ACADEMIC ACCREDITATION GUIDELINES.

This document defines the academic requirements for membership of the Institution of Mechanical Engineers (IMechE) and registration with the Engineering Council as a Chartered Engineer (CEng) or Incorporated Engineer (IEng). It is intended as guidance to those who are designing degrees and considering whether to submit them for accreditation by the IMechE. The Institution recommends that in addition to reading this document, degree designers should familiarise themselves with UK-SPEC\(^1\) and the AHEP\(^2\). It should be noted that the IMechE accredits against the content of these Guidelines as its interpretation of AHEP. Although this document refers only to the accreditation of degrees, the Institution offers separate guidance on how to complete an appropriate form of Further Learning.

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1. UK-SPEC (UK Standard for Professional Engineering Competence) is the Engineering Council policy statement containing the requirements for the formation of Chartered and Incorporated Engineers and Engineering Technicians.

2. AHEP (Accreditation of Higher Education Programmes) is the Engineering Council handbook setting out the learning outcomes that must be demonstrated for the award of accredited programme status.

Improving the world through engineering
1. INTRODUCTION

Mechanical Engineering is ever-changing and offers diverse career opportunities from specialist to generalist, transfer between ‘career routes’ and, increasingly, demands professional qualification. The IMechE definition of Mechanical Engineering can be found at: http://www.imeche.org/membership-registration/become-a-member/definition-of-mechanical-engineering

Mechanical Engineers make a major contribution to the sustainable development of our built environment, the generation of wealth in every sector of the economy and the quality of life of each member of society. With over 120,000 members in 140 countries around the world and a range of membership benefits and services, the IMechE has the resources and expertise to support and recognise the professional development of mechanical engineers from the early stages and on throughout their careers.

The Institution’s mission to be the recognised authority in mechanical engineering supporting a global engineering community is supported by its vision of ‘Improving the World through Engineering’ by:

- Developing engineers
- Promoting engineering
- Informing opinion
- Encouraging innovation

IMechE expects all its members and employees to commit to the vision and the values of Professionalism, Integrity, High Ethical Standards, Respect for people and the environment, and Innovation.

In pursuit of this, the Institution welcomes into membership mechanical engineers qualified as or working towards Chartered, Incorporated or Engineering Technician registration.

The IMechE is committed to encouraging and developing a culture of lifelong learning and supporting the ongoing professional development of a wide range of career paths within and related to mechanical engineering. Consequently, it accredits a wide range of engineering degrees that provide suitable academic preparation for a career in mechanical engineering as a Chartered or Incorporated Engineer.

2. THE FORMATION OF PROFESSIONAL ENGINEERS

Engineering is a profession directed towards the skilled application of a distinctive body of knowledge based on mathematics, science, design, materials and manufacturing, integrated with sustainability, business and management, which is acquired through education and professional formation in a particular engineering discipline. It is directed to developing a technological outcome that provides the infrastructure, goods and services needed by society.

The following general statements about definitions, roles and responsibilities provide the basis for the setting of standards, the specification of the appropriate educational preparation and programmes for initial professional development, and for the assessment of professional competence and commitment. All engineers have a responsibility to society with regard to safety and the ethical and environmental impact of their work. The teaching of engineering and the professional development of engineers, as well as its practice, are acceptable professional activities. More detailed specifications of the roles and responsibilities are given in UK-SPEC.
2.1 Chartered Engineer

Chartered Engineers are primarily concerned with the development and progress of technology through innovation, creativity and change. Their work involves the application of a significant range of fundamental scientific principles, enabling them to research, develop and apply new technologies, develop and promote advanced designs and design methods, introduce new and more efficient production techniques, marketing and construction concepts, and pioneer new engineering services and management methods. In these and many other ways they are vital to sustainable development, wealth creation, environmental protection, and quality of life improvements for all. They may be involved with the management and direction of high risk and/or resource intensive projects. Professional judgement is a key feature of their role, allied to responsibility for the direction of important tasks, which may include the management of industrial, commercial, public or not-for-profit enterprises of any size.

2.2 Incorporated Engineer

Incorporated Engineers are exponents of today’s technology and, to this end they design, develop, manufacture, maintain and manage applications of current and developing technology at the highest efficiency. Incorporated Engineers require a detailed understanding of a recognised field of engineering, so they can exercise independent technical judgement and management in that field. In these ways and many others, they are vital to sustainable development, wealth creation, environmental protection, and quality of life improvements for all. They provide – independently and as leaders – a significant influence on the overall effectiveness of the organisation in which they work, often in key operational management roles.

2.3 UK-SPEC

UK-SPEC explains the value of becoming registered as a Chartered Engineer or Incorporated Engineer. It describes the requirements that have to be met for registration and gives examples of ways of doing this. This standard should enable individuals and employers to find out whether they or their staff can meet the requirements and explains the steps necessary to achieve national registration. UK-SPEC is complemented by AHEP, which sets out the engineering education output standards expected which form the basis of Chartered Engineer and Incorporated Engineer competence and enables national registration. All IMechE accredited degrees are assessed against output criteria set out in the Engineering Council’s AHEP handbook and the IMechE Academic Accreditation Guidelines. AHEP, seeks to:

- Maintain the standards of engineering professional development;
- To encourage a greater diversity of learning and teaching delivery modes;
- To promote a seamless progression of lifelong learning;
- To broaden and strengthen the emphasis on the generic competences of professional engineers; and to
- Accredit on the basis of learning outcomes derived from generic output standard statements (See Appendices B and C for reference to learning outcomes).

The benchmark routes for the formation of professional engineers are a seamless, progression of learning experiences beginning with an accredited degree, through Initial Professional Development (IPD) in early employment and continued professional development once professionally registered (CPD). Although formal education is the usual way, it is not the only way of demonstrating the underpinning knowledge and understanding for professional competence. Once qualified, professional engineers are expected to keep up to date by continued learning throughout (and in support of) their career through Continuing Professional Development. Institution membership and registration with the Engineering Council are recognised benchmarks against which the engineer can judge and demonstrate professional progress.
All professional competences are detailed in the Engineering Council’s UK-SPEC Chartered Engineer and Incorporated Engineer Standard handbook.

- AHEP:  
- UK-SPEC:  

IMechE recommends that Mechanical Engineers complete their IPD through the Institution’s structured Monitored Professional Development Scheme (MPDS) and that any further learning is completed alongside this. MPDS records professional development achieved in the workplace; whilst ‘Further Learning’ records academic/educational achievements based on knowledge and understanding gained.

### 3. ACADEMIC ACCREDITATION GUIDELINES

Knowledge gain is the development of a student’s potential in preparation for a career as a registered professional engineer, through understanding engineering principles and practices, developing skills and the motivation to continue learning throughout life.

AHEP sets out the standards required for registration and identifies the following pathways to meet the educational requirements:

#### Incorporated Engineer

- An accredited Bachelors or Honours degree in engineering or technology;
- or an HND or Foundation Degree in engineering or technology, plus appropriate further learning to Bachelors degree level;
- or an NVO4 or SVO4 which has been approved for the purpose by a licensed engineering institution, plus appropriate further learning to degree level.

#### Chartered Engineer

- An accredited Bachelors degree with honours in engineering or technology, plus either an appropriate Masters degree or Engineering Doctorate or appropriate further learning to Masters level;
- or an accredited integrated MEng degree.

Full-time bachelor degrees accredited for CEng and bachelor degrees accredited for IEng are normally three-years in duration and are made up of 360 credits. Full-time integrated Masters Degrees accredited for CEng, i.e. accredited MEng degrees, are normally four-years in duration and 480 credits. It is recognised that degrees in Scotland are normally one year longer than the equivalent degree in England, Wales and Northern Ireland. In addition, the Institution encourages the use of part-time, sandwich and distance learning degrees of an extended duration.

#### 3.1 Dual Accreditation

All Honours degrees accredited as partially meeting the academic requirements for Chartered Engineer are also accredited as degrees for IEng registration; this change is backdated to cover all such degrees accredited since 1999.
All accredited degrees should produce graduates who are:

- motivated to practice engineering;
- enthusiastic, articulate, questioning and open minded;
- recognised internationally as highly competent engineering graduates;
- aware of the financial, moral, legal, economic, environmental and cultural constraints and obligations under which they practice;
- aware of current management practices; and
- committed to and prepared for lifelong learning.

Degrees accredited for IEng should:

- establish the relevance of engineering to real world problems;
- cultivate high level technical proficiency in a major field of engineering, including the ability to tackle a variety of practical problems, however specialised;
- ensure the content matches the needs of modern industry and society at large;
- develop an understanding of matters such as design reliability and maintenance, product quality and value, marketing, safety;
- incorporate health and safety, environmental issues and sustainability throughout the degree; and
- develop an understanding of relationships with clients, customers and colleagues, including the supervision of staff, and the ability to work as a member of an engineering team.

Degrees accredited for CEng should:

- establish the relevance of engineering to real world problems;
- develop graduates for positions of responsibility and who can provide technical, managerial and strategic leadership;
- use design as an integrative vehicle permeating the whole degree;
- incorporate health and safety, environmental issues and sustainability throughout the degree;
- ensure that the content matches the needs of modern industry and society at large;
- encourage understanding of and reflection on the learning experiences;
- ensure the students develop modelling and analytical skills comparable to the best in the world; and
- involve breadth and depth of coverage to meet the needs of industry and society in technical, management and business topics, and develop relevant inter-personal skills.

It is expected that all the above will be covered during an accredited degree. However, the depth and breadth of coverage will depend on the particular emphasis and whether the degree is accredited for CEng or IEng and the level of the degree.

Under AHEP the decision to accredit is based on the course meeting the output standards (or learning outcomes) that have been defined by the IMechE. Previous editions of AHEP referred to general and specific learning outcomes. The current edition of AHEP now refers to ‘engineering-specific areas of learning’ and ‘additional general skills’. All previous general and specific learning outcomes have been integrated into the new definitions. Appendix C sets out the additional general skills and the five engineering-specific areas of learning. Use of the term ‘learning outcomes’ in this document refers to these six key areas of learning as appropriate.

The course provider is responsible for defining the output standards of the programme of study. These output standards must satisfy the minimum Engineering Council standards and must be at the appropriate level of achievement as defined in the QAA national qualifications framework.

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3 QAA’s website [www.qaa.ac.uk](http://www.qaa.ac.uk) provides details of qualifications frameworks and the level descriptors.
AHEP does not specify cohort entry requirements for an accredited programme. AHEP reviews the underpinning mathematics and associated engineering principles to ensure that students with a wide range of entry qualifications are supported in their course to reach the desired learning outcomes.

4. BACHELOR DEGREES ACCREDITED FOR IENG

The bachelor degree accredited for IEng is the preferred route to completion of the educational base for registration as an Incorporated Engineer. It should provide a platform for motivated students with the potential to pursue successful careers that demand technical proficiency at a high level, including the ability to solve a wide range of applications-oriented problems no matter how specialised the product or engineering processes. Therefore, the IMechE will accredit a broad range of degrees designed to support the development of Incorporated Engineers for a wide range of career paths within and related to Mechanical Engineering. Please refer to Appendix G for an indicative list of degrees that the Institution will consider for accreditation.

The learning outcomes of the degree are those appropriate to a bachelors degree within the QAA framework and as a first-cycle degree as defined by the Bologna Agreement. It is a 360 credit three-year full-time (or equivalent) first degree that should take place in a well-resourced and managed environment dedicated to engineering education. This degree is focused on the engineering knowledge and skills needed to apply current technology.

4.1 Output

To be suitable for accreditation the degree should prepare graduates for Incorporated Engineer status by developing strong problem solving skills and the ability to apply current technology. Graduates should receive a relatively broad education in engineering and develop the versatility and depth of understanding needed to deal with problems in one or more branches of engineering. The graduate should be able to implement existing technology to its best effect across a range of engineering sectors and be proficient in the use of Codes of Practice and Standards relevant to the graduate’s specialisation. There are six key areas of learning including five areas of engineering-specific learning: Science and mathematics, Engineering analysis, Design, Economic, legal, social ethical and environmental context and Engineering practice, and Additional general skills. These are described in Appendix C.

4.2 Breadth of Education

Graduates need a foundation covering a range of engineering sectors and in the earlier periods of study the bachelor degree accredited for IEng should provide a relatively broad foundation in Mechanical Engineering appropriate to the aims, objectives and learning outcomes of the degree. Single discipline degrees need to provide some awareness of subjects beyond the degree specialisation. The selection of subjects should be coherent and cohesive to support the learning outcomes of the degree; the IMechE is unlikely to accredit if a non-coherent approach has been adopted to subject selection.

4.3 Depth of Understanding

The final year of the degree should include a coherent selection of subjects in support of the degree specialisation, the majority of these subjects being chosen from the engineering subjects (Appendix A) that support the aims, objectives and learning outcomes of the degree.

4.4 Creativity and Innovation

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4 The Bologna Agreement, signed by the UK in 1999, introduced a higher education framework essentially based on two main cycles, undergraduate and graduate. Access to the second cycle requires successful completion of first cycle studies, lasting a minimum of three years. The degree awarded after the first cycle must be relevant to the European labour market as an appropriate level of qualification. The second cycle should lead to the master and/or doctorate degrees as in many European countries.
Graduates from a bachelor degree accredited for IEng should be aware of the need for creativity and innovation in engineering and how their expertise in applying technologies plays a key role in all stages of the design process. They should have the creativity to solve a wide range of applications-based engineering problems developed through open-ended design, make and test exercises, design and investigative project work.

4.5 Subjects Studied

Each degree should have its own particular emphasis and characteristics, clearly articulated in its aims, objectives and learning outcomes (see also paragraph 4.1); the subjects studied during the degree (see Appendix A) should support these in a progressive manner.

4.6 Foundation degrees

The IMechE is prepared to consider Foundation Degrees for accreditation where the graduates from these programmes have a clear progression route available to a bachelor's degree, i.e. a bachelor’s ‘top-up’ degree.

5. BACHELORS DEGREES ACCREDITED FOR CENG

The bachelor degree accredited for CEng, when followed by either an appropriate Masters degree or further learning to Masters Level (see section 9), is the exemplifying route to completion of the educational base for registration as a Chartered Engineer. It should provide a platform for motivated students with the potential to pursue successful careers progressing to senior positions, with responsibilities ranging from technical specialist to engineering generalist. Therefore, the IMechE will accredit a broad range of bachelor degrees designed to support the development of Chartered Engineers for a wide range of career paths within Mechanical Engineering. Please refer to Appendix G for an indicative list of degrees that the IMechE will consider for accreditation.

The learning outcomes of the bachelor degree accredited for CEng are those appropriate to a bachelor's degree within the QAA framework and as a first-cycle degree as defined by the Bologna Agreement. It is a 360 credit three-year full-time (or equivalent) first degree that should take place in a well-resourced and managed environment dedicated to engineering education.

