UNIVERSITY of BRADFORD

Module Descriptor

Foundation Mechanics

Module Code:	MAE3001-B
Academic Year:	2018-19
Credit Rating:	20
School:	Department of Mechanical and Energy Systems Engineering
Subject Area:	Mechanical and Automotive Engineering
FHEQ Level:	FHEQ Level 3

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	48
Tutorials	24
Laboratory	6
Directed Study	119
Other (DO NOT USE)	10
Examinations DO NOT USE	2

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Academic Year (Sept - May)

Module Aims

To develop the basic skills of statics, kinematics and dynamics and apply them to engineering problems.

Outline Syllabus

Vectors: Basic algebra, components. Concept of force: Resultant, equilibrant. Concurrent forces: 3 force systems. Moment of a force: Couples, principle of moments. Coplanar and parallel forces: Implications. Friction: Static friction. Hydrostatics: Hydrostatic pressure. Displacement, velocity, constant acceleration. Circular motion: angular measure, angular

frequency, angular acceleration. Kinetics: force, mass, momentum. Newton`s Laws of Motion. Work/energy equation. Power. Impulse/momentum equation.

Module Learning Outcomes

On successful completion of this module, students will be able to...

1 1.1 Apply scalar and vector algebra to the principles of statics.
1.2 Become familiar with principles of kinematics and the laws of motion associated with one and two dimensional motion of objects.

2 2.1 Apply the principles of statics to problems set in an engineering context and notation.
2.2 Apply the principles of dynamics to problems set in an engineering context and notation.

3 3.1 Manage, present and interpret data.
3.2 Solve problems systematically using the scientific method.
3.3 Communicate technical information in a concise manner.
3.4 Work as part of a team.

Learning, Teaching and Assessment Strategy

Lectures, interactive laboratory-based teaching, tutorials, laboratories.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Referral	Examination - closed book	Supplementary	2 hours	80%	No
Summative	Examination - closed book	Examination - closed book	1.5 hours	40%	No
Summative	Examination - closed book	Examination - closed book	1.5 hours	40%	No
Referral	Coursework	Supplementary - resubmission of coursework.		20%	Yes
Summative	Coursework	Written reports based on laboratory work		20%	Yes

Legacy Code (if applicable)

ENG0302L

Reading List

To view Reading List, please go to **rebus:list**.