Programme Specification Document

Approved, 2022.02

Overview

Programme Code	36317
Programme Title	Electrical and Electronic Engineering
Awarding Institution	Liverpool John Moores University
Programme Type	Level 3/4/5 Qualification
Language of Programme	All LJMU programmes are delivered and assessed in English
Programme Leader	
Link Tutor(s)	Karl Jones

Partner Name	Partnership Type
International College of Business and Technology	Validated

Awards

Award Type	Award Description	Award Learning Outcomes
Target Award	Higher Diploma - HD	See Learning Outcomes Below
Alternative Exit	Certificate of Higher Education - CHE	Demonstrate knowledge of the underlying concepts and principles associated with Electrical and Electronic Engineering, and an ability to evaluate and interpret these within the context of that area of study Undertake basic mathematical analysis suitable to enable the study of engineering Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of Electrical and Electronic Engineering To apply the basic principles of Electrical circuits, Electronics, Programming, Measurement and Control, Communications and microprocessors to simplified engineering problems relevant to Electrical Power Engineering to design, simulate and construct, and test simple circuits and systems To demonstrate key skills appropriate to the professional engineer

Alternate Award Names	

External Benchmarks

Subject Benchmark Statement	UG-Engineering (2019)

Programme Offering(s)

Mode of Study, Mode of Delivery	Intake Month	Teaching Institution	Programme Length
Full-Time, Face to Face	March	ICBT, Colombo	18 Months
Full-Time, Face to Face	September	ICBT, Colombo	18 Months

Aims and Outcomes

Educational Aims of the Programme

To provide fundamental knowledge in and develop an understanding of the theory and practice of Electrical and Electronic Engineering. To provide opportunities for collaborative and individual student-centred study on project tasks that simulate real working practices in order to develop analytical, critical and problem solving skills such that they can define, investigate and analyse problems, form judgements, make decisions and demonstrate the acquisition of such qualities. To provide a well-balanced education which allows the student to achieve his/her full academic potential at first degree level and in doing so to facilitate the development of independent logical thought and judgement. To provide the framework within which students can achieve the level of attainment, appropriate to their abilities in the context of the programme of study. To produce a basis for general professional experience and to encourage a consciousness of the professional, business and commercial environment. To provide opportunities to work in a multidisciplinary environment to facilitate decision making in the lifecycle of a project. To prepare students for the transition from Higher Education to employment within a professional context; and develop those transferable, specialist and employability skills that all stakeholders could reasonably expect of students who successfully complete an Electrical and Electronic Engineering programme. To encourage students to engage with the development of employability skills by completing a self-awareness statement. Prepare students for employment by equipping them with the with knowledge, understanding and skills expected of holders of a Higher Diploma in Electrical and Electronic Engineering to enable them to progress to a range of technical and management careers or to progress to an undergraduate degree or further professional qualification in Electrical and Electronic engineering or related area. Provide the engineering base for progression to Incorporated Engineer level.

Learning Outcomes

Code	Description
PLO1	Analyse, synthesise and summarise information critically.
PLO2	Apply subject knowledge and understanding to address familiar and unfamiliar problems.
PLO3	Use their knowledge, understanding and skills to evaluate and formulate evidence-based arguments critically and identify solutions to clearly defined problems of a general routine nature.

Code	Description
PLO4	Read and use appropriate literature with level of critical understanding.
PLO5	Think independently, solve problems and devise innovative solutions.
PLO6	Design, plan, conduct and report on investigations.
PLO7	Apply their subject-related and transferable skills in contexts where the scope of the task and the criteria for decisions are generally well defined but where some personal responsibility and initiative is required.

Programme Structure

Programme Structure Description

Structure - 240 credit points	
Level 4 - 120 credit points	
Level 4 Core - 120 credit points	CORE
[MODULE] 4500ICBTEG Engineering Mathematics Approved 2022.01 - 15 credit points	
[MODULE] 4500ICBTEL Electromechanical Energy Conversion Approved 2022.01 - 15 credit points	
[MODULE] 4501ICBTEL Circuit Theory Approved 2022.01 - 15 credit points	
[MODULE] 4502ICBTEL Digital Electronics Approved 2022.01 - 15 credit points	
[MODULE] 4503ICBTEL Analogue Electronics Approved 2022.01 - 15 credit points	
[MODULE] 4504ICBTEL Programming Concepts Approved 2022.01 - 15 credit points	
[MODULE] 4505ICBTEL Telecommunications Principles Approved 2022.01 - 15 credit points	
[MODULE] 4506ICBTEL Signals and Systems Approved 2022.01 - 15 credit points	
Level 5 - 120 credit points	
Level 5 Core - 120 credit points	CORE
[MODULE] 5500ICBTEG Analytical Mathematics Approved 2022.01 - 15 credit points	
[MODULE] 5500ICBTEL Design Project Approved 2022.01 - 15 credit points	
[MODULE] 5502ICBTEL Control System Approved 2022.01 - 15 credit points	
[MODULE] 5503ICBTEL Digital System Design Approved 2022.01 - 15 credit points	
[MODULE] 5504ICBTEL Programmable Logic Controllers and Industrial Automation Approved 2022.01 - 15 credit points	
[MODULE] 5505ICBTEL Principles and Applications of Microcontrollers Approved 2022.01 - 15 credit points	
[MODULE] 5508ICBTEL Power System Analysis Approved 2022.01 - 15 credit points	
[MODULE] 5509ICBTEL Electrical Machines and Drives Approved 2022.01 - 15 credit points	

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

Approved variance from Academic Framework Regulations

Variance
A variance has been approved for the programme to comprise of 15 credit modules

Teaching, Learning and Assessment

Lectures, tutorials, problem solving sessions, seminars, workshops, computer sessions, participation in projects. Examinations, assignments, preparation of reports, essays, technological reports, oral presentations, workshops, peer review, computer-based exercises, work placement reports (if applicable).

Opportunities for work related learning

Work-related learning is included within this programme, so students will have the opportunity to engage in real world projects and activities The programme has active links with industry and involves employers in the industrial projects at each level of the programme. Real world case studies are used wherever possible.

Entry Requirements

Type	Description
Alternative qualifications considered	English Language requirements: Students are required to have a minimum English language level of Sri Lankan General Certificate of Education (Ordinary Level) English Grade C or above, or a pass in the ICBT Academic English Studies course or recognised equivalent, such as the below: • GCSE/O-Level in English from a UK awarding body grade C • IGCSE English as a First Language grade C • IGCSE English as a Second Language grade C • Internet based TOEFL with an overall score of 72 (UG), 79 (PG) including 17 in Listening, 20 in Writing, 18 in Reading and 18 in Speaking • Pearson Test of English (PTE) • International Baccalaureate (Standard Level Grade 5/Higher Level grade 4 in English) • Cambridge Advanced English Grade C (minimum of “weak” in all four components (listening, reading, speaking and writing). Mature entry: In exceptional circumstances, candidates with non-standard qualifications, may qualify for entry to the course on the basis of considerable work experience in the automotive engineering industry.
Alternative qualifications considered	Completion of 13 years of formal education in Sri Lanka (or equivalent) and have studied A levels in subjects that include Maths, a Science or Technology.Ordinary level qualifications plus the successful completion of a NARIC approved Foundation programme in an Electrical/electronic engineering subject.A programme of study that is equivalent to a UK level 3 qualification.

Extra Entry Requirements