



# Engineering and Technology

**Cluster Overview:** Planning, managing, and providing scientific research and professional and technical services including laboratory and testing services, and research and development services.

**Career Goal (O\*NET Code): Mechanical Engineers (17-2141),**  
 Aerospace Engineers (17-2011), Mechanical Engineering Technicians (17-3027), Engineering Managers (11-9041), Electronics Engineering Technicians (17-3023), Mapping Technicians (17-3031), Civil Engineering Technicians (17-3022).

**Student Name:** \_\_\_\_\_  
**Grade:** \_\_\_\_\_  
**School:** \_\_\_\_\_

## SUGGESTED COURSEWORK

## EXTENDED LEARNING EXPERIENCES

Middle School	8th	<b>HS Courses:</b>			<b>Curricular Experiences:</b> <a href="#">BEST Robotics, Inc.</a> <a href="#">FIRST Robotics Competition</a> <a href="#">Project Lead the Way</a> <a href="#">Skills USA</a> <a href="#">The Infinity Project</a>	<b>Extracurricular Experiences:</b> Destination ImagiNation High School Students United with NASA International Bridge Building Contest Marine Advanced Technology Education Center National Engineering Design Competition UIL Academic Competitions VEX Robotics Competition
	High School	9th	<b>Core Courses:</b>	English I Algebra I Biology		
<b>Career-Related Electives:</b>			Concepts of Engineering and Technology			
	10th	<b>Core Courses:</b>	English II Geometry Chemistry	World History Languages other than English II		
		<b>Career-Related Electives:</b>	Mechanical Engineering			
	11th	<b>Core Courses:</b>	English III Algebra II Physics or Principles of Technology	United States History		
		<b>Career-Related Electives:</b>	Advanced Engineering Design or Languages other than English III			
	12th	<b>Core Courses:</b>	English IV Precalculus Environmental Sciences	Government/Economics Fine Arts	<b>COLLEGE CREDIT OPPORTUNITIES -- High School</b>  Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated courses (Tech Prep), if possible. List those courses that count for college credit on your campus.	
		<b>Career-Related Electives:</b>	Career Preparation I or Languages other than English IV			
	On-the-Job Training	Central Services Technician Office Machine Repairer Survey Assistant			<b>Professional Associations:</b> <a href="#">American Chemical Society</a> <a href="#">American Institute of Aeronautics and Astronautics</a> <a href="#">American Institute of Chemical Engineering</a> <a href="#">American Society of Agricultural &amp; Biological Engineers</a> <a href="#">American Society of Civil Engineers</a> <a href="#">American Society for Engineering Education</a> <a href="#">American Society of Mechanical Engineers</a> <a href="#">Electronics Technicians Association International</a> <a href="#">Institute of Electrical and Electronic Engineers</a> <a href="#">International Technology Education Association</a> <a href="#">Mathematical Association of America</a> <a href="#">National Academy of Engineering</a> <a href="#">National Coalition for Electronics Education</a> <a href="#">National Electronics Service Dealers Association</a> <a href="#">Society of Automotive Engineers</a> <a href="#">Society of Women Engineers</a>	
	Certificates	AutoCAD Architecture AutoCAD	AutoCAD Civil 3D Autodesk Inventor	OSHA CareerSafe Revit Architecture		<b>Career Options:</b> Environmental Engineering Technician Mechanical & Electrical Designer Mechanical & Electrical Drafter
Postsecondary	Associate Degrees	<a href="#">Computer Science</a>	<a href="#">Engineering</a>	<a href="#">Engineering Technology</a>	<b>Career Options:</b> Electronics Technician Civil Engineering Technician	
	Bachelor Degrees	Aerospace Chemical Civil	Computer Electrical Industrial	Manufacturing Mechanical Systems	<b>Career Options:</b> Engineering Technologist Engineer	
	Graduate Degrees	Aerospace Chemical Civil	Computer Electrical Industrial	Manufacturing Mechanical Systems	<b>Career Options:</b> Corporate Engineering Medicine Analyst Administration and Management Engineering Technology	

Students may select other elective courses for personal enrichment purposes.

This plan of study serves as a guide, along with other career planning materials, for pursuing a career path and is based on the most recent information as of 2009. All plans meet high school graduation requirements as well as college entrance requirements.