



Power, Structural and Technical Systems

Course Overview: Focuses on careers in the planning, implementation, production, management, processing, and/or marketing of agricultural commodities and services.

Career Goal (O*NET Code): Welder and Cutter (51-4121.02), Agricultural Engineer (17-2021), Welder-Fitter (51-4121.03).

Student Name: _____

Grade: _____

School: _____

SUGGESTED COURSEWORK

EXTENDED LEARNING EXPERIENCES

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|----------------------------------|---|---|--|--|--|---|
| Middle School | 8th | HS Courses: | Exploring Agriculture, Food and Natural Resources | <p>Curricular Experiences: Skills USA Texas FFA Association</p> <p>Career Learning Experiences: Apprenticeship Career Preparation Internship Job Shadowing</p> | <p>Extracurricular Experiences: Agricultural Mechanics Exhibition Agriscience Fair Farm Bureau Exchange Programs National Engineering Design Competition Student Government UIL Academic Competitions</p> <p>Service Learning Experiences: Boy/ Girl Scouts Campus Service Organizations Community Service Volunteer 4-H Habitat for Humanity Peer Mentoring / Peer Tutoring</p> | |
| | High School | 9th | Core Courses: | | | English I Algebra I or Geometry Biology World Geography Languages other than English I Physical Education |
| Career-Related Electives: | | | Principles of Agriculture, Food and Natural Resources | | | |
| 10th | | Core Courses: | English II Geometry or Alg II Chemistry World History Languages other than English II | | | |
| | | Career-Related Electives: | Agricultural Mechanics and Metal Technologies | | | |
| 11th | | Core Courses: | English III Algebra II or Pre-Cal Physics or Princ of Technology United States History Professional Communications | | | |
| | | Career-Related Electives: | Agricultural Facilities Design and Fabrication | | | |
| 12th | Core Courses: | English IV Alg III, Pre-Calculus, or AP Calculus Science Elective Government/Economics Fine Arts | | | | |
| | Career-Related Electives: | Practicum in Agriculture, Food, and Natural Resources | | | | |
| Postsecondary | On-the-Job Training | Metal Erector's Helper Shop Helper Welding Assistant | NOTE: These experiences may be started and/or completed as part of the high school experience. | | | <p>COLLEGE CREDIT OPPORTUNITIES -- High School</p> <p>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.</p> <p>Professional Associations: American Society of Agricultural and Biological Engineers American Welding Society Associated General Contractors of America ASTM International Collegiate FFA Post-Secondary Agricultural Students Association</p> |
| | Certificates | AWS Welder NCCER Welding Technician OSHA CareerSafe | NOTE: Students may earn all or part of these certificates as part of the high school experience. | | | |
| | Associate Degrees | Agricultural Systems Construction Technician Metal Technology | | | | |
| Bachelor Degrees | Agricultural Engineering Agricultural Systems Management Construction Science | | | | | |
| | Graduate Degrees | Agricultural & Biological Engineering Agricultural Mechanization | | | | |

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.