



Programme Specification						
						Show Guidance
General Information						
Title		BEng (Hons) Mechanical Engineering				
Awarding Institution		University of Bath				
Teaching Institution		University of Bath				
Programme Accredited by		IMechE January 2014				
Collaborative Provision Type		Not Applicable				
Placement Available?		Yes				
Study Abroad Available?		Select..				
Subject Benchmark Statement(s) Click here to see 'QAA List'		Engineering: http://www.qaa.ac.uk/en/Publications/Documents/Subject-benchmark-statement-Engineering-.pdf				
Programme Approved by		Senate Minute 10030, 20 March 1996				
Aims	Learning Outcomes	Assessment	Placement/Prof Acc	Admissions/Support	Show All	Close
Aims; "What is the purpose of this programme of study? What is the programme intended to achieve?"						
Synopsis and Coherence		<p>Synopsis</p> <p>The first two years provide a core foundation curriculum with 66 credits (equivalent to 132 CATS credits) in Mechanical Engineering Science and Manufacturing, 24 credits in Mathematics and Computing topics, 24 credits of Design and Materials and 6 credits of Experimentation and Applied Engineering. All units are compulsory in years one and two.</p> <p>The third year may be spent on a period of supervised industrial training.</p> <p>The third academic year includes, as core material, 30 credits of Mechanical Engineering topics in semester one, a six week 12 credit full-time Group Business and Design Project and a six week 18 credit full time engineering project that takes place in the second semester.</p> <p>Academic Coherence</p> <p>The curriculum has been designed to provide for those students who want a general mechanical engineering education that, on graduation, will equip them to work in a host of industries. Design is a common thread that runs through the degree programme and integrates taught engineering science, manufacturing and management elements in project based engineering activities.</p> <p>The first two years of the programme lay the foundations of the common mechanical principles and give students a view of most of the important areas of mechanical engineering, including design and manufacture. The final year enables the student to study in Mechanical Engineering to Honours level study. Full-time group and individual project work provide opportunities to apply the lecture material to the solution of practical problems and to introduce the elements of the management of an engineering enterprise.</p>				
Educational Aims of the Programme						

	<p>Aims</p> <ul style="list-style-type: none"> • To enable students to pursue professional careers in Mechanical Engineering at a level which requires the exercise of sound judgement, personal responsibility and initiative, and the ability to make engineering decisions. • To equip students with a detailed understanding of the principles of mechanical engineering science, many aspects of which will be at, or informed by, the current boundaries of the discipline. • To equip students with skills to systematically employ engineering principles to produce original analyses of, and solutions to, engineering problems. • To enable students to work successfully in engineering teams <p>Objectives</p> <p>It is expected that graduates of this programme will meet the educational requirements for the award of a BEng degree. It is intended that all graduates will satisfy the UK SPEC Learning Outcomes from C to H Level and will have experienced a wide range of delivery and assessment strategies.</p> <p>To this end the objectives of the programme will be to prepare graduates to:</p> <ul style="list-style-type: none"> • use their knowledge and understanding of mechanical science to produce soundly based solutions to engineering problems, through the detailed evaluation of available evidence, arguments and assumptions; • apply theoretical and practical techniques to produce creative analyses of, and solutions to, engineering problems in familiar environments; • provide a high level of technical leadership; • use initiative, effective communication and interpersonal skills; • operate within the appropriate code of professional conduct, recognising obligations to society, the profession and the environment.
<p>Learning Outcomes; including teaching, learning and assessment methods, specifying those applicable for interim awards where appropriate. Indicate what successful students should be able to do, how well they should be able to do it and the context or conditions in which they should be able to do it. See also FHEQ and SEEC guidance.</p>	
<p>Knowledge and Understanding</p>	<p>Students will demonstrate:</p> <ul style="list-style-type: none"> • systematic and detailed understanding of mechanical science, ranging from the well-established principles to new techniques; • detailed knowledge of a number of the practical technologies currently used in Mechanical Engineering; • critical understanding of the uncertainty, ambiguity and limits of their knowledge, and how these may affect analyses of, and solutions to, engineering problems; • awareness of the commercial and financial constraints that engineers may have to work under. <p>Teaching and learning is through lectures, tutorials, students' own reading, practical exercises, laboratory work and design exercises.</p> <p>Assessment is by a combination of written examination, written course work and oral presentation</p>
<p>Intellectual Skills</p>	<p>Students will demonstrate an:</p> <ul style="list-style-type: none"> • ability to apply the concepts and principles of mechanical engineering science to the solution of engineering problems in both familiar and in complex professional environments; • ability to evaluate information in the form of arguments, assumptions and/or technical data (that may or may not be complete) in order to be able to produce solutions to problems in Mechanical Engineering that may be either of a routine nature or require the development of new techniques. <p>Teaching and learning is through lectures, tutorials, students' own reading, practical exercises, laboratory work and design exercises.</p> <p>Assessment is by a combination of written examination, written course work and oral presentation.</p>
<p>Professional Practice Skills</p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> • employ a range of established and new techniques to review and analyse information concerning engineering problems, and to propose and implement solutions in a professional manner; • deal with complex engineering issues, both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to both specialist and non-specialist audiences; • undertake further continuing professional development and the development of new skills that will enable them to assume a high level of responsibility within an engineering organisation. <p>Teaching and learning is through lectures, tutorials, students' own reading, practical exercises, laboratory work and design exercises.</p> <p>Assessment is by a combination of written examination, written course work and oral presentation.</p>
<p>Transferable/Key Skills</p>	

