PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

MIDDLE SCHOOL

GRADES 6 - 8

TECHED 6 **6th Grade**	**TECHED 7** **7th Grade**	**TECHED 8** **8th Grade**
Safety in the Woodworking Shop	Safety in the Woodworking Shop	Introduction to 2D Drafting (AutoCAD®)
Measuring with the Standard System of Measurement	Measuring with the Standard System of Measurement	Using Vectors to Engrave and Cut with the Laser Engraving Machine
Paints, Stains, Glues, and Fasteners	Paints, Stains, Glues, and Fasteners	Introduction to Vinyl Cutting
Craft Woodworking Projects	Craft Woodworking Projects	Introduction to Small Electronic Circuits
Assembly of Craft Projects	Assembly of Craft Projects	Introduction to Graphic Design and Image Modification
	Introduction to Graphic Design and Image Modification	Introduction to Sublimation
	Laser Engraving Wood	Introduction to Video Game Design
	Creating a Fine Wood Panel	Introduction to Careers in the Skilled Trades
	CO2 Powered Dragster	Introduction to High School Class Offerings

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

HIGH SCHOOL: CONSTRUCTION COURSES

GRADES 10 - 12

CONSUMER AND HOME MAINTENANCE
Financial Planning, Financial Transactions, Insurance, and Taxes
Renting, Leasing, and Contracts
Buying a Home and Mortgages
Safety in Construction
Construction Tools and Materials
Building Structure and Framework
Plumbing Systems
Electrical Systems and Wiring
Finish Work

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

HIGH SCHOOL: ELECTRONICS COURSES

GRADES 9 - 12

ELECTRONICS 1	ELECTRONICS 2
Introduction to Small Electronics and Circuits	Introduction to Digital Circuits
Electrical Components	Safety with Electronics and Robotics
Calculating Values in Electrical Circuits	Electrical and Robotic Components
Safety with Electrical Circuits	Using Microcontrollers to Control Circuits
Series Circuits	Programming Circuits
Parallel Circuits	Clean Coding and Hierarchies
Combination Circuits	Introduction to Ladder Logic
Debugging “Bad” Circuits	Using Boolean Logic
Reading Pictorial and Schematic Diagrams	What is a Robot: Definition and Control
Building Electrical Circuits	

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

HIGH SCHOOL: ENGINEERING COURSES

GRADES 9 - 12

ENGINEERING 1C: **CIVIL ENGINEERING**	**ENGINEERING 1P:** **PRODUCT ENGINEERING**	**ENGINEERING 2** **INDEPENDENT STUDIES**
Introduction to Civil Engineering and Architecture	Introduction to Production Engineering and Product Design	Student's Choice of Civil Engineering / Architecture OR Product Engineering Fields
Architectural Structures and Framework	Design Cycle for Engineering	Use of the Engineering Design Cycle to Plan Quality Projects
Key Units of Measurement	Units of Measurement and Tolerances	Independent Development of Projects / Content by the Student
Hand Drafting for Architecture	Hand Drafting for Product Design (Orthographic Projection)	Self Reflection on Work and Skills
Introduction to 2D Architectural Drafting (AutoCAD®)	Introduction to 2D Drafting (AutoCAD®)	Teacher Evaluation of Work and Skills
Introduction to 3D Architectural Drafting (Revit®)	Introduction to 3D Drafting (SolidWorks®)	POSSIBLE CERTIFICATION IN SOLIDWORKS SOFTWARE
Surveying	Using the Design Cycle to Create a Product	
Mapping, Global Information Systems (GIS), and Global Positioning Systems (GPS)	Ethics in Engineering	
Creating Databases for Global Information Systems (ArcGIS®)	POSSIBLE CERTIFICATION IN SOLIDWORKS SOFTWARE	
Ethics in Engineering		

