Rewarding Learning

GCSE Physics

STUDENT GUIDE

INTRODUCTION

This CCEA specification in GCSE Physics provides a broad, coherent and practical course that develops confidence in physics and offers a positive view of science. It encourages you to appreciate the value of physics in your life and in the wider world.

WHY STUDY PHYSICS?

This specification aims to encourage you to:

- develop your knowledge and understanding of physics;
- develop your understanding of the effects of physics on society;
- develop an understanding of the importance of scale in physics;
- develop and apply your knowledge and understanding of the nature of physics and of the scientific process;
- develop your understanding of the relationships between hypotheses, evidence, theories and explanations;
- develop your awareness of risk and the ability to assess potential risk in the context of potential benefits;
- develop and apply your observational, practical, modelling, enquiry and problem-solving skills;
- develop your ability to evaluate claims based on science through critical analysis of the methodology, evidence and conclusions both qualitatively and quantitatively; and
- develop your skills in communication, mathematics and the use of technology in scientific contexts.

UNIQUE FEATURES OF THIS QUALIFICATION?

Unit 3 is a practical skills unit that will be externally assessed. It is divided into two parts: Booklet A and Booklet B.

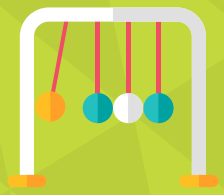
Booklet A will consist of two practicals based on two from the specification's prescribed practical list. Centres will be sent a Materials and Apparatus list in December. A Booklet A for each student will be sent to centres in January, and you will need to complete your booklet by May. It will then be externally marked.

Booklet B will be a written, externally assessed exam taken at the end of the final year of study. It will consist of questions about planning and carrying out any of the prescribed practical activities, together with more general questions about any practical situation that arises from within the specification.

HOW WILL I BE ASSESSED?*

CONTENT	ASSESSMENT	AVAILABILITY
Unit 1: **Motion, Force, Moments, Energy, Density, Kinetic Theory, Radioactivity, Nuclear Fission and Fusion**	External written examination Students answer compulsory structured questions that include short responses, extended writing and calculations. Foundation Tier: 1 hour 15 mins Higher Tier: 1 hour 30 mins	Summer from 2018
Unit 2: **Waves, Light, Electricity, Magnetism, Electromagnetism and Space Physics**	External written examination Students answer compulsory structured questions that include short responses, extended writing and calculations. Foundation Tier: 1 hour 15 mins Higher Tier: 1 hour 30 mins	Summer from 2019
Unit 3: **Practical Skills**	**Booklet A** Externally marked Students carry out two pre-release practicals in their final year of study. Foundation and Higher Tiers: 2 hours	Between 1 January and 1 May from 2019
	Booklet B External written examination Students answer compulsory structured questions that include short responses, extended writing and calculations, all set in a practical context. Foundation Tier: 1 hour Higher Tier: 1 hour 15 mins	Summer from 2019

*The information in this table is still subject to regulatory approval.



Unit 1

Motion, Force, Moments, Energy, Density, Kinetic Theory, Radioactivity, Nuclear Fission and Fusion

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Unit 2

Waves, Light, Electricity, Magnetism, Electromagnetism and Space Physics

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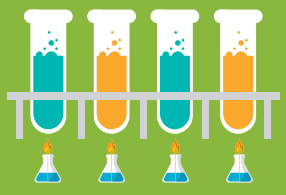

Unit 3

Practical Skills

WHAT CROSS-CURRICULAR SKILLS, THINKING SKILLS AND PERSONAL CAPABILITIES WILL I DEVELOP?

This specification builds on the learning experiences from Key Stage 3 as required for the statutory Northern Ireland Curriculum. It also gives you opportunities to contribute to the aim and objectives of the Curriculum at Key Stage 4, and to continue to develop the Cross-Curricular Skills and the Thinking Skills and Personal Capabilities. The extent of the development of these skills and capabilities will be dependent on the teaching and learning methodology used.

WHAT CAN I DO WITH A QUALIFICATION IN PHYSICS?

The specification provides a thorough preparation for the study of physics and related courses at GCE Advanced level and Advanced Subsidiary level. It also allows you to develop transferable skills that will benefit you in vocational training and employment.

Physics is crucial to understanding the world around us, the world inside us, and the world beyond us. It is the most basic and fundamental science.

Physics challenges our imaginations with concepts like relativity and string theory, and it leads to great discoveries, such as computers and lasers, and technologies that change our lives – from healing joints to curing cancer and developing sustainable energy solutions.

COUNCIL FOR THE **CURRICULUM, EXAMINATIONS** AND **ASSESSMENT**
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