	<p>Students will demonstrate:</p> <ul style="list-style-type: none"> • an ability to use IT to collect, analyse and present technical information; • an ability to use appropriate professional simulation and design tools; • the exercise of initiative and personal responsibility; • an ability to effectively present technical information in both written and spoken form; • independent learning ability required for continuing professional development; • how to plan and execute a project. <p>Teaching and learning is through lectures, tutorials, students' own reading, practical exercises, laboratory work and design exercises.</p> <p>Assessment is by a combination of written examination, written course work and oral presentation.</p>
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Assessment Methods

Summary of Assessment Regulations	NFA - fully compliant <input type="checkbox"/>
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<p>Progression Regulations and Awards</p> <p><i>For programmes fully compliant with NFA refer to the relevant appendices of the relevant NFAAR document (UG, PGT, FD, HY, or CPD)</i></p> <p><i>Note any significant features relevant to the "Assessment in the programme context" sections of the relevant NFAAR document.</i></p> <p><i>Set out any approved exemptions from NFA.</i></p> <p><i>Set out progression and assessment regulations where these do not comply with NFA.</i></p>	<p>Students leaving an undergraduate programme prematurely may be eligible for a Certificate of Higher Education (www.bath.ac.uk/quality/documents/certhe.pdf) or a Diploma of Higher Education (www.bath.ac.uk/quality/documents/diplhe.pdf)</p> <p>The rules for progression from one stage to another and grading of assessed work and examinations conform to the University's framework for assessment and assessment regulations (NFAAR), see http://www.bath.ac.uk/registry/nfa/nfaar-ug.pdf</p>
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Students leaving an undergraduate programme prematurely may be eligible for a [Certificate of Higher Education](#) or a [Diploma of Higher Education](#).

[Click here to see 'Indicators of Quality & Standards'](#)

Placement and Professional Accreditation

Details of Work Placements Requirements / Work Based Learning / Industrial Training Requirements	Students on the sandwich programme will undertake a placement of at least thirty weeks during the third year. An informal report on the placement will be produced and 60 credits will be awarded for successful completion of the placement year although this will not contribute to the degree classification.
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Details of Study Abroad Requirements	
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Details of Professional Accreditation	
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Admissions and Support

Admissions Criteria including APL/APEL arrangements	
<i>Only refer to APL, APEL or direct entry with advanced standing if regular use is likely to be made or is not possible.</i>	