5.1 Output

To be suitable for accreditation the bachelor degree accredited for CEng should prepare graduates to progress to Chartered Engineer status (via an appropriate further learning route) by developing the ability to practise at the highest level in Mechanical Engineering, to move towards positions of responsibility and provide technical and managerial leadership. Graduates from a bachelor degree accredited for CEng should have received a broad education in engineering and developed the versatility and depth of understanding required to deal with new and unusual problems in one or more branches of engineering. The graduate from a bachelor degree accredited for CEng should be imaginative, creative and be able to implement changes in technology. They should be able to provide technical and managerial leadership in their chosen branch of engineering. Please refer to Appendix C for further information about the learning outcomes accredited degrees should seek to develop in graduates.
5.2 Breadth of Education

In the earlier periods of study, the bachelor degree accredited for CEng should provide a broad foundation in mechanical engineering appropriate to the aims, objectives and learning outcomes of the degree. The graduate of a bachelor degree accredited for CEng requires a foundation that covers the broad spectrum of engineering and this requires study beyond the intended area of specialisation. Unified and Joint Honours degrees can more easily achieve breadth where this has always been a central theme. Single discipline degrees need to provide an awareness of subjects beyond the degree specialisation. The selection of subjects should be coherent and cohesive to support the learning outcomes of the degree. A non-coherent ‘pick and mix’ approach to subject selection is unlikely to lead to accreditation.

5.3 Depth of Understanding

The final year should include a thorough treatment of a coherent selection of subjects in support of the degree specialisation, the majority of these subjects being chosen from the engineering subjects (Appendix A) that support the aims, objectives and learning outcomes of the degree.

5.4 Creativity and Innovation

These attributes are usually developed through:

- design, make and test exercises in the first two years;
- design project work throughout the degree, involving open-ended\(^5\) problems; and
- an investigative project with individual assessment where the student takes full responsibility for the work (usually undertaken in the final year of the degree)

5.5 Subjects Studied

Each degree should have its own particular emphasis and characteristics, clearly articulated in its aims, objectives and learning outcomes; the subjects studied during the degree (see Appendix A) should support these in a progressive manner.

6. HOW THE BACHELOR DEGREE ACCREDITED FOR CENG DIFFERS FROM THE BACHELOR DEGREE ACCREDITED FOR IENG?

The bachelor degree accredited for CEng should prepare students to move towards becoming a Chartered Engineer through completion of a Masters degree or appropriate further learning. A Bachelor degree accredited for IEng should prepare students for a career as an Incorporated Engineer. Therefore, compared with a bachelor degree accredited for IEng, bachelor degrees accredited for CEng should normally provide students with:

- **A broader education in engineering**, which, in addition to a basis of appropriate engineering science and engineering subjects in support of the degree title, provides some broadening subjects;
- **Greater versatility**, through cross-disciplinary integration of the technical courses;
- **Greater depth of understanding** of a coherent selection of relevant analytical subjects which may include some study appropriate to an accredited MEng degree;
- **Opportunities to develop creativity and innovative skills** through open-ended design, make and test exercises, design, individual investigative and innovative project work;
- **Business and management** covering both operational and strategic issues, and the

\(^5\) The term open-ended indicates engineering problems with no pre-determined solution.
 Ability and confidence to take on leadership in major engineering projects through studies in law, languages and other complementary studies as well as active participation in team exercises.

Appendix D summarises the differences between a Bachelor degree accredited for IEng, a Bachelor degree accredited for CEng and a MEng degree accredited for CEng. The QAA qualifications descriptors for honours and masters degrees clearly articulate the differences between qualification levels, complementing the statements above.

7. MENG DEGREES

The accredited MEng degree is an alternative route to completing the educational base for registration as a Chartered Engineer. It should provide a platform for well-motivated students with high potential to pursue successful careers progressing to senior positions, with responsibilities ranging from technical specialist to engineering generalist. Therefore, the IMechE will accredit a broad range of MEng degrees designed to support the development of Chartered Engineers for a wide range of career paths within mechanical engineering. Please refer to Appendix G for an indicative list of degrees that the IMechE will consider for accreditation.

The learning outcomes of the MEng degree are those appropriate to an integrated Masters degree within the Quality Assurance Agency for Higher Education (QAA) Framework and as a second-cycle degree as defined by the Bologna Agreement. It is a four-year full-time (or equivalent) first degree and is a broad-based, integrated programme of learning that should take place in a well-resourced and managed environment dedicated to engineering education. Compared with the bachelor degree accredited for CEng, the MEng degree is broader in scope and will cover strategic management and leadership issues.

7.1 Output

MEng graduates should have the versatility and depth of understanding to enable them to deal with new and unusual challenges in their chosen field of engineering. They should be imaginative and creative so that they can become innovators. MEng graduates must be equipped to progress rapidly to a position of responsibility and provide technical, managerial, and entrepreneurial leadership in specialist or inter-disciplinary projects.

Appendix B contains further detail about accredited degree outputs.

7.2 A Broad Education Developing Versatility

The first two years of the MEng degree should provide a broad foundation in mechanical engineering appropriate to the aims, objectives and learning outcomes of the degree. The MEng graduate requires a foundation that covers the broad spectrum of engineering and this requires study beyond the intended area of specialisation. Unified and Joint Honours degrees can more easily achieve breadth where this has always been a central theme. Degrees with a narrow subject focus, e.g. Acoustics Engineering, must provide an awareness of subjects beyond the degree specialisation. The selection of subjects should be coherent and cohesive to support the learning outcomes of the degree while avoiding a non-coherent approach.
7.3 Depth of Understanding

In the final two years, studies should include a thorough treatment of a coherent selection of subjects in support of the degree specialisation. Studies usually, but not exclusively, in the final year of a MEng degree should be more advanced (although other material may be included) and provide greater challenge to achieve a greater depth of understanding than the specialist subjects in a bachelor degree accredited for CEng. IMechE recognises that some elements of the MEng degree may be common with a parallel stream of a bachelor degree accredited for CEng.

7.4 Creativity and Innovation

The methods by which these attributes are usually developed are the same as those for the bachelor degree accredited for CEng, plus a group design or investigative project, normally undertaken in the final year, requiring reference to and integration of the degree subject(s) with other areas of engineering.

7.5 Subjects Studied

Each degree should have its own particular emphasis and characteristics, clearly articulated in its aims, objectives and learning outcomes; the subjects studied during the degree (see Appendix A) should support these in a progressive manner.

8. HOW DOES THE MENG DEGREE DIFFER FROM THE BACHELOR DEGREE ACCREDITED FOR CENG?

The MEng degree should provide graduates with an educational base that enables them to move quickly towards becoming a Chartered Engineer through the acquisition of awareness, knowledge, understanding and skills. Therefore, compared with a bachelor degree accredited for CEng in the same subject area, the MEng degree should normally provide students with:

- **A broader education in engineering**, with greater breadth than is provided in a single discipline engineering degree, which implies studies outside the chosen area of specialisation;
- **Greater versatility** through cross-disciplinary integration of the technical courses, notably through the group project;
- **Greater depth of understanding** in the chosen area of specialisation with the specialist studies being taken through to MEng level;
- **Further opportunities to develop creativity and innovative skills** through a group design and/or investigative project;
- **An enhanced treatment of business and management** covering both operational and strategic issues; and
- **Greater ability and confidence to take on leadership in major engineering projects** through further studies, for example in law, languages and International studies as well as active participation in team exercises.

Appendix D summarises the differences between MEng, Bachelor degree accredited for CEng and Bachelor degree accredited for IEng degrees. The QAA qualifications descriptors for honours and Masters degrees clearly articulate the differences between the two qualification levels, complementing the statements above. It should be noted that, under the QAA’s Higher Education Qualifications Framework for England, Wales and Northern Ireland and for Scotland, MEng degrees will need to demonstrate that they meet the Masters level descriptors⁶ to satisfy the educational base for CEng registration.

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⁶ The MEng will include material at Masters Level.
Some students may choose to study a bachelor degree accredited for CEng that matches their intended field of specialisation and follow this with appropriate further learning.

9. FURTHER LEARNING

Further Learning is the knowledge and understanding that underpins Initial Professional Development and the emphasis in any further learning activity must be on what someone is learning or has learnt. Further learning is required for individuals who have not satisfied the educational benchmark level for IEng or CEng through an accredited degree.

9.1 To complete the educational base for Incorporated Engineer

Applicants with a suitable Higher National Diploma or Certificate or Foundation Degree will need to complete the educational base requirements for Incorporated Engineer status by undertaking appropriate further learning to degree level. The required content for a specific candidate will depend on the depth and breadth of the particular entry knowledge. In defining this content, it is expected that all candidates will need to consider each of the following elements:

- the amount of specialist knowledge undertaken;
- the breadth of education, particularly in non-technical areas and in the integration of technical studies; and
- the need for industrial involvement.

9.2 To complete the educational base for Chartered Engineer

Graduates from a bachelor degree partially accredited for CEng will need to complete the educational base requirements for Chartered Engineer status by undertaking either an appropriate accredited Masters degree or further learning to Masters level.

9.2.1 Masters Degrees (MSc)

The IMechE will consider Masters degrees other than Integrated Masters (MEng) for accreditation. Such degrees must meet the key areas of learning and additional general skills as described in AHEP and have an engineering content that will provide a suitable learning experience for an applicant wishing to register with the Engineering Council through the IMechE (See Appendix C).

9.2.2 Engineering Doctorates (EngD)

The IMechE will consider EngD programmes meeting the criteria set out in AHEP for accreditation.

9.2.3 Programmes of Further Learning

Programmes of Further Learning may be submitted for approval by individuals or by organisations, particularly in association with an accredited MPDS. The programme should be designed as a flexible concurrent enhancement to the programme of Initial Professional Development. Programmes of formal study may be appropriate, but ones that combine formal study with work-based learning may be equally appropriate, especially when combined with MPDS.

Knowledge and understanding to masters level must be secured and the following areas must be evident:

- deepening of engineering and scientific knowledge; and
- broadening of technical and non-technical knowledge.
As further learning should be flexible the Institution therefore does not prescribe the topics to be covered in further learning schemes or individual plans; the experiences of every engineer are different and what they need to learn and understand will be determined by their own career aspirations and the industry in which they work.

9.3 Further Learning for moving between Incorporated Engineer and Chartered Engineer

Graduates with a bachelor degree accredited for IEng and who wish to register for CEng will need to complete Further Learning that also develops the analytical skills inherent within the bachelor degree accredited for CEng.

The Further Learning guidelines are available online at www.imeche.org/furtherlearning.

10. DEGREE ACCREDITATION

10.1 Introduction

Accreditation is the process used by Professional Engineering Institutions (PEIs), under licence from the Engineering Council to assure the suitability of educational programmes designed as the preferred route into the engineering profession. Other routes to Institution membership and registration with the Engineering Council are available, although these require applicants to be individually assessed. Accreditation involves a periodic quality assessment and audit of the particular degree against agreed criteria. It is a peer review process, undertaken by a panel comprising of professional engineers from industry and academia, supported by Institution staff. The process involves scrutiny of relevant data about the degree(s), the academic department and its resources, and a structured visit to the educational institution.

The accreditation process focuses on output standards (areas of learning/learning outcomes). Output Standards Matrix forms will be required for each course of study. The completed form will provide a framework for the assessment of output standards by IMechE panels during an accreditation visit. Evidence must be provided to demonstrate that the standards set by the course provider have been achieved by the students who have successfully completed the course of study.

Aims, objectives and learning outcomes should state whether the degree is designed to meet the needs of Chartered or Incorporated Engineers, its particular emphasis and characteristics, and whether it has been designed to meet the AHEP and IMechE requirements. These statements are, therefore, key accreditation documents and IMechE accreditation panels will pay them close attention. QAA’s Guidelines for preparing programme specifications may be found useful by those preparing aims, objectives and learning outcome statements.7

10.2 Joint accreditation by IMechE and other Engineering Institutions

The IMechE is happy to participate in or arrange joint accreditation visits with other PEIs, such as IET, and is a member of the Engineering Accreditation Board (EAB). Where joint accreditation visits are arranged, the University will allocate which is the lead Institution and all PEIs will use the same set of documentation.

It should be noted that while PEIs will arrange for joint accreditation processing and visits, decisions are made independently by their respective accreditation committees and thus outcomes may vary between each Institution.

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10.3 Promoting professionalism

The Institution believes that all engineers should demonstrate and maintain high professional standards in the conduct of their work. This applies equally to teaching staff who are involved in designing and delivering IMechE accredited programmes, as part of their own professional commitment as well as an example to students. Membership of a relevant professional body would be one sign of such a commitment and the IMechE would expect to see that the majority of staff delivering accredited degrees are professionally registered. It is also expected that the teaching staff will actively promote the concept of professionalism (demonstrated by Institution membership and eventually, registration) through presentations and guidance to students and by inviting IMechE Business Development Managers to the University to speak to the students about events and membership opportunities.

All undergraduate students on an engineering degree or on an engineering apprenticeship will receive free IMechE Affiliate membership and access to online journal and library facilities. Promotional posters are available to all IMechE Academic Liaison Officers (ALO) to display in engineering departments.

To nominate an ALO please contact alo@imeche.org or to request promotional posters please email the Institution’s marketing department at marketing@imeche.org.

10.4 Applications and outcomes of accreditation

Accreditation is an involved process that can take anywhere from approximately 6-18 months from providing the completed application forms, plus supporting material, to receiving the outcome decision. Application for accreditation of a degree, or suite of degrees, will only be accepted on the appropriate application forms, which are available electronically from the IMechE website. The Institution periodically revises and updates its application forms, so it is recommended that a new copy be obtained from the Institution’s website before an application is made.

It should be noted that degrees will be accredited for either partial or full CEng or IEng.

The maximum period of accreditation awarded is five years, however accreditation may also be backdated to allow cohorts whose work has been reviewed as part of the programme accreditation exercise to benefit from the decision. A shorter period of accreditation may be granted if the degree is new, if there are concerns about its operation, or uncertainties about its future. Applications for accreditation will result in one of the following outcomes:

- **Accredited** for a period not exceeding five years (plus any backdating requested), either with or without conditions and/or recommendations; or
- **Not accredited**.

If a new programme is considered, accreditation will normally be awarded when the first cohort of students’ graduate, at which time a desk-based review of final year examination papers and project work would be required. This will typically involve reviewing a selection of the following:

- A list of project titles and the marks awarded (for the BEng(Hons) and MEng/MSc)
- Project Module Descriptor, showing learning outcomes aligned to UK-SPEC
- Project marking criteria
- Student project guidance
- Three BEng(Hons) individual project reports including completed marking sheets
- Three MEng group projects including completed marking sheets, and any individual reports produced by the group members, if appropriate
- Three sets of the most recent final year examination papers and solutions
- External Examiners’ reports

8  [http://www.imeche.org/membership/employeeand-accreditation/university-accreditation](http://www.imeche.org/membership/employeeand-accreditation/university-accreditation)
Lists of accredited degrees will be published on the Engineering Council’s website for use by, among others, prospective students and employers. If a degree is not accredited, the University making the application may ask for the matter to go to appeal. The appeals procedure is described in Appendix E.

The UCAS website promotes recognition of accredited engineering programmes as leading to professional registration. The accreditation status will be embedded within the summary of the programme.

If a degree is accredited it should be noted that the following rules apply:

**Undergraduate Accreditation:**

- The accredited **Foundation** degree will meet, in part, the exemplifying academic benchmark requirements for registration as an Incorporated Engineer and Students will need to complete an approved format of **further learning** pursuant to the requirements of UK-SPEC.

