OXFORD BROOKES UNIVERSITY

PROGRAMME SPECIFICATION

for the award of BEng (Hons) Mechanical Engineering Design

Managed by the Faculty of Technology, Design and Environment delivered by the School of Engineering, Computing and Mathematics

Date approved:	September 2013
Applies to students commencing study in:	September 2022

RECORD OF UPDATES

Date amended*	**Nature of amendment****	**Reason for amendment****
December 2021	Updated to reflect minor module changes, Update module number recoding	Keeping the programme specification up to date. Double coding new numbers for existing modules.
November 2020	L5 and L6 Independent Study modules Removed	Optional Modules create issues with students adding them incorrectly to their programme and they are seldom used.
November 2020	Replace ENGR6007 sustainable engineering with ENGR6024 Advanced Control	The content of ENGR6007 overlaps with the existing ENGR6001 and introducing Advanced Control for this group of students will greatly increase their employability opportunities and demand for their skill set.
March 2020	Independent Study Engineering L6 added to programme	
February 2018	Rationalisation of alternative compulsory options: Section 4.1: Change status of 3rd year modules to remove options and make the program compulsory with a distinct Mechanical theme. Section 4.2: Specifying the explicit requirements for named exit awards	Enhance cohort identity and student experience. Discussed at Programme Committee on January 23rd 2018
February 2019	Name change of programme	Major change form for award change

	from BSc Mechanical Engineering to BEng Mechanical Engineering Design	completed
February 2019	Module name change for TECM5002 from Automotive Electronics to Electronic Systems	**Student feedback stated there was too much emphasis on Automotive Engineering which is not relevant to all students across all programmes.**

SECTION 1: GENERAL INFORMATION

Awarding body:	Oxford Brookes University
Teaching institution and location:	Oxford Brookes University
Language of study:	English
Final award:	BEng Honours
Programme title:	Mechanical Engineering Design
Interim exit awards and award titles available:	Certificate in Higher Education Diploma in Higher Education Full Time and Sandwich BEng Pass Degree
Brookes course code:	BENGH-MED
UCAS code:	HH13
JACS code:	H300
HECoS code:	100190 (Mech)
Mode of delivery: (Mode of Study given in brackets)	Face to face/on-campus (full-time) Face to face/on-campus (part-time) Sandwich mode (full-time); typically between 2nd and 3rd year of study Sandwich mode (part-time); typically between 2nd and 3rd year of study
Duration of study:	Normal duration of study is 3 years for a full-time course and 4 years for a full-time sandwich course. The maximum duration of study for any mode is 8 years.
QAA subject benchmark statement/s which apply to the programme:	Engineering (2010)
Professional accreditation attached to the programme:	Institution of Mechanical Engineers (IMechE) www.imeche.org The Institution of Engineering and Technology (IET) http://www.theiet.org http://www.engc.org.uk/
University Regulations:	The programme conforms to the University Regulations for the year of entry as published/archived at: http://www.brookes.ac.uk/regulations/

SECTION 2: WHY STUDY THIS PROGRAMME?

2.1 RATIONAL FOR PROGRAM

This programme is designed to develop the academic, vocational and creative skills of students and prepare them for roles as Incorporated Mechanical Engineers, applying, adapting and researching current technologies and processes.

A distinguishing feature of this course is the strong focus on design which is complemented by the provision of analytical modules to support the design process. In the final year students are able to give their degree a specialism through the provision of choices all of which offer high level study in Mechanical Engineering related subjects.

The first two years of the BEng Mechanical Engineering Design and BEng Motorsport Technology programmes are common allowing transfer from one course to the other depending on suitable academic progress. The distinction between the two programmes is evident in a number of ways. Firstly in module ENGR5002, Mechanical Engineering Design students are provided with design work relating to a *Mechanical Engineering* application. Secondly, in the ENGR6013 (Engineering Project), students choose a topic specifically related to Mechanical Engineering. Finally the four single modules in the final year of study are different for Mechanical and Motorsport Engineering students.

