

Presentation pattern *October to March*
April to September

Module description

This module builds on skills and knowledge introduced in T192 *Engineering: origins, methods, context*. The first half of the module focuses on invention and innovation and the advisory or legislative frameworks that are in place to promote good practice and ensure safety. Engineering and mathematical topics are introduced by examining patents and standards and the detailed analysis of a case study centred on the replacement of fossil fuels with energy derived from sunlight. The second half of the module takes a tour of modern manufacturing methods, and explores how these are related to the properties of materials, product design, environmental sustainability and profitability.

More advanced mathematical techniques are taught in an engineering context, including solving problems requiring basic calculus and simultaneous, quadratic and trigonometric equations. The mathematics content will be regularly assessed by the use of quizzes and iCMAs.

In addition, throughout this module, significant emphasis is placed on developing study skills. These include technical reading, peer reviewing and reflective practice.

Person specification

The person specification for this module should be read in conjunction with the [generic person specification](#) for an associate lecturer at The Open University.

As well as meeting all the requirements set out in the generic person specification, you should be able to demonstrate:

- an interest in, and enthusiasm for, teaching engineering and mathematics at level 1 in a predominantly online environment
- a willingness to develop expertise in the effective use of virtual learning environment tools integral to the module
- evidence of facilitating effective online group activities
- evidence of providing high quality feedback
- a willingness and ability to plan and deliver engaging tuition activities in both engineering and mathematical concepts/curriculum areas both face to face and online
- the ability to support students in extending their study skills
- the ability to develop mathematical confidence and skills in the curriculum covered in the module.

It would be an advantage to have:

- recent experience of working in an engineering environment
- experience of tutoring on module T192
- experience of teaching engineering and engineering related mathematics to engineering/science students
- experience of teaching adults in further education, higher education and/or distance learning
- a teaching qualification, or professional recognition with a teaching institution such as the Higher Education Academy
- membership of an engineering institution
- experience of supporting students with personal and professional development planning

Additional information

- Tuition will be provided through a mix of face-to-face and online tutorials, forums and other online tools, including a virtual engineering studio.

Module related details - a full explanation can be found on the website

Credits awarded to the student for the successful completion of a module:	30
Number of assignments submitted by the student:	2
Method of submission for assignments:	2
Level of ICT requirements:	2
Number of students likely to be in a standard group:	20
Salary band:	3
Estimated number of hours per teaching week:	5

There may be opportunities for ALs to undertake associated assessment work for which there will be additional payment and about which you will be contacted separately if applicable.