- The accredited **Bachelors** degree fully meets the exemplifying academic benchmark requirements, for registration as an Incorporated Engineer (IEng).

- The accredited **Bachelors with honours** degree will meet, in part, the exemplifying academic benchmark requirements for registration as a Chartered Engineer and Students will need to complete an approved format of **further learning** pursuant to the requirements of UK-SPEC.

  The accredited **Bachelors with honours** degree will also automatically meet in full, the exemplifying academic benchmark requirements for registration as an Incorporated Engineer (IEng).

- The accredited **MEng** degree fully meets the exemplifying academic benchmark requirements, for registration as a Chartered Engineer (CEng).

**Postgraduate Accreditation:**

The accredited **MSc** degree will meet, in part, the exemplifying academic benchmark requirements for registration as a Chartered Engineer. Accredited MSc graduates who also have a bachelor degree accredited for CEng will be able to show that they have satisfied the educational base for CEng registration.

It should be noted that graduates from an accredited MSc programme that do not also have a bachelor degree accredited for CEng will not be regarded as having the exemplifying qualifications for professional registration as a Chartered Engineer with the Engineering Council and will need to have their qualifications individually assessed through the Individual Case Procedure if they wish to progress to CEng.

Further Learning details are available on our web site at the following link: [www.imeche.org/furtherlearning](http://www.imeche.org/furtherlearning)

**10.5 Costs of accreditation**

The Institution currently charges a fee of £1,500 plus VAT for all accreditation visits. This fee contributes towards administration and volunteer costs associated with the visit and helps the Institution to continue delivering a first-rate service for its University partners.
Where accreditation is sought outside the UK the University seeking accreditation is additionally required to cover all costs associated with the visit. More information on the criteria and process for international accreditation visits can be found on the Institution’s website.

Should an accreditation visit be cancelled or postponed by the University, or by the Institution as a result of an incomplete submission less than 30 calendar days prior to the agreed commencement date of the visit, the University will be required to pay a cancellation fee equal to the cost of the accreditation visit fee.

10.6 Confidentiality of information

The Institution treats all information it receives in respect of the accreditation process as confidential. Papers provided by Universities, reports, or minutes of meetings will only be shown to those involved in the accreditation process (including during appeals).

10.7 Subject Benchmarking

The Institution supports the work of the QAA and the Engineering Professors’ Council to produce useable and relevant output standards for engineering degrees. Engineering Council has used the work by these two bodies in the production of the learning outcomes statements that accompany UK SPEC and AHEP. As required by the terms of its license with the Engineering Council the IMechE has interpreted these statements for the engineering disciplines within its sphere of influence and these are included in Appendix B.

The IMechE participates in working groups with the Engineering Council to continue to promote accredited degrees and best practice amongst the Engineering Institutions.

10.8 Good Practices in the Conduct of Accreditation

Clear and open communications are essential if the potential benefits of accreditation are to be fully realised and the process is to operate smoothly. To assist this, the Institution has developed a framework of responsibilities for the parties involved in accreditation (see Appendix F).

10.9 Start Year

The ‘start year’ for any degree will be deemed to be the year when the degree began for the normal cohort, who were starting at year 1 of the degree. That ‘start year’ applies irrespective of whether some individuals start a year earlier (e.g. on a ‘Year Zero’ or Foundation Course) or a year later (in recognition of advanced standing).

10.10 Pre-Visit Advice meetings and University Based Registration (UBR)

The IMechE offer a free pre-visit meeting to assist with any logistical or policy questions before completing the submission form. The meeting will be a chance to advise to which registration category programmes should be submitted and to discuss which will be suitable for review.

During an accreditation visit, the visiting team will review student support and staff commitment to professional registration. The team will expect to see a strong staff commitment demonstrated by their professional registration and interaction with professional engineering institutions to promote the benefits of a professionally registered engineer. During the pre-visit meeting our Professional Development Advisor (PDA) can help to set up a University Based Registration scheme. With a minimum of three interested applicants, our PDA can talk through the process for staff to become professionally registered, check CVs for registration, and arrange for Professional Review Interviews to be held on site, at the university.
We strongly encourage academic staff in Further and Higher Education to be professionally registered and this is further supported by the Engineering Council who are keen to promote the registration of engineering academics.

10.11 Accreditation Certificates

All accredited departments will receive an accreditation certificate signed by the IMechE Chief Executive, confirming the award of accreditation. These complimentary certificates are a chance for staff to advertise the teaching and delivery of the programmes, and to reward the department’s involvement in the accreditation process.

10.12 Location of Study

Engineering Council guidance now requires universities to invite PEIs to visit all campus locations involved in the delivery of accredited degrees or otherwise inform PEIs of campus locations where accreditation is not sought.

In light of this, the Institution has updated its process for reviewing academic qualifications for applicants who are applying for Institution membership and professional registration. The IMechE now require all universities that deliver accredited degrees to clearly indicate the location of study of each degree awarded on the degree transcript.

Applicants for Institution membership and professional registration must submit their degree transcript, along with an authenticated copy of their degree certificate when they apply for professional registration.

Further information can be found in Appendix I and on the IMechE website: http://www.imeche.org/how-do-i-get-my-university-accredited

10.13 Key Information Set (KIS) Statements

The Engineering Council requires that the promotion of accredited status of a university degree is publicised accurately to assist those making choices about which degree programmes to apply for. For this reason, the Engineering Council provides HEFCE with a number of statements for entry into the UNISTATTS Key Information Set (KIS). It is the responsibility of the university to ensure that KIS statements are accurate.

For the latest information on KIS statements, please refer to: http://www.engc.org.uk/engcdocuments/internet/website/20160809_KIS_Statements_for_universities.pdf

11. ACCREDITATION GUIDANCE AND CRITERIA

The following is intended as guidance on key accreditation issues that will be helpful for those designing a degree for which accreditation is sought. It should not be viewed as an exhaustive list of the accreditation criteria.

11.1 Industrial Engagement and Influence

It is essential to provide demonstrable evidence of how modern engineering practices (in industry and commerce) influence the degree content and improve the student learning experience. Industrial engagement can be achieved through a variety of complementary means. Evidence will be required to show that industrial involvement is an integral and ongoing part of strengthening the degree.
11.1.1 Summary of Industrial Engagement

The main accreditation submission document instructs applicants to provide a brief overview of how the University engages with industry in a meaningful way to continuously improve their degree offering(s). This top level summary may be augmented by more detailed information in the following sections. For example, the summary might include “the School liaises with leading regional industrialists via the Industry Advisory Board.” In the section that follows full detail can be offered about the board, its remit, and membership. The summary should be brief and be supported by evidence as applicable.

11.1.2 Industry Advisory Board

Applicants should provide detail on how industrial input is sought, captured, and acted upon. It is typical for Universities to develop groupings of industrial contacts into an Industry Advisory Board/Panel (or similar). This group contributes to the support for and development of academic programmes by providing externality and acting as a ‘critical friend’ to the University. Such groups help ensure that degree programmes remain current, are informed of developing industrial trends, and are likely to remain appropriate for the destination of the student cohort. Specific evidence that is helpful in the submission includes: details of group organisation and membership; group terms of reference; group meeting minutes; notable group achievements.

11.1.3 Evidence of Industrial Engagement

The accreditation process requires applicants to submit evidence of mechanisms used to engage with industry. Where possible commentary on the effectiveness of the mechanisms used should also be provided. Types of industrial engagement include (but are not limited to): industrial placements; visiting lecturers; collaboration with industry to set and deliver student projects; industry involvement with EngD programmes (if applicable); and also key research collaborations between the institution and industrial partners and how this informs teaching. Evidence of how these engagement types are being developed is particularly useful.

11.2 Direct Entry

The University will need to justify and demonstrate that rigorous and auditable processes are in place to ensure that enough prior learning has been completed and that the relevant learning outcomes have been achieved for the stage of entry. On this basis entry directly into the final year of a degree programme accredited for IEng or CEng is acceptable for accreditation.

11.3 Student Assessment

11.3.1 General

In accrediting a degree, the IMechE accepts that the Board of Examiners will determine which students have achieved the standard required for the award of the degree. Depending on the subject and learning outcomes there is normally a balance between in-course assessments and formal examinations. Therefore, the accreditation team will look closely at the assessment arrangements and practices to assure their rigour and that they are appropriate to the AHEP learning outcomes. External Examiners’ reports are part of the documentation submitted by a department when seeking degree accreditation. It is expected that the emphasis in examinations and other forms of assessment should change during the degree. Early on, it may involve testing skills and knowledge. Later, it should involve testing understanding through the application of engineering principles to realistic engineering problems.
An oral examination is ideal for assessing the investigative project and design work in the latter part of the degree and permits detailed testing of understanding. An oral presentation to academic staff and other students tests communication skills, while an individual oral examination by two or three examiners permits a thorough assessment of understanding.

Major projects within accredited degrees must make a major contribution to the final assessment.

Differences in initial student preparation and rate of development mean that transfer between degrees accredited for CEng may be appropriate. Transfers between degrees accredited for IEng to CEng may also be appropriate in exceptional circumstances and when students are deemed able to adapt to the different style and emphasis of the receiving degree. The degree structures set out in this document allow for such transfers. The accreditation team will look closely at the examinations on which any such transfers are based.

11.3.2 Progression

The IMechE has no specific accreditation criteria regarding progression other than the degree awarding institution’s regulations regarding progression will be considered in the accreditation process to ascertain if the regulations put the achievement of the relevant programme AHEP learning outcomes at risk for individual students.

11.3.3 Compensation and Condonement

To ensure consistency amongst all PEs, the Engineering Council has revised its policy on compensation and condonement following consultation with accrediting PEs. The policy outlined below is no longer guidance, rather formal rules which all PEs are required to enforce from September 2019 and all Higher Education Institutions (HEIs) required to adhere to by September 2022 for the purposes of achieving accreditation:

Many UK universities’ examination board rules include some allowance for compensation or condonement9 of limited failure in one or more modules, where this is compensated by a stronger performance across the programme as a whole. Paragraph 23 of the [Engineering Council’s] Registration Code of Practice requires accrediting institutions to consider the awarding institution’s regulations regarding progression. They may impose constraints on an accreditation decision as a result of this.

The Engineering Council defines compensation as: “The practice of allowing marginal failure (i.e. not more than 10% below the nominal pass mark) of one or more modules and awarding credit for them, often on the basis of good overall academic performance.”

The Engineering Council defines condonement as: “The practice of allowing students to fail and not receive credit for one or more modules within a degree programme, yet still qualify for the award of the degree.”

In the consideration of the accreditation of undergraduate and postgraduate engineering degree programmes:

1. Evidence that all AHEP learning outcomes are met by all variants of each programme must be provided before accreditation can be granted.
2. No condonement of modules delivering AHEP learning outcomes is allowed.

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9 There are no consistent definitions of the terms ‘compensation’ and ‘condonement’ across UK universities, and they are often confused. The Engineering Council therefore adopts a similar definition to that used by QAA and HEA, and, for the avoidance of doubt, includes this definition in this statement.
3. A maximum of 30 credits in a Bachelors or integrated Masters degree programme can be compensated, and a maximum of 20 credits in a Masters degree other than the integrated Masters degree.
4. Major individual and group-based project modules must not be compensated.
5. The minimum module mark for which compensation is allowed is 10% below the nominal module pass mark (or equivalent if a grade-based marking scheme is used).

The key consideration in the rules above is to ensure that graduates of accredited engineering degree programmes have met all the programme learning outcomes specified in the Engineering Council’s AHEP (Accreditation of Higher Education Programmes) specification.

To assist HEIs, the Engineering Council has published a guidance note which should be read in conjunction with the above policy. Please refer to Appendix J for more information.

Should a University’s regulations not conform with the Engineering Council’s policy, then a Condition of accreditation will be set by the visiting panel to enable the University the opportunity to amend its regulations. Failure to conform with this policy will result accreditation not being awarded.

Notification must be given to the IMechE by the University should the compensation requirements change during the period of accreditation.

11.3.4 Examination Papers

All examination papers should consist of previously unseen questions and students should not be ‘coached’ to answer the specific set of questions that will appear on the examination paper. A resit examination must consist of a new set of previously unseen questions and the resit examination must have the same duration and be taken under the same conditions as the original examination.

The accreditation team will review examination papers, tutorial questions, exercise sheets and similar material.

It is expected that the university will have a policy on the re-use of examination questions to prevent their re-use for typically 3-years. There should be an appropriate internal process to ensure conformance with the policy.

Papers will be reviewed for academic rigour and challenge. Examinations in both technical and non-technical subjects must test understanding and applications, appropriate to the CEng or IEng ethos of the degree, rather than simply recall, particularly at the later stages of the degree. Questions should enable the candidate to demonstrate their ability to use a logical approach when obtaining a solution.

The IMechE accreditation team will look for additional, more demanding ‘open-ended’ elements to some questions that allow the more able candidates to demonstrate their higher level of understanding, particularly at Level 6 and 7.

Examination papers, particularly in the later stages of the course, should test the application of engineering theory to the solution of real engineering problems. For technical subjects, the following ‘ideal’ structure is recommended:

- the ‘real world’ problem should be clearly stated;
- the candidate should decide upon the physical model which best describes the problem;
- the most appropriate mathematical model should be established (particularly important within degrees intended for CEng-related accreditation);
- a solution should be found using data given in the question or using estimated data where appropriate;
- the reliability of the answer should be assessed, taking into account the modelling approach used;
an ‘open-ended’ element that challenges the most able students should round off the question; and
- non-technical subjects should test students’ understanding of issues in an engineering context or environment. ‘Open book’ examinations, particularly in the Final Year, are acceptable.

The IMechE does not expect tutorial questions previously seen by students to appear in examination papers, with no other requirement than to reiterate theory, examination notes and/or answer questions previously covered in class.

11.4 Laboratory Work and Engineering Applications

In forming a view as to the ability of a programme to support the Learning Outcomes on a sustainable basis over the accreditation period it is required that programmes will enable all students to:

- conduct appropriate laboratory work. This should normally be evident throughout the entire degree programme to complement the subjects studied and provide the vehicle for exploring the relationship between conceptual models and real engineering systems; and
- have hands-on experience of engineering applications in an engineering workshop environment involving the use of hand and machine-tools. The development of knowledge and understanding of engineering application and manufacturing processes should be evident throughout the programme, appropriate to the degree specialism, and provide experience of the behaviour of materials and processes, the relationships between design, materials and manufacture, and an appreciation of the human skills needed in manufacture.

The extent to which the following exist will be taken into account:

- opportunities for students to undertake design and make exercises and projects;
- adequate facilities and competent staff to support hands-on experience and design/make projects;
- hands-on engineering application activity and laboratory work is integrated and credited within the programme;
- the ability to provide knowledge and understanding of a range of engineering materials, equipment and engineering application/manufacturing processes appropriate to the degree; and
- industry/company visits are used to contribute to knowledge and understanding of industry engineering application.

11.5 Individual Project

All degrees accredited by the IMechE must include an individual investigative project. This may be a ‘linked’ exercise, but individual input is essential and must be clearly identifiable as such and assessable independently. The project should form a major part of the degree and typically contribute 30 credits at Level 6 or 7.

