



Programme Specification						
						Show Guidance
<b>General Information</b>						
Title	MEng (Hons) Mechanical with Automotive 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) <a href="#">Click here to see 'QAA List'</a>	Engineering: <a href="http://www.qaa.ac.uk/en/Publications/Documents/Subject-benchmark-statement-Engineering-.pdf">http://www.qaa.ac.uk/en/Publications/Documents/Subject-benchmark-statement-Engineering-.pdf</a>					
Programme Approved by	Senate Minute 10030, 20 March 1996					
Aims	Learning Outcomes	Assessment	Placement/Prof Acc	Admissions/Support	Show All	Close
<b>Aims; "What is the purpose of this programme of study? What is the programme intended to achieve?"</b>						
<b>Synopsis and Coherence</b>	<p><b>Synopsis</b></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 units 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, 12 credits of Mechanical Engineering Science topics and 18 credits of core Automotive Engineering topics and a full-time Automotive Engineering Group Business and Design Project that takes place in the second semester. This group project may be carried out in industry as an Integrated Industrial Design Project.</p> <p>The fourth year comprises 3 core automotive engineering units with 18 credits and three optional units that may be chosen from a selection of around 20 available units.</p> <p>An individual automotive based full-time project will be taken in the second semester of the final year, which will contribute 30 credits to the programme.</p> <p><b>Academic Coherence</b></p> <p>The curriculum has been designed to provide for those students who want a specialised automotive engineering education, with the widest possible choice of courses in the final year. 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 and automotive engineering, including design and manufacture. The final two years provide a core of specialised automotive engineering topics together with scope for students to study topics that are of particular interest to them in the general area of mechanical engineering and the specialised areas of Aerospace, Design or Manufacturing Engineering. 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> <p>This MEng degree is accredited by the IMechE as satisfying the educational requirements for Chartered Engineer Status.</p>					
<b>Educational Aims of the Programme</b>						

	<p><b>Aims</b></p> <ul style="list-style-type: none"> <li>To enable students to pursue professional careers in automotive engineering at a level which requires the exercise of sound judgement, personal responsibility and initiative, and the ability to make engineering decisions in complex and unpredictable professional environments.</li> <li>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.</li> <li>To equip students with skills to systematically employ engineering principles to produce original analyses of, and solutions to, automotive engineering problems.</li> <li>To provide an understanding of how a vehicle is designed as a whole.</li> <li>To provide an understanding of the methods appropriate for the analysis of a vehicle and its components.</li> <li>To develop an understanding of the market, environmental and manufacturing systems context of a vehicle.</li> <li>To enable students to work successfully in engineering teams</li> </ul> <p><b>Objectives</b></p> <p>It is expected that graduates of this programme will meet the educational requirements for registration as Chartered Engineers. It is intended that all graduates will satisfy the UK SPEC Learning Outcomes from C to M 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"> <li>use their knowledge and understanding of mechanical science to produce soundly based and original solutions to automotive engineering problems, through the detailed evaluation of available evidence, arguments and assumptions, some aspects of which are informed by research in the area;</li> <li>apply theoretical and practical techniques to produce creative analyses of, and solutions to, engineering problems in both familiar, and complex and unpredictable professional environments;</li> <li>provide a high level of technical leadership;</li> <li>use initiative, effective communication and interpersonal skills;</li> <li>operate within the appropriate code of professional conduct, recognising obligations to society, the profession and the environment.</li> </ul>
<p><b>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.</b></p>	
<p><b>Knowledge and Understanding</b></p>	<p>Students will demonstrate:</p> <ul style="list-style-type: none"> <li>systematic, detailed and critical understanding of mechanical science, ranging from the well-established principles to new techniques, many of which are informed by the current boundaries of the discipline;</li> <li>detailed knowledge of a number of the practical technologies currently used in automotive engineering;</li> <li>critical understanding of the uncertainty, ambiguity and limits of their knowledge, and how these may affect analyses of, and solutions to, engineering problems;</li> <li>awareness of the commercial and financial constraints that automotive engineers may have to work under.</li> </ul> <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><b>Intellectual Skills</b></p>	<p>Students will demonstrate an:</p> <ul style="list-style-type: none"> <li>ability to apply the concepts and principles of mechanical engineering science to the solution of engineering problems in both familiar and in complex and unpredictable professional environments;</li> <li>ability to critically 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 automotive engineering that may be either of a routine nature or require the development of new and original techniques.</li> </ul> <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><b>Professional Practice Skills</b></p>	<p>Students will be able to:</p> <ul style="list-style-type: none"> <li>employ a range of established and new techniques to review and critically analyse information concerning engineering problems, and to propose and implement solutions in a professional manner;</li> <li>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;</li> <li>undertake further continuing professional development and the development of new and advanced skills that will enable them to assume a high level of responsibility within an engineering organisation.</li> </ul> <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><b>Transferable/Key Skills</b></p>	

