



Engineering and Technology

Career Goal (O*NET Code): Environmental Engineer (17-2081), Biomedical Engineer (17-2031), Aerospace Engineer (17-2011), Mechanical Engineer (17-2141).

Cluster Overview: 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.

SUGGESTED COURSEWORK

EXTENDED LEARNING EXPERIENCES

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|----------------------|---------------------|---|---|--|---|--|--|---|
| High School | 9th | Core Courses: | English I Algebra I Biology | World Geography Languages other than English I Health/PE or Equivalent | Curricular Experiences: TSA | Extracurricular Experiences: Destination ImagiNation FIRST High School Robotics Competition International Bridge Building Contest Junior Engineering Technical Society National Engineering Design Competition National Engineers Week | | |
| | | Career-Related Electives: | Technology Systems (Modular Lab Based)** or Research and Technical Writing or Communication Systems | | | | | |
| | 10th | Core Courses: | English II Geometry Chemistry | World History Languages other than English II Technology Applications | | | | |
| | | Career-Related Electives: | Engineering Principles or Architectural Graphics or Engineering Graphics or Electricity/Electronics Technology | | | | | |
| | 11th | Core Courses: | English III Algebra II Physics | United States History PE or Equivalent Communication Applications | | | Career Learning Experiences: Career Preparation (Paid/Unpaid) Job Shadowing Internship | Service Learning Experiences: Community Service Volunteer |
| | | Career-Related Electives: | Bio-related Technology Systems or Construction Systems or Energy, Power, and Transportation Systems or Manufacturing Systems AND Languages other than English III | | | | | |
| | 12th | Core Courses: | English IV Precalculus Engineering | Government/Economics Fine Arts | | | | |
| | | Career-Related Electives: | Research Design and Development or Architectural Construction or Communication Graphics or Computer Multimedia and Animation AND Languages other than English IV | | | | | |
| Postsecondary | On-the-Job Training | | | | Career Options: Career Options: These degrees should meet the first two years of a four or five year engineering degree. Career Options: Engineering Technologist Engineer Career Options: Corporate Engineering Administration and Management Medicine Engineering Technology Analyst | Professional Associations: 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 | | |
| | Certificates | OSHA CareerSafe NOTE: Students may earn all or part of these certificates as part of the High School experience. | | | | | | |
| | Associate's Degree | Engineering | Engineering Technology | Computer Science | | | | |
| | Bachelor's Degree | Aerospace Chemical Civil | Computer Electrical Industrial | Manufacturing Mechanical Systems | | | | |
| | Graduate Degree | Aerospace Chemical Civil | Computer Electrical Industrial | Manufacturing Mechanical Systems | | | | |

* May substitute for the required credit for Physical Education
 ** Satisfies the required credit for Technology Applications
 *** May substitute for the required credit for Health Education

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated courses, if possible.

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 2007. All plans should meet high school graduation requirements as well as college entrance requirements. Students may select other elective courses for personal enrichment purposes.