The project should be of a technical nature, supporting the engineering orientation of the degree as a whole. The project assessment must assess the learning outcomes that have been claimed in the Output Standard Matrix and these should apply to all students. The project topic should reflect the theme of the degree programme. The project must be research based in nature and not, for example simply be using computer software, a non-technical assignment or a review (although a review will normally be part of the project). An integrated exercise involving a technical investigation which incorporates a financial appreciation is encouraged.

Although some projects may not contain all the following elements, the ideal project should involve:

- Clear aims/objectives;
- Project planning;
- Reference to any relevant previous work;
- Appropriate analysis;
- Appropriate design;
- Manufacture (if practical);
- Testing and interpretation of results;
- Costing aspects;
- Clear recommendations; and
- Preparation of a final report (a journal type paper without a full report is not preferred and in any case evidence of the learning outcomes being achieved must be demonstrated).

### 11.6 Group Project

An MEng degree must include a major group design or industrial project requiring reference to and integration of the engineering and non-technical subjects that distinguish the MEng group project from a bachelor degree project. The group project would normally be carried out at Level 7, although it could be carried out at Level 6. The project should form a significant component of the MEng degree and contribute to the Masters level learning outcomes.

It is important that the marks each student receives reflect their achievement on this project. This would normally be expected to be made up of a number of elements such as: a group mark, an individual mark and a peer review or other type of moderated mark. This is to reflect each student’s input to the project as a whole.

### 11.7 Study Away from the University

IMechE accredited degrees may involve work or study abroad, typically in the form of yearlong placements. However, at least two years’ study including the final year, should normally be spent at the home institution. In all cases the home institution will be required to have a robust quality assurance process to show how the curriculum, assessment methods and monitoring systems used are sufficient to ensure the overseas studies integrate with the accredited degree and meet equivalent academic standards and AHEP learning outcomes of the programme including project work.

For students going on Erasmus placements, the choice of modules to be taken at the Erasmus partner must be consistent with the student’s degree programme. Where a student has entered their degree programme in the second year and then goes on an Erasmus placement, the choice of modules to be taken should be considered very carefully by the home institution to ensure that the AHEP Learning Outcomes continue to be met. The Institution would not normally expect to visit these campuses.

### 11.8 Joint Teaching

When the structures and contents of different degrees accredited by IMechE are closely related, jointly teaching students studying for different degrees can be a useful and legitimate way of maximising resources. This may be done for individual subjects or for specific periods of study, depending on how closely the degrees are related.

Specifically, this situation may arise in respect of two or more degrees accredited for the same professional pathway (CEng or IEng), for example two BSc degrees, two BEng(Hons) degrees or two MEng degrees. It may also be appropriate to combine the first or first two years of a MEng and a bachelor degree where both are accredited for CEng.

Although joint teaching may allow the maximisation of university resources, the quality of student learning experience must be maintained.
11.9 Professional Registration of Staff

It is expected that the majority of staff involved in the development and teaching of accredited degrees will be professionally registered with the Engineering Council through the relevant Professional Engineering Institutions, or an equivalent international engineering body.

Should less than 25% of teaching staff be professionally registered at CEng or IEng then it will be a Condition of accreditation on the School/Department to increase this figure. Should the number of professionally registered staff be greater than 25%, but less than 50%, then the School/Department will be given a Recommendation to increase this figure.

12. ACCREDITATION AND STUDENTS WITH SPECIAL NEEDS

The Institution is sympathetic to submissions from universities making provision for students with special needs and recognises the need for universities to comply with current disability legislation.

13. ACCREDITATION OF MSC DEGREES AS FURTHER LEARNING TO MASTERS LEVEL

These are guidelines only. MSc degrees that do not fall within these guidelines can still be accredited; however, it will be more straightforward if one falls within these recommendations.

These guidelines do not override anything that is published in AHEP, QAA and other such documents, but is indicative of the sort of topics, level and other issues that would be expected to be seen in a fairly conventional MSc of 180 credits. This is not meant to be either prescriptive or exclusive. An MSc that succeeds in achieving the required standards and can be shown to do so can also be accredited.

Note that it is not possible to accredit an MSc degree whose main purpose is to convert students from non-engineering disciplines to engineering ones unless the level of the majority of the assessment can be shown to be at Masters level.

The guidelines are as follows:

General principles

- The level of at least 70% of the modules must be above Bachelors level;
- The MSc should form a coherent course of study, which reflects the title of the MSc;
- A reasonable element of professional skills at Masters level is encouraged;
- About 70% of the MSc should be engineering subjects; and
- Engineering topics include subjects such as Engineering Management, Engineering Finance, but not General Management and Finance.

Project

- There should be an individual project which is at least 60 credits;
- It must be at Masters level;
- It should be in an engineering topic;
- It should be relevant to the title of the MSc; and
- It must demonstrate research skills, analysis and synthesis.
14. VISIT OVERVIEW

An accreditation visit:

- May comprise of a two-part submission: The ‘Initial Assessment Form’ is to be completed in the first instance if the Institution is visiting the School/Department for the first time. In all instances the ‘Submission for Accreditation’ must be completed at least 12 weeks before the date of the accreditation visit. Both application forms are available on the IMechE website.
- Will comprise 2 days meeting with key members of staff. In the case of submissions with many programmes to assess, the visit may be extended at the Institution’s discretion to accommodate the added time needed to review paperwork.
- Will usually comprise of a team made up of 2 Academics, 1 Industrialist and 1 Staff Support Member (or consultant). The team would normally be chaired by an academic member.
- Will be held during term time so that the visiting team can meet with staff, students and visit supporting facilities and laboratories.
- Will be followed up with a visit report which will be presented to the Academic Standards Committee; the Committee will decide on awarding accreditation - the visiting panel on the day will not be able to confirm any decision.

Universities are asked to note that should changes be made or planned to its accredited programmes which have not already been approved by the IMechE prior to a scheduled reaccreditation exercise then the University is urged to contact the Institution at the earliest opportunity to discuss whether a visit is still appropriate or if a short postponement is necessary. Any University choosing to wait until the accreditation visit to provide this information may risk jeopardising onward accreditation should changes to the programmes prove to be substantial (usually beyond 25%).

In such instances where a postponement is appropriate, the University may be eligible to apply for a one year extension of accreditation.

15. FURTHER INFORMATION

IMechE provides information on its website and publishes guidance for those involved in the professional development of its members, initially leading to Chartered Engineer status and, thereafter, for career development. Please use the links below to access the latest guidance:

**Academic Accreditation**
Information for universities seeking accreditation: detailing typical accreditation visit timetables and requirements, Accreditation Submission Forms and copies of Academic Accreditation Guidelines are available from the [academic accreditation webpage](#).

**Further Learning**
Including FAQ’s, sample plan and list of accredited schemes and qualifications.

**Academic Requirements**

**Initial Professional Development**

**Monitored Professional Development Scheme**

**A Guide to Mentoring**
Publications are downloadable from the [Professional Development Partnership website](#).
Becoming a Member

Further advice about the requirements for accreditation is available by contacting the IMechE at:

University Accreditation
Membership, Accreditation & Professional Development
Institution of Mechanical Engineers
1 Birdcage Walk
London
SW1H 9JJ

Tel:  +44 (0) 20 7304 6866
Email:  uniaccreditation@imeche.org
APPENDIX A
SUBJECT COVERAGE AND BALANCE IN ACCREDITED DEGREES.

Engineering Science

An understanding of engineering science is essential in the academic element of a mechanical engineer’s formation. Therefore, degrees must include an appropriate amount of the relevant physical, chemical or biological sciences including mechanics, taught from an engineering perspective.

Mathematics

All degrees accredited by IMechE must contain mathematics, modelling and statistics appropriate to the subject and type of degree. Note that the mathematics needs of Chartered and Incorporated Engineers are different and should be tailored to support the distinctive nature of the degree programme. It is, for example, expected that all degrees accredited for CEng will contain extensive modelling of complex engineering situations from ‘first principles’. The Mathematics content should be embedded within and throughout the whole degree programme. During the first year the mathematics content should meet the needs of the whole peer group and allow for the variation in entry mathematics knowledge.

Engineering Subjects

The number, combination and level of engineering subjects relevant to the degree title is not specified. Degrees must contain a balanced content in support of the aims, objectives and learning outcomes while providing students with an understanding of mechanical engineering and its applications, in the broadest sense. The degree must, however, include an introduction to:

- the selection of materials and methods of manufacture;
- the relationship between design, materials and manufacture; and
- an appreciation of the human skills required in the total engineering and all of the design process for CEng, and for specific elements of the process for IEng.

The study of engineering science and other engineering subjects must integrate well with laboratory experiments, simulation, hands-on experience and project work.

Essential integrating themes and subjects

Must include:

- design as an integrating theme: within MEng degrees accredited for CEng, this should ideally lead to a large scale multi-disciplinary group design project in the third or fourth year;
- an individual, or linked investigative project with individual assessment;
- business and management covering the organisation of industry, project management, finance and human behaviour. The combination of these subjects will be appropriate to the aims of the degree and whether it is intended as preparation for future IEng or CEng professionals; and
- health and safety legislation and risk management.
Environment and Sustainability

Environmental issues and sustainability considerations should be incorporated into all engineering degrees. They need not be taught as separate subjects but should be an integral part of the course theme and structure. Design & Project work should, in particular, include an appreciation and understanding of these important issues as they relate to the areas of study.

Complementary and transferable skills

All accredited courses should develop transferable skills such as team-working, communications and presentation skills. Opportunities to develop complementary skills such as languages and additional computing skills are encouraged.
APPENDIX B

DEGREE OUTPUT STANDARDS.

For all degrees, the weighting given to the six broad areas of learning below will vary according to the nature of the aims of each programme.

Bachelors degrees and Bachelors (Honours) degrees accredited for the purpose of IEng registration will have an emphasis on development and attainment of the know-how necessary to apply technology to engineering problems and processes, and to maintain and manage current technology, sometimes within a multidisciplinary engineering environment. Graduates from accredited Bachelors or Bachelors (Honours) degree programmes must achieve the learning outcomes described below. The breadth and depth of underpinning scientific and mathematical knowledge, understanding and skills will be provided in the most appropriate manner to enable the application of engineering principles within existing technology to future engineering problems and processes. Graduates are likely to have acquired some of this ability through involvement in individual and/or group design projects.

Programmes will develop a knowledge and understanding of current engineering practice and processes, with less focus on analysis than in programmes accredited for CEng. Design will be a significant component, especially in integrating a range of knowledge and understanding to design products, systems and processes to meet defined needs using current technology.

Bachelors (Honours) degrees accredited as partially meeting the educational requirement for CEng develop the ability to apply a thorough understanding of relevant science and mathematics to the analysis and design of technical solutions to improve quality of life. Graduates from accredited Bachelors (Honours) programmes must achieve a systematic understanding of the learning outcomes described below, including acquisition of coherent and detailed knowledge, much of which is at, or informed by, the forefront of defined aspects of the relevant engineering discipline. Crucially, they will have the ability to integrate their knowledge and understanding of mathematics; science; computer-based methods; design; the economic, legal, social, ethical and environmental context; and engineering practice to solve problems, some of a complex nature, in their chosen engineering discipline. They are likely to have acquired some of this ability through involvement in individual and/or group design projects.

Integrated Masters (MEng) degrees accredited for CEng registration include the outcomes of accredited Bachelors (Honours) degrees and go beyond to provide a greater range and depth of specialist knowledge, within a research and industrial environment, as well as a broader and more general academic base. Such programmes should provide both a foundation for leadership and a wider appreciation of the economic, legal, social, ethical and environmental context of engineering.

Graduates from an accredited integrated Masters (MEng) degree must achieve a systematic understanding of the learning outcomes described below, including acquisition of coherent and detailed knowledge, most of which is at, or informed by, the forefront of defined aspects of the relevant engineering discipline. Some of the learning outcomes will be to levels deeper and broader than in a Bachelors programme, the balance of which will vary according to the nature and aims of each programme. Crucially, graduates will have the ability to integrate their knowledge and understanding of mathematics; science; computer-based methods; design; the economic, legal, social, ethical and environmental context; and engineering practice to solve a substantial range of engineering problems, some of them complex or novel. They will have acquired much of this ability through involvement in individual and group design projects. Ideally some of these projects would have industrial involvement or be practice-based.
Masters degrees (other than the Integrated Masters) accredited as further learning to Masters Level for the purposes of registration with the Engineering Council vary in nature and purpose. Some offer the chance to study in greater depth particular aspects or applications of a broader discipline in which the graduate holds an Honours degree at Bachelors level. Others bring together different engineering disciplines or subdisciplines in the study of a particular topic, or engineering application, while a further category may be truly multidisciplinary. Masters programmes also provide an opportunity to integrate the technical and non-technical aspects of engineering and to develop a commitment to professional and social responsibility and ethical codes.

Graduates from an accredited Masters degree must achieve a systematic understanding of the learning outcomes described below, including acquisition of coherent and detailed knowledge, most of which is at, or informed by, the forefront of defined aspects of the relevant engineering discipline. Some of the learning outcomes will be to enhanced and extended levels, the balance of which will vary according to the nature and aims of each programme. Crucially, graduates will have the ability to integrate their prior knowledge and understanding of the discipline and engineering practice with the development of advanced level knowledge and understanding, to solve a substantial range of engineering problems, some of them complex or novel. They will have acquired much of this ability through individual and/or group projects. Ideally some of these projects would have industrial involvement or be practice-based.

Learning outcomes specified in AHEP for Bachelors degree and Bachelors (Honours) degrees accredited for IEng registration, Bachelors (Honours) degrees accredited as partially meeting the academic requirement for CEng registration (with further learning to Masters level required), and Integrated Masters (MEng) degrees accredited in full for CEng registration.

<table>
<thead>
<tr>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Understanding</strong> is the capacity to use concepts creatively, for example, in problem solving, design, explanations and diagnosis.</td>
</tr>
<tr>
<td><strong>Knowledge</strong> is information that can be recalled.</td>
</tr>
<tr>
<td><strong>Know-how</strong> is the ability to apply learned knowledge and skills to perform operations intuitively, efficiently and correctly.</td>
</tr>
<tr>
<td><strong>Skills</strong> are acquired and learned attributes that can be applied almost automatically.</td>
</tr>
<tr>
<td><strong>Awareness</strong> is general familiarity, albeit bounded by the needs of the specific discipline.</td>
</tr>
<tr>
<td><strong>Complex</strong> implies engineering problems, artefacts or systems that involve dealing simultaneously with a sizeable number of factors that interact and require deep understanding, including knowledge at the forefront of the discipline, to analyse or deal with.</td>
</tr>
</tbody>
</table>
APPENDIX C
DEGREE LEARNING OUTCOMES.

Graduates from accredited programmes must achieve the following six broad areas of learning and the corresponding learning outcomes. The learning outcomes are expressed in terms of science and mathematics, engineering analysis, design, economic, social, legal, ethical and environmental context, engineering practice and additional general skills.

The tables below show the learning outcomes that need to be achieved in each of the six areas in order for a particular degree to be accredited for a certain level of professional registration.

