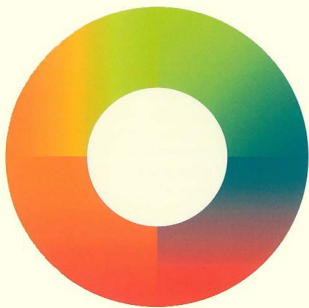


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learning

put
into
practice

GCSE in
Engineering

Double Award



For Further Information Please Contact:-
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Pupil
Teacher
Parent
edition

GCSE in Engineering

Double Award



What is it?

It's a work-related GCSE involving you in engineering. It allows you to do more practical work alongside the science and technology theory in the classroom.

What will it do for me?

As a pupil it'll improve your skills as well as your learning. This will open up opportunities for further learning. It's flexible so that you can go on to university or do a Modern Apprenticeship to further develop your skills.

What's special about it?

The syllabus of the qualification is equivalent to two standard GCSEs and takes two-years to complete. As a 'Double Award' it's worth two GCSE grades.

Is it for me?

If you have an inquisitive mind, enjoy solving problems, and have an interest in science and technology we think you'll like it. It's not a subject just for the boys either. There's plenty of topics on offer engineering that will interest the girls. Medicine, fashion, music will have some element of engineering technology to that you can use for a project. If you're unsure, talk to your science and technology teacher about it.

How do I get started?

Read on to learn more about the GCSE in Engineering. The evolution of innovation technology teasers gives a flavour of the essence of engineering. If this has inspired you, then talk to your teacher to get started.

Opening opportunities
for 14- to 16-year-olds
Unlocking their potential

evolution of innovation: mobile communications

Information and images
provided by
**Siemens Information and
Communication Mobile**
ALL IMAGES COPYRIGHT OF SIEMENS

1992

The P1 weighs in at 2.2Kg with a talk-time of 2 hours. The first GSM mobile phone from Siemens, it was ground breaking technology for the time.

1993 to 1996

Advances in technology through ingenious and inspired design allow for smaller mobile phones with longer talk-times.

1997

Colour in the palm of your hand. The S10 is the first mobile phone to feature a colour display.

1999

Calling more of the world. The C25 is a dual band phone that's affordable and easy-to-use.

2002

Converging technologies -telecommunications meets digital imaging. The MC60 features an built-in camera and a colour screen to view your images.

Today

The Xelibri mixes technology with art. Designed to be worn around the neck this mobile phone is a fashion statement that's always at hand.



Mobile phone technology has raced along on its journey of advancement and innovation over a relatively brief timeframe. Advances in technology and reduction in prices have benefited us all.

Take your first steps on the road to innovative thinking with the GCSE in Engineering.

evolution of innovation: medical technology

Information and images
provided by
Siemens

Medical Solutions

ALL IMAGES COPYRIGHT OF SIEMENS

- 1980**
Sheer magnetism. Looking beneath the skin to provide doctors with vital information about what's going on inside the body.
- 1983**
First generation. An early Magnetom, one of the first volume manufactured MRI scanners, which pushed technology boundaries.
- 1987**
First generation. Quality improves with less stray magnetic fields. Short and lighter magnets result in a more compact-size for greater space saving.
- 1994**
Second generation. Technology advances give rise to faster scan speeds and easier servicing. It's less expensive to buy and not as costly to run.
- 2003**
Third generation. Total imaging matrix technology allows for full body scans. The clarity of imaging has improved and it operates more quietly.
- Today**
MRI scan technology is still in its infancy with only 20 years of development behind it. There is plenty of opportunity to progress the technology much further.



Magnetic Resonance Imaging, MRI, has made a significant impact in the field of medical diagnostics. Using powerful electro-magnets to excite atomic nuclei it can take an image of the inside of the body without any surgery.

Technology in medicine means better healthcare, learn more about it with the GCSE in Engineering.

Technical spec At-a-glance

Unit grades	A* to G
Qualification grades	A*A* to GG
Duration of study	Two academic years
First introduced	September 2002
First qualification	Summer 2004
Number of schools participating	280[1]
Number of registered candidates	8,000[1]

[1] correct as at 12 JAN 2004

Routes to opportunity



Now available, the new Student Apprenticeship (see back cover)

The above representation is simplified. You should ask your teacher or careers adviser to see what other options are available.

What is a Modern Apprenticeship?

It's an alternative choice to university. It gets you into the world of work while you get trained-up. The best part of it is that you'll get paid as an apprentice, unlike university students.

Engineering Modern Apprenticeships offer some of the most comprehensive and best training available amongst all apprenticeships that are on offer.

Sounds interesting? Well, find out more at www.realworkrealpay.com

GCSE in Engineering

The assessment scheme is separated into three equal units. The table below provides more details.

Unit	Criteria	How you'll be assessed	Assessment evidence
1	Design and graphical communication	Demonstrate what you know about what you've been taught. You'll be expected to apply the knowledge that you've gained to formulate and communicate solutions to technical problems.	Portfolio of work (internally assessed)
2	Engineered products	It's time to test your planning and design skills for you to make something happen. You may have created a technical design. Now you'll have to decide how to manufacture it, select the right materials, and apply quality control measures.	Portfolio of work (internally assessed)
3	Application of technology	Evaluate the problem and assess the evidence provided from measurements that may be mechanical, electrical, or statistical. Armed with the facts, it's time to make reasoned judgments and present your conclusion.	Exam (externally assessed)

The Student Apprenticeship

A great way to get a head-start to a Modern Apprenticeship.

The new Student Apprenticeship aims to offer young people in education an opportunity to get into the workplace.

It will give you the opportunity to explore career opportunities by giving you experience of a real business and technology environment. This will enhance and enrich what you learn during lesson time by allowing you to put theory into practice at an engineering training centre and at companies away from school in a real engineering environment.

You can start a Student Apprenticeship in Year 10 so that by school leaving age at 16 you can go into a Modern Apprenticeship or remain in full-time education to do A-Levels as a student apprentice before going onto further or higher education.

Need more advice? Contact



Online reference for teachers

Awarding bodies

Edexcel
www.edexcel.org.uk

OCR

www.ocr.org.uk

Assessment and Qualifications Alliance

www.aqa.org.uk

Strategic national resource

Learning and Skills Development Agency (LSDA)

www.lsda.org.uk

Standards regulator

Qualifications and Curriculum Authority

www.qca.org.uk

Government

Department for Education and Skills (DfES)

www.dfes.gov.uk



The support materials

Created and produced by SEMTA

The CD-ROM

Teacher's resource CD to assist with teaching and assessment



The website

www.gcseinengineering.com

Contact

Tim Feest
tim@osceng.co.uk

for CD-ROM
or
poster set

The poster set

Eye-catching and thought provoking A2-sized posters

