

Chapeltown Academy **Y12** Curriculum Intent Plan

Subject: Unit 1 - Principles of Engineering

Procedural knowledge (exam technique, skills etc):

- a. Mathematical Methods - see Specification
- b. Independent Study Skills - Creating and using revision resources
- c. Independent Study Skills - Reflection, Worked Examples
- d. Careers - university, apprenticeships
- e. Applications of Physics - Solving multi-step problems, selecting correct approach

w/c	Calendar Constraints	Disciplinary Knowledge Sequence	Disciplinary knowledge connections	Procedural knowledge progression	RS revision knowledge topic	HW focus and actions - see RS.	Assessment (topic and skills assessed)
04/09/2023	Y12 and Y13s in on Thursday and Friday						
11/09/2023		Introduction and Start A3 Simultaneous Equations	GCSE Maths Foundation skills covered in independent study	a	Summer Holiday Booklet and Test		
18/09/2023		Continue A3 Simultaneous Equations, and A4 Factorisation and Quadratics, Booklet 1 Test Return/Levelled Challenge Questions	GCSE Maths Foundation skills covered in independent study	a	Maths 2 Booklet and Test		Base line Test using Exam Q on A, except exponentials
25/09/2023	Y12 Awards	A5 Trig Graphs, Spare, Folder Check, RS Check	GCSE Maths Foundation skills covered in independent study, Rotational Motion and	a	Maths 3 Booklet and Test		Base line Test using Exam Q on A, except exponentials
02/10/2023		A6 Circular Measure, A7 Composite Shapes	Leave Exponentials until capacitors	a, e	Maths 3 Booklet and Test		
09/10/2023	Progress Day, Inset Day	Folder Check, RS Check, Test, B1-1 Vectors		a, d - what kind of engineering	A. Mathematical Methods		
16/10/2023		B1-2 - Forces and Equilibrants, Test Return	Trig	a-trigonometry, b, d-structural engineering	A. Mathematical Methods		
23/10/2023	Half Term						
30/10/2023	Half Term	B1-3 - Moments, B1-4 - Forces, Moments and Equilibrants	Vectors and scalars, trig	a, d -AMRC	B1 SES		
06/11/2023	8th Nov Open Evening	B1-5 - Simply Supported Beams, Folder Check, RS Check	Forces and moments, trig	a, e - why do buildings fall down	B1 SES		
13/11/2023	Y11 taster sessions start?	B2-1 Loaded components Direct Stress, Strain, Young Modulus, B2-2 Loaded components Shear Stress, Strain, Modulus,			B2 Loaded Components		
20/11/2023	24th Nov Staff Inset (Friday)	Test, Spare					Test - B1 and B2
27/11/2023		Test Return + Folder Check, RS Check, Spare					Test - B1 and B2

04/12/2023	4th – 8th Dec Y13 Mocks 1 7th Dec Twilight CPD	C1 Equations of Motion	Algebra				
11/12/2023	Y13 Mock Exams	C2 - Equilibrium, N1L, N2L, N3L (double)	Forces and moments, trig	a	C1 DES		
18/12/2023		C3 - Conservation of Energy, Power, C4 - Conservation of Momentum		a	C1 DES		
25/12/2023	Holiday						
01/01/2024	Holiday						
08/01/2024	11th Jan Alumni Awards Evening Y13 Alumni Awards Eve Y13 Mock 1 AP data entry deadline	C5 - Describing Rotation, C6 - Rotation and Energy	Circular Measure,	e	C1 DES		
15/01/2024	16th Jan Progress Day Y12 AP Progress Data Entry deadline	C7 - Lifting Machines and Efficiency (double)	Forces and moments, linear motion	a	D1 FES		
22/01/2024	22nd Jan Twilight CPD	D1 - Describing Fluid Systems, Test		d,e			Test - C (including some A)
29/01/2024		D2 - Hydrostatic Pressure, Test return + Folder Check, RS Check		a,d,e			Test - C (including some A)
05/02/2024	6th Feb Open Evening 8th Feb Staff Inset	D3 - Immersed Bodies, D4 - Fluid Flow		a,d,e			
12/02/2024	Half Term						
19/02/2024	26th Feb – 6th March Y13 Mocks 2 28th Feb Twilight CPD	E1 Static and direct current electricity Current, Charge, Components, E2 Static and direct current electricity Voltage and DC Sources	Energy, electric circuits	a	Current Electricity		
26/02/2024	26th Feb – 6th March Y13 Mocks 2 28th Feb Twilight CPD	E3 - Resistance, Power, Energy, E4 - Logs and Graphs	Energy, electric circuits	a	Current Electricity		
04/03/2024	26th Feb – 6th March Y13 Mocks 2	E5 - Electric Fields, E6 - Capacitance and Capacitors	Electric circuits	a	Magnetism		
11/03/2024		E7 - Charge and Discharge, E4 - Rectification and Diodes	Electric circuits	a	Magnetism		
18/03/2024		Test, Spare		b, e	Magnetism		Test - D, E
25/03/2024	27th Mar Y13 Parents Eve 29th March Bank Holiday 29th March Bank Holiday	Test Return, Spare	Electric circuits		Magnetism		Test - D, E
01/04/2024	Holiday						

08/04/2024	Holiday						
15/04/2024	18th Apr Progress Day	F1 - Magnetic Flux, Flux Density and Magnetic Field Strength, F2 - Hysteresis Loops	Electric circuits, circular motion	a, b	AC		
22/04/2024		F3 - Induction and Generators, F4 - Motors	Electric circuits, circular motion	a	AC		
29/04/2024	30th Apr Summer Exams Start 2nd May Twilight CPD	F5 - Self Inductance and Transformers	Electric circuits	a	AC		
06/05/2024	6 th May Bank Holiday	G1 - AC Waveform, G2 - Adding Waves	Electric circuits, trig graphs	a, b	AC		
13/05/2024	17th May Y13 leavers day	G3 - Impedence, Test	Electric circuits, circular motion	a	AC		Test - F, G
20/05/2024	Y13 Leavers day	Test Return, Revision					Test - F, G
27/05/2024	BTEC Exam, Y13 Summer Exams start, Y12 Work Experience						
03/06/2024	Half Term						
10/06/2024		Supervision only					
17/06/2024	21st – 24th June Y12 Study Leave 21st June UCAS Convention	Supervision only					
24/06/2024	21st – 24th June Y12 Study Leave 24th Jun Induction Day 25th Jun – 2nd July Y12 Mocks 2	Supervision only					
01/07/2024	25th Jun – 2nd July Y12 Mocks 2 2nd July Twilight CPD 2nd – 5th July	Supervision only					
08/07/2024		Supervision only					
15/07/2024	Work Experience Week	Supervision only					