

Overview

Programme Code	36190
Programme Title	Electrical and Electronic Engineering
Awarding Institution	Liverpool John Moores University
Programme Type	Top-up
Language of Programme	All LJMU programmes are delivered and assessed in English
Programme Leader	
Link Tutor(s)	Dante Matellini

Partner Name	Partnership Type
Sino British College of USST	Franchised

Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Bachelor of Engineering with Honours - BGH	See Learning Outcomes Below
Alternative Exit	Diploma of Higher Education - DHE	Undertake advanced mathematical and computational studies of automated and controlled engineering systems and problems. Demonstrate the application of basic principles of Electrical circuits, Electronics, Programming, Measurement and Control and microprocessors to the solution of standard engineering problems Demonstrate the intermediate engineering skills. Demonstrate a competence in technical reporting and an ability to analyse and present engineering data.

Alternate Award Names	
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External Benchmarks

Subject Benchmark Statement	UG-Engineering (2019)
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Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Full-Time, Face to Face	September	Sino British College of USST	2 Years

Aims and Outcomes

Educational Aims of the Programme

The B.Eng. programme in Electrical and electronic engineering is designed to deliver the initial educational requirements for a professional engineer together with an appropriate range of transferable and engineering management skills. It will enable graduates to operate effectively in the early stages of their careers and provide a strong basis for future career development. The programme delivers a coherent and progressive course of study in engineering principles, mathematics, computing, engineering management and skills. The programme aims to: - Deliver the educational experience in which students can develop their knowledge of engineering science, core engineering principles and fundamental underpinning subjects such as mathematics and computation. -Develop students confidence to analyse challenging technical problems and to further develop their core engineering knowledge and skills through the investigation and development of credible and robust solutions to control and automation problems. -Provide students with appropriate support and encouragement to develop the necessary skills such that they can study independently and take responsibility for their own learning and subsequent professional development. -Provide engineering graduates with a range of highly relevant transferable skills such as team working, communication, engineering management, problem solving, computing and technical computing. - Provide a programme of study that fully meets the requirements of the Engineering Councils UK Standard for Professional Engineering Competence (UKSpec) and partially qualifies the successful graduate for the attainment of the Engineering Council Chartered Engineer status after completion of an appropriate period of industrial experience. -Produce graduates with a depth, breadth of knowledge and understanding of electronics and control engineering, engineering management and teamwork to enable them to rapidly assume technical leadership and management roles.

Learning Outcomes

Code	Description
PLO1	Maintain and extend a sound theoretical approach to the application of technology in engineering practice.
PLO2	Use a sound evidence-based approach to problem-solving and contribute to continuous improvement.
PLO3	Identify, review and select techniques, procedures and methods to undertake engineering tasks.
PLO4	Contribute to the design and development of engineering solutions.
PLO5	Implement design solutions and contribute to their evaluation.

Code	Description
PLO6	Plan for effective project implementation.
PLO7	Manage tasks, people and resources to plan and budget.
PLO8	Manage teams and develop staff to meet changing technical and managerial needs.
PLO9	Manage continuous quality improvement.
PLO10	Communicate in English with others at all levels.
PLO11	Present and discuss proposals.
PLO12	Demonstrate personal and social skills.
PLO13	Comply with relevant codes of conduct.
PLO14	Manage and apply safe systems of work.
PLO15	Undertake engineering activities in a way that contributes to sustainable development.
PLO16	Carry out and record CPD necessary to maintain and enhance competence in own area of practice.
PLO17	Exercise responsibilities in an ethical manner.

Programme Structure

Programme Structure Description

Students will receive RP(E)L for Level 4 based on successful completion of the NCUK International Diploma (Electrical and Electronic Engineering) or equivalent that can demonstrate that they are able to: Undertake basic mathematical analysis suitable to enable the study of engineering Apply the basic principles of Electrical circuits, Electronics, Programming, Measurement and Control, Communications and microprocessors to simplified engineering problems. Design, simulate and construct, and test simple circuits. Demonstrate key skills appropriate to the professional engineer.

Continuing students who started prior to 2022 will adopt the programme rules on this version.