	<p>Students will demonstrate:</p> <ul style="list-style-type: none"> <li>• an ability to use IT to collect, analyse and present technical information;</li> <li>• an ability to use appropriate professional simulation and design tools;</li> <li>• the exercise of initiative and personal responsibility;</li> <li>• an ability to effectively present technical information in both written and spoken form;</li> <li>• independent learning ability required for continuing professional development;</li> <li>• how to plan and execute a project.</li> <li>• an ability to work in a team</li> </ul> <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><b>Assessment Methods</b></p>	
<p><b>Summary of Assessment Regulations</b></p>	<p>NFA - fully compliant <input type="checkbox"/></p>
<p><b>Progression Regulations and Awards</b></p> <p><i>For programmes fully compliant with NFA refer to the relevant appendices of the relevant NFAAR document (<a href="#">UG</a>, <a href="#">PGT</a>, <a href="#">FD</a>, <a href="#">HY</a>, or <a href="#">CPD</a>)</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 <a href="#">NFA</a>.</i></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 <a href="http://www.bath.ac.uk/registry/nfa/nfaar-ug.pdf">http://www.bath.ac.uk/registry/nfa/nfaar-ug.pdf</a></p>
<p><i>Students leaving an undergraduate programme prematurely may be eligible for a <a href="#">Certificate of Higher Education</a> or a <a href="#">Diploma of Higher Education</a>.</i></p>	
<p><a href="#">Click here to see 'Indicators of Quality &amp; Standards'</a></p>	
<p><b>Placement and Professional Accreditation</b></p>	
<p><b>Details of Work Placements Requirements / Work Based Learning / Industrial Training Requirements</b></p>	<p>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.</p>
<p><b>Details of Study Abroad Requirements</b></p>	
<p><b>Details of Professional Accreditation</b></p>	
<p><b>Admissions and Support</b></p>	
<p><b>Admissions Criteria including APL/APEL arrangements</b></p> <p><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>	<p>Admissions criteria can be found by following the link below: <a href="http://www.bath.ac.uk/study/ug/prospectus/subject/mechanical-engineering/">http://www.bath.ac.uk/study/ug/prospectus/subject/mechanical-engineering/</a></p> <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>English language requirements are the same as the institution's minimum requirement, that is 6.5 in IELTS with a minimum of 6.0 in the four components</p>
<p><b>Details of Support Available to Students</b></p> <p><b>[link to Ac Reg quality page]</b></p>	

**Department and Programme  
Specific Support Information**

*e.g. induction programmes, any  
peer mentoring schemes, regular  
department events*

Further information about the Department is available at <http://www.bath.ac.uk/mech-eng/>

Information relating to the various degree course programmes and units is available at

<http://www.bath.ac.uk/catalogues/>

**Business Support Systems** - part of Computing Services



<b>MEng(Hons) Mechanical with Automotive Engineering - Being delivered 2017/2018</b>
UEME-AFM47

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<b>NFAAR Version</b>	UG <input type="checkbox"/>
<b>Length</b>	4 Years
<b>Mode of Attendance</b>	Full-time
<b>Mode of Placement</b>	None
<b>Type of Placement</b>	None
<b>Intended Award</b>	Master of Engineering with Honours
<b>Award Title</b>	MASTER OF ENGINEERING IN MECHANICAL WITH AUTOMOTIVE ENGINEE
<b>For UG Masters Type Programmes this is</b>	
<b>Exit Awards</b>	UEME-AFC47 Certificate of Higher Education UEME-AFL47 Diploma of Higher Education
<b>Exit Award Rules</b>	
<b>Designated Alternative Programmes</b>	

