

Engineering Textbooks as Reference Source for K12 Age-possible Topics Research Completion Chart

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Color Codes:

Violet: The research fully completed. No more study necessary. K12 pedagogic experiment may start at the designated grade level.

Red: The research on the first and second textbooks (“primary source of reference” and “secondary source of reference”) completed; a combined list of K12 age-possible topics needs to be compiled; and the earliest possible grade for the inclusion of all age-possible topics in the K12 curriculum needs to be determined. K12 pedagogic experiment may start at high school level.

Orange: The research on the first textbook (“primary source of reference”) and the partial list of age-possible topics completed; research on the second textbook (“secondary source of reference”) and supplemental list needs to start. K12 pedagogic experiment may start at the designated high school grade level.

Blue: The research on possible substitute textbooks for temporary use completed; more vigorous textbooks need to be examined. K12 pedagogic experiment may start at the designated high school grade level.

Green: The research planned with the selection of the first textbook (“primary source of reference”), or both the first and second textbooks. .

Black: The research planned; but textbooks need to be selected.

Proposed Course/Subject	Research Completion (Textbook/Source of Data Examined)								
	Textbook 1 (“Primary Source of Data”)	Textbook 2 (“Secondary Source of Data”)	Textbooks 3, 4, 5, ... (“Additional Source of Data”)						
			3	4	5	6	7	8	
Engineering Foundation									
Introduction to STEAM for K12	✓	✓	✓						
Statics for K12	✓								
Dynamics for K12									
Strength of Materials for K12									
Engineering Materials for K12	✓	✓	✓	✓	✓				
Probability & Statistics for K12	✓	✓	✓						
Engineering Economics for K12	✓	✓							
Mechanical Engineering									
Mechanical Design for K12			✓	✓					
Fluid Mechanics for K12	✓								
Aerodynamics for K12									
Heat Transfer for K12									
Thermodynamics for K12									
Engineering Technology									
Engineering Graphics, CADD & Product Design for K12	✓	✓	✓	✓	✓	✓	✓	✓	✓
Manufacturing Processes for K12	✓	✓							
Engineering Programming for K12	✓								
Civil Engineering									
Introduction to Computerized Civil Engineering Design for K12									
Introduction to Global Positioning System & Land Surveying for K12	✓	✓							
Introduction to Structural Design for K12									
Electrical Engineering									
Introduction to Electrical & Electronics Devices for K12	✓								
Introduction to Circuit Analysis & Simulation for K12									
Introduction to Robotics & Programming for K12	✓								
Capstone Engineering Design and Research									
Capstone Engineering Design and Research	✓	✓							