

GETTING STARTED

Whether you already teach a similar specification with CCEA or another awarding body, or you are considering offering applied specifications for the first time, getting started couldn't be easier:

- Visit www.ccea.org.uk to view the specification.
- Check your subject microsite for news and events.
- Contact your specification support officer if you have any queries.



CONTACTS

Subject Officer

with overall responsibility for this specification

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SUPPORTING YOU

Over the next three years, we will deliver a programme of support focusing on the applied nature of the qualification. To make informed decisions on meeting future needs, we will also listen to feedback on and suggestions for support.

We have developed a microsite for the subject where you can find the latest version of the specification, a summary of units, contact details and information on support materials and events. Visit www.ccea.org.uk and go to the Microsite Quickfind dropdown menu.

We will also provide:

- a guide for learners;
- guidance on units;
- additional support events;
- information on industry/business links; and
- online video tutorials.

We can also provide customised centre visits to meet individual support needs. To arrange a centre visit, please contact us using the information opposite.

A snapshot of CCEA's CERTIFICATE IN SPACE SCIENCE TECHNOLOGY

Level 2 specification

For first teaching from September 2013

space
science
technology

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COUNCIL FOR THE CURRICULUM, EXAMINATIONS AND ASSESSMENT

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This Level 2 qualification provides learners with the opportunity to explore the latest skills and practices in the field of space science technology. In 2011 the UK government invested £10 million of public money into the UK space industry, recognising its potential to grow a space science industry to compete in the global market.

According to the UK Space Agency, the UK's thriving space sector currently contributes £9.1 billion a year to the economy. The sector is growing at 7.5 percent per year despite difficult economic times. It directly employs 28,900 people and supports a further 60,000 jobs across a variety of industries. The UK government aims to have a £30 billion industry by 2030. The space sector is changing from a celebration of scientific endeavour into a capability that impacts on our everyday lives, for example live satellite transmissions of news and sports, satellite broadband and navigation systems, and global positioning systems and services. (See UK Space Agency Annual Report and Accounts 2012–13)

SPECIFICATION SUMMARY

This exciting qualification gives learners the opportunity to study space science technology and to use it to solve problems in a modern industrial context. CCEA has developed it in consultation with Invest NI, Bombardier Aerospace and the defence and security industries. Teachers and Education Library Board (ELB) representatives have also had input into its design.

The qualification has been endorsed by SEMTA (Sectors Skill Council for Science, Engineering and Manufacturing Technologies); Bombardier Aerospace; Thales UK; the Armagh Planetarium; Aerospace, Defence Security industries in Northern Ireland (ADS NI); and Invest NI. Dr Leslie Orr, Manager of ADS NI stated that: 'The growth of the space sector is the key to the future and Northern Ireland ADS industries want to be a part of that. The timing of this qualification is right.'

Content and Assessment

This table summarises the structure of this qualification. The units below are **mandatory**.

CONTENT	CONTENT SUMMARY	ASSESSMENT	CREDIT VALUE	GUIDED LEARNING HOURS	AVAILABILITY
Unit 1: Human Space Flight	Learners will develop an understanding of humanity's endeavour to reach for the stars. They will recognise key milestones in the history of human spaceflight and opportunities for space tourism in the future. Learners will also gain insight into the benefits of developing healthy lifestyles through diet and exercise.	Internally assessed and externally moderated eportfolio	3	25	January and Summer
Unit 2: Mapping with a GIS	This unit will help learners to understand what maps are. They will be given the opportunity to distinguish between different types of maps and to understand the compromises cartographers have to make in order to create maps. They will gain an understanding of the role that satellite technologies play in providing information for geographical information systems (GIS) mapping.	Internally assessed and externally moderated eportfolio	3	25	January and Summer
Unit 3: Technology Impact on Society	Learners will develop an understanding of the ethical issues that arise when using and developing the technologies in this qualification. They will have the opportunity to explore the ethical implications of using Global Positioning System (GPS) tracking and its role in security and surveillance.	Internally assessed and externally moderated eportfolio	2	20	January and Summer

The units below are **optional**. You must select **three units**.

Unit 4: Distant Light in the Universe	This unit will help learners appreciate the scale and distances involved in measuring distance in the universe. It will enable them to identify and effectively use the appropriate units for cosmic measuring. They will also develop an understanding of the life cycles of stars and the possibilities of life beyond earth.	Internally assessed and externally moderated eportfolio	2	20	January and Summer
Unit 5: Composite Technologies and the Aerospace Industry	This unit defines what a composite is. Learners will consider composite materials and their applications. Learners will also gain insights into the aerospace industries in Northern Ireland and their contribution to the local and global economy.	Internally assessed and externally moderated eportfolio	2	20	January and Summer
Unit 6: Location Aware Computing	This unit will help learners to understand how geolocative data can work to provide immersive experiences to educate and entertain. They will have the opportunity to use their creative skills in ICT to design and build their own located media experience.	Internally assessed and externally moderated eportfolio	2	20	January and Summer
Unit 7: Using Satellite Data	Learners will understand the role of earth observation satellites and how satellite technology is used to warn us of potential threats from space. Learners will also gain insight into how satellite data has increased our ability to monitor climate change and natural disasters.	Internally assessed and externally moderated eportfolio	2	20	January and Summer
Unit 8: Remote Sensing of Earth and Space	Learners will understand the general concepts behind remote sensing of the earth. They will gain insight into the way satellite technologies are used to provide data about potential geo-hazards on earth while also providing information about the geology of other objects in space such as planets.	Internally assessed and externally moderated eportfolio	2	20	January and Summer

This qualification is a certificate worth 14 credits. It is at Level 2 standard and there are a total of 130 guided learning hours.

BENEFITS TO LEARNERS

This Level 2 qualification builds upon the broad objectives of the Northern Ireland Curriculum. In particular, it enables learners to:

- **apply** their skills in science, mathematics, engineering and ICT to real-life problems;
- **become better equipped** to meet the needs of Northern Ireland's economy in an international context;
- **build skills** in scientific methods of enquiry, using scientific findings to solve problems;
- **learn** about the latest skills and practices in this £9.1 billion per year industry;
- **explore** a wealth of topics such as human space travel and satellite technologies' monitoring of Earth;
- **experience** the impact of space science technology on everyday life;
- **consider and debate** many of the ethical issues and environmental concerns; and
- **communicate and present** their findings in imaginative ways.