Assessment weightings and decision references		
Stage	Weighting within programme %	NFAAR decisions reference <a href="http://www.bath.ac.uk/registry/nfa/index.htm">http://www.bath.ac.uk/registry/nfa/index.htm</a>
Stage 1	<input type="text" value="0"/>	
Stage 2	<input type="text" value="20"/>	
Stage 3	<input type="text" value="40"/>	Additional information for Year 3: NB. Students may be permitted to take <a href="http://www.bath.ac.uk/registry/nfa/index.htm">ME40315</a> (External integrated project - 30 credits) instead of ME30068 and ME40228 in Semester 2 subject to
Stage 4	<input type="text" value="40"/>	
Stage 5	<input type="text"/>	
Stage 6	<input type="text"/>	

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
<b>Year of Study : 1 (10)</b>									
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				
<b>Year of Study : 2 (10)</b>									
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				
<b>Year of Study : 3 (7)</b>									
Unit Status : Compulsory Unit (7)									
ME30029	Control systems	6	Semester 1	2	3				
ME30030	Structural mechanics	6	Semester 1	2	3				
ME30037	Internal combustion engine technology	6	Semester 1	2	3				
ME30067	Vehicle dynamics	6	Semester 1	2	3				
ME30217	Vehicle engineering	6		2	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	2	3				
ME40228	Group business & design project - II	18	Semester 2	2	3				

#### Year of Study : 4 (25)

Unit Status : Compulsory Unit (3)

ME40321	Engineering project	30	All Year	3	4	Yes			
ME40047	Powertrain & transportation systems	6	Semester 1	3	4				
ME40345	Turbocharging and engine boosting	6	Semester 1	3	4				

Unit Status : ME4002 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 2 (3)

ME30045	Aerospace structures 1	6	Semester 1	3	4				
ME30197	Business processes	6	Semester 1	3	4				
ME40058	Fluid power	6	Semester 1	3	4				

Unit Status : ME4004 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 4 (3)

ME30033	Mechanical vibrations & noise	6	Semester 1	3	4				
ME40046	Modelling and analysis of manufacturing systems	6	Semester 1	3	4				
ME40319	Composite materials	6	Semester 1	3	4				

Unit Status : ME4005 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 5 (3)

ME30042	Computer integrated manufacturing	6	Semester 1	3	4				
ME40054	Computational fluid dynamics	6	Semester 1	3	4				
ME40061	Biomechanics	6	Semester 1	3	4				

Unit Status : ME4006 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 6 (3)

ME30219	Aircraft performance	6	Semester 1	3	4				
ME40064	System modelling & simulation	6	Semester 1	3	4				
MN10545	Organisational behaviour	6	Semester 1	3	4				

Unit Status : ME4008 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 9 (5)

ME30060	Heat transfer	6	Semester 1	3	4				
ME40049	Innovation and advanced design	6	Semester 1	3	4				
ME40051	Advanced control	6	Semester 1	3	4				
ME40055	Energy & the environment	6	Semester 1	3	4				
ME40195	Medical engineering	6	Semester 1	3	4				

Unit Status : ME4105 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 10 (3)

ME30294	Product design and development	6	Semester 1	3	4				
ME40057	Finite element analysis	6	Semester 1	3	4				
MN20074	Digital business innovation	6		3	4				

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
			Semester 1						
↕ Unit Status : ME4131 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 8 (2)									
<a href="#">ME30032</a>	Aerodynamics	6	Semester 1	3	4				
<a href="#">ME30264</a>	Materials selection in engineering design	6	Semester 1	3	4				

**Business Support Systems** - part of Computing Services





<b>MEng(Hons) Mechanical with Automotive Engineering with Year long work placement - Being delivered 2017/2018</b>
UEME-AKM47

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<b>NFAAR Version</b>	UG <input type="checkbox"/>
<b>Length</b>	5 Years
<b>Mode of Attendance</b>	Full-time
<b>Mode of Placement</b>	Thick Sandwich
<b>Type of Placement</b>	Year Long Work Placement
<b>Intended Award</b>	Master of Engineering with Honours
<b>Award Title</b>	MASTER OF ENGINEERING IN MECHANICAL WITH AUTOMOTIVE ENGINEE
<b>For UG Masters Type Programmes this is</b>	
<b>Exit Awards</b>	UEME-AKC47 Certificate of Higher Education UEME-AKL47 Diploma of Higher Education
<b>Exit Award Rules</b>	
<b>Designated Alternative Programmes</b>	UEME-AFM47 MEng(Hons) Mechanical with Automotive Engineering

