
	<b>Industry Recognized Certificate(s) or License(s):</b> AutoDesk Certification for AutoDesk CAD software products. Architectural fields: all states require Architects to be licensed (see your local requirements).

		<b>Colorado Postsecondary Programs Available</b>	<b>Colorado Institutions</b>	<b>Entrance Exams/ Requirements</b>
<b>Postsecondary Education Opportunities</b>	<b>Certificate</b>	Architecture & Construction Technology, Architectural Technologies, Computer Aided Drafting & Design (CAD), Engineering Graphics Technology, Engineering Technology, Civil Engineering Technology	<b>AVS:</b> Pickens Technical College, Emily Griffith Opportunity School <b>Community Colleges/Colleges:</b> Front Range CC, Pikes Peak CC, Arapahoe CC, Western Colorado CC, Red Rocks CC, Aims CC, Pueblo CC, Trinidad State Junior College, Colorado Mountain College	High School diploma or GED

<b>Associate Degree</b>	Architecture & Construction Technology, Architectural Technologies, Computer Aided Drafting & Design (CAD), Engineering Graphics Technology, Applied Science - General, Engineering Technology	Front Range CC, Pikes Peak CC, Arapahoe CC, Western Colorado Community College, Red Rocks Comm. College, Aims Community College, Pueblo Community College, Trinidad State Junior College	High School diploma or GED
<b>Bachelor Degree</b>	Landscape Architecture, Civil Engineering, Architectural Engineering, Architecture, Civil Engineering, Civil, Electrical, Environmental & Mechanical Engineering, Civil Engineering Technology	For more information about colleges that have these programs go to <a href="http://www.CollegeinColorado.org">www.CollegeinColorado.org</a>	See each school's Admissions website.
<b>Graduate Degree</b>	Horticulture and Landscape Architecture, MS, Civil, environmental & architectural engineering, MS & PhD, Civil Engineering, MS, ME, PhD, Architecture, M. Arch., Landscape Architecture, M.L.A., Civil Engineering, MS, PhD	For more information about colleges that have these programs go to <a href="http://www.CollegeinColorado.org">www.CollegeinColorado.org</a>	See each school's Admissions website.

**Cluster Overview:** The **Architecture and Construction Career Cluster** prepares students for careers in designing, planning, managing, building and maintaining the built environment.

**Extended Learning Experiences**

**Curricular Experiences:**

High School  
Technology Student Association  
Family, Career and Community Leaders of America  
Skills USA

College  
Co-curricular activities  
Community Outreach programs  
Field and extended stay trips

**Extracurricular Experiences:**

High School  
Architectural/Engineering Summer Camps  
Student Council

College  
Student Government  
American Institute of Architects- Student Chapter  
Phi Theta Kappa  
Sports Clubs

**Work-Based Learning Experiences:**

Career Preparation – Paid and Unpaid, Job Shadowing, Internships, Community Employment Experience, Informational Interviews and Academic Internship.

**Program Accreditation and/or Professional Association(s):**

Examples:  
American Institute of Architects  
American Institute of Contractors  
Associated Builders and Contractors  
Associated General Contractors  
Construction Management Association  
Design Build Institute of America  
Society of Women in Construction  
Colorado Society of Architects  
Society of Professional Engineers

**Service Learning Experiences:**

Example: Habitat for Humanity, Peace Corps, Boy Scouts of America, Girl Scouts of the USA, Community Service Volunteer

**Career Options:**

**Salary Range:**

Certificate	Architectural Drafters, Mechanical Drafters, Civil Drafters, Electrical Drafters, Drafters Survey and Mapping Technicians	\$-\$\$
Associate Degree	Survey Mapping Technicians, Civil Engineering Technicians, Mechanical Designers, Architectural Designers, Interior Designers	\$\$-\$\$\$
Bachelor Degree	Architect, Mechanical Engineer, Electrical Engineer, Civil Engineer	\$\$-\$\$\$
Graduate Degree	Architect, Mechanical Engineer, Electrical Engineer, Civil Engineer	\$\$\$-\$\$\$\$

\* \$ = \$15-25,000; \$\$ = \$25-55,000; \$\$\$ = \$55-90,000; \$\$\$\$ = Above \$90,000

Arapahoe Community College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities. Please direct inquiries to: *David Castro, 2625 W. Church St. Littleton, CO 80160, 303-797-5704 AA/EEO officer.*