

Yr13 Physics – Unit 7.2

MAGHULL HIGH SCHOOL – CURRICULUM MAP



	Sequence				
TOPIC (S) Electric Fields	1. Coulomb's Law 2. Electric field strength 3. Electric potential		4. Capacitance 5. Parallel plate capacitors 6. Energy stored in a capacitor		7. Capacitor charge and discharge 8. Required practical 9
Knowledge & Skills development	<ul style="list-style-type: none"> Represent an electric field by the use of field lines Determine the magnitude of force between point charges Determine the magnitude of E in a uniform and a radial field Define electric potential, including zero value at infinity Define the energy changes associated with moving an object between different equipotential surfaces Graphical representations of variations of E and V with r Define capacitance Describe and explain dielectric action in a capacitor Calculate the energy stored in a capacitor 			<ul style="list-style-type: none"> Graphical representation of charging and discharging of capacitors through resistors. Corresponding graphs for Q, V and I against time for charging and discharging Interpretation of gradients and areas under graphs where appropriate Calculate time constant including its determination from graphical data Investigation of the charge and discharge of capacitors. Analysis techniques to include log-linear plotting leading to a determination of the time constant, RC 	
Assessment / Feedback Opportunities	Exam questions – teacher assessed	Exam questions – self assessed	Extended writing task – teacher assessed	Deep marking of required practical in lab books	Topic Assessment
Cultural Capital	<ul style="list-style-type: none"> 				
SMSC / Promoting British Values (Democracy, Liberty, Rule of Law, Tolerance & Respect)	<ul style="list-style-type: none"> 				
Reading opportunities	<ul style="list-style-type: none"> Recommended Read: Understanding Gravitational and Electric Fields for A Level Physics: A self-study guide for A Level Physics students – 29 May 2017 by David Drumm (Author) 				
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, Describe, Explain, Compare, Analyse, Calculate, Suggest, Absolute, Uncertainty, Error Field, Charge, Uniform, Radial, Infinity, Potential, Equipotential, Capacitor, Capacitance, Dielectric, Discharge				
Digital Literacy	The use of excel to plot graphs and analyse data MSOffice365 apps including SharePoint				
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators				
Careers	Electrical engineer, electrician, electronics based careers such as computer construction, particle accelerator scientist				