The course is taught by a team of highly skilled and qualified staff. Staff profiles for members of the core teaching team can be found here: www.brookes.ac.uk/ecm/about/staff/

2.2 AIM/S OF THE PROGRAMME

The principal aim of this course is to provide an education in engineering and to produce graduates who are equipped with the necessary range of skills and depth of understanding to successfully pursue careers as Incorporated Mechanical Engineers with a view to working in the area of Mechanical Engineering. They should be able to keep pace with technological developments whilst taking an active role in the implementation of technological, administrative and business functions within an organisation. To accomplish this, the programme will specifically aim to develop:

1) The ability to apply fundamental mathematical techniques to solve a wide range of engineering problems.
2) An understanding of the role that dynamics, vibrations and rigid body mechanics has on the forces and stresses within Engineering systems and components, and the ability to analyse such systems.
3) The ability to apply basic thermodynamics and fluid mechanics to a wide range of specific engineering problems in order to evaluate the effects on performance and efficiency.
4) Knowledge of design methodologies, processes and the ability to apply them to Mechanical Engineering problems.
5) The ability to select and apply economically viable manufacturing processes in a business context.
6) The professional standards of an Incorporated Engineer and the role of sustainable engineering and its impact on society.

SECTION 3: PROGRAMME LEARNING OUTCOMES

On successful completion of the programme, graduates will demonstrate the following Brookes Attributes:

3.1 Academic literacy

3.1.1 Use and apply core mathematical and analytical techniques to facilitate problem formulation and solution of Mechanical Engineering problems.
3.1.2 Participate creatively in the Mechanical Engineering design process of complex problems at conceptual and detail design stages.
3.1.3 Apply good engineering practice to the critical comparison and selection of manufacturing processes and materials for the production of engineering components.
3.1.4 Apply knowledge in order to analyse data and solve problems in a logical, practical and concise manner.
3.1.5 Apply scientific and engineering principles to the solution of practical problems in engineering systems and processes; with an emphasis on the relevance of theory and analysis, including the ability to develop and use models from which the behaviour of the physical world can be predicted.

3.3 Critical self-awareness and personal literacy

3.3.1 Demonstrate interpersonal communication and team working skills as well as other enterprise skills.
3.3.2 Have and use organisational skills both at a personal level and in the areas of project and team management in parallel with interpersonal skills relating to the management of human resources.
3.3.3 Demonstrate self-management skills both at a personal level and in the area of project management.

3.4 Digital and information literacy

3.4.1 Use and manage information technology and modern computing techniques to solve complex Mechanical Engineering problems.
3.4.2 Demonstrate a confident familiarity with a broad range of information technology skills in order to communicate effectively using graphical techniques, reports and presentations within a commercial and technical environment.

3.5 Active citizenship

3.5.1 An understanding of critical factors in both the national and international Engineering and Technology business environment such as marketing skills and financial awareness.
3.5.2 An understanding of the role of engineering and specifically the role of Incorporated Engineers (IEng) in the global context of social, economic and ethical considerations.

SECTION 4: CURRICULUM CONTENT & STRUCTURE

4.1 PROGRAMME STRUCTURE AND REQUIREMENTS:

YEAR 1

Code	Module Title	Credits	Level	Status	Coursework: Exam ratio
ENGR4003	Engineering Design and Practice I	30	4	Compulsory	70:30
ENGR4005	IEng Mathematics and Modelling	30	4	Compulsory	30:70
ENGR4035	Basic Electrical Engineering	15	4	Compulsory	100:0
ENGR4011	Basic Dynamics	15	4	Compulsory	30:70
ENGR4006	Basic Thermodynamics	15	4	Compulsory	30:70
ENGR4010	Basic Stress Analysis	15	4	Compulsory	50:50
ENGR4002	Introduction To Thermo Fluids	15	4	Optional	30:70

YEAR 2

Code	Module Title	Credits	Level	Status	Coursework: Exam ratio
ENGR5002	Design and Practice II	30	5	Compulsory	100:0
ENGR5054	Engineering Dynamics	15	5	Compulsory	50:50
ENGR5055	Stress Analysis	15	5	Compulsory	50:50
ENGR5051	Control Technology	15	5	Compulsory	50:50
ENGR5003	Materials Engineering	15	5	Compulsory	30:70
ENGR5006	Thermal Systems	15	5	Compulsory	100:0
ENGR5052	Electronic Systems	15	5	Compulsory	100:0

OPTIONAL SANDWICH YEAR

Code	Module Title	Credits	Level	Status	Coursework: Exam ratio
ENGR5053	Professional Placement	0	5	Compulsory for Sandwich students only	100:0