	<p>GCE A-level candidates are normally required to obtain A*AA to include Mathematics and Physics. Either Mathematics or Physics must be A*. Other equivalent qualifications are accepted.</p> <p>All students must meet the University's minimum English Language requirements or have obtained an appropriate exemption. International applicants not offering a GCSE or equivalent at Grade C or above may offer 6.5 in IELTS with a minimum of 6.0 in the four components.</p> <p>Students from Harbin Institute of Technology can enter directly into the second year of the BEng programme provided they satisfy the following entry requirements.</p> <ul style="list-style-type: none"> • IELTS 6.5 with no less than 6.0 in the writing sections and no less than 5.5 in any other sectionA minimum overall average mark of 80% in the first two years at HIT. • HIT students with an average of 85%will be considered with an IELTS of 6.0. <p>Admissions criteria can be found by following the link below: http://www.bath.ac.uk/study/ug/prospectus/subject/mechanical-engineering/entry-requirements/</p>
<p>Details of Support Available to Students</p> <p>[link to Ac Reg quality page]</p>	
<p>Department and Programme Specific Support Information</p> <p><i>e.g. induction programmes, any peer mentoring schemes, regular department events</i></p>	<p>Further information about the Department is available at http://www.bath.ac.uk/mech-eng/</p> <p>Information relating to the various degree course programmes and units is available at http://www.bath.ac.uk/catalogues/</p>



BEng(Hons) Mechanical Engineering - Being delivered 2017/2018
UEME-AFB16

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NFAAR Version	UG <input type="checkbox"/>
Length	3 Years
Mode of Attendance	Full-time
Mode of Placement	None
Type of Placement	None
Intended Award	Bachelor of Engineering with Honours
Award Title	BACHELOR OF ENGINEERING IN MECHANICAL ENGINEERING
For UG Masters Type Programmes this is	
Exit Awards	UEME-AFC16 Certificate of Higher Education UEME-AFL16 Diploma of Higher Education
Exit Award Rules	
Designated Alternative Programmes	

Assessment weightings and decision references		
Stage	Weighting within programme %	NFAAR decisions reference http://www.bath.ac.uk/registry/nfa/index.htm
Stage 1	<input type="text" value="0"/>	
Stage 2	<input type="text" value="32"/>	
Stage 3	<input type="text" value="68"/>	
Stage 4	<input type="text"/>	
Stage 5	<input type="text"/>	
Stage 6	<input type="text"/>	

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
Year of Study : 1 (10)									
Unit Status : Compulsory Unit (10)									
ME10001	Experimentation, engineering skills & applied engineering	6	Semester 1	1	1				
ME10003	Thermodynamics	6	Semester 1	1	1				
ME10004	Solid mechanics 1	6	Semester 1	1	1				
ME10006	Design materials & manufacturing 1	6	Semester 1	1	1				
ME10304	Mathematics 1	6	Semester 1	1	1				
ME10009	Fluid mechanics	6	Semester 2	1	1				
ME10010	Solid mechanics 2	6	Semester 2	1	1				
ME10012	Design materials & manufacturing 2	6	Semester 2	1	1				
ME10285	Instrumentation, electronics & electrical drives	6	Semester 2	1	1				
ME10305	Mathematics 2	6	Semester 2	1	1				
Year of Study : 2 (10)									
Unit Status : Compulsory Unit (10)									
ME20013	Systems & control	6	Semester 1	2	2				
ME20014	Modelling techniques 1	6	Semester 1	2	2				
ME20016	Solid mechanics 3	6	Semester 1	2	2				
ME20018	Design 3	6	Semester 1	2	2				
ME20022	Fluid dynamics with historical perspective	6	Semester 1	2	2				
ME20015	Thermal power and heat transfer	6	Semester 2	2	2				
ME20021	Modelling techniques 2	6	Semester 2	2	2				
ME20023	Solid mechanics 4	6	Semester 2	2	2				
ME20025	Design 4	6	Semester 2	2	2				
ME20026	Manufacturing operations and technology	6	Semester 2	2	2				
Year of Study : 3 (7)									
Unit Status : Compulsory Unit (7)									
ME30029	Control systems	6	Semester 1	3	3				
ME30030	Structural mechanics	6	Semester 1	3	3				
ME30033	Mechanical vibrations & noise	6	Semester 1	3	3				
ME30060	Heat transfer	6	Semester 1	3	3				
ME30264	Materials selection in engineering design	6		3	3				

