The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 13 Physics
Learning Programme 4

The LORIC skill focus for his LP is: INITIATIVE.
The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.

Integrity - Having strong moral principles.
Gratitude - Feeling and expressing thanks.

What will I be learning about in this Learning Programme?
How capacitors are constructed and how to use the capacitor energy storage questions. How an electric field can be induced and how to use the transformer equations.

Where have I seen this learning before?
Electricity, waves and photons unit from Yr12
Radioactivity at KS4

What could I use it for?
Undergraduate degrees courses in electrical and mechanical engineering, medicine and energy sector degrees

Literacy:
- Capital letters must be used at the start of sentences and for the first letter of proper nouns
- Full stops must be used at the end of a sentence
- Question marks must be used at the end of a question
- Apostrophes should only be used for possession or omission
- Days of the week and months must be spelled correctly
- Key words must be spelled correctly

In LP4.1, I will know: 04/03/24 - (WK 1)	Key Vocabulary	Homework
how to define electric field strength. how to apply coulombs law for the force between two point charges; how to describe a uniform electric field.	Coulombs law	Electric fields booklet
In LP4.2, I will know: 11/03/24 - (WK 2)	**Key Vocabulary**	**Homework**
how to state and apply Fleming's Left Hand Rule; how to find the magnitude of an induced force via experiment and compare it with the theoretical value. how to define the weber. Define magnetic flux and magnetic flux linkage. Calculate magnetic flux and magnetic flux linkage; how to describe Faradays Law and Lenz's Law.	Fleming's land hand rule	Magnetic fields booklet
In LP4.3, I will know: 18/03/24 - (WK 1)	**Key Vocabulary**	**Homework**
how to describe the construction of a transformer. Explain how a transformer alters potential difference. Use the transformer equations; how to describe Rutherford's Alpha scattering experiment and explain what it tells us about the structure of the atom. Compare the relative size of the atom and the nucleus. Extended Task.	Weber	Particle physics booklet
In LP4.4, I will know: 25/03/24 - (WK 2)	**Key Vocabulary**	**Homework**
PAG 7 - radiation How to describe subatomic particles and the particle zoo How to describe the nature of alpha, beta and gamma radiation How to describe half-life and radioactive decay calculations	decay	Radiation PPQs
In LP4.5, I will know: 15/04/24 - (WK 1)	**Key Vocabulary**	**Homework**
How to describe Nuclear fission and fusion How to describe binding energy How to describe medical uses for radiation: Xray's, CAT scans, The gamma camera, PET scans,	fission and fusion	Nuclear Fission and Fusion PPQs
In LP4.6, I will know: 22/04/24 - (WK 2)	**Key Vocabulary**	**Homework**
How to describe Ultrasound, acoustic impedance and doppler imaging Extended Task.	matter	Medical Physics PPQs
In LP4.7, I will know: 29/04/24 - (WK 1)	**Key Vocabulary**	**Homework**
Revision for exams		past papers
In LP4.8, I will know: 06/05/24 - (WK 2)	**Key Vocabulary**	**Homework**
Revision for exams		past papers

PRT Task 1

PRT Task 2

Resources to support learning:
Knowledge organiser, Microsoft TEAMS, https://www.physicsandmathstutor.com/physics-revision/a-level-ocr-a/

FFET Award Challenge for this Learning Programme:
LP4 Year 13 Physis: Complete a practice paper independently as part of your revision