

**Elizabethtown Area School District
Scope & Sequence - Quick Reference**



Department: Agriculture Education

Course: Ag Mechanics & Engineering

Grade Level(s): 10-12th Grade

<i>Unit Title</i>	<i>General Topic(s)</i>	<i>Pacing</i>
1. Review of SMAW and OAW processes	<ul style="list-style-type: none"> ● Review SMAW/OAW Equipment <ul style="list-style-type: none"> ○ Use and Set-up ○ Adjustments based on weld conditions ○ CLAMS ○ Safety ○ Hands-on Project <ul style="list-style-type: none"> ■ Bolt Tractor 	2 Weeks
2. Intro To MIG Welding (GMAW - Gas Metal Arc Welding)	<ul style="list-style-type: none"> ● MIG (GMAW) Equipment <ul style="list-style-type: none"> ○ Parts and Settings ○ Adjustments based on weld conditions ○ Safety ○ Hands-on MIG Practice <ul style="list-style-type: none"> ■ Beads ■ Butt ■ Lap ■ T-joint 	4 Weeks
3. Plasma Arc Cutting	<ul style="list-style-type: none"> ● Plasma Arc Equipment <ul style="list-style-type: none"> ○ Parts and Settings ○ Adjustments based on metal type and thickness ○ Safety 	2 Weeks

	<ul style="list-style-type: none"> ○ Hands-on Plasma Cutting Practice <ul style="list-style-type: none"> ■ Straight Cuts ■ Beveled Cuts ■ Cutting Curves/Circles ■ Piercing Holes ■ Combo Cut Template ■ 	
4. Agricultural Electrical Wiring	<ul style="list-style-type: none"> ● Fundamentals of Electricity ● Electrical Tools and Equipment ● Electrical Symbols ● Electrical Blueprints/Wiring Diagrams ● Practical Wiring hands-on Application <ul style="list-style-type: none"> ○ SPST Switch and lamp ○ SPST Switch, duplex outlet & Lamp ○ SPST Split Duplex ○ Three way switch with lamp 	2 Weeks
5. Agricultural Plumbing, Masonry, and Hydraulics	<ul style="list-style-type: none"> ● Fundamentals of Plumbing ● Plumbing Tools and Equipment ● Hands-on Plumbing Application <ul style="list-style-type: none"> ○ Plumbing Square ● Fundamentals of concrete ● Masonry tools and equipment ● Hands-on Masonry Application <ul style="list-style-type: none"> ○ Block Corner and/or ○ Stepping Stone ● Fundamentals of Hydraulics ● Hydraulic Equipment ● Hands-on hydraulic application <ul style="list-style-type: none"> ○ Crane/Lift Project 	3 Weeks
6. Individual Skill Application Projects	<ul style="list-style-type: none"> ● Projects work that allows students to apply multiple skills from the course into 1 and/or two final projects. <ul style="list-style-type: none"> ○ Southwest Lamp ○ Mini Radio Flier Sled ○ Pub Style Bench 	5 Weeks