Liverpool John Moores University

Title:	MACHINE DESIGN I
Status:	Definitive
Code:	**5507ICBTME** (127064)
Version Start Date:	01-08-2021
Owning School/Faculty:	Engineering
Teaching School/Faculty:	ICBT, Colombo

Team	Leader
Alison Cotgrave	Y

Academic Level:	FHEQ5	**Credit Value:**	15	**Total Delivered Hours:**	76
Total Learning Hours:	150	**Private Study:**	74		

Delivery Options
Course typically offered: Semester 1 and Summer

Component	Contact Hours
Lecture	45
Off Site	6
Practical	6
Seminar	3
Tutorial	15

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS2	Examination (Open Book)	40	1
Report	AS1	Report (2000 words)	60	

Aims

This module aims to develop understanding of concepts in machine elements and design. This module enhances student knowledge in solving realistic problems in machine component or elements design and preparation of drawings and documentation for production.

Learning Outcomes

After completing the module the student should be able to:

1 Demonstrate understanding of engineering design process.
2 Demonstrate the understanding of the manufacturing process of a design.
3 Analyse and solve simple but realistic problems in machine component design and prepare production drawings and other documentation for production.
4 Produce a simple machine design.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Examination	1	3
Report	2	4

Outline Syllabus

Introduction to Engineering design process
Production drawings and tolerance
Introduction to Ergonomics
Integration of machine elements – gears, keys, couplings, bearings, riveted joints, threaded joints etc.
Stresses in machine elements and modes of failure

Learning Activities

Students will be supported in their learning, to achieve the above learning outcomes, in the following ways:
By a series of lectures and tutorials and through participation for a group project.
Self-managed investigative study to analyse cases related to machine design.
A recommended resource list - indicating key reading, internet support and physical learning assistance, is provided to help enable students to undertake self-directed study.

Notes

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