Introduction To Engineering & Design Pacing Guide 2016-2107 rev.1/11

Months	SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				JANUARY			
Week #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Semester 1	Unit 1: Design Process ● Introduction to Engineering Notebooks ● Introductory Design Challenges ● Concept Sketching ● Design Process Unit 2: Technical Sketching & Drawing ● Isometric Sketching ● Perspective Sketching 　○ 1,2,3,point perspectives				Unit 2 Continued: ● Multiview Sketching 　○ Orthographic Projection Unit 3 Measurement & Statistics: ● Linear Measurement SI ● Linear Measurement US ● Unit Conversions 　○ SI 　○ US				Unit 3 Continued: ● Linear Dimensioning ● Applied Statistics 　○ Precision & Accuracy ● Statistics with Excel ● Statistics and Quality Unit 4 Modeling Skills: ● Puzzle Cube Design Challenge 　○ Brainstorming (Isometric Sketches) 　○ Mathematical Modeling ● Software Modeling 　○ *Autodesk Inventor CAD*				Unit 4 Continued: ● Software Modeling Continued ● Physical Model Creation **BREAK**				Unit 5 Geometry of Design: ● Properties of Shapes ● Software Modeling 　○ Geometric Constraints 　○ CAD Modeling Skills ● Determining Density Semester 2 Starts ● Properties of Shapes ● Software Modeling cont. 　○ CAD Modeling Skills			

Months	FEBRUARY				MARCH				APRIL				MAY				JUNE			
Week #	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38		
Semester 2	Unit 5 Continued: ● Software Modeling Continued ● Physical Property Analysis Unit 6 Reverse Engineering: ● Visual Design Principles ● Visual Analysis ● Functional Analysis ● Structural Analysis				Unit 7 Documentation: ● Dimensioning Standards ● Software Modeling 　○ Sectional Views ● Tolerances ● Software Modeling 　○ Exploded Views 　○ Assembly Views 　○ Animations ● Product Enhancement 　○ Automoblox Vehicle Unit 8 Advanced Computer Modeling: ● Software Modeling 　○ Parametric Constraints 　○ Auxiliary Views				Unit 8 Continued: ● Software Modeling 　○ Working Drawings 　○ Advanced Assembly Practice ● Design Challenge 　○ CAD Unit 9 Design Team: ● Product Lifecycle ● Design Ethics				Unit 9 Continued: ● Team Norms ● Product Research Unit 10 Design Challenges: ● Design Challenges				Unit 10 Continued: ● Design Challenges			