

The Advanced Diploma in Engineering

Advanced Diplomas are new qualifications equivalent to A level which combine theoretical study with applied learning. They are designed to prepare young people for the world of work, apprenticeships or university entry. The Engineering Diploma is one of the first five Diplomas available from September 2008, so that the first Diploma students will enter Higher Education in September 2010.

It has long been recognised that engineering is both a vocational subject, dealing as it does with the creation of new products of all descriptions, and also an academic subject as it relies on scientific principles for its laws and on mathematics for its universal language. Engineering thus straddles the so-called vocational/academic divide. The EPC thus welcomed the Government's introduction of the new Diplomas as they are intended to bridge the gap between vocational and academic subjects. They would also introduce 'engineering' as a named subject in schools for virtually the first time.

When the detailed curriculum was published in 2007, EPC was disappointed that the amount of mathematics in the Advanced Engineering Diploma was clearly insufficient to enable those students wishing to progress into Higher Education to enter university degree courses. The EPC immediately set about remedying this shortfall by working closely with the Higher Education Academy Engineering Subject Centre and the Royal Academy of Engineering to design an optional mathematics unit which could be selected by students wishing to progress into university engineering degree courses. All the major Awarding Bodies were involved in the development culminating in OCR obtaining accreditation for a Mathematics for Engineering Certificate which is available as an Additional Specialist Learning (ASL) Unit.

The content is similar to A level mathematics, but each topic is supported by an 'exemplar' which demonstrates how the mathematics is actually applied in the real world. Well known industrial companies have worked with the EPC to develop these exemplars, and student tutorials are available together with teacher support material. Early trials have shown that this approach to A level mathematics will be found to be more interesting and attractive to potential engineering students.

Further details of the Mathematics for Engineering Unit may be found on the Royal Academy of Engineering Website (<http://www.raeng.org.uk>) and a more detailed explanation of the Advanced Diplomas in general and the Engineering Diploma in particular on the Institution of Mechanical Engineers website (<http://www.imeche.org>).

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