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

HIGH SCHOOL: GRAPHIC DESIGN COURSES

GRADES 9 - 12

GRAPHIC DESIGN 1	GRAPHIC DESIGN 2	GRAPHIC DESIGN 3 INDEPENDENT STUDIES	VIDEO GAME DESIGN
Introduction to Graphic Design	Introduction to 3D Graphic Design	Safety in the Graphic Design Shop	Introduction to Video Game Design
Copyrights, Trademarks, and Fair Use	Creating, Modifying, and Rendering 3D Graphics	Planning Quality Graphic Design Projects	History of Gaming and Game Design
Creating, Modifying, and Post-Processing Images	Using a 3D Graphic Design Program (Blender®)	Independent Development of Projects / Content by the Student	Using Storyboards to Create Video Games
Safety for Graphic Design	UV Coloring and Mapping	Self Reflection on Work and Skills	Creating 2D Video Games using Game Design Software (GameMaker®)
Introduction to Photoshop®	Node Mapping for Colors and Textures	Teacher Evaluation of Work and Skills	Programming Video Games using drag and drop coding
Introduction to Lightroom®	Creating and Modifying 3D Landscapes		Programming Video Games using basic scripting
Introduction to InDesign®	Creating 3D Animations		Creating and Modifying Items in Photoshop to be used as Objects and Backgrounds in a Game
Introduction to Illustrator®	Rigging and Animating 3D Meshes		
Introduction to Vinyl Cutting			
Introduction to Screen Printing			
Introduction to Sublimation			

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

HIGH SCHOOL: METAL MANUFACTURING COURSES

GRADES 9 - 12

METAL MANUFACTURING 1	METAL MANUFACTURING 2	METAL MANUFACTURING 3
Introduction to Metal Manufacturing	Metallurgy and Metal Properties	Metallurgy and Metal Properties
Introduction to Metallurgy and Metal Properties	Precision Measurement for Machining	Joining Processes in Metal Manufacturing
Introduction to Metal Casting	Blueprint Reading for Machining	Safety in the Metalworking and Welding Shop
Joining Processes in Metal Manufacturing	Safety in a Machining and Welding Shop	***COURSE WILL BE FINALIZED UPON RUNNING THE CLASS, DUE TO THE UNKNOWN DUAL CREDIT COURSE REQUIREMENTS.
Safety in the Metalworking and Welding Shop	Manual Machining on a Metal Lathe	Electric Welding Processes: SMAW (Shielded Metal Arc Welding)
Electric Welding Processes: SMAW (Shielded Metal Arc Welding)	Manual Machining on a Vertical Milling Machine	Electric Welding Processes: GTAW (Gas Tungsten Arc Welding)
Electric Welding Processes: GMAW (Gas Metal Arc Welding)	Using Multiple Processes, Steps, and Tools to create a Final Product	
Electric Welding Processes: FCAW (Flux Core Arc Welding)	Automated Machining Technologies	
	Electric Welding Processes: GMAW	
	Forging and Heat Treatment of Steel	

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE

HIGH SCHOOL: WOODWORKING AND CABINETRY COURSES

GRADES 9 - 12

WOODWORKING 1	WOODWORKING 2	WOODWORKING 3 / 4 INDEPENDENT STUDIES
Introduction to Woodworking	Introduction to Cabinetry and Furniture-making	Safety in the Woodworking Shop
Logs, Lumber, and Engineered Wood Products	Materials Used in Cabinetry and Furniture-making	Planning Quality Wood Projects
Measurement and Pricing for Woodworking	Measurement and Pricing for Cabinetry and Furniture-making	Measurement and Pricing for Woodworking, Cabinetry, and Furniture
Safety in the Woodworking Shop	Safety in the Woodworking Shop	Independent Development of Projects / Content by the Student
Creating Wood Panel Products	Creating a Quality Cabinet	Building Quality Wood Projects
Creating Fine Wooden Products	Creating Wood Panel Products	Self-Reflection on Work and Skills
Stains and Finishes	Stains and Finishes	Teacher Evaluation of Work and Skills
Woodworking Joinery		

PESD TECHNOLOGY EDUCATION SCOPE AND SEQUENCE