

Basic details

UID		Cohorts covered	Earliest cohort 	Latest cohort
Long title	Electronics Design Project 1			
New code	ELEC4006	New short title		
Brief description of module (approx. 600 chars.)	The module is the first opportunity for you to apply your knowledge to a major group design project which considers the full design process; from the client brief to the demonstration of a prototype. You must work systematically from high-level goals to detailed design, drawing upon knowledge and skills learnt in other modules. Communication with the client occurs throughout and involves an assessed presentation, report and demonstration. Team-working is crucial, as groups must develop several subsystems in parallel and integrate them together, as well as carry out non-technical tasks such as documentation and cost management. In addition, you will develop problem solving skills, project and time management, and communication. The module includes lab sessions to develop important practical skills that are necessary for this kind of project work.			
	858 characters			
Available as a standalone module/ short course?	N			

Statutory details

Credit value	ECTS 7.5	CATS 15	Non-credit N	HECOS codes
FHEQ level	Level 4			

Allocation of study hours

	Hours	
Lectures	10	
Group teaching	10	<i>Incl. seminars, tutorials, problem classes.</i>
Lab/ practical	16	
Other scheduled		<i>Incl. project supervision, fieldwork, external visits.</i>
Independent study	151.5	<i>Incl. wider reading/ practice, follow-up work, completion of assessments, revisions.</i>
Placement		<i>Incl. work-based learning and study that occurs overseas.</i>
Total hours	187.5	
ECTS ratio	25.00	

Project/placement activity

Is placement activity allowed?	No
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Module delivery

Delivery mode	Taught/ Campus	Other	
Delivery term	Year-long	Other	

Ownership

Primary department	Electrical and Electronic Engineering
Additional teaching departments	
Delivery campus	South Kensington

Collaborative delivery

Collaborative delivery? **N**

External institution N/A
External department N/A
External campus N/A

Associated staff

Role	CID	Given name	Surname
Module Leader		Hakan	Merdan

Learning and teaching

Module description

Learning outcomes	1.Capture and analyse a set of high-level requirements to produce a set of design specifications 2.Apply theoretical principles and laboratory skills to design, build and test a solution to an engineering design problem, within practical constraints 3.Integrate analogue, digital and software theory and design techniques into a functioning system 4. Function effectively as an individual, and as a member of a team. Use subsystems to allocate workload to individuals or subgroups. Evaluate effectiveness of own and team performance 5.Formulate and implement a test plan to evaluate a design against its specifications 6. Communicate process and outcomes to stakeholders using a written report and a demonstration 7. Plan and record self-learning and development as the foundation for lifelong learning and Continuous Professional Development
Module content	The project specifications will change each year but will be based on constructing a system that combines analogue sensing with a digital control system and computer interface, thus drawing together the main topics that are studied in the first year. This module will introduce you to Systems Engineering; an approach to the design, creation and operation of systems and products. They will be required to link, consolidate and apply knowledge and skills gained from other modules covered in the 1st Year. In addition, professional skills training will be provided through compulsory in-person workshops (2 each in the Autumn and Spring terms; and a few in the Summer term)
Learning and Teaching Approach	The module content is largely student-led and it is up to you and your group to research, plan and implement your design solution. Some facilities and events are organised to help: - The teaching lab is timetabled and available every working day for groups to meet and work on their projects - A series of workshop sessions is organised to help with non-technical skills, such as teamworking and report writing. Students are required to attend these workshops which will include assessments. - Bookable consultations with technical experts run throughout the project period. The content of each consultation is student-led and can include high-level design advice, technical troubleshooting or anything in between.

Assessment Strategy	Summative assessment consists of: 1. Presentation of early design concepts to stakeholders (LO 6) 2. Report documenting the design process, detailed technical solution and test evidence that the specifications have been met (LO 1, 3, 4, 5, 6) 3. Group oral and demonstration to show understanding of the design (LO 2, 3, 4) 4. LO 4, 6, 7 are evaluated partly or wholly in in-class activities - attendance in those sessions is compulsory Formative assessment consists of: 1. Activities during engineering design TBL classes 2. Opportunity to receive feedback on a draft of the report 3. Design consultations on technical progress An in-session resit (July-September) of this module is not possible due to the requirement for teamworking. If the module is failed, the next resit opportunity will be in the following Summer Term.
Feedback	Students will receive feedback through the following channels: 1. Verbal feedback on project planning, the emerging design and presentation skills will be given immediately following the presentation assessment. An indicative grade will be provided within 5 working days, following moderation. 2. Verbal feedback on the general project outcome will be given immediately following the demo and oral, without giving a provisional grade. 3. Written feedback relating to all areas of the mark scheme and a provisional grade will be provided via the submission system within 10 working days of report submission. 4. The individual reflection is assessed as pass/fail. If the student's submission does not meet the pass criteria, detailed written feedback will explain the reasons for failure and the student will have an opportunity to resubmit. 5. Verbal feedback on all relevant areas of the project, technical and non-technical, will be given during consultation meetings, depending on the topic of the meeting.
Reading list	Please refer to Leganto

Quality assurance

Date of first approval

Date of last revision **December 2024**

Date of this approval

Module leader **Hakan Merdan**

Notes/ comments

Office use only

QA Lead

Department staff

Date of collection

Date exported

Date imported