<table>
<thead>
<tr>
<th>Science and Mathematics (SM)</th>
<th>Engineering is underpinned by science and mathematics, and other associated disciplines. Graduates will need:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors and Bachelors (Honours) degrees accredited for IEng</td>
<td>Bachelors (Honours) degrees accredited for CEng (with further learning required)</td>
</tr>
<tr>
<td><strong>SM1i</strong></td>
<td>Knowledge and understanding of the scientific principles underpinning relevant technologies, and their evolution</td>
</tr>
<tr>
<td><strong>SM1m</strong></td>
<td>A comprehensive knowledge and understanding of the scientific principles and methodology necessary to underpin their education in mechanical and related engineering disciplines, and an understanding and know-how of the scientific principles of related disciplines, to enable appreciation of the scientific and engineering context, and to support their understanding of relevant historical, current and future developments and technologies</td>
</tr>
<tr>
<td><strong>SM2i</strong></td>
<td>Knowledge and understanding of mathematics and an awareness of statistical methods necessary to support application of key engineering principles</td>
</tr>
<tr>
<td><strong>SM2m</strong></td>
<td>Knowledge and understanding of mathematical and statistical methods necessary to underpin their education in mechanical and related engineering disciplines, and to enable them to apply a range of mathematical and statistical methods, tools and notations proficiently and critically in the analysis and solution</td>
</tr>
<tr>
<td></td>
<td>Ability to apply and integrate knowledge and understanding of other engineering disciplines to support study of mechanical and related engineering disciplines</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>SM3b</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SM4m</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understanding of concepts from a range of areas, including some outside engineering, and the ability to evaluate them critically and to apply them in engineering projects.</td>
</tr>
<tr>
<td><strong>SM6m</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Masters graduates (other than the Integrated Masters) will need additionally:**

| **SM7M** | A comprehensive understanding of the relevant scientific principles of the specialisation |
| **SM8M** | A critical awareness of current problems and/or new insights most of which is at, or informed by, the forefront of the specialisation |
| **SM9M** | Understanding of concepts relevant to the discipline, some from outside engineering, and the ability to evaluate them critically and to apply them effectively, including in engineering projects |
## Engineering Analysis (EA)

Engineering analysis involves the application of engineering concepts and tools to the solutions of engineering problems. Graduates will need:

<table>
<thead>
<tr>
<th>Bachelors and Bachelors (Honours) degrees accredited for IEng</th>
<th>Bachelors (Honours) degrees accredited for CEng (with further learning required)</th>
<th>Integrated Masters (MEng) degrees accredited for CEng</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EA1i</strong> Ability to monitor, interpret and apply the results of analysis and modelling in order to bring about continuous improvement</td>
<td><strong>EA1b</strong> Understanding of engineering principles and the ability to apply them to analyse key engineering processes</td>
<td><strong>EA1m</strong> Understanding of engineering principles and the ability to apply them to undertake critical analysis of key engineering processes</td>
</tr>
<tr>
<td><strong>EA2i</strong> Ability to apply quantitative methods in order to understand the performance of systems and components</td>
<td><strong>EA2</strong> Ability to identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques</td>
<td><strong>EA2</strong> Ability to identify, classify and describe the performance of systems and components through the use of analytical methods and modelling techniques</td>
</tr>
<tr>
<td><strong>EA3i</strong> Ability to use the results of engineering analysis to solve engineering problems, and to recommend appropriate action</td>
<td><strong>EA3b</strong> Ability to apply quantitative and computational methods in order to solve engineering problems and to implement appropriate action</td>
<td><strong>EA3m</strong> Ability to apply quantitative and computational methods, using alternative approaches, and understanding their limitations, in order to solve engineering problems and implement action</td>
</tr>
<tr>
<td><strong>EA4i</strong> Ability to apply an integrated or systems approach to engineering problems through know-how of the relevant technologies and their application</td>
<td><strong>EA4b</strong> Understanding of, and the ability to apply, an integrated systems approach to solving engineering problems</td>
<td><strong>EA4m</strong> Understanding of, and the ability to apply, an integrated or systems approach to solving complex engineering problems</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>EA5m</strong> Ability to use fundamental knowledge to investigate new and emerging technologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>EA6m</strong> Ability to extract and evaluate pertinent data and to apply engineering analysis techniques in the solution of unfamiliar problems</td>
</tr>
</tbody>
</table>
**Masters graduates (other than the Integrated Masters) will therefore need additionally:**

<table>
<thead>
<tr>
<th>EA6M</th>
<th>Ability both to apply appropriate engineering analysis methods for solving complex problems in engineering and to assess their limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>EA5m</td>
<td>Ability to use fundamental knowledge to investigate new and emerging technologies</td>
</tr>
<tr>
<td>EA7M</td>
<td>Ability to collect and analyse research data and to use appropriate engineering analysis tools in tackling unfamiliar problems, such as those with uncertain or incomplete data or specifications, by the appropriate</td>
</tr>
</tbody>
</table>
**Design (D)**

Design at this level is the creation and development of an economically viable product, process or system to meet a defined need. It involves significant technical and intellectual challenges and can be used to integrate all engineering understanding, knowledge and skills to the solution of real problems. Graduates need the knowledge, understanding and skills to:

<table>
<thead>
<tr>
<th>Bachelors and Bachelors (Honours) degrees accredited for IEng</th>
<th>Bachelors (Honours) degrees accredited for CEng (with further learning required)</th>
<th>Integrated Masters (MEng) degrees accredited for CEng</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D1i</strong> Be aware of business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics</td>
<td><strong>D1</strong> Understand and evaluate business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics</td>
<td><strong>D1</strong> Understand and evaluate business, customer and user needs, including considerations such as the wider engineering context, public perception and aesthetics</td>
</tr>
<tr>
<td><strong>D2i</strong> Define the problem identifying any constraints including environmental and sustainability limitations; ethical, health, safety, security and risk issues; intellectual property; codes of practice and standards</td>
<td><strong>D2</strong> Investigate and define the problem, identifying any constraints including environmental and sustainability limitations; ethical health, safety, security and risk issues; intellectual property; codes of practice and standards</td>
<td><strong>D2</strong> Investigate and define the problem, identifying any constraints including environmental and sustainability limitations; ethical health, safety, security and risk issues; intellectual property; codes of practice and standards</td>
</tr>
<tr>
<td><strong>D3i</strong> Work with information that may be incomplete or uncertain and be aware that this may affect the design</td>
<td><strong>D3b</strong> Work with information that may be incomplete or uncertain and quantify the effect of this on the design</td>
<td><strong>D3m</strong> Work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies</td>
</tr>
<tr>
<td><strong>D4i</strong> Apply problem-solving skills, technical knowledge and understanding to create or adapt design solutions that are fit for purpose including operation, maintenance, reliability, etc.</td>
<td><strong>D4</strong> Apply advanced problem-solving skills, technical knowledge and understanding, to establish rigorous and creative solutions that are fit for purpose for all aspects of the problem including production, operation, maintenance and disposal</td>
<td><strong>D4</strong> Apply advanced problem-solving skills, technical knowledge and understanding, to establish rigorous and creative solutions that are fit for purpose for all aspects of the problem including production, operation, maintenance and disposal</td>
</tr>
<tr>
<td>D5i</td>
<td>Manage the design process, including cost drivers, and evaluate outcomes</td>
<td>D5</td>
</tr>
<tr>
<td>-----</td>
<td>-------------------------------------------------</td>
<td>----</td>
</tr>
<tr>
<td>D6</td>
<td>Communicate their work to technical and non-technical audiences</td>
<td>D6</td>
</tr>
<tr>
<td></td>
<td>Demonstrate wide knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Demonstrate the ability to generate an innovative design for products, systems, components or processes to fulfil new needs</td>
<td></td>
</tr>
</tbody>
</table>

**Masters graduates (other than the Integrated Masters) will need additionally:**

<table>
<thead>
<tr>
<th>D9M</th>
<th>Knowledge, understanding and skills to work with information that may be incomplete or uncertain, quantify the effect of this on the design and, where appropriate, use theory or experimental research to mitigate deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>D10M</td>
<td>Knowledge and comprehensive understanding of design processes and methodologies and the ability to apply and adapt them in unfamiliar situations</td>
</tr>
<tr>
<td>D11M</td>
<td>Ability to generate an innovative design for products, systems, components or processes to fulfil new needs</td>
</tr>
<tr>
<td>Economic, legal, social, ethical and environmental context (EL)</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Engineering activity can have impact on the environment, on commerce, on society and on individuals. Graduates therefore need the skills to manage their activities and to be aware of the various legal and ethical constraints under which they are expected to operate, including:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bachelors and Bachelors (Honours) degrees accredited for IEng</th>
<th>Bachelors (Honours) degrees accredited for CEng (with further learning required)</th>
<th>Integrated Masters (MEng) degrees accredited for CEng</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EL1</strong> Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct</td>
<td><strong>EL1</strong> Understanding of the need for a high level of professional and ethical conduct in engineering and a knowledge of professional codes of conduct</td>
<td><strong>EL1m</strong> Understanding of the need for a high level of professional and ethical production in engineering, a knowledge of professional codes of conduct, and how ethical dilemmas can arise</td>
</tr>
<tr>
<td><strong>EL2</strong> Knowledge and understanding of the commercial, economic and social context of engineering processes</td>
<td><strong>EL2</strong> Knowledge and understanding of the commercial, economic and social context of engineering processes</td>
<td><strong>EL2</strong> Knowledge and understanding of the commercial, economic and social context of engineering processes</td>
</tr>
<tr>
<td><strong>EL3i</strong> Knowledge of management techniques that may be used to achieve engineering objectives</td>
<td><strong>EL3b</strong> Knowledge and understanding of management techniques, including project management, that may be used to achieve engineering objectives</td>
<td><strong>EL3m</strong> Knowledge and understanding of management techniques, including project and change management, that may be used to achieve engineering objectives, their limitations, and how they may be applied appropriately</td>
</tr>
<tr>
<td><strong>EL4i</strong> Understanding of the requirement for engineering activities to promote sustainable development</td>
<td><strong>EL4</strong> Understanding of the requirement for engineering activities to promote sustainable development and ability to apply quantitative techniques where appropriate</td>
<td><strong>EL4</strong> Understanding of the requirement for engineering activities to promote sustainable development and ability to apply quantitative techniques where appropriate</td>
</tr>
<tr>
<td><strong>EL5</strong> Awareness of the relevant legal requirements governing engineering activities, including personnel, health &amp; safety, contracts, intellectual property rights, product safety and liability issues</td>
<td><strong>EL5</strong> Awareness of the relevant legal requirements governing engineering activities, including personnel, health &amp; safety, contracts, intellectual property rights, product safety and liability issues</td>
<td><strong>EL5m</strong> Awareness of the relevant legal requirements governing engineering activities, including personnel, health &amp; safety, contracts, intellectual property rights, product safety and liability issues, and an awareness that these may differ internationally</td>
</tr>
<tr>
<td>EL6i</td>
<td>Awareness of risk issues, including health &amp; safety, environmental and commercial risk</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>EL6b</td>
<td>Knowledge and understanding of risk issues, including health &amp; safety, environmental and commercial risk, and of risk assessment and risk management techniques</td>
<td></td>
</tr>
<tr>
<td>EL6m</td>
<td>Knowledge and understanding of risk issues, including health &amp; safety, environmental and commercial risk, risk assessment and risk management techniques, and an ability to evaluate commercial risk</td>
<td></td>
</tr>
<tr>
<td>EL7m</td>
<td>Understanding of the key drivers for business success, including innovation, calculated commercial risks and customer satisfaction</td>
<td></td>
</tr>
</tbody>
</table>

**Masters graduates (other than the Integrated Masters) will need additionally:**

<table>
<thead>
<tr>
<th>EL8M</th>
<th>Awareness of the need for a high level of professional and ethical conduct in engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL9M</td>
<td>Awareness that engineers need to take account of the commercial and social contexts in which they operate</td>
</tr>
<tr>
<td>EL10M</td>
<td>Knowledge and understanding of management and business practices, their limitations, and how these may be applied in the context of the particular specialisation</td>
</tr>
<tr>
<td>EL11M</td>
<td>Awareness that engineering activities should promote sustainable development and ability to apply quantitative techniques where appropriate</td>
</tr>
<tr>
<td>EL12M</td>
<td>Awareness of relevant regulatory requirements governing engineering activities in the context of the particular specialisation</td>
</tr>
<tr>
<td>EL13M</td>
<td>Awareness of and ability to make general evaluations of risk issues in the context of the particular specialisation, including health &amp; safety, environmental and commercial risk</td>
</tr>
</tbody>
</table>
Engineering Practice (P)

This is the practical application of engineering skill, combining theory and experience, and use of other relevant knowledge and skills. This can include:

<table>
<thead>
<tr>
<th>Bachelors and Bachelors (Honours) degrees accredited for IEng</th>
<th>Bachelors (Honours) degrees accredited for CEng (with further learning required)</th>
<th>Integrated Masters (MEng) degrees accredited for CEng</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1i Knowledge of contexts in which engineering knowledge can be applied (e.g. operations and management, application and development of technology, etc.)</td>
<td>P1 Understanding of contexts in which engineering knowledge can be applied (e.g. operations and management, application and development of technology, etc.)</td>
<td>P1 Understanding of contexts in which engineering knowledge can be applied (e.g. operations and management, application and development of technology, etc.)</td>
</tr>
<tr>
<td>P2i Understanding of and ability to use relevant materials, equipment, tools, processes, or products</td>
<td>P2 Knowledge of characteristics of particular materials, equipment, processes or products</td>
<td>P2m Knowledge of characteristics of particular materials, equipment, processes or products, with extensive knowledge and understanding of a wide range of engineering materials and components</td>
</tr>
<tr>
<td>P3i Knowledge and understanding of workshop and laboratory practice</td>
<td>P3 Ability to apply relevant practical and laboratory skills</td>
<td>P3 Ability to apply relevant practical and laboratory skills</td>
</tr>
<tr>
<td>P4i Ability to use and apply information from technical literature</td>
<td>P4 Understanding use of technical literature and other information sources</td>
<td>P4 Understanding use of technical literature and other information sources</td>
</tr>
<tr>
<td>P5</td>
<td>P5 Knowledge of relevant legal and contractual issues</td>
<td>P5 Knowledge of relevant legal and contractual issues</td>
</tr>
<tr>
<td>P6i Ability to use appropriate codes of practice and industry standards</td>
<td>P6 Understanding of appropriate codes of practice and industry standards</td>
<td>P6 Understanding of appropriate codes of practice and industry standards</td>
</tr>
<tr>
<td>P7i Awareness of quality issues and their application to continuous improvement</td>
<td>P7 Awareness of quality issues and their application to continuous improvement</td>
<td>P7 Awareness of quality issues and their application to continuous improvement</td>
</tr>
<tr>
<td>P8 Ability to work with technical uncertainty</td>
<td>P8</td>
<td>P9m A thorough understanding of current practice and its limitations, and some appreciation of likely new developments</td>
</tr>
<tr>
<td>P11i</td>
<td>Awareness of team roles and the ability to work as a member of an engineering team</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>----------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>P11b</td>
<td>Understanding of, and the ability to work in, different roles within an engineering team</td>
<td></td>
</tr>
<tr>
<td>P10m</td>
<td>Ability to apply engineering techniques taking account of a range of commercial and industrial constraints</td>
<td></td>
</tr>
<tr>
<td>P11m</td>
<td>Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader</td>
<td></td>
</tr>
</tbody>
</table>

