

# HIGHERS IN A NUTSHELL

The National Parent Forum of Scotland Summary of Higher Engineering Science

ENGINEERING  
SCIENCE  
TECHNOLOGIES

CfE  
HIGHER

3  
UNITS

ENGINEERING CONTEXTS AND CHALLENGES  
ELECTRONICS AND CONTROL  
MECHANISMS AND STRUCTURES

+  
COURSE  
ASSESSMENT

ASSIGNMENT + QUESTION PAPER



## Skills

Learners will be able to:

- extend and apply knowledge and understanding of key engineering concepts, principles and practice
- understand the relationships between engineering, mathematics and science
- apply skills in analysis, design, construction and evaluation to a range of engineering problems with some complex features
- communicate engineering concepts clearly and concisely, using appropriate terminology
- develop a greater understanding of the role and impact of engineering in changing and influencing our environment and society



## Opportunities for Learners

Learners will be able to:

- develop a deeper understanding of the central role of engineers as designers and problem solvers, able to conceive, design, implement and control complex systems
- understand the far-reaching impact of engineering on our society and the environment
- explore varied engineering systems through simulation, practical projects and investigative tasks in a range of contexts



## Assessment

- To gain Higher Engineering Science, learners must pass the three Units and the Course Assessment (Assignment and Question Paper for 150 marks)
- Units are assessed as pass or fail by the school/centre and are quality assured by the SQA. Achievement of Units is recorded on the learner's qualifications certificate
- The SQA has provided examples of Unit assessments that teachers/lecturers can use as they are, or adapt to suit the needs of their learners
- The Course Assessment consists of an Assignment (60 marks) and a Question Paper (exam for 90 marks) which is in two sections (see below). The Assignment will be internally marked; the Question Paper will be marked externally by the SQA
- Higher Engineering Science is graded from A to D or as No Award.



**Question Paper** Section 1: Short answer questions (20 marks)  
Section 2: Structured questions (70 marks)

2 hours  
90 marks

**Specimen Paper** [www.sqa.org.uk/files\\_ccc/EngineeringScienceSQPH.pdf](http://www.sqa.org.uk/files_ccc/EngineeringScienceSQPH.pdf)

**Assignment**

Learners will develop a solution to an engineering problem, with a record of progress and a report on testing the solution.

60 marks



**Progression** Higher courses can stand alone or follow on from National 5 qualifications and may lead to Advanced Highers, the Scottish Baccalaureate and a range of qualifications within Further and Higher Education.



For course information, specimen question papers and past paper guidance visit:

Higher Engineering Science: [www.sqa.org.uk/sqa/47928.html](http://www.sqa.org.uk/sqa/47928.html)

[Curriculum for Excellence Key Terms and Features Factfile](#)

[www.educationscotland.gov.uk/Images/CfEFactfileOverview\\_tcm4-665983.pdf](http://www.educationscotland.gov.uk/Images/CfEFactfileOverview_tcm4-665983.pdf)

[Further Information for Parents and Learners](#) Information on assessment, skills, progression, revision resources and summaries of National Qualifications

[www.parentforumscotland.org](http://www.parentforumscotland.org)



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