

PROGRAMME SPECIFICATION

Higher Diploma in Electrical and Electronic Engineering

Awarding institution	Liverpool John Moores University
Teaching institution	ICBT, Colombo ICBT, Kandy ICBT, Southern
JACS Code	
Programme Duration	Full-Time: 18 Months
Language of Programme	All LJMU programmes are delivered and assessed in English
Subject benchmark statement	Engineering (2015)
Programme accredited by	
Description of accreditation	
Validated target and alternative exit awards	Higher Diploma in Electrical and Electronic Engineering Certificate of Higher Education in Electrical and Electronic Engineering
Link Tutor	Karl Jones

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.

Alternative Exit/ Interim Award Learning Outcomes - Certificate of Higher Education

A student who is eligible for this award will be able to:

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

Target award Learning Outcomes - Higher Diploma

A student successfully completing the programme of study will have acquired the following subject knowledge and understanding as well as skills and other attributes.

A student who is eligible for this award will be able to:

1. Analyse, synthesise and summarise information critically.
2. Apply subject knowledge and understanding to address familiar and unfamiliar problems.
3. 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.
4. Read and use appropriate literature with level of critical understanding.
5. Think independently, solve problems and devise innovative solutions.
6. Design, plan, conduct and report on investigations.
7. 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.

Teaching, Learning and Assessment

The methods used to enable outcomes to be achieved and demonstrated are as follows:

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).

Programme structure - programme rules and modules

Level 5	Potential Awards on completion	Higher Diploma
Core	Option	Award Requirements
5500ICBTEG ANALYTICAL MATHEMATICS (15 credits) 5500ICBTEL DESIGN PROJECT (15 credits) 5502ICBTEL CONTROL SYSTEM (15 credits) 5503ICBTEL DIGITAL SYSTEM DESIGN (15 credits) 5504ICBTEL PROGRAMMABLE LOGIC CONTROLLERS AND INDUSTRIAL AUTOMATION (15 credits) 5505ICBTEL PRINCIPLES AND APPLICATIONS OF MICROCONTROLLERS (15 credits)		120 core credits at level 5 0 option credits at level 5

5508ICBTEL POWER SYSTEM ANALYSIS (15 credits) 5509ICBTEL ELECTRICAL MACHINES AND DRIVES (15 credits)		
Level 4	Potential Awards on completion	
Core	Option	Award Requirements
4500ICBTEG ENGINEERING MATHEMATICS (15 credits) 4500ICBTEL ELECTROMECHANICAL ENERGY CONVERSION (15 credits) 4501ICBTEL CIRCUIT THEORY (15 credits) 4502ICBTEL DIGITAL ELECTRONICS (15 credits) 4503ICBTEL ANALOGUE ELECTRONICS (15 credits) 4504ICBTEL PROGRAMMING CONCEPTS (15 credits) 4505ICBTEL TELECOMMUNICATIONS PRINCIPLES (15 credits) 4506ICBTEL SIGNALS AND SYSTEMS (15 credits)		120 core credits at level 4 0 option credits at level 4

Information about assessment regulations

All programmes leading to LJMU awards operate within the University's Academic Framework.
<https://www.ljmu.ac.uk/about-us/public-information/academic-quality-and-regulations/academic-framework>

Opportunities for work-related learning (location and nature of activities)

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.

Criteria for admission

Other

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 mechanical engineering.

Overseas qualifications

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 a Mechanical

engineering subject.

A programme of study that is equivalent to a UK level 3 qualification

External Quality Benchmarks

All programmes leading to LJMU awards have been designed and approved in accordance with the UK Quality Code for Higher Education, including the Framework for Higher Education Qualifications in the UK (FHEQ) and subject benchmark statements where applicable.

The University is subject to periodic review of its quality and standards by the Quality Assurance Agency (QAA). Published review reports are available on the QAA website at www.qaa.ac.uk

Programmes which are professionally accredited are reviewed by professional, statutory and regulatory bodies (PSRBs) and such programmes must meet the competencies/standards of those PSRBs.

Support for students and their learning

The University aims to provide students with access to appropriate and timely information, support and guidance to ensure that they are able to benefit fully from their time at LJMU. All students are assigned a Personal Tutor to provide academic support and when necessary signpost students to the appropriate University support services.

Students are able to access a range of professional services including:

- Advice on practical aspects of study and how to use these opportunities to support and enhance their personal and academic development. This includes support for placements and careers guidance.
- Student Advice and Wellbeing Services provide students with advice, support and information, particularly in the areas of: student funding and financial matters, disability, advice and support to international students, study support, accommodation, health, wellbeing and counselling.
- Students studying for an LJMU award at a partner organisation will have access to local support services

Methods for evaluating and improving the quality and standards of teaching and learning

Student Feedback and Evaluation

The University uses the results of student feedback from internal and external student surveys (such as module evaluations, the NSS and PTES), module evaluation questionnaires and meetings with student representatives to improve the quality of programmes.

Staff development

The quality of teaching is assured through staff review and staff development in learning, teaching and assessment.

Internal Review

All programmes are reviewed annually and periodically, informed by a range of data and feedback, to ensure quality and standards of programmes and to make improvements to programmes.

External Examining

External examiners are appointed to programmes to assess whether:

- the University is maintaining the threshold academic standards set for awards in accordance with the FHEQ and applicable subject benchmark statements
- the assessment process measures student achievement rigorously and fairly against the intended outcomes of the programme(s) and is conducted in line with University policies and regulations
- the academic standards are comparable with those in other UK higher education institutions of which external examiners have experience
- the achievement of students are comparable with those in other UK higher education institutions of which the external examiners have experience

and to provide informative comment and recommendations on:

- good practice and innovation relating to learning, teaching and assessment observed by external examiners
- opportunities to enhance the quality of the learning opportunities provided to students

Please note:

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content, teaching, learning and assessment methods of each module can be found in module and programme guides.