

Engineering Content by Subject Matter:

IED	DE	POE	CIM	CEA	General
Design Process	Basic Electronics	Engineering Careers Exploration (Term Project)	History of Manufacturing	History of Civil Engineering & Architecture	General Shop Safety
Technical Sketching Engineering	DC Circuits	Mechanisms	How Things are made	Careers in CEA	Specific Equipment Safety
Measurements & Statistics	Signal Analysis	Simple Machines	CNC Machining	Residential Construction	OSHA 10 Certification
Design Solutions	Binary Number System	Thermodynamics	Manufacturing Costs	Bldg Design & Construction	SkillsUSA Competitions
Reverse	Boolean Algebra	Heat Transfer	Design for Manufacturability	Cost & Efficiency Analysis	Vex Robotics Competitions
Engineering Design Ethics	Sequential Logic	Statics	Robotics Automation	Commercial Application	Entrepreneurship
Design Teams	NI - Multisim	Materials Analysis	Automation Power	Structures	Blue Print Reading
Computer Aided Design (CAD)	Clock Signals	Strength of Materials	Real Time C Programming	Site Considerations	GD&T
Total Quality Management	Analog Design	Bridge Design	Integration into Manufacturing	REVIT – a CEA CAD tool	Writing Technical Reports
Engineering Communications and Documentation	Combinational Logic	Controls	CIM = Computer Integrated Manufacturing	Affordable Housing Design	Hand & Power Tools
Sustainability & Green Technologies	Programmable Logic Devices	Real Time Embedded Programming	G&M Code	Green and Sustainable Architecture	Measurement & Statistics
	Asynchronous Counters	Fluid Systems: Pneumatics & Hydraulics	MasterCAM	Design for the Client	Calibration
	Synchronous Counters	Power (Electricity) Generation	Factory Work Cells	Design Charrettes	Mobile Robotics
	State Machines				Industry Field Trips
	Microcontrollers				PLC's = Programmable Logic Controllers
	Arduinos				Ladder Logic
	PWM – Pulse Width Modulation				
	Multiplexers and Demultiplexers				