

Scope and Sequence Welding & Metal Fabrication



3Academic Subjects – Career success and postsecondary education success require the same level of college prep coursework. The Pennsylvania Department of Education’s (PDE) focus is to ensure that every student is prepared for college and a career. Academic courses such as applied math or general science cannot be listed on the program’s scope and sequence. PDE’s goal is to have all students perform at the competent or advanced level on the PSSA, and earn the Pennsylvania Skills Certificate on the end-of-program assessment.

Subject (Hours)	Secondary School				Postsecondary Institution			
	Grade 9 (Hours)	Grade 10 (Hours)	Grade 11 (Hours)	Grade 12 (Hours)	First Semester	Second Semester	Third Semester	Fourth Semester
Technical		Welding safety and	Shield Metal Arc Welding	Gas Tungsten Arc Welding	WEL 113: Oxy-Fuel Welding and Cutting I	CSC 110: Intro to Info Technology	QAL 247: Non-destructive Testing II	WEL 230: Shielded Metal Arc III
		Oxyacetylene welding and cutting	Gas Metal Arc & Flux Core Arc Welding	Pipe Welding	WEL 114: Shielded Metal Arc I	QAL 237: Non-destructive Testing I	WEL 210: Flux-Cored and Sub Arc I	WEL 234: Shielded Metal Arc V
		Shield Metal Arc Welding	Hard Surfacing w/Shield Metal Arc	Metallurgy	WEL 115: Oxy-fuel Welding & Cutting II	WEL 120: Gas Metal Arc I	WEL 213: Gas Tungsten Arc III	WEL 247: Welding Design
		Hand and Power Tools	Blueprint Reading	Work Based Learning Skills	WEL 116: Shielded Metal Arc II	WEL 124: Gas Metal Arc II	WEL 214: Flux-Cored and Sub Arc II	WEL 233: Shielded Metal Arc IV/Pipe Welding
		Plasma Arc Cutting	Air Carbon Arc Gouging			WEL 123: Gas Tungsten Arc I	WEL 219: Gas Tungsten Arc IV	WEL 239: Shielded Metal Arc VI/Pipe Welding
		Job Seeking/Keeping Skills	Basic Layout & Construction			WEL 129: Gas Tungsten Arc II	WEL 240: Basic CNC Programming	WEL 248: Robotic Welding
			OSHA-Occupational Health and Safety					
			Job Seeking/Keeping Skills					
English	College Prep English 9	College Prep English 10	College Prep English 11	College Prep English 12	ENL 111: English Comp I	ENL 201: Technical & Professional Communication		
Math	Algebra I	Geometry	Algebra II	Trigonometry	MTH 124: Technical Algebra & Trig I			
					MTH 180: College Algebra and Trig I			
Science	Accl Integrated Science	Biology	Chemistry					
Humanities	Citizenship	World Cultures	American History I	American Government				ECO 111: Principles of Macroeconomics
Other	Physical Education	Physical Education	Physical Education	Physical Education	EDT 107: Blueprint Reading	FIT: Elective: Fitness		
	Health	Health	Driver's Ed Theory					