

## --MODULE DESCRIPTOR

<b>MODULE TITLE</b>	Electronic Systems Applications		
<b>MODULE CODE</b>	EL2205 (L5)	<b>CREDIT VALUE</b>	20 UK CREDITS / <u>10 ECTS</u>
<b>SCHOOL</b>	SCHOOL OF SCIENCES		

### MODULE AIMS

This module develops the practical and intellectual skills required to develop an electronic system, meeting a user need and taking account of technical and other requirements. It builds on the skills developed in previous modules.

### MODULE CONTENT

Indicative syllabus content:

- Project Management Project definition and planning.
- Risk analysis.
- Progress Reporting.
- Resource management.
- Design Requirements and specification analysis.
- High level Design. Modular decomposition.
- Detailed design. Use of design automation tools.
- Engineering standards.
- Quality procedures.
- Design documentation and configuration control.
- Design reviews.
- Design for test.
- Manufacture Interface to PCB manufacture. Prototype and production assembly of PCBs and electronic products.
- Product test and reporting.
- Communication
- Technical report writing.
- Audiovisual presentation.
- Environmental and legislative context.
- Intellectual property.
- Fitness for purpose.

### INTENDED LEARNING OUTCOMES

On successful completion of this module a student will be able to:

1. Manage a small design project
2. Develop an electronic system to a given requirement specification
3. Document a system design and participate in design reviews.
4. Take account of the economic, social and environmental context of engineering activity.

### TEACHING METHODS

The emphasis of the module is to develop the design, practical and key skills required to produce an electronic system. Although introductory lectures and seminars are given on aspects of the syllabus, the learning strategy is predominantly student-centred with much time spent in laboratories and on private study. Design exercises are central to the delivery of the module content and achieving the learning outcomes. During the early part of the module students are introduced to the electronic system design process, and they are assisted to develop the set of 'core skills' that will be required during the design/development phase of the work. Later on students will work individually or, in small groups (depending on the size and complexity of the project), carrying out the design, build and test of an electronic system to meet a particular specification. The students work is presented as a system

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demonstration and design portfolio at the end of the module. Marking scheme for individual elements (depending upon the work being undertaken) is given to the students at the start of the system design.

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## **ASSESSMENT METHODS**

This module is assessed through a portfolio of work.