BIC3037-B module descriptor

Module Title	Introduction to Engineering
Credit Level	20 credits (RQF Level 3)
Session	2026/7 academic year
BDA occurrence	Academic Year available at University of Bradford
BDA occurrence	Non Standard Year available at University of Bradford
BDB occurrence	Non Standard Year available at University of Bradford

Transparency notice

This specification for module code BIC3037-B has been generated automatically in advance of the academic year 2026/7. Every effort has been made to ensure that the information is accurate at the time of publication, but changes permitted by our Student Contract Terms and Conditions could be made in the interval between publishing and commencement of teaching; where changes impact the terms and conditions of an applicant's or student's offer, these are communicated to them as soon as possible.

BIC3037-B module aims

This module introduces you to the key figures, theories and subjects associated with Sociology, Psychology and Media and Cultural Studies in the context of the study of contemporary human society. Taking the family unit as a site of sociological analysis, you will explore the issues of crime and deviance and their portrayal in the media to gain insights into social sciences practice. Although there is a consideration of theoretical frameworks, the focus is on debate and analysis of urgent social issues.

BIC3037-B module learning outcomes

No.	Students completing the module will be able to:
01	Explain how mathematical models can be used to investigate physical events.
02	Distinguish between scalar and vector quantities giving physical examples.
03	Apply the relationships between distance and time for linear motion and evaluate simple problems of relative motion.
04	Apply Newton's Laws of Motion.
05	Describe the relationships between work, energy and power and apply to problems in context.
06	Justify suitable materials, based on their structure and properties, to solve engineering problems.

BIC3037-B module outline syllabus

Vectors: Introduction; Cartesian components and position vectors

Forces and Equilibrium: Mathematical models; the action of forces; resultant forces; resolution into components; a particle in equilibrium

Newton's Laws of Motion: Newton's Laws; Applications; Connected particles; Related accelerations

Work, Energy and Power: Work and kinetic energy; Conservation of mechanical energy; Work done by a variable force; Power

Friction - Hooke's Law; The Law of friction; Motion on a rough surface; Equilibrium on a rough surface; Angle of friction;

Solids and fluids: Strength of solids; Elastic behaviour; Structure of solids; Fluids; Non-viscous flow; Viscous flow; Surfaces

Gases and heat: Temperature; Heat capacities; Thermal coefficient; Thermal conduction; Thermal radiation; Ideal gases; Thermodynamics of ideal gases; Real gases; Vapours; Entropy and equilibrium

For more information, visit the VLE (**Canvas**) page, go to our **Reading Lists webpage for this module** or search **https://bradford.rl.talis.com** for this module.

BIC3037-B module notional learning hours

- 110 hours Directed Study
- 90 hours Directed Study
- 10 hours Laboratories
- 80 hours Lectures

The overall expected hours may include contact time, scheduled learning activity, directed and independent study and any minimum expectations for placement learning. Most learning at the University of Bradford has some online content and sessions which are delivered fully by virtual means are labelled as "online".

BIC3037-B module learning, teaching and assessment

Groups are small and classes are student-centred, task-based and interactive.

The classroom approach is explicitly designed to help international students acquire new knowledge and skills, to build their confidence and enable them to become more independent learners. By doing this consistently and across all modules, the programme provides them with a strong foundation for further study in their chosen subject area.

The approach is inclusive and recognises that students come from different backgrounds with a range of previous learning experiences and associated expectations, beliefs and behaviours. Teaching and learning methods are clearly explained so students understand why (where appropriate) they need to engage in new ways of learning and why those they have used or relied on up to this point may be less suited to supporting their ongoing development and their chances of success in UK Higher Education.

Formative work is an integral part of the approach. In class, students are set tasks that require them to apply their knowledge and skills, to think critically and to solve problems. The level of challenge is gradually increased as the students grow in confidence and Tutors help them to see that experimentation, trial and error are central to the learning process, providing constructive feedback on both what has been achieved and how.

Students are also expected to engage in independent study, to reflect on their own performance and to discuss this with their module tutor or personal academic tutor, who will provide support and advice and, when necessary, draw the attention of the Academic Management Team to a struggling student using the ‘Students of concern’ process.

Summative assessment activities are deigned to test relevant knowledge and understanding and tasks are chosen to reflect what may be required when students progress on to their chosen undergraduate degree.

N/A

BIC3037-B mode of assessment			
Type	**Mode**	**Assessment description**	**Weight**
Summative	Coursework - Written	Report on a laboratory experiment (LO3, LO4). 1000 words	30%
Summative	Examination - Closed Book	Unseen examination (LO1, LO2, LO5, LO6)	70%

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