### Masters graduates (other than the Integrated Masters) will need additionally:

| P12M | Advanced level knowledge and understanding of a wide range of engineering materials and components |
| P9m  | A thorough understanding of current practice and its limitations, and some appreciation of likely new developments |
| P10m | Ability to apply engineering techniques, taking account of a range of commercial and industrial constraints |
| P11m | Understanding of different roles within an engineering team and the ability to exercise initiative and personal responsibility, which may be as a team member or leader |
## Additional General Skills (G)

Graduates must have developed transferable skills, additional to those set out in the other outcomes, that will be of value in a wide range of situations, including the ability to:

<table>
<thead>
<tr>
<th>Bachelors and Bachelors (Honours) degrees accredited for IEng</th>
<th>Bachelors (Honours) degrees accredited for CEng (with further learning required)</th>
<th>Integrated Masters (MEng) degrees accredited for CEng</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G1</strong> Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities</td>
<td><strong>G1</strong> Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities</td>
<td><strong>G1</strong> Apply their skills in problem solving, communication, information retrieval, working with others and the effective use of general IT facilities</td>
</tr>
<tr>
<td><strong>G2</strong> Plan self-learning and improve performance, as the foundation for lifelong learning/CPD</td>
<td><strong>G2</strong> Plan self-learning and improve performance, as the foundation for lifelong learning/CPD</td>
<td><strong>G2</strong> Plan self-learning and improve performance, as the foundation for lifelong learning/CPD</td>
</tr>
<tr>
<td><strong>G3i</strong> Plan and carry out a personal programme of work</td>
<td><strong>G3b</strong> Plan and carry out a personal programme of work, adjusting where appropriate</td>
<td><strong>G3m</strong> Monitor and adjust a personal programme of work on an on-going basis</td>
</tr>
<tr>
<td><strong>G4i</strong> Exercise personal responsibility, which may be as a team member</td>
<td><strong>G4</strong> Exercise initiative and personal responsibility, which may be as a team member or leader</td>
<td><strong>G4</strong> Exercise initiative and personal responsibility, which may be as a team member or leader</td>
</tr>
</tbody>
</table>

### Masters graduates (other than the Integrated Masters) will need additionally:

| **G1** Apply their skills in problem solving, communication, information retrieval, working with others, and the effective use of general IT facilities |
| **G2** Plan self-learning and improve performance, as the foundation for lifelong learning/CPD |
| **G3m** Monitor and adjust a personal programme of work on an on-going basis |
| **G4** Exercise initiative and personal responsibility, which may be as a team member or leader |
## APPENDIX D
### CHARACTERISTICS OF ENGINEERING DEGREES.

<table>
<thead>
<tr>
<th>Bachelor degree accredited for IEng</th>
<th>Bachelor degree accredited for CEng</th>
<th>MEng Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Breadth and Depth</strong></td>
<td>Includes a basis of appropriate engineering science plus a relevant selection of engineering subjects in support of the degree title.</td>
<td>Includes a basis of appropriate engineering science plus engineering subjects in support of the degree title with some broadening subjects and greater depth.</td>
</tr>
<tr>
<td><strong>Versatility</strong></td>
<td>Creates ability to practise within a broad range of Mechanical Engineering and within current practice.</td>
<td>Creates ability to practise freely across Mechanical Engineering in developing new technologies.</td>
</tr>
<tr>
<td><strong>Understanding</strong></td>
<td>Study will create understanding of a coherent selection of relevant subjects. May include some study appropriate to BEng (Hons) degree accredited for CEng.</td>
<td>Study will create understanding of a coherent selection of relevant subjects. May include some study appropriate to MEng degree.</td>
</tr>
<tr>
<td><strong>Imagination, Creativity &amp; Innovation</strong></td>
<td>Will be developed through open-ended design-make-test exercises, design and individual investigative project work.</td>
<td>Will be developed through open-ended design-make-test exercises, design, individual investigative and innovative project work.</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Non-technical and business studies to prepare graduates for a career as a top class applications engineer exercising independent judgement within a chosen area of expertise.</td>
<td>Non-technical and business studies to prepare graduates for a career as a top class innovative engineer exercising technical and managerial leadership.</td>
</tr>
</tbody>
</table>
APPENDIX E

DEGREE ACCREDITATION
APPEALS PROCEDURE.

1 Introduction

1.1 This document sets out the policy for dealing with appeals from a HEI following a degree
accreditation decision made by the ASC. Any HEI which has a submission for accreditation
turned down may appeal in accordance with the procedures contained in this document.

2 Grounds for Appeal

2.1 An appeal may only be made on one or more of the following grounds:

2.2 Existing information that could have influenced an accreditation decision, and which due to
circumstances outside the department’s control could not be presented, has subsequently
become available.

2.3 Facts contained in the submission documentation that might affect the accreditation decision
have not been taken into account.

2.4 Evidence exists of administrative, procedural or other irregularity in the conduct of the visit or
the meeting of the ASC at which the decision was reached.

3 Initial Action

3.1 An HEI that wishes to appeal against a decision must write to the Institution within 30 days of
receipt of the decision. The Secretary of the ASC shall establish the facts with the relevant ASC
members and resolve any factual misunderstandings that exist. If the HEI then accepts the
decision the matter will be ended. If the HEI is not satisfied with the decision, or it is found that
there are grounds for an appeal, the matter will be brought before the next ASC meeting for re-
consideration. The HEI will be informed of the outcome, in writing, within five working days of
the meeting.

3.2 If the HEI does not accept the subsequent decision it may lodge an appeal, in writing, with the
Institution within 90 days of the date of the letter informing it of the decision. An appeal will only
be accepted from the Head of Department or Faculty who has responsibility for the relevant
degree subject area. Appeals must be in writing, state the decision concerned and the grounds
for the appeal, in addition to containing an appeal fee of £500 (returnable at the discretion of the
Appeals Committee). Supporting documentation may be included in support of the appeal.

3.3 Normally, appeals submitted outside the specified time scales will be invalid. The appellant may
withdraw the appeal at any stage by submission in writing to the Institution.

4 Receipt of the appeal.

4.1 The Institution will acknowledge the appeal in writing within five working days of its receipt.
The appeal will be considered by the Chair of the Qualifications and Membership Board (QMB)
who will decide whether there is a prima facie case for appeal. Where required, further
information may be sought from the appellant. If it is considered that there is a prima facie case an Appeals Committee will be convened, and the Engineering Council will be notified.

5 The Appeals Committee

5.1 The Appeals Committee is required to examine the case and decide whether it requires the ASC to reconsider its decision. The Appeals Committee will normally meet within six weeks of the receipt of the appeal at the Institution.

5.2 Twenty working days’ notice of the date, time and venue of the meeting of the Appeals Committee shall be given to those required or invited to attend. Notice will be sent to the appellant by recorded delivery to the address given on the notice of appeal.

5.3 The Appeals Committee shall consist of persons who have no direct involvement with the ASC or the HEI involved. The membership will be:

- Two members of the QMB nominated by the Chair of the QMB, one nominated as Chair
- A member of the Professional Review Committee nominated by the Chair of the Professional Review Committee
- A Member or Fellow of the IMechE who is not one of the above
- An external representative (e.g. representative of another engineering professional body)

5.4 A quorum of the Appeals Committee will be four members (must include the external representative). The appointed Secretary to the Appeals Committee will have no vote and will not count as part of the quorum.

5.5 Papers for the meeting will be sent to members of the Committee and the persons required or invited to attend no later than five working days before the date of the meeting. The papers will include the appellant’s letter of appeal together with any supporting documentation and information provided by the ASC concerning the original decision. Additional papers may only be tabled at the meeting with the prior approval of the Chair of the Appeals Committee.

5.6 The HEI making the appeal must be represented at the meeting (maximum of two representatives) and must notify the Institution of the names and appointments of the persons attending. If the appellant is not represented at the meeting, the Chair is satisfied that the notice of the meeting was duly and correctly sent and there being no extenuating circumstances the appeal will be dismissed. Normally the ASC shall be represented by the Chair (or nominee) and another who would normally be the Chair of the team which visited that HEI.

5.7 The following procedure will normally be followed:

- Preliminary private discussion by the Appeals Committee
- Evidence from the appellant
- Evidence from the ASC representatives
- Joint question and answer session (if required)
- Private deliberations by the Appeals Committee

5.8 All decisions of the Appeals Committee shall be by majority vote of the members. In the event of the vote being tied, the Chair will have a casting vote.

5.9 The proceedings of the Appeals Committee shall be confidential to the Committee and the Secretary, except that when an appeal is upheld relevant records of the meeting will be made available to the ASC to assist their further deliberations.
6 Procedure after the Appeals Committee meeting

6.1 Once a decision has been made the ASC will be informed. If an appeal is upheld the Appeals Committee will normally require the ASC to reconsider its decision. The ASC shall consider the matter at its next scheduled meeting, giving due attention to the comments, recommendation and any other information provided by the Appeals Committee. The ASC will confirm its original decision or make such adjustments as, in the circumstances, seem just and inform the Chair of QMB of the outcome.

6.2 Where the original decision is confirmed the Chair of the QMB may, if in his or her opinion due and proper account has not been taken of the Appeals Committee’s findings, refer the matter to the QMB. The QMB has the authority to uphold or annul the decision of the ASC.

6.3 Once the QMB has reached a decision the appellant will be informed, in writing, of the decision within five working days of the meeting. Where time delays occur because of scheduled meeting dates, the appellant will be kept informed of progress. There is no further right of appeal to the Institution and no further correspondence will be entered into regarding the appeal. The Engineering Council will be notified of the decision.

7 Procedure to be followed in the event of an appeal being dismissed.

7.1 If the appeal is not upheld the appellant will be informed of the outcome, in writing, within twenty working days of the meeting. There is no further right of appeal to the Institution and no further correspondence will be entered into regarding the appeal. The Engineering Council will be notified of the decision.

7.2 In the event of an unsuccessful appeal, appellants have the right to appeal directly to the Engineering Council.

8 Confidentiality

8.1 It is a requirement of all those involved that all information relevant to the appeal be treated as confidential. Once an appeal has been accepted there should be no communication of any sort on the subject of, or subjects with a direct influence on, the appeal between interested parties and members of the Appeals Committee.
The Appeals Process Flowchart

1. IMechE receives appeal from HEI

2. IMechE Staff consult Accreditation Visit Panel and attempt to resolve any factual misunderstanding

3. HEI satisfied with Visit Panel response?
   - Yes: No further action required, and appeals process ends
   - No: Appeal referred to ASC to reconsider original decision

4. HEI accept ASC decision?
   - Yes: No further action required, and appeals process ends
   - No: HEI decide whether to make formal appeal

5. HEI decide whether to make formal appeal?
   - Yes: Formal appeal made?
     - Yes: Staff confirm receipt of appeal and forward information to QMB Chair to establish if HEI has valid grounds to appeal
     - No: HEI informed and appeals process ends
   - No: No further action required, and appeals process ends

6. QMB Chair validates claim?
   - Yes: IMechE convene Appeals Committee and EngC informed
   - No: HEI informed and appeals process ends
Appeals Committee meet with HEI representative in attendance to examine case and decide if ASC needs to reconsider its decision

ASC informed of Appeal Committee's decision and asked for formally reconsider original decision at next ASC meeting

ASC reconsider original decision and make its final decision

Appeal upheld?

Yes

ASC confirms decision

QMB Chair informed of decision

Original decision upheld

Decision changed

QMB Chair referred to QMB decision

Yes

QMB makes final decision to either uphold or annul ASC decision

HEI is notified of final QMB decision

Appeals process ends

No

HEI and ASC informed, and appeals process ends

QMB Chair informed of decision

Yes

HEI informed and appeals process ends

QMB Chair informed of decision
APPENDIX F
FRAMEWORK OF RESPONSIBILITIES IN ACCREDITATION.

Clear and open communications are essential if the potential benefits of accreditation are to be fully realised and the process is to operate smoothly. To assist this, the Institution has developed the following framework of responsibilities for the parties involved in accreditation.

IMechE’s accreditation teams and staff are responsible for:

- ensuring that the policies and procedures are promulgated widely and consistently applied;
- ensuring that Higher Education Institutions are well-informed and prepared for the visit;
- pursuing only data and information necessary to judge whether accreditation criteria are met;
- focusing on financial and other resources only to the extent that they affect compliance with accreditation criteria;
- keeping institutional executives appropriately informed at all stages of the process;
- communicating consistent and accurate information at all stages of the process;
- identifying and disseminating good practice while recognising the need for appropriate confidentiality; and
- providing opportunities for objective review and resolution of differences should any arise during the accreditation process.

Higher Education Institutions are responsible for:

- carefully studying the relevant IMechE criteria, policies and procedures;
- providing clear, accurate and complete information in applications for accreditation and all associated paperwork;
- providing QAA degree programme specifications for degrees submitted for accreditation;
- committing key staff (academic and administrative) to the accreditation process;
- informing IMechE of the reasons why accreditation is being sought, in the context of institutional and programme aims and strategic direction; and
- providing constructive information in a timely manner if there are concerns or difficulties that emerge during the accreditation process.

Both parties are responsible for:

- providing for candid and constructive evaluation of the accreditation process;
- ensuring open exchange if issues and concerns are identified by any party; and
- encouraging flexibility, openness and co-operation in considering potentially beneficial variations of accreditation review.
APPENDIX G
EXAMPLES OF DEGREES THAT THE IMECHE WILL CONSIDER FOR ACCREDITATION.

The list is not exhaustive and there may be many others that have not been included here. It includes the range of programmes already accredited by the IMechE as well as many that have not previously been accredited by this Institution:

- Aerospace/Aeronautical
- Automation and Control
- Automotive Engineering
- Biomedical and Bioengineering
- Building Services Engineering
- Design Engineering, Product Design and Computer Aided Design
- Energy Engineering
- Environmental/Sustainable Engineering
- Food Engineering
- General Engineering
- Integrated Engineering
- Manufacturing and Manufacturing Systems Engineering
- Materials Engineering
- Mathematical Engineering
- Mechanical Engineering
- Mechatronics
- Medical Engineering
- Micro-Electronic and Mechanical Engineering (MEMS)
- Nanotechnology
- Nuclear Process Engineering
- Ocean and Offshore Engineering
- Process Engineering
- Railway Engineering
- Robotics and Cybernetics
- Sports Engineering
- Structural Engineering
- Transportation Engineering

Many IMechE accredited degrees, or those suitable for accreditation, also have management, business, industrial experience or Language in their titles.
APPENDIX H
APPLICATION FORMS FOR DEGREE ACCREDITATION.

- **Initial Assessment Form** or ‘IAF’ must be completed if you are a University Department/School which seeks IMechE accreditation for the first time. Two versions of this Form exist: one for UK visits and one for International visits.

  Microsoft Excel Form **IMechE/OSV5: Output Standards Matrix** must be completed and submitted with either version of the above application forms to demonstrate an overview on where learning outcomes are delivered in the programmes.

  These forms are to be used for all IEng and CEng submissions for both undergraduate and postgraduate degrees.

