

Overview

Programme Code	36325
Programme Title	Automotive 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 a knowledge of the underlying concepts and principles associated with Automotive Engineering, and an ability to evaluate and interpret these within that context. Evaluate the appropriateness of different approaches to solving problems related to Automotive Engineering. Communicate the results of their study accurately and reliably using structured and coherent arguments. Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.

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

Develop knowledge of essential scientific and engineering principles to be able to apply them to produce routine solutions to familiar engineering problems and to model and analyse basic automotive systems. Develop specialist knowledge and understanding of the key scientific and engineering principles which underpin the design and operation of engine and vehicle design, and the evaluation of engine and vehicle performance. Develop a range of relevant transferable skills such as team working, communication, management, problem solving, computing and technical computing. Prepare students for employment by equipping them with the with knowledge, understanding and skills expected of holders of a Higher Diploma in Automotive 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 automotive engineering or related area Provide the engineering base for progression to Incorporated Engineer level.

Learning Outcomes

Code	Description
PLO1	Demonstrate their knowledge and understanding of essential facts, concepts, theories and principles of automotive engineering and its underpinning science and mathematics.
PLO2	The student must have developed transferable skills including problem solving, communication, and working with others, as well as the effective use of general IT facilities and information retrieval skills.
PLO3	Understand the use of technical literature and other information sources.
PLO4	Demonstrate an awareness of nature of intellectual property and contractual issues.
PLO5	Demonstrate an understanding of appropriate codes of practice and industry standards.
PLO6	Illustrate an awareness of quality issues.
PLO7	Review and select appropriate mathematical methods, tools and notations proficiently in the analysis and solution of routine engineering problems.
PLO8	Use appropriate scientific, technical or engineering principles to analyse key engineering processes.
PLO9	Demonstrate an ability to apply quantitative methods and computer software relevant to Automotive Engineering and related engineering disciplines to solve engineering problems.

Code	Description
PLO10	Apply practical engineering skills acquired through, for example, work carried out in laboratories and workshops; in industry through supervised work experience; in individual and group project work; in design work; and in the development and use of computer software in design, analysis and control. Evidence of group working and of participation in a significant project is expected.
PLO11	Understand customer and user needs and the importance of considerations such as aesthetics.
PLO12	Ensure fitness for purpose for all aspects of the problem including production, operation, maintenance and disposal.
PLO13	Contribute to the design process and evaluate outcomes.
PLO14	Develop engineering workshop and laboratory skills.

Programme Structure

Programme Structure Description

The award of the Higher Diploma in Automotive Engineering requires the completion of 120 credits at Level 4 and 120 credits at Level 5. The award of the Certificate of Higher Education in Automotive Engineering requires the completion of 120 credits at Level 4.

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] 4500ICBTME Engineering Mechanics Approved 2022.01 - 15 credit points	
[MODULE] 4501ICBTAE Internal Combustion Engines Approved 2022.01 - 15 credit points	
[MODULE] 4501ICBTME Principles of Electrical and Electronic Engineering Approved 2022.01 - 15 credit points	
[MODULE] 4502ICBTME Engineering Drawing and Computer Aided Engineering Approved 2022.01 - 15 credit points	
[MODULE] 4504ICBTME Instrumentation and Control Systems Approved 2022.01 - 15 credit points	
[MODULE] 4505ICBTME Thermodynamics Approved 2022.01 - 15 credit points	
[MODULE] 4506ICBTME Energy Science and Applications 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] 5500ICBTTEL Design Project Approved 2022.01 - 15 credit points	
[MODULE] 5501ICBTAE Automotive Materials and Manufacturing Processes Approved 2022.01 - 15 credit points	
[MODULE] 5502ICBTAE Management Principles for Automotive Engineers Approved 2022.01 - 15 credit points	
[MODULE] 5503ICBTAE Vehicle Safety Engineering Approved 2022.01 - 15 credit points	
[MODULE] 5505ICBTAE Hybrid and Electrical Vehicle Technology Approved 2022.01 - 15 credit points	
[MODULE] 5506ICBTAE Economics of Automotive Systems and Value Engineering Approved 2022.01 - 15 credit points	
[MODULE] 5507ICBTAE Automotive System Design 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 is approved to include 15 credit modules in this programme.

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.

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, utilising real world case studies 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.
Other international requirements	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 automotive engineering subject. A programme of study that is equivalent to a UK level 3 qualification

Extra Entry Requirements