Assessment weightings and decision references		
Stage	Weighting within programme %	NFAAR decisions reference
Stage 1	<input type="text" value="0"/>	<a href="http://www.bath.ac.uk/registry/nfa/index.htm">http://www.bath.ac.uk/registry/nfa/index.htm</a>
Stage 2	<input type="text" value="20"/>	
Stage 3	<input type="text" value="0"/>	
Stage 4	<input type="text" value="40"/>	Additional information for Year 4: NB. Students may be permitted to take <a href="http://www.bath.ac.uk/registry/nfa/index.htm">ME40315</a> (External integrated project - 30 credits) instead of ME30068 and ME40228 in Semester 2, subject to
Stage 5	<input type="text" value="40"/>	
Stage 6	<input type="text"/>	

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
<b>Year of Study : 1 (10)</b>									
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				
<b>Year of Study : 2 (10)</b>									
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				
<b>Year of Study : 3 (1)</b>									
Unit Status : Compulsory Unit (1)									
ME20120	Industrial placement	60	All Year	2	3				
<b>Year of Study : 4 (7)</b>									
Unit Status : Compulsory Unit (7)									
ME30029	Control systems	6	Semester 1	2	4				
ME30030	Structural mechanics	6		2	4				

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
			Semester 1						
ME30037	Internal combustion engine technology	6	Semester 1	2	4				
ME30067	Vehicle dynamics	6	Semester 1	2	4				
ME30217	Vehicle engineering	6	Semester 1	2	4				
ME30068	Group business & design project - I	12	Semester 2	2	4				
ME40228	Group business & design project - II	18	Semester 2	2	4				
<b>Year of Study : 5 (25)</b>									
Unit Status : Compulsory Unit (3)									
ME40321	Engineering project	30	All Year	3	5	Yes			
ME40047	Powertrain & transportation systems	6	Semester 1	3	5				
ME40345	Turbocharging and engine boosting	6	Semester 1	3	5				
Unit Status : ME4002 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 2 (3)									
ME30045	Aerospace structures 1	6	Semester 1	3	5				
ME30197	Business processes	6	Semester 1	3	5				
ME40058	Fluid power	6	Semester 1	3	5				
Unit Status : ME4004 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 4 (3)									
ME30033	Mechanical vibrations & noise	6	Semester 1	3	5				
ME40046	Modelling and analysis of manufacturing systems	6	Semester 1	3	5				
ME40319	Composite materials	6	Semester 1	3	5				
Unit Status : ME4005 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 5 (3)									
ME30042	Computer integrated manufacturing	6	Semester 1	3	5				
ME40054	Computational fluid dynamics	6	Semester 1	3	5				
ME40061	Biomechanics	6	Semester 1	3	5				
Unit Status : ME4006 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 6 (3)									
ME30219	Aircraft performance	6	Semester 1	3	5				
ME40064	System modelling & simulation	6	Semester 1	3	5				
MN10545	Organisational behaviour	6	Semester 1	3	5				
Unit Status : ME4008 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 9 (5)									
ME30060	Heat transfer	6	Semester 1	3	5				
ME40049	Innovation and advanced design	6	Semester 1	3	5				
ME40051	Advanced control	6	Semester 1	3	5				
ME40055	Energy & the environment	6	Semester 1	3	5				
ME40195	Medical engineering	6	Semester 1	3	5				

Unit	Unit Title	Credits	Period	Part	Stage	DEU	SRU	TSC or DPC	Placement Status
✦Unit Status : ME4105 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 10 (3)									
<a href="#">ME30294</a>	Product design and development	6	Semester 1	3	5				
<a href="#">ME40057</a>	Finite element analysis	6	Semester 1	3	5				
<a href="#">MN20074</a>	Digital business innovation	6	Semester 1	3	5				
✦Unit Status : ME4131 Optional Units: Select a minimum of 0 and a maximum of 1 units from this list: BLOCK 8 (2)									
<a href="#">ME30032</a>	Aerodynamics	6	Semester 1	3	5				
<a href="#">ME30264</a>	Materials selection in engineering design	6	Semester 1	3	5				

**Business Support Systems** - part of Computing Services