

Year10 OCR – Engineering Design

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 31/08	07/09/26	14/09	21/09	28/09	05/10	12/10	02/11	09/11	16/11	23/11	30/11	7/12
	Introduction and brief – Analysis of the brief	Presentational drawing - Sketching	Isometric enhanced	tone/texture shading	Obliques drawing	One point perspective	Two point perspective	Justification	Modelling, virtual and physical and why	Autodesk mating	Autodesk rendering/colour/visual styles	RO39 controlled assessment	RO39 controlled assessment
	Primary, secondary, market research	Isometric basic	Annotations/ labelling	Rendering/ Thick and thin lines	Oblique drawing	Presentational drawing - One point perspective	Two point perspective	Design development	Autodesk recap	Autodesk exploded	Autodesk balloon reference/assembly	RO39 controlled assessment	RO39 controlled assessment
	Anthropometrics and ergonomics	Presentational drawing - Isometric enhanced	Measurements and dimensions	Presentational drawing - Oblique drawing	One point perspective	Presentational drawing - Two-point perspective	Analysis/questionnaire conclusion	Design development	Autodesk drawing and measurement task	Autodesk Sectional drawing	Autodesk image in a setting for advertising	RO39 controlled assessment	RO39 controlled assessment
Cycle 2	W/C 14/12	04/01	11/01	18/01	25/01	01/02	08/02	22/02	01/03	08/03	15/03	22/03	12/04
					Formal Assessment	Formal Assessment							
	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	Design strategies linear, iterative	Testing different types – manufacture or modification Theory and practical	Flow charts	Methods of evaluation of outcome. Measuring, vernier callipers etc	Analysis of existing products, Product disassembly, engineering specification	One off, batch and mass	Metal and properties
	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	Design strategies ergonomic, inclusive	Testing different types – manufacture or modification Theory and practical	Wiring and circuit diagrams	Quantitative comparison against specification and user testing	Needs and wants Qualitative and quantitative data	Stock form	Plastics and timber and properties
	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	RO39 controlled assessment	Design strategies ergonomic, sustainable, user centred	Block diagrams	Methods of evaluation of outcome. Measuring, vernier callipers etc	Analysis of existing products, Product disassembly, engineering specification	Access FM analysis	Metal and properties	Plastics and timber and properties
Cycle 3	W/C 19/04	26/04	03/05	10/05	17/05	24/05	07/06	14/06	21/06	28/06	05/07	12/07	19/07
							Formal Assessment	Formal Assessment	Formal Assessment	Formal Assessment			
	Manufacturing processes wasting, theory and practical	Manufacturing processes joining theory and practical	Manufacturing processes forming theory and practical	Manufacturing processes additive manufacturing joining theory and practical	manufacturing processes Shaping theory and practical	Manufacturing processes finishing theory and practical	Modelling methods, CAD, card, 3D printing, breadboarding, block theory and practical	Assembly, standard components	Production costs, labour, capitol, overheads and materials	Evaluating – matrix, weighted,	Technical drawing - Orthographic drawing conventions lines	Technical drawing - Orthographic drawing conventions	Orthographic drawing conventions leader lines

												scale and tolerance	
	Manufacturing processes wasting, theory and practica	Manufacturing processes joining theory and practical	Manufacturing processes forming theory and practical	Manufacturing processes additive manufacturing joining theory and practical	manufacturing processes Shaping theory and practical	Manufacturing processes finishing theory and practical	Modelling methods, CAD, card, 3d printing, breadboarding, block theory and practical	Assembly, standard components	Evaluating – against the specification modelling	Evaluating – matrix, datum	Orthographic drawing conventions symbols	Orthographic drawing conventions Materials and surface finishes	Orthographic drawing conventions practical applications
	Manufacturing processes wasting, theory and practica	Manufacturing processes joining theory and practical	Manufacturing processes forming theory and practical	Manufacturing processes additive manufacturing joining theory and practical	manufacturing processes Shaping theory and practical	Manufacturing processes finishing theory and practical	Modelling methods, CAD, card, 3d printing, breadboarding, block theory and practical	Production costs, labour, capitol, overheads and materials	Evaluating – matrix, simple,	Evaluating – QFD	Orthographic drawing conventions Title box	Orthographic drawing conventions abbreviations	Orthographic drawing conventions practical applications

Year11 – Engineering Design

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 31/08	07/09/26	14/09	21/09	28/09	05/10	12/10	02/11	09/11	16/11	23/11	30/11	7/12
								Formal Assessment	Formal Assessment	Formal Assessment			
	Revisit Analysis of existing products, Product disassembly, engineering specification	Revisit manufacturing processes, joining, shaping, forming	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	Revisit Flow charts Block diagrams Wiring and circuit diagrams	Revisit Modelling methods, CAD, card, 3d printing, breadboarding, block theory and practical	Revisit Evaluating – matrix, simple, weighted, datum and qfd
	Revisit Needs and wants Qualitative and quantitative data	Revisit manufacturing processes, finishing, wasting, additive	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	Revisit Metal and properties Plastics and timber and properties	Revisit Production costs, labour, capitol, overheads and materials	Revisit Evaluating – against the specification modelling
	Revisit Access FM analysis	Revisit Assembly, standard components	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	R040 Controlled assessment	Revisit One off, batch, mass and stock forms	Revisit Testing different types – manufacture or modification Theory and practical	Revisit Design strategies linear, iterative sustainable
Cycle 2	W/C 14/12	04/01	11/01	18/01	25/01	01/02	08/02	22/02	01/03	08/03	15/03	22/03	12/04
								Formal Assessment	Formal Assessment				
	Revisit Design strategies user centered, inclusive and ergonomic	Revisit Presentational drawing – Sketching, isometric and oblique	Revisit Methods of evaluation of outcome. Measuring, vernier callipers etc	Revisit Orthographic drawing conventions scale and tolerance, abbreviations	Revisit Autodesk Sectional drawing	Revisit Autodesk converting orthographic drawing to isometric	Past paper assessment	Past paper assessment	Targeted revision based on RAG ratings and past paper	Targeted revision based on RAG ratings and past paper	R038 quizzing Section 1	R038 quizzing Section 4	Structuring extended exam questions

