

Title : Mechanical CAD

Type : Essential

	September				October				November				December				January				February				March				April				May				June					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
September/Week 1	■																																									
Introduction: Class expectations, school mission. Professional workplace habits																																										
September/Week 2	■																																									
Universal Systems Model: How products come into being. The design and manufacturing process. Measurement review - fractional																																										
September/Week 3	■																																									
Freehand sketching: Getting your idea down on paper. Isometric, pictorial and Orthographic sketching. Lettering: Creating legible, professional lettering.																																										
September/Week 4 - October/Week 6	■																																									
Mechanical drafting, Tools and equipment. Page setup. Lines and rectangular objects. Creating Orthographic, isometric and oblique drawings using instruments.																																										
October/Week 7 - October/Week 8	■																																									
Introduction to CAD. Menus and tools. Key Creator Cookbook 2D tutorials. (2 weeks)																																										
November/Week 9	■																																									
CAD Geometric construction: Arcs and angles. Tangents Lines and rectangular objects.																																										
November/Week 10	■																																									
Summative design problem assignment. Open ended problem solving																																										
November/Week 11	■																																									
Key Creator Cookbook solid modeling. Designing objects in a 3D world (3 weeks) Multiple viewports, extrusion																																										
November/Week 12 - December/Week 13	■																																									
Boolean operations/ delta coordinates																																										
December/Week 14 - December/Week 15	■																																									
Designing for manufacture and fabrication. Design/ build activity (tbd) (2 weeks)																																										
December/Week 16 - December/Week 17	■																																									
Applied manufacturing: production run																																										
January/Week 18 - January/Week 19	■																																									
Career exploration: CAD and mechanical engineering																																										