## EL600 Project

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<th>Version</th>
<th>Campus</th>
<th>Term(s)</th>
<th>Level</th>
<th>Credit (ECTS)</th>
<th>Assessment</th>
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<tr>
<td>1</td>
<td>Canterbury</td>
<td>Autumn and Spring</td>
<td>H</td>
<td>45 (22.5)</td>
<td>100% Coursework</td>
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### Contact Hours
34 Contact Hours including lectures and weekly supervisions.
416 Independent Study Hours.
450 Total Study Hours

### Department Checked
29/03/2018

### Learning Outcomes
1. Execute a substantial piece of independent design or development engineering work
2. Write a scientific report based on the research, development and evaluation they have conducted
3. Formally present their work to individuals and groups

### Method of Assessment
7% Background research, specification and initial design (To include project plan, budget, ethics, H&S and risk assessment)
7% Oral presentation
82% Final project report with a viva voce examination (one hour)
4% Poster presentation

### Preliminary Reading
See [http://readinglists.kent.ac.uk](http://readinglists.kent.ac.uk)

### Pre-requisites
None

### Restrictions
None

### Synopsis
Introduction to the project, research techniques, poster design, report structure and writing.
EL639 Video Games Development

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Availability

Contact Hours
- 52 Contact hours
- 98 hour private study
- Total student workload 150 hours

Department Checked
- 29/03/2018

Learning Outcomes
1. Demonstrate a thorough understanding of game design theory and creative practice in the field of computer game development
2. Understand and apply principles of computer game design workflow to the production of a game
3. Critically analyse technical and usability issues associated with games design and development.

Method of Assessment
- (20%) Workshop exercises – mini game development
- (60%) Video game design and development – a fully functioning game prototype
- (20%) Video presentation – a short video on game design reflection

Preliminary Reading
See `<a target="_blank" href="http://readinglists.kent.ac.uk">http://readinglists.kent.ac.uk</a>`

Pre-requisites
EENG3130 (EL313) – Introduction to Programming

Restrictions
None

Synopsis
This module is concerned with a range of topics in video game design and development, including game physics, AI, level design, player behaviour, game rules and mechanics, as well as user interfaces. This module introduces students to game development using industry-standard software tools.
EL667  
**Embedded Computer Systems**

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<td>65% Exam, 35% Coursework</td>
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**Availability**

**Contact Hours**
- Total contact hours: 25
- Private study hours: 125
- Total study hours: 150

**Department Checked**
06/08/2018

**Learning Outcomes**
1. Demonstrate an understanding of the design and operation of embedded systems;
2. Demonstrate an understanding of real time software and hardware system requirements;
3. Demonstrate practical experience of embedded systems based on case studies and laboratory experiments.

**Method of Assessment**
- Examination 65%
- Coursework 35%

**Preliminary Reading**
See [http://readinglists.kent.ac.uk](http://readinglists.kent.ac.uk)

**Pre-requisites**
- COMP5270 (CO527) - OPERATING SYSTEMS AND ARCHITECTURE
- EENG5600 (EL560) - MICROCOMPUTER ENGINEERING

**Restrictions**
None

**Synopsis**
This module introduces the theory and practice of employing computers as the control and organisational centre of an electronic or mechanical system, and examines issues related to time critical systems. It also provides exposure to practical embedded systems design through practical work, with one assignment exploring the ideas of real-time operating systems introduced in the lectures and a second using a microcomputer programmed in 'C' to control the ignition timing of a simulated petrol engine.
EL77  Digital Communication Systems

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Contact Hours
Total contact hours: 36
Private study hours: 114
Total study hours: 150

Department Checked
06/08/2018

Learning Outcomes
1. Demonstrate an understanding of information theory, error coding and its application in modern communication systems;
2. Demonstrate an understanding of communication network architectures and protocols.
3. Demonstrate an understanding of the principles of optical communication systems and their performance

Method of Assessment
Examination 85%
Coursework 15%

Pre-requisites
EENG5700 (EL570) Communication Principles

Synopsis
Information theory and Shannon capacity, information measure and mutual information, source coding and channel coding/decoding, multiuser communications.


Optical communication systems. Propagation in optical fibres. Sources (LEDs, laser), modulation. Photodiodes, receivers.
Optical components. System power budgets, noise and dispersion.

EL885  Research Methods and Project Design for Mobile Apps

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Contact Hours
Total contact hours: 20
Private study hours: 130
Total study hours: 150

Department Checked
14/11/2018

Learning Outcomes
1 Carry out a comprehensive literature survey on a selected topic using library and electronic information sources.
2 Identify the current status of a particular research area and define the state-of-art in that research area.
3 Identify and formulate further research, which could usefully be undertaken in a defined area of technology.
4 Plan a research project, including the definition of objectives, project management, experimental design and data collection and processing within time and resource constraints.
5 Undertake research using logical and effective methodologies.
6 Use common software packages for project management and presentation.
7 Communicate with peers by way of conference and journal publications.
8 Understand general issues concerning research including IPRs and research ethics.

Method of Assessment
Assignment (10%)
Assignment (80%)
Assignment (10%)
PRE-REQUISITES
None

PROGRESSION

Restrictions
None

Synopsis
LITERATURE SURVEY
Surveys using networked electronic information sources, on-line databases, inter-library loan facilities, private communications, etc. Identification of a technical area worthy of research, definition of the state-of-the-art in a given field, definition of the research project, and research proposals. Patent search.

GENERAL ISSUES AND PRACTICE

RESEARCH PROJECT MANAGEMENT

RESEARCH PROCESS
MSc research projects. MPhil/PhD research projects. Academic research and industrial R&D. Project planning, proposals and budgeting. Design of experimental tests. Modelling and simulation.

RESEARCH PUBLICATIONS
Structure, content and procedures. Project reports and theses. Journal and conference papers. Technical presentations. Use of references. Writing up of abstract, introduction and conclusions. Submission, refereeing and amendments. Effective use of figures, drawings and tables. MS WORD, ENDNOTE and LATEX.

PRESENTATIONS OF RESEARCH RESULTS

INTELLECTUAL PROPERTY RIGHTS

RESEARCH ETHICS