

Week Number	Lesson Content
1	Topic 2: Mechanics
2	
3	
4	
5	
6	
7	
8	To include a WCF and MMA
9	
10	
11	Topics 5: Waves and Particle Nature of Light
12	
13	
14	
15	
16	
17	
18	Topic 4: Materials
19	
20	
21	Topic 3: Electric Circuits
22	
23	
24	
25	
26	Topic 5: Waves and Particle Nature of Light
27	
28	
29	Topic 6: Further Mechanics
30	
31	
32	

Topic 2: Mechanics

- Describing motion graphically
- Equations for speed and acceleration
- Newton's Second Law
- Vectors
- Power and efficiency
- Momentum
- Equations of motion
- Free body force diagrams

To include a WCF and MMA

Topics 5: Waves and Particle Nature of Light

- Wave properties: wavefronts, coherence, phase, nodes and antinodes, diffraction
- Wave equation
- Light: reflection and refraction
- Simple ray diagrams

To include a WCF and MMA

Topic 4: Materials

- Density
- Hooke's law
- Stress, strain and Young's modulus, tensile strength

To include a WCF and MMA

Topic 3: Electric Circuits

- Current and potential difference
- Series and parallel circuits (Kirchoff's Laws)
- Power, potential dividers, emf and resistivity
- Conduction mechanisms

To include a WCF and MMA

Topic 5: Waves and Particle Nature of Light

- Photon model
- Spectra
- Photoelectric effect and wave-particle duality

To include a WCF and MMA

Topic 6: Further Mechanics

- Impulse
- Conservation of momentum
- Circular motion and centripetal force

To include a WCF and MMA **AS MOCK EXAMS TO INCLUDE ALL OF THE ABOVE**

33	Topic 12: Gravitational Fields
34	<ul style="list-style-type: none"> Field models, inverse square law and Newton's Law of Gravitation. <p>To include a WCF and MMA</p>
35	Topic 7: Electric Fields
36	<ul style="list-style-type: none"> Electrostatic forces and electric fields
37	<ul style="list-style-type: none"> Force between point charges
38	<ul style="list-style-type: none"> Electric potential and forces on charges
39	<ul style="list-style-type: none"> Capacitance and capacitors <p>To include a WCF and MMA</p>
40	Topic 7: Magnetic Fields
41	<ul style="list-style-type: none"> Magnetic fields, right hand grip rule and Fleming's Left Hand Law
42	<ul style="list-style-type: none"> Forces in magnetic fields
43	<ul style="list-style-type: none"> Magnetic flux density, Faraday's Law and Lenz's Law <p>To include a WCF and MMA</p>
44	Topic 8: Nuclear and Particle Physics
45	<ul style="list-style-type: none"> Thermionic principles
46	<ul style="list-style-type: none"> Cyclotrons
47	<ul style="list-style-type: none"> Structure of matter Matter, antimatter and annihilation The Standard Model <p>To include a WCF and MMA</p>
48	Topic 13: Oscillations
49	<ul style="list-style-type: none"> Simple Harmonic Motion
50	<ul style="list-style-type: none"> Pendulums Resonance <p>To include a WCF and MMA</p>
51	Topic 9: Thermodynamics
52	<ul style="list-style-type: none"> Pressure
53	<ul style="list-style-type: none"> Ideal gases and the equation of state Kinetic theory and absolute zero Specific heat capacity and specific latent heat <p>To include a WCF and MMA</p>
54	Topics 10 & 11: Space and Nuclear Radiation
55	<ul style="list-style-type: none"> Black bodies and the Stefan-Boltzmann law
56	<ul style="list-style-type: none"> Wein's Law
57	<ul style="list-style-type: none"> Standard candles and the inverse square law
58	<ul style="list-style-type: none"> Stages of star evolution and the Hertzsprung-Russell diagram
59	<ul style="list-style-type: none"> Nuclear binding energy, gravitational collapse Alpha, beta and gamma radiation. Nuclear decay equations
60	<ul style="list-style-type: none"> Fission and fusion Redshift, Hubble's law, acceleration of the Universe. Dark matter and the Hubble constant. <p>To include a WCF and MMA</p>

Paper 1: Advanced Physics I

***Paper code: 9PH0/01**

- Questions draw on content from the topics listed in the section *Qualification at a glance*.
- Questions are broken down into a number of parts.
- Availability: May/June
- First assessment: 2017
- The assessment is 1 hour 45 minutes.
- The assessment consists of 90 marks.

**30% of the
total
qualification**

Paper 2: Advanced Physics II

***Paper code: 9PH0/02**

- Questions draw on content from the topics listed in the section *Qualification at a glance*.
- Questions are broken down into a number of parts.
- Availability: May/June
- First assessment: 2017
- The assessment is 1 hour 45 minutes.
- The assessment consists of 90 marks.

**30% of the
total
qualification**

Paper 3: General and Practical Principles in Physics

***Paper code: 9PH0/03**

- Questions draw on content from any of the topics in the specification.
- Questions are broken down into a number of parts.
- Questions may involve two or more topics.
- Availability: May/June
- First assessment: 2017
- The assessment is 2 hours 30 minutes.
- The assessment consists of 120 marks.

**40% of the
total
qualification**

Specification:

<https://qualifications.pearson.com/content/dam/pdf/A%20Level/Physics/2015/Specification%20and%20sample%20assessments/PearsonEdexcel-Alevel-Physics-Spec.pdf>