YEAR 3

Code	Module Title	Credits	Level	Status	Coursework: Exam ratio
ENGR6013	Engineering Project	30	6	Compulsory	100:0
ENGR6001	Management, Ethics, Energy and Sustainability	30	6	Compulsory	50:50
ENGR6002	Advanced CAD/CAM	15	6	Compulsory	100:0
ENGR6005	Design of Machines	15	6	Compulsory	50:50
ENGR6024	Advanced Control	15	6	Compulsory	100:0
ENGR6026	Sensors and Data Logging	15	6	Compulsory	50:50
ENGR6029	Independent Study Engineering	15	6	Optional	100:0

4.2 PROGRESSION AND AWARD REQUIREMENTS

The pass mark for all modules is 40% and where a module assessment includes both examination and coursework it is a minimum requirement that a student score not less than 30% in both the exam and the aggregated coursework otherwise a technical fail will be awarded.

Alternative credit arrangements:

- ENGR4001 – a pass in this module will, exceptionally, give an exemption and an equivalent general credit for ENGR4005
- ENGR4002 – a pass in this module will, exceptionally, give an exemption and an equivalent general credit for ENGR4007
- ENGR4008 – a pass in this module will, exceptionally, give an exemption and an equivalent general credit for ENGR4010
- ENGR4009 – a pass in this module will, exceptionally, give an exemption and an equivalent general credit for ENGR4011

CERT HE

To qualify for a Cert HE a student must pass all the level 4 compulsory modules.

DIP HE

To qualify for a named Dip HE in Mechanical Engineering Design a student must achieve 240 credits. They must meet the requirements for a named Cert HE and in addition must pass:

- ENGR5002: Design and Practice II (double)

The remaining credit must be made up from the following modules:

- ENGR5054 Engineering Dynamics
- ENGR5055 Stress Analysis
- ENGR5006: Thermal Systems
- ENGR5003: Materials Engineering
- ENGR5051: Control Technology
- ENGR5052: Electronic Systems

BENG MECHANICAL ENGINEERING DESIGN (WITHOUT HONOURS)

To qualify for a BEng in Mechanical Engineering Design (without honours) a student must meet the requirements for a named Dip HE in Mechanical Engineering Design and in addition must pass a further 60 credits at level 6 from the following modules:

- ENGR6001: Management, Ethics, Energy and Sustainability (double)
- ENGR6002: Advanced CAD/CAM
- ENGR6005: Design of Machines
- ENGR6024: Advanced Control
- ENGR6026: Sensors and Data Logging

A BEng (without Honours) is a non-classified degree.

To meet the requirements for a sandwich award a student must pass:

- ENGR5053: Professional Placement (for Sandwich mode students only)

4.3 PROFESSIONAL REQUIREMENTS

This BEng Honours award has professional recognition by the Engineering Council. It is accredited to provide the academic standard for “Incorporated Engineer”.

Completion of the BEng Honours award as required by the University regulations includes accreditation by the Institution of Mechanical Engineers (IMechE) and the Institution of Engineering Technology (IET) on behalf of the Engineering Council (EC). This accreditation gives complete exemption from any further academic requirements or examination for Incorporated Engineer Status.

SECTION 5: TEACHING AND ASSESSMENT

CONTEXT

A fundamental philosophy guiding the design of the course is that teaching and learning takes place among a community of students and lecturers together seeking to pass on the principles, skills and knowledge associated with the profession of engineering. In this vein every effort is made to integrate subject material and show its use, effect and application across the course, following the University's Assessment Compact.

COURSE DESIGN

The approach taken to the design of the course features two distinct regions of the learning experience. The first region is the 'synthesis' region, where a series of compulsory double modules guide the students from first learning how others have solved engineering problems through to being able to synthesise solutions of their own.

The second region is the 'analysis' region. This provides learning of the analytical topics that are used as specific tools in the preparation of solutions to the broad-based engineering problems posed in the first, 'synthesis' region.

FIRST YEAR EXPERIENCE

In the 'synthesis' region, students experience in their first year ENGR4005 and ENGR4003. In ENGR4003 students receive an extensive introduction to existing engineering solutions and methods. They learn how complex components can be manufactured, how complex engineering artefacts such as whole cars and gearboxes have been designed and actually disassemble and reassemble such parts. They also undertake a comprehensive series of laboratory exercises that illustrate important academic points that are being studied in the analytical raft of modules. In this way, a good connection is made between classroom theory and practical reality. This important connection is further strengthened by the presence of a manufacturing project in which every student manufactures their own, working Stirling engine as part of the coursework for ENGR4003. This links to academic modules in the analysis region such as ENGR4035, where the materials and manufacturing methods used are studied; ENGR4010 where the loads generated with the engine are determined; ENGR4007 where the output of the engine is calculated and ENGR4009 where the ability of the components within the engine to resist the loads they experience are determined. In ENGR4005 students learn to prepare simple computer simulations of a range of problems, one of these being the Stirling engine. Students also learn to produce CAD renditions of the engine, to costs its manufacture and estimate the profitability that batch manufacture of the engine would generate.