- **Submission for Accreditation Form**, often referred to as the ‘Main Submission’ must be completed if you are a University Department/School applying for re-accreditation or have been granted permission by the IMechE to undertake an accreditation visit for formal consideration of your degree programmes following approval of your ‘IAF’.

  Microsoft Excel Form **IMechE/OSV5: Output Standards Matrix** must be completed and submitted with this submission form to demonstrate an overview on where learning outcomes are delivered in the programmes.

  When completing the Submission for Accreditation you will also need to complete forms **IMechE/OS/OS-WV: Laboratory/Hands-on Experience Details** and **IMechE/OSV5: Methods of Assessment**. This form is to be used for all IEng and CEng submissions for both undergraduate and postgraduate degrees.

- **Request for accreditation without a visit Form**, or ‘Form RAWV’ must be completed if you are a University Department/School which has IMechE accredited degree programmes and seeks approval outside of the standard 5 year accreditation cycle to either:
  
  - Propose changes to an accredited programme; or
  - Request accreditation of a new degree which has significant commonality (minimum of 75%) with an accredited programme.

  Requests for any proposed changes to an accredited programme will be limited to this one form, however requests for the accreditation of a new degree may necessitate the completion of Form OS-WV to allow the Institution to conduct a thorough audit of the programmes being put forward for accreditation.

  Microsoft Excel Form **IMechE/OSV5: Output Standards Matrix** must be completed and submitted with this form for both the existing programme and new/revised programme to demonstrate an overview on where learning outcomes are delivered in the programmes. Form **IMechE/OS-WV: Comparison Table** will also need to be completed.

- **Submission for accreditation without a visit Form**, or ‘Form OS-WV’ must be completed if your University Department/School has completed Form RAWV and has been granted permission by the IMechE Academic Standards Committee to proceed with completing a full submission for formal consideration of accreditation of a new programme without a visit where sufficient commonality exists with an existing accredited degree. This submission comprises the final part of the two stage application process.
Microsoft Excel Form **IMechE/OSV5: Output Standards Matrix** must be completed and submitted with this submission form for both the existing programme and new programme to demonstrate an overview on where learning outcomes are delivered in the programmes.

When completing the Submission for Accreditation you will also need to complete forms **IMechE/OS/OS-WV: Laboratory/Hands-on Experience Details** and **IMechE/OSV5: Methods of Assessment**. This form is to be used for all IEng and CEng submissions for both undergraduate and postgraduate degrees. Form **IMechE/OS-WV: Comparison Table** will also need to be completed.

- **Submission for extending accreditation**, or ‘Form REDA’ must be completed if your University Department/School is applying to extend accreditation of its degree programmes by one academic year beyond the maximum five year period of accreditation. Under Engineering Council regulation, the IMechE Academic Standards Committee is permitted to extend accreditation by one additional cohort in exceptional circumstances.

Requests for extension beyond one academic year require subsequent approval from the Engineering Council’s Registration Standards Committee. The Registration Standards Committee reserve the right to decline any request to extend accreditation and any decision made by the Registration Standards Committee is final and overrules any decision made by the Academic Standards Committee. For such requests beyond one academic year, additional documentation must be completed. Please contact the Institution prior to completing this Form should this be applicable to your University Department/School.

Microsoft Excel Form **IMechE/OSV5: Output Standards Matrix** must be completed and submitted with this submission form to demonstrate an overview on where learning outcomes are delivered in the programmes.

If you require a copy of any of the documents listed, or if you are not sure which document applies to you and require more information, please contact us at uniaccreditation@imeche.org. All documents listed are also available to download from the IMechE website at [http://www.imeche.org/membership/employers-and-accreditation/university-accreditation](http://www.imeche.org/membership/employers-and-accreditation/university-accreditation).
APPENDIX I
LOCATION OF STUDY.

Following consultation with Professional Engineering Institutions (PEIs) throughout 2017 the Engineering Council has published new guidance which outlines the requirements placed on universities to ensure the location of study is clearly identifiable where an accredited degree programme is delivered at multiple campus locations. This guidance has been developed in response to the growing number of UK universities having arrangements with external organisations, which has made it increasingly difficult for PEIs to determine the location of where a degree programme has been completed when an applicant comes to apply for membership and professional registration.

Where a university seeks accreditation of a degree programme which is delivered at multiple campus locations – including through franchise or partnership arrangements – the IMechE must be invited to visit all locations involved in the delivery of the programme, or otherwise be informed of all campus locations for which accreditation is not being sought. An accreditation visit is usually required to each campus location for which programme accreditation is sought to enable the IMechE to consider evidence from a range of indicators including human, physical and material resources, and meeting(s) with students. Should the programme be delivered at more than one campus location then students will only be considered to have completed an accredited programme if they have completed it at the campus location for which the accreditation has been confirmed.

Equally, universities involved in the delivering and/or awarding of degree programmes delivered on multiple campus locations must either secure accreditation of their degree programmes in all locations, or make it absolutely clear in any material referring to the programmes where such programmes have not been accredited. It is especially important for degree programmes which share the same title, and which are delivered on multiple campus locations to be clearly differentiated from one another should accreditation not be sought at all locations. If the IMechE believe that a university is not being sufficiently clear in regard to the non-accredited status of franchised degree programmes and/or degrees delivered through collaborative partnership(s) and/or at different campuses, then accreditation may subsequently be withdrawn or refused.

To ensure the location of study of an applicant’s degree programme is clearly identifiable the IMechE has updated its processes for reviewing academic qualifications. Effective immediately, any university seeking IMechE accreditation will now be required to clearly present the location of study of each degree awarded on the degree transcript. The degree transcript, in addition to an authenticated copy of their degree certificate must then be supplied by the applicant when seeking IMechE membership and professional registration. Applicants seeking IMechE membership and professional registration who hold an IMechE accredited degree but cannot provide satisfactory evidence of the location of study will no longer be automatically recognised as accredited and will instead have their academic qualifications assessed by the Institution’s Academic Assessment Committee (AAC).
APPENDIX J
COMPENSATION AND
CONDONEMENT GUIDANCE.

This Guidance Note should be read in conjunction with the Engineering Council policy on Compensation and Condonement. It supplements the information provided in the policy and illustrates how the limits on compensation apply in practice. This guidance does not replace or materially alter the Compensation and condonement policy.

Extracts from the policy are shown in bold.

The Engineering Council defines compensation as: “The practice of allowing marginal failure (i.e. not more than 10% below the nominal pass mark) of one or more modules and awarding credit for them, often on the basis of good overall academic performance.”

The Engineering Council defines condonement as: “The practice of allowing students to fail and not receive credit for one or more modules within a degree programme, yet still qualify for the award of the degree.”

The policy sets out the following requirements for the use of condonement and compensation. These limits are absolute, and no discretion is permitted on the part of Professional Engineering Institutions or accreditation visit panels.

1. Evidence that all AHEP learning outcomes are met by all variants of each programme must be provided before accreditation can be granted.

The mapping of modules against the prescribed learning outcomes for the level of accreditation sought must demonstrate that a graduate from an accredited degree will have met all of the required learning outcomes irrespective of any optional modules selected. The AHEP learning outcomes must be summatively assessed.

2. No condonement of modules delivering AHEP learning outcomes is allowed.

No condonement is allowed for core or optional modules that contribute to the delivery of AHEP learning outcomes. Hence condonement is allowed only for modules not directly related to the study of engineering, for example a modern foreign language.

3. A maximum of 30 credits in a Bachelors or integrated Masters degree programme can be compensated, and a maximum of 20 credits in a Masters degree other than the integrated Masters degree.

The limits placed on the use of compensation are set out in the policy and apply to the programme of study presented for accreditation. The credit limits on compensation apply to all academic credit conferred by the degree provider as part of the programme of study, including any credit conferred through a partnership arrangement, dual award etc. Any compensation of academic credit awarded by a different provider but used to gain entry to the programme with advanced standing, for example direct entry to the second year, does not count towards the limit. For direct entry students, entering a later year of a Bachelors or integrated Masters degree programme, 30 credits of compensation is permitted. For MSc programmes carrying greater than 180 credits, 20 credits of compensation is permitted, regardless of the number of credits carried by the overall programme.
### Compensation limits for degrees in Scotland

<table>
<thead>
<tr>
<th>Level</th>
<th>Bachelors (Ordinary)</th>
<th>Bachelors (Honours)</th>
<th>Integrated Masters</th>
<th>Masters degree other than the Integrated Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Maximum 30 credits of compensation allowed for the programme of study</td>
<td>Maximum 30 credits of compensation allowed for the programme of study</td>
<td>Maximum 30 credits of compensation allowed for the programme of study</td>
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<td>9</td>
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<td>10</td>
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<tr>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td>Maximum 20 credits of compensation allowed for the programme of study</td>
</tr>
</tbody>
</table>

### Note

- Any compensation at Level 7 in Scotland is not included in the overall credit limit on compensation. This will help ensure the compensation limits placed on degree programmes in Scotland are proportionate to those in the rest of the UK. Also, students joining the second year of a degree programme with Advanced Highers will be treated no more or less favourably than students joining the first year of the programme having completed Highers.
- Any compensation received on an Access or Foundation year/programme is not included in the overall credit limit on compensation.
## Compensation limits for degrees in England, Wales and Northern Ireland

<table>
<thead>
<tr>
<th>Level</th>
<th>Foundation Degree/Top up Degree</th>
<th>Bachelors and Bachelors (Honours)</th>
<th>Integrated Masters</th>
<th>Masters degree other than the Integrated Masters</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Maximum 30 credits of compensation allowed for the programme of study</td>
<td>Maximum 30 credits of compensation allowed for the programme of study</td>
<td>Maximum 30 credits of compensation allowed for the programme of study</td>
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</tr>
<tr>
<td>5</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Maximum 10 credits of compensation allowed for the programme of study</td>
<td></td>
<td></td>
<td>Maximum 20 credits of compensation allowed for the programme of study</td>
</tr>
<tr>
<td>7</td>
<td></td>
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</tr>
</tbody>
</table>

**Note**

- Any compensation received on an Access or Foundation year/programme is not included in the overall credit limit on compensation.

4. **Major individual and group-based project modules must not be compensated.**

Major projects are an important part of an engineering degree programme and typically make a significant contribution to the delivery of AHEP learning outcomes.

5. **The minimum module mark for which compensation is allowed is 10% below the nominal module pass mark (or equivalent if a grade-based marking scheme is used).**

Compensation is permitted only when the overall module mark is ten percentage points below the nominal module pass mark. For example, in the case of a normal module pass mark of 40%, compensation is permitted only when the overall module mark is between 30% and 39%.

The key consideration in the rules above is to ensure that graduates of accredited engineering degree programmes have met all the programme learning outcomes specified in the Engineering Council’s AHEP (Accreditation of Higher Education Programmes) specification.
These requirements will apply to all students joining the first year of an accredited degree programme from September 2022. There is no requirement or expectation that assessment regulations will be changed for students who enrolled on an accredited degree programme before this date. A phased implementation will be allowed whereby new accreditations must comply from the 2022 implementation date, but existing accreditations will be allowed to continue as they were but must align from the point of reaccreditation. For accreditation visits from September 2019 until September 2022 HEIs will have the option to either change their regulations to conform with the current guidance and then change them again to conform to the new rules by September 2022, or to change their regulations straight away to comply with the new rules in advance of their enforcement.

Case Studies

The following examples illustrate the practical application of the Compensation and condonement policy:

**Example 1** - A Bachelors (Honours) programme delivered by a provider in Scotland

The programme assessment regulations allow compensation as follows:

- Level 7: Up to 40 credits
- Level 8: Up to 20 credits
- Level 9: No compensation
- Level 10: No compensation

The normal module pass mark is 40% and a module can only be compensated if the overall module mark is 30-39%.

This example conforms with Engineering Council policy as compensation at Level 7 does not count towards the overall limit of 30 credits for the programme. Total compensation is limited to 20 credits for the final three years of the degree programme and the minimum compensatable module mark is within 10 percentage points of the nominal module pass mark.

**Example 2** - A Bachelors (Honours) programme delivered by a provider in England, Wales or Northern Ireland

The programme assessment regulations allow compensation as follows:

- Level 4: Up to 15 credits
- Level 5: Up to 15 credits
- Level 6: No compensation

The normal module pass mark is 40% and a module can only be compensated if the overall module mark is 30-39%.

This example conforms with Engineering Council policy as compensation is limited to 30 credits for the degree programme and the minimum compensatable module mark is within 10 percentage points of the nominal module pass mark.

**Example 3** - A Bachelors (Honours) programme delivered by a provider in England, Wales or Northern Ireland

The programme assessment regulations allow compensation as follows:

- Level 4: Up to 20 credits
- Level 5: Up to 20 credits
- Level 6: No compensation

The normal module pass mark is 40% and a module can only be compensated if the overall module mark is 35-39%.
This example does not conform with Engineering Council policy. The allowable compensation of 40 credits is higher than the permitted use of compensation across the programme and the specification of a higher minimum module mark (35%) for compensation does not allow any increase to the 30 credit limit for the degree programme.

**Example 4** - An Integrated Masters programme delivered by a provider in England, Wales or Northern Ireland

The programme assessment regulations allow compensation as follows:

- Level 4: Up to 15 credits*
- Level 5: Up to 15 credits*
- Level 6: Up to 15 credits*
- Level 7: Up to 15 credits*

*The regulations further state that a student can be compensated in a maximum of 30 credits during the course of their studies.

The normal module pass mark is 40% and a module can only be compensated if the overall module mark is 30-39%.

This example conforms with Engineering Council policy as compensation is limited to 30 credits for the degree programme and the minimum compensatable module mark is within 10 percentage points of the nominal module pass mark, however it places a requirement on the degree provider to track any compensation applied to individual students across their programme of study.

**Example 5** - An Integrated Masters programme delivered by a provider in England, Wales or Northern Ireland

The programme assessment regulations allow compensation as follows:

- Level 4: No compensation
- Level 5: No compensation
- Level 6: No compensation
- Level 7: Up to 30 credits

The normal module pass mark is 40% and a module can only be compensated if the overall module mark is 30-39%.

This example conforms with Engineering Council policy as compensation is limited to 30 credits for the degree programme and the minimum compensatable module mark is within 10 percentage points of the nominal module pass mark.

**Example 6** - A Masters degree other than the Integrated Masters delivered by a provider in England, Wales or Northern Ireland

The programme assessment regulations allow compensation as follows:

- Level 7: Up to 20 credits

The normal module pass mark is 50% and a module can only be compensated if the overall module mark is 40-49%.

This example conforms with Engineering Council policy as compensation is limited to 20 credits for the degree programme and the minimum compensatable module mark is within 10 percentage points of the nominal module pass mark.
**Example 7** - A Foundation degree and associated Top-up degree programme delivered by a provider in England, Wales or Northern Ireland

The programme assessment regulations allow compensation as follows:

**Foundation degree:**

Level 4: No compensation  
Level 5: Up to 20 credits

**Top-up degree:**  
Level 6: Up to 20 credits

In both awards, the normal module pass mark is 40% and a module can only be compensated if the overall module mark is 30 - 39%.

In this example, the Foundation degree conforms with Engineering Council policy as compensation is limited to 20 credits and the minimum compensatable module mark is 10 percentage points below the nominal module pass mark.

