

		Pathway: Engineering & Technology		
		Plan of Study: Mechanical Engineering		
Career Goal (O*Net Code): Examples Are: Environmental Engineer (17-2081), Biomedical Engineer (17-2031), Aerospace Engineer (17-2011), Mechanical Engineer (17-2141).				
Suggested High School Courses				
High School (Specific courses may vary based on availability and student goals.)	9 th	Core Academic Courses:	English I, Algebra I, Earth Science, Civics/Law, Foreign Language I	Suggested Electives: Physical Education Health
		Career Path Courses:	Introduction to Engineering Design	
	10 th	Core Academic Courses:	English II, Geometry, Biology, World History, Foreign Language II	Suggested Electives: Physical Education Intro to Art & Design
		Career Path Courses:	Principles of Engineering	
	11 th	Core Academic Courses:	English III, Algebra II/ or other, Chemistry, US History, Foreign Language III	Suggested Electives: Physical Education Speech
		Career Path Courses:	Digital Electronics	
	12 th	Core Academic Courses:	English IV, Trigonometry/ or other, Physics, Social Studies Elective	Suggested Electives: College/Career Prep International Business Business Communication
		Career Path Courses:	Civil Engineering and Architecture, or Engineering Design and Development	
Secondary to Postsecondary Linkages & Certifications				
Recognition for Advanced Learning	Postsecondary Credit Options: PPCC – Articulated credit for: Architecture and Civil Engineering Design UCCS – Articulated credit for: Intro to Engineering Design, Principles of Engineering, Digital Electronics			
	Industry Recognized Certificate(s) or License(s): Many states require engineers to be licensed. Voluntary certification is available from the American Society of Mechanical Engineers (ASME).			
		Postsecondary Programs Available in Colorado	Colorado Institutions	Entrance Exams/ Requirements
Postsecondary Education Opportunities	Certificate	Engineering Graphics Technology, Engineering Technology, Computer Aided Drafting & Design (CAD)	Front Range Community College, Red Rocks Community College, Aims Community College, Pueblo Community College, Trinidad State Junior College, Western Community College, Pickens Technical College, Arapahoe Community College	High School Diploma or GED
	Associate Degree	Engineering Graphics Technology, Engineering Technology, Computer Aided Drafting & Design (CAD)	Front Range Community College, Pueblo Community College, Trinidad State Junior College, Western Community College	High School Diploma or GED
	Bachelor Degree	Bioengineering and Life Sciences, Metallurgy and Materials, Engineering Physics, Biomedical Engineering, Civil Engineering, Mechanical Engineering, Environmental Engineering, Space Engineering, Industrial Engineering, Engineering/Mechatronics, Engineering Management, Aerospace Engineering	For more information about colleges that have these programs go to www.CollegeinColorado.org	See requirements from each school's website
	Graduate Degree	MS Materials Science; MS Mechanical Engineering; MS Physics (Applied); MS Bioengineering; MS Mechanical Engineering; MS Biomedical Engineering; MS Industrial & Systems Engineering; MS & PhD Aerospace Engineering; MS & PhD Civil, Environmental & Architectural Engineering; PhD Mechanical Engineering	For more information about colleges that have these programs go to www.CollegeinColorado.org	See requirements from each school's website

Cluster Overview: The **Science, Technology, Engineering and Math Career Cluster** prepares students in planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

Extended Learning Experiences		
Curricular Experiences: Example: Technology Student Association National Honor Society – tutoring	Extracurricular Experiences: Examples: International Bridge Building Contest Junior Engineering Technical Society National Engineering Design Competition National Engineers Week Robotics Club Forensics	
Work-Based Learning Experiences: Career Preparation – Paid and Unpaid, Job Shadowing, Internships	Program Accreditation and/or Professional Association(s): Examples: American Chemical Society, American Institute of Aeronautics and Astronautics, American Institute of Chemical Engineering, American Society of Civil Engineers, American Society of Mechanical Engineers, Institute of Electrical and Electronic Engineers, Mathematical Association of America, National Society of Black Engineers, Society of Automotive Engineers, Society of Hispanic Professional Engineers, Society of Women Engineers	
Service Learning Experiences: Example: Community Service Volunteer		
Career Options:		Salary Range:
Certificate	Mechanical Drafters (CAD)	\$\$
Associate Degree	Mechanical Engineering Technician	\$\$ - \$\$\$
Bachelor Degree	Engineering Technologist, Environmental Engineer, Biomedical Engineer, Aerospace Engineer, Mechanical Engineer	\$\$\$
Graduate Degree	Corporate Engineering, Engineering Technology Analyst	\$\$\$\$

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

Academy District 20 does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities. Please direct inquiries to: Academy District 20 Education and Administration Center.