In this way, during the first year, students gain a complete experience of the whole engineering process; from design using computer based modelling, through analysis using theoretical and computer-based simulation, to the estimation of the profitability of production. This learning is based around designs and examples of existing products and processes, and having completed this learning, students are ready to move into the second year.

SECOND YEAR EXPERIENCE

Second year students in the 'synthesis' modules, ENGR5051, ENGR5052 and ENGR5002, learn to generate creative design solutions to new problems that they have not yet encountered. ENGR5002 challenges students to prepare a design solution to a major engineering artefact such as a screw pump. In the preparation of the solution, students are expected to consider not just the analytical problems but also those of manufacture, production and commercial performance. Examples of good designs prepared by students are actually made for review using rapid-prototyping machines in the department. In ENGR5007 students experience the two engineering disciplines fundamental to the '*synthesis'* of the design of solid components. In the remaining four '*analysis'* modules, TECM5001/ENGR5051, TECM5002/ENGR5052, ENGR5006 and ENGR5003, students learn the analysis needed to support the design work they are preparing at Level 5. These provide experience of control electronics, the preparation of mathematical models using analytical techniques and MATLAB. They develop knowledge and understanding of Thermodynamics and of Materials. All four modules extend the material learned in the first year analysis modules. Students are also introduced to the subject specialism of control engineering.

THIRD YEAR EXPERIENCE

In the third year the diet is again divided into 'synthesis' modules and 'analysis' modules. 'Synthesis' is experienced in the two double modules ENGR6013 and ENGR6001. In ENGR6013, the individual project, students undertake a major engineering investigation into a topic of their choice, which is focused on a Mechanical Engineering-related problem. Students may undertake research-based projects supporting individual members of staff in their research areas. Whatever area is studied, the project is a culmination of students' studies where they bring knowledge and understanding gained elsewhere in the degree to solve a major topic of interest to them. The second '*synthesis'* module, ENGR6001, develops the areas of Project Management, Ethics, Energy, Product and Sustainability, teaching students to be able to produce solutions to problems in these areas.

The remaining four modules offer topics in the 'analysis' area. These four modules are carefully selected for students studying towards Incorporated Engineer status in Mechanical Engineering, so that students can specialise in this area. The presence of four mainstream Mechanical Engineering subjects in these groups means that students cannot avoid studying sixty credits of core material at Level 6 which are directly related to the course title. This, coupled with the thirty credits assigned to the project, means that a minimum of three quarters of the Level 6 diet is subject-specific to the named award.

CONTACT TIME AND STUDENT EFFORT

Each single undergraduate module is 150 hours of effort. Modules generally consist of 36 hours contact time and are delivered using a mixture of lectures, tutorial/seminar sessions and laboratories. The remaining hours of effort are made up with guided independent study. This may take the form of directed reading, internet based work, research using the library or activities set by the module leader for example conducting surveys or gaining information. In any given week a student's contact time may be as high as twenty four hours or as low as seventeen hours depending on scheduling of laboratory and workshop timetables. The use and distribution of laboratory work varies significantly between modules and module levels on the programme and is allocated as appropriate by the subject specialist in each area. The strategy for assessment of the learning outcomes is described in each module syllabus where the balance between analytic, design and creative skills as well as personal development and professional skills is outlined. . The student handbook contains an assessment schedule for the whole programme making it clear to students and staff the hand-in dates across the whole course.

Student engagement with assessment and feedback processes is achieved through such mechanisms as meetings with the programme team, a student forum, Department policy for timely feedback to allow reflection on assessment and learning, and end-of-module evaluation. The assessment strategy is guided by "Brookes Assessment Compact" and details may be found at:
http://www.brookes.ac.uk/aske/documents/BrookesAssessmentCompact09.pdf

Typically, undergraduate examinations last two hours. Coursework assignments are wide-ranging and invariably challenging, making use of strategies such as:

1) Poster presentations and Oral presentations – sometimes videoed;
2) Reports, Essays and other Descriptive Explanation;
3) Short Mechanical-based design studies and feasibility studies;
4) Problem sheets;
5) Class tests;
6) Written submissions of laboratory work and practical assessment of laboratory skills;
7) Detailed reports of extended laboratory exercises (mini-projects).

