



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

Middle School	8th	HS Courses:		Curricular Experiences:	Extracurricular Experiences:
High School	9th	Core Courses:	English I Algebra I Biology	World Geography Physical Education Languages other than English I	Professional Communications
		Career-Related Electives:	Principles of Agriculture, Food and Natural Resources		
	10th	Core Courses:	English II Geometry Chemistry	World History Languages other than English II	
		Career-Related Electives:	Introduction to Metal Working		
	11th	Core Courses:	English III Algebra II Physics	United States History	
		Career-Related Electives:	Advanced Welding or Mathematical Applications in Agriculture or Food and Natural Resources		
12th	Core Courses:	English IV Precalculus AP Environmental Science	Government/Economics Fine Arts		
	Career-Related Electives:	Agricultural Science Internship/Mentorship or Advanced Precision Metal Manufacturing			
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.			
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.			
Postsecondary	Associate Degrees	Agricultural Systems	Construction Technician	Metal Technology	
	Bachelor Degrees	Agricultural Engineering	Agricultural Systems Management	Construction Science	
	Graduate Degrees	Agricultural & Biological Engineering	Agricultural Mechanization		
				Career Options: Welder Fitter Foreman	Remote Sensing Specialist Quality Assurance Manager
				Career Options: Welder Foreman	Estimator
				Career Options: Site Manager Contractor	Agricultural Engineer Extension Engineering Specialist Project Engineer
				Career Options: Project Developer	Risk Management Specialist
				COLLEGE CREDIT OPPORTUNITIES -- High School	
				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.	
					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

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.