

Basic details

UID		Cohorts covered	
Long title	Electronics Design Project 2		
New code	ELEC50015	New short title	
Brief description of module (approx. 600 chars.)	The module offers you the opportunity to apply your knowledge in 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.		
Available as a standalone module/ short course?	N		

Statutory details

	ECTS	CATS	Non-credit	HECOS codes
Credit value	10	20	N	
FHEQ level	Level 5			

Allocation of study hours

	Hours	
Lectures	10	
Group teaching	15	<i>Incl. seminars, tutorials, problem classes.</i>
Lab/ practical		
Other scheduled		<i>Incl. project supervision, fieldwork, external visits.</i>
Independent study	225	<i>Incl. wider reading/ practice, follow-up work, completion of assessments.</i>
Placement		<i>Incl. work-based learning and study that occurs overseas.</i>
Total hours	250	
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		Other	Year-Long

Ownership

Primary department	Electrical and Electronic Engineering
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Additional teaching departments	

Delivery campus	South Kensington
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Collaborative delivery

Collaborative delivery?	N
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External institution	N/A
External department	N/A
External campus	N/A

Associated staff

Role	CID	Given name	Surname
Module Leader		Edward	Stott

Learning and teaching

Module description

Learning outcomes	Upon successful completion of this module, you will be able to: 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 presentation, a written report and a demonstration 7. Adopt a holistic and proportionate approach to the mitigation of security risks 8. Plan and record self-learning and development as the foundation for lifelong learning
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 second year. This module allows you to increase your skills in Systems Engineering; an approach to the design, creation and operation of systems and products. You will be required to link, consolidate and apply knowledge and skills gained from other modules covered in the 1st and 2nd Year.

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 taught sessions is organised to help with non-technical skills, such as project management, 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 - An interim presentation acts to focus the design work in the early stages of the project and provide feedback on the emerging solution
Assessment Strategy	Summative assessment consists of: 1. Presentation of early design concepts to stakeholders (LO 1, 4, 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 and 8 are assessed in in-session assessments where attendance is compulsory 5. LO 6 is part assessed in an in-session assessment where attendance is compulsory 6. LO 7 is assessed by a asynchronous lecture and quiz on Blackboard Formative assessment consists of: 1. Activities during engineering design TBL classes 2. Opportunity to receive feedback on a draft of the report 3. Design consultation 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. 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. Early in the module, you will learn to formalise the design process and specifications - this gives a framework for continuous self-feedback by testing work against criteria that have a traceable derivation from the top-level project requirements. You will also benefit from frequent opportunities for informal feedback in engineering TBL design classes and drop-in lab sessions. Formal feedback for deliverables is provided verbally immediately, and on written form for the presentation, demo and oral components. An annotated copy of the report is returned within the timescales established by Imperial College regulations for both the draft and final submissions.
Reading list	Please refer to Leganto

Quality assurance

Date of first approval	February 2023
Date of last revision	December 2025
Date of this approval	

Module leader **Edward Stott**

Office use only

QA Lead	
Department staff	
Date of collection	

Date exported	
Date imported	

Assessment details

Grading method	Numeric
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Pass mark

40%

Assessments

[illegible]

100%