The provision of a coursework calendar prevents the bunching of deadlines, whilst student involvement in programme meetings helps to ensure that they have input to the development of assessment policy implemented in the programme. The virtual learning environment is used extensively to provide a wide variety of teaching materials, assessment methods with both formative and summative feedback. The virtual learning environment also provides for widening participation by making learning resources available and peer group support and interaction available outside normal working hours.

ACHIEVING THE GRADUATE ATTRIBUTES

Graduate attributes are mapped to learning outcomes in groups of modules as shown in the following tables; one table applies to each year of the course:

YEAR 1

	ENGR4003	ENGR4005	TECM4001/ ENGR4035	ENGR4007	ENGR4010	ENGR4011
Academic Literacy	✔	✔	✔	✔	✔	✔
Research Literacy	✔					
Critical self-awareness and personal literacy		✔	✔	✔	✔	✔
Digital and Information literacy	✔			✔		
Active Citizenship		✔				

YEAR 2

	ENGR5002	ENGR5054,	ENGR5055,	ENGR5051	ENGR5003	ENGR5006	/ENGR5052
Academic Literacy	✔	✔	✔	✔	✔	✔	✔
Research Literacy	✔	✔	✔	✔			
Critical self-awareness and personal literacy					✔	✔	✔
Digital and Information literacy		✔	✔	✔			
Active Citizenship	✔						✔

YEAR 3

	ENGR6013	ENGR6001	ENGR6002	ENGR6005	ENGR6024	ENGR6026
Academic Literacy	✔	✔	✔	✔	✔	✔
Research Literacy	✔	✔				
Critical self-awareness and personal literacy	✔		✔	✔	✔	✔
Digital and Information literacy	✔	✔				
Active Citizenship	✔		✔	✔	✔	✔

ACADEMIC LITERACY

Academic literacy starts with Mathematics, which provides the tools required to study and understand engineering principles in Statics, Dynamics, Thermodynamics and Materials throughout Year 1. These subjects are taught in modules ENGR4010, ENGR4007 and ENGR4035. In the second year, these subjects are further developed through ENGR5051, ENGR5052, ENGR5006, and ENGR5003. Students also learn the essential skills for modelling which involve simulation, analysis and modelling tools so that students acquire a sound grasp of the tools used by professional engineers in completing analysis of data, designs and systems. This is accomplished in ENGR5002. This is especially relevant for those students going on placement.

In the third year, students further develop their academic literacy through Engineering Project which involves significant research work and through ENGR6001, Project Management Ethics Energy Production and Sustainability which involves development of knowledge and skills appropriate for professional Automotive Engineers. The optional modules all make the same contributions in the Graduate Attribute matrix ensuring that all students develop the required attributes regardless of the modules they chose. All optional modules contribute to Academic Literacy.

RESEARCH LITERACY

Research literacy is a constant theme that appears throughout the programme, from ENGR4003 in the first year to more extended pieces of laboratory work and library research in year two in ENGR5002. The final year project, ENGR6013, plays a major role in the provision of research literacy. In this module, students apply skills and research literacies gained in earlier modules to enable them to plan an original piece of work, carry out the necessary research to familiarise themselves with current work and then build on the existing work to make new, original and novel contributions to the subject of study. Students are also expected to be critical consumers of research in module ENGR6001 and ENGR5002.

CRITICAL SELF-AWARENESS AND PERSONAL LITERACY

This Graduate Attribute is addressed in a number of modules starting with modules ENGR4003 which combines science, engineering, materials, crafting skills and report writing techniques. The analytical modules also develop this skill and so ENGR4035, ENGR4007 and ENGR4010 are all relevant. This leads into second year design where group work requires this attribute in order to assess individual and group working skills as well as the ability to present as an individual or as a group. The project module ENGR6013 features critical assessment of one's own work and the work of others while preparing and planning the project.