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
			Semester 1						
ME30068	Group business & design project - I	12	Semester 2	3	3				
ME30227	Engineering project - BEng	18	Semester 2	3	3	Yes			

Business Support Systems - part of Computing Services



BEng(Hons) Mechanical Engineering with Year long work placement - Being delivered 2017/2018
UEME-AKB16

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NFAAR Version	UG <input type="checkbox"/>
Length	4 Years
Mode of Attendance	Full-time
Mode of Placement	Thick Sandwich
Type of Placement	Year Long Work Placement
Intended Award	Bachelor of Engineering with Honours
Award Title	BACHELOR OF ENGINEERING IN MECHANICAL ENGINEERING
For UG Masters Type Programmes this is	
Exit Awards	UEME-AKC16 Certificate of Higher Education UEME-AKL16 Diploma of Higher Education
Exit Award Rules	
Designated Alternative Programmes	UEME-AFB16 BEng (hons) Mechanical Engineering

Assessment weightings and decision references		
Stage	Weighting within programme %	NFAAR decisions reference
Stage 1	<input type="text" value="0"/>	http://www.bath.ac.uk/registry/nfa/index.htm
Stage 2	<input type="text" value="32"/>	
Stage 3	<input type="text" value="0"/>	
Stage 4	<input type="text" value="68"/>	
Stage 5	<input type="text"/>	
Stage 6	<input type="text"/>	

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
Year of Study : 1 (10)									
Unit Status : Compulsory Unit (10)									
ME10001	Experimentation, engineering skills & applied engineering	6	Semester 1	1	1				
ME10003	Thermodynamics	6	Semester 1	1	1				
ME10004	Solid mechanics 1	6	Semester 1	1	1				
ME10006	Design materials & manufacturing 1	6	Semester 1	1	1				
ME10304	Mathematics 1	6	Semester 1	1	1				
ME10009	Fluid mechanics	6	Semester 2	1	1				
ME10010	Solid mechanics 2	6	Semester 2	1	1				
ME10012	Design materials & manufacturing 2	6	Semester 2	1	1				
ME10285	Instrumentation, electronics & electrical drives	6	Semester 2	1	1				
ME10305	Mathematics 2	6	Semester 2	1	1				
Year of Study : 2 (10)									
Unit Status : Compulsory Unit (10)									
ME20013	Systems & control	6	Semester 1	2	2				
ME20014	Modelling techniques 1	6	Semester 1	2	2				
ME20016	Solid mechanics 3	6	Semester 1	2	2				
ME20018	Design 3	6	Semester 1	2	2				
ME20022	Fluid dynamics with historical perspective	6	Semester 1	2	2				
ME20015	Thermal power and heat transfer	6	Semester 2	2	2				
ME20021	Modelling techniques 2	6	Semester 2	2	2				
ME20023	Solid mechanics 4	6	Semester 2	2	2				
ME20025	Design 4	6	Semester 2	2	2				
ME20026	Manufacturing operations and technology	6	Semester 2	2	2				
Year of Study : 3 (1)									
Unit Status : Compulsory Unit (1)									
ME20120	Industrial placement	60	All Year	2	3				
Year of Study : 4 (7)									
Unit Status : Compulsory Unit (7)									
ME30029	Control systems	6	Semester 1	3	4				
ME30030	Structural mechanics	6		3	4				

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
			Semester 1						
ME30033	Mechanical vibrations & noise	6	Semester 1	3	4				
ME30060	Heat transfer	6	Semester 1	3	4				
ME30264	Materials selection in engineering design	6	Semester 1	3	4				
ME30068	Group business & design project - I	12	Semester 2	3	4				
ME30227	Engineering project - BEng	18	Semester 2	3	4	Yes			

Business Support Systems - part of Computing Services