Programme Structure - 240 credit points	
Level 5 - 120 credit points	
Level 5 Core - 120 credit points	CORE
[MODULE] 5521USST Advanced Mathematics Approved 2022.01 - 10 credit points	
[MODULE] 5522USST Embedded Systems Programming and Applications in the Environment Approved 2022.01 - 20 credit points	
[MODULE] 5523USST Local Communications Systems and Applications Approved 2022.02 - 20 credit points	
[MODULE] 5524USST Instrumentation and Control Engineering Approved 2022.01 - 20 credit points	
[MODULE] 5525USST Electric machines, power systems and clean energy Approved 2022.01 - 20 credit points	
[MODULE] 5526USST Linear Electronics Design and the Environment Approved 2022.01 - 10 credit points	
[MODULE] 5527USST Professional Practice Integrative Project Approved 2022.01 - 20 credit points	
Level 6 - 120 credit points	
Level 6 Core - 120 credit points	CORE
[MODULE] 6568USST Engineering Project Approved 2022.01 - 40 credit points	
[MODULE] 6569USST Process Control and Applications Approved 2022.01 - 20 credit points	
[MODULE] 6570USST Automation and IoT Approved 2022.01 - 20 credit points	
[MODULE] 6571USST Engineering Management Approved 2022.01 - 10 credit points	
[MODULE] 6572USST Signals and Systems with Real World Applications Approved 2022.01 - 10 credit points	
[MODULE] 6573USST Power Electronics and the Environment Approved 2022.01 - 20 credit points	

Module specifications may be accessed at <https://proformas.ljmu.ac.uk/Default.aspx>

Approved variance from Academic Framework Regulations

Variance

The following criteria will apply for students at Level 5 and Level 6.

Where a module comprises two or more assessment elements (eg examination and coursework), successful completion of the module should require a mark of greater than 10% less than the module pass mark in each element, as well as the overall module mark being above the normal pass mark. This requirement only applies to assessment elements that contribute more than 30% towards the final module mark.

Teaching, Learning and Assessment

Acquisition of underpinning knowledge is achieved mainly through lectures and directed student-centred learning. Student-centred learning is used where appropriate resource material is available. Understanding is reinforced through case-studies. Testing of the knowledge base is through a combination of unseen written examinations, coursework in the form of case-study reports and coursework assignment submissions. Acquisition of these skills is achieved mainly through lectures and directed student-centred learning. Student-centred learning is used where appropriate resource material is available. Understanding is reinforced through case-studies. Testing of the skills and knowledge base is through a combination of unseen written examinations, coursework in the form of case-study reports and coursework assignment submissions. Engineering design, analysis and practical skills are taught almost exclusively by individual and group project work supported by a lecture programme appropriate to the demands of the project. Engineering design and practical skills are assessed by individual and group written design project reports, student presentations and presentations using computer graphics. The economic, social and environmental context of engineering operations is delivered by means of lectures and case studies. The use of appropriate case study material is an essential part of teaching in this area. Assessment is via a combination of unseen written examinations and coursework in the form of case-study reports.

Opportunities for work related learning

Students are encouraged to undertake industrial placements throughout the duration of their studies (particularly between levels in the summer). There are also opportunities to complete industrially based projects via individual engineering projects at Level 6. This work experience will help develop understanding of the world of work environment suitable for the programme and increase a student's professional practical skills.

Entry Requirements

Type	Description
Alternative qualifications considered	This programme operates as a top-up programme for holders of an appropriate level 4 qualification. Students who have successfully passed 120 credits on the NCUK International Diploma (Electrical and Electronic Engineering) at SBC can progress into Level 5 of this programme. Students would be awarded 120 Level 4 credits for the BEng (Hons) award by virtue of their prior certificated studies on the International Diploma (RPL). In addition, students must have at least a Grade 'C' for the NCUK 'English for Academic Purposes (EAP)' module, or demonstrate equivalence of this with an IELTS score of 6. Non-standard: Applications considered through standard RPL processes at LJMU.
Other international requirements	Applicants offering other awards will be considered on an individual basis in line with the agreed entry criteria.

Extra Entry Requirements