DIGITAL INFORMATION LITERACY

Graduates of the programme necessarily have very well developed computer-based analytical skills because of the large amount of computer software used in the design and analysis of engineering artefacts. However, the graduate attribute 'Digital information literacy' extends beyond this to include the use of computers for more general skills such as presentations, literature reviews, preparation of design reports etc. Several modules through the programme, such as ENGR5002 and ENGR6001 all provide the opportunity to gain these digital literacy skills.

ACTIVE CITIZENSHIP

This Graduate Attribute relates to how well the graduates of the programme are prepared for work in the international business context. In some considerable measure the learning outcomes for this are met through the professional accreditation of the programme. The Institution of Mechanical Engineers and the Institution of Engineering Technology (IET) are recognised world-wide as providing a high quality, regulated framework that ensures new graduates are well rounded and conversant with the influences shaping the current climate for practice. Modules that address these learning outcomes particularly well include ENGR4003, ENGR5002, ENGR6001 and ENGR6013

ACHIEVING UKSPEC

In addition to the requirement that the learning outcomes meet the graduate attributes of the university, they must also meet the requirements of UK-SPEC, as a requirement of the accrediting bodies, the IMechE and the IET.

SECTION 6: ADMISSION TO THE PROGRAMME

6.1 ENTRY REQUIREMENTS

Typical A level entry requirements are BBC and an applicant must have in their overall entry qualifications a GCSE grade B in mathematics or equivalent and a grade C in English or equivalent.

Other equivalent qualifications are also acceptable. Mathematics, Physics, Chemistry, Design & Technology and English Media are preferred subjects, although they are not requirements to gain entry.

Entry to the BEng (Hons) degree in Mechanical Engineering Design is also possible via the Foundation Year in Engineering (FEG) that is offered by the School of Technology. This option is normally recommended to those prospective students whose entry qualifications do not match the levels outlined in the above paragraphs.

ADMISSION WITH CREDIT (ACCREDITATION OF PRIOR LEARNING)

Applicants with relevant prior learning are welcome to apply and start the course with exemption from specific modules or the whole of year 1. Specific examples include:

(i) Students with a very good HND in an Engineering subject are usually exempted all of year 1 and are admitted directly to year 2. Normally these students will have achieved at least five distinctions over their second year units, with all other second year units being at Merit level.

(ii) Students who have completed parts of degree courses elsewhere will be given credit appropriate to the amount of study successfully completed. Such students will normally be expected to have achieved consistent marks/grades within the 2:1 band at their previous Higher Education Institution.

(iii) (Students who have completed an Oxford Brookes Foundation Degree at a partner college may gain entry directly to the final year of study.

For details for the University's English Language requirements see:
http://www.brookes.ac.uk/international/apply/english/.

6.2 DBS AND OTHER PRE-COURSE CHECKS REQUIRED

Not applicable

SECTION 7: PREPARATION FOR EMPLOYMENT

In the second year there are a series of lectures to prepare students who are registered for the sandwich placement. They receive lectures and support in preparing CVs, researching companies to apply to, preparing for interviews and how to make the most of their placement year. The industrial placement training is complemented by an "invited prestige lecture series" from selected employers.

In the final year, there are similar preparatory lectures and help sessions and specifically a "Life after Brookes" session to inform students about the continued support and resources available to them as alumni and for the immediate future of their careers. This is in addition to the University's career service which provides excellent support and guidance to graduating students and alumni.

Throughout their study at Brookes, students are advised of and encouraged to attend professional engineering lectures given by the Institution of Mechanical Engineers, the Institution of Engineering Technology and the Institution of Materials with which the Department School has significant participation and involvement.

Students graduating from this course are able to follow an extensive range of career opportunities in the Mechanical Engineering industries. Examples of successful employment are:

- Bentley — Test Engineer
- UYS Exhausts — Design Engineer
- Airbus Industries — Design Engineer
- Bosch UK — Graduate Engineer
- Augusta Westland Helicopters — Data Analysis Engineer

The department has strong industrial links with local employers through consultancy and research work as well as a strong record of providing industrial placement students. Key features are:

- Recall Conference for sandwich placement students including industrial keynote speakers.
- Industrial Placement provision with local employers e.g. 40 BMW placements for Brookes.
- IMechE professional lecture events and visits.
- Hosting professional events such as the “Speak Out for Engineering” competition run by the IMechE and “Getting Chartered”.
- Staff representation on the IMechE Oxford Area Committee provides a conduit to practicing Chartered Engineers and companies.
- The Department’s Industrial Advisory Board that consults with and advises on current engineering needs of employers, research projects and professional standards.