However, the Top Up qualification does not conform to Engineering Council policy as the maximum compensatable credit for this qualification is limited to 10 credits.
APPENDIX K
VISIT PROTOCOL.

If visiting a new School/Dept, Uni sends in International Initial Assessment Form (IAF)

Visit date agreed and IMechE send full submission documentation to University

IMechE receive documentation 12 weeks before confirmed visit date.

Visit panel members commence accreditation Process

Visit to University

IMechE draft Visit Report and send to University

IMechE receive factually checked Visit Report and Action Plan response from University; submit to ASC to consider accreditation

Once accreditation agreed, ASC decision letter and Accreditation Certificate sent to University

IAF sent to Academic Standards Committee (ASC) to confirm if visit is appropriate.

Visit and submission dates confirmed to University; IMechE recruit Visit Panel.

Visit Panel members confirmed and areas to discuss on visit identified.

Visit schedule confirmed and accreditation history, hotel details, maps, etc. distributed to Panel.

Visit panel to meet students & staff, view facilities and check additional documentation

Panel members to amend draft report & University to check report for Factual Accuracy

IMechE and Engineering Council databases updated.
APPENDIX L
ACCREDITATION AND COVID-19.

Statement on Accredited Programme Delivery and Assessment 2019/20

The I MechE is aware that Higher Education Institutions offering accredited degrees may need to adjust the
delivery and assessment of their programmes temporarily due to the current outbreak of the Coronavirus
(COVID-19). The Institution will support any alternative plans you put in place to deliver and assess AHEP
learning outcomes in these circumstances, for example by use of online delivery or alternative assessment.

AHEP learning outcomes are normally covered in multiple courses/modules, including projects. Therefore,
changes to part of a programme will not necessarily affect the overall achievement of the learning outcomes.
When deciding which elements of course delivery or assessment to adjust, please be mindful of changes that
might affect overall delivery and assessment of learning outcomes in the programme. The key consideration for
accreditation is that all graduates of the programme achieve all the AHEP learning outcomes at the specified
level.

The Institution does not need to review minor changes you may need to make quickly in advance of their
implementation, for example the suspension of an optional module which does not make a significant
contribution to the achievement of AHEP learning outcomes, but will require a retrospective report on the
effects of the changes and how their impact has been mitigated. The Institution therefore asks that you keep a
record of measures you have taken for review as part of the next accreditation exercise.

If significant changes to the programmes are required, then the Institution must be notified immediately.
Examples as to what constitutes a major change include:

- changes to compensation regulations
- the substitutions of modules
- discontinuation of a module
- loss of a critical resource

Should interruption to programme delivery lead to a reduced number of credits or award of the degree without
completing a project, evidence must be provided to the Institution that clearly demonstrates that all graduates
have achieved all of the AHEP learning outcomes at the applicable level taking account of the changes.

Above all, the Institution is mindful of the safety of your staff and students and hopes this statement provides
reassurance that any temporary changes to programme delivery will be dealt with sympathetically.

Should you have any questions please contact uniaccreditation@imeche.org.

12 March 2020
Statement on Academic Accreditation and Covid-19 for 2020/21

The IMechE is aware that Higher Education Institutions (HEIs) offering accredited degrees may need to continue to adjust the delivery and assessment of their programmes temporarily during the 2020/21 academic year. The Institution remains supportive of any alternative plans you put in place to deliver and assess AHEP learning outcomes in these circumstances.

AHEP learning outcomes are normally covered in multiple modules, including projects. Therefore, changes to part of a programme will not necessarily affect the overall achievement of the learning outcomes. When deciding which elements of delivery or assessment to adjust, please be mindful of changes that might affect overall delivery and assessment of learning outcomes in the programme. The key consideration for accreditation is that all graduates of the programme achieve all the AHEP learning outcomes at the specified level.

The Institution asks that consideration is given to key aspects of its accredited degree programmes to ensure that graduate outcomes meet the broader requirements of the mechanical engineering profession and it encourages innovative approaches to ensure that the impact on student learning is minimised. Any changes made should seek to reduce this impact by undertaking, for example, more focused practical work and ensuring students still have opportunities to gain significant hands-on experience despite the limitations of current circumstances. Further details of these key aspects are given in Appendix 1.

The Institution does not need to review minor changes made in advance of their implementation, for example the suspension of an optional module which does not make a significant contribution to the achievement of AHEP learning outcomes, but will require a retrospective report on the effects of the changes and how their impact has been mitigated. The Institution therefore requires that you continue to keep a record of measures you have taken during the 2020/21 academic year by completing the Engineering Council’s Impact Report provided along with this statement for review by the Institution at a later date. Please refer to Appendix 2 to for more information.

The Impact Report has been developed to meet the requirements of all Professional Engineering Institutions and must also be completed for changes enforced by Covid-19 during the 2019/20 academic year. The Institution requires that the 2019/20 academic year Impact Report be completed and returned by no later than 18 December 2020.

If significant changes to the programmes are required that affect the AHEP learning outcomes of graduating students, including any temporary measures adopted in the 2020/21 academic year which HEIs plan to become permanent, then the Institution must be notified immediately. Some examples as to what constitutes a major change include:

- changes to compensation regulations that fall outside of Engineering Council requirements
- the substitution of core modules
- discontinuation of a core module
- loss of a critical resource

It is expected that in the 2020/21 academic year, should interruption to programme delivery lead to a reduced number of credits or award of the degree without completing a project, evidence must be provided to the Institution as part of the completed Impact Report that clearly demonstrates that all graduates have achieved all of the AHEP learning outcomes at the applicable level taking account of the changes.

Above all, the Institution is mindful of the safety of your staff and students and hopes this statement provides reassurance that any temporary changes to programme delivery will be dealt with sympathetically. The Institution will issue updated guidance for the 2021/22 academic year at a later date should it be deemed necessary.
Should you have any questions please contact uniaccrreditation@imeche.org.

29 June 2020
Appendix 1

The Institution is not prescriptive on how Higher Education Institutions (HEIs) should deliver or assess IMechE-accredited degree programmes or meet the necessary AHEP learning outcomes; however, the Institution does publish the IMechE Academic Accreditation Guidelines which outline the general expectations of an IMechE-accredited degree programme along with any key requirements of accreditation.

This appendix details the Institution’s expectations on key aspects of an IMechE-accredited degree programme during the 2020/21 academic year and contains additional guidance to support HEIs during these uncertain times. The Institution recognises that current circumstances have provided HEIs with opportunities to innovate and therefore this additional guidance is not designed to be exhaustive.

Programme Delivery

It is important that HEIs maintain engagement with all students and carefully manage the transition from the usual on-campus environment to alternative delivery methods. Key elements of degree programmes such as engineering project weeks and first year induction activities which give early exposure to practical and industrial engineering should not be lost.

HEIs may wish to consider supplementing large and online lectures with additional support, such as more tutorials. This is particularly important for those enrolling into Year 1 from the 2020/21 academic year as it will be critical to engage the new students, many of whom will have been out of the education system since March. It is likely that more small group sessions will be needed rather than relying on asynchronous (recorded or purely online) material, which may be appropriate for returning students who are familiar with this method of delivery. Even then, face-to-face engagement is still necessary so HEIs should look to hold small group sessions where possible rather than opting to move all programme delivery online.

Any changes to programme or module delivery must ensure that all AHEP learning outcomes are still met by all students. Any rationalisation of modules should still allow for the AHEP learning outcomes to be achieved. HEIs should ensure they continue to inform students of any changes and consult with existing students to ensure adherence to the Competition and Markets Authority requirements.

Students

Whilst it is expected that students on an IMechE-accredited degree programme will be present on campus during the 2020/21 academic year, the health and safety of all students must be the priority in any decisions made by HEIs. As such, the Institution acknowledges that some students may be unable to return to continue or complete their studies and may therefore have to study online.

HEIs must take account of the needs of vulnerable students in addition to those students who are not present on-campus. In such instances the Institution expects that appropriate additional support and resources are provided by HEIs, particularly for students from disadvantaged groups, to ensure they have equivalent access to digital and study support facilities. Student welfare and well-being must be adapted to provide appropriate support for more online learning and HEIs should ensure that measures are put in place to continue to deliver a high-quality student experience.

Some examples of appropriate mitigating measures that HEIs may wish to consider include:

- Providing students who are not able to be on campus with appropriate digital resources to enable them to access and use the resources that students on campus use. This could be provision of a laptop and internet connections.
- Take appropriate measures not to disadvantage students who are in different time zones, by careful scheduling and recording of activities.
- Consider promoting deferral as an alternative option for students who are unable to take advantage of on-campus activities.
Assessment
The Institution understands that there is likely to be an increase in online assessment with many HEIs considering innovative forms of alternative assessment. Should these methods be utilised then it is expected that HEIs will take steps to ensure that standards are maintained, that each individual student’s ability is robustly examined and that there is confidence that the AHEP learning outcomes are being assessed and met.

Practical and face-to-face aspects of assessment should be retained as far as possible, particularly in major projects and HEIs should only consider replacing these assessments with non-practical alternatives if module AHEP learning outcomes can still be satisfied.

Assessment formats must ensure that students are assessed fairly whilst maintaining academic integrity and avoiding misconduct. Where virtual assessments have been developed in response to the pandemic, HEIs should consider the potential for digital poverty and geographical access issues. Above all, students must be supported to ensure that none are disadvantaged by online assessment.

The Institution does not require that HEIs conduct unseen examinations, however it is acknowledged that many do rely on this assessment format. Some examples of appropriate alternative assessment strategies that HEIs may wish to consider include:

- Online examinations with remote invigilation
- Online timed examinations using appropriate software to maintain academic integrity
- Smaller exams or online tests throughout the year rather than larger ones at the end of the year
- Online student presentations and vivas.
- Longer, un-invigilated assessments designed to avoid collusion/plagiarism.

Practical Work, Group Work and Projects
All students should get the maximum possible time in laboratories as is practical under present circumstances for hands-on exercises to ensure the appropriate AHEP learning outcomes continue to be met. The Institution recognises that this may be less than usual given the need for social distancing measures. In mitigating reduced practical contact time, HEIs are expected to adapt activities and take innovative approaches to provide the most meaningful student involvement and experience. Should circumstances dictate that it is not possible for students to return to campus then HEIs are encouraged to offer students the opportunity to gain this experience remotely with efforts taken to ensure it offers an equal student experience. If this is not possible, then HEIs should consider deferring some of the practical elements to later in the academic year, over the summer or even to the next academic year.

The Institution expects that group project work will still take place with students encouraged to use online resources. HEIs are encouraged to consider the use of smaller work group ‘bubbles’, as used in industry, for each term so that a group of students can do tutorials, laboratories and projects together. The Institution recognises that some individual projects may be supervised online. It is expected that these are not reduced to extended literature surveys but that they also contain detailed engineering analysis and evaluation of critical understanding.

Some examples of appropriate mitigating measures that HEIs may wish to consider include:

- Reducing the make content in make and test projects, but with hands-on make activities focused on the key experiences that cannot be delivered by online means. For instance, in a design project only producing part of a prototype rather than the full version or solving developing world problems where equipment and resources are limited.
- Reducing hands-on experience in laboratories but engaging with a live video of demonstrations. For example, one student in a group of 3 or 4 could be present in the laboratory and undertake the experiment and the student attending in person rotates.
• The use of video learning that may be live and interactive.
• Utilising reverse engineering exercises that can be done by students off-campus to observe design principles.
• Making observations of scientific principles that can be done by students off-campus, for example demonstrations that can be done at home.
• Providing students with a kit of parts to undertake design, make and test activities off campus.
• Adopting modern practical collaborative or remote team working tools such as collaborative CAD to enable remote team design and development.
Appendix 2 - On behalf of the Engineering Council

University COVID-19 Impact Reports to accrediting Professional Engineering Institutions

Introduction and Context
The Engineering Council and Professional Engineering Institutions (PEIs) recognise that during the current COVID-19 outbreak and consequent closure of universities and colleges, adjustments to the delivery and assessment of engineering degree programmes are unavoidable.

It is expected that providers of accredited degrees will nevertheless aim to maintain delivery of full programmes. Adjustments may include changes to delivery format, the order in which modules are delivered, assessment methodologies, re-scheduling of learning and assessment into alternative periods, and possibly extension of end dates to enable work that has had to be suspended to be completed and assessed.

It is a condition of accreditation that providers inform accrediting PEIs of any significant changes to programme delivery and assessment. Separate submissions may be needed if mitigation is required for subsequent academic years as these may be significantly different to changes required for 2019/20. If there is anything other than COVID-19 that has had an impact on programmes that needs to be notified to the accrediting PEI(s) this should be included on the same form. Each report should cover the whole academic year and should be submitted after the changes have been implemented and before the start of the next academic year or the next re-accreditation process, whichever is the sooner (for Covid-19 related changes from 2019/20 the deadline is 18 December 2020 for the IMechE). The PEI(s) must then be satisfied that all the AHEP learning outcomes at the required FHEQ/SCQF level will still be achieved by all graduates. Education providers must therefore maintain a fully documented record of changes, which demonstrates how all graduates will achieve the required learning outcomes, and keep accrediting PEIs informed.

The Engineering Council is not prescriptive regarding mode of delivery or assessment etc, although some PEIs may set specific requirements. Where a student is unable to complete a module or project that delivers required Learning Outcomes, the provider will need to set out the alternative mechanisms for assessing the achievement of those outcomes, and/or demonstrate that those particular Learning Outcomes are also achieved in other elements of the programme that have been successfully completed. Please note that where 'no-detriment' rules have been applied it is important that these will not permit a student to graduate with any condoned (failed) modules, or with more compensated modules than accreditation allows.

Engineering accreditation of a degree programme is based on demonstrating that all graduating students achieve the specified threshold standard across all AHEP Learning Outcomes. Engineering Council and PEIs are therefore not concerned with the degree classification or marks awarded to students (as long as they have exceeded the pass threshold), or any adjustment that may need to be made to these to take account of changes to the delivery or assessment of the programme during the current COVID-19 outbreak.

The form below is intended to assist providers in submitting relevant information to the accrediting PEI(s). PEIs may request further information if needed.
## Impact Report Exemplar

Text in red is for example purposes only and indicative of level of detail.

### University Details
- HEI and Department Name
- Contact details (name, email, phone)
1. University of Education, Department of Engineering
2. Dr C Engineer FIET, FIMechE [email], [phone number]

### Impact Report Template

To be completed for each affected programme or group of related programmes e.g. BEng, MEng, MSc, where different programme adjustments may have been necessary for each group.

1. BEngs: Electronic Engineering, Mechanical Engineering, Computer Science
2. MEngs: Electronic Engineering, Mechanical Engineering, Computer Science
3. MScs: Software Engineering, Internet of Things

### Policy Statement

Please provide a policy statement, or a statement of the principles applied by the university or department, explaining how the COVID-19 outbreak has been managed at your institution and how the teaching and assessment arrangements have been modified. This could take the form of one or more revised formal policies and/or official public statements appended to this form, or text entered below. If appending statements please list below. Please keep the number of documents to what you reasonably think the accrediting PEI(s) might need.

List of Policy Statement(s) attached:
1. All University of Education staff emails setting out planned changes to teaching and assessment for the remainder of 2019-20 academic year (February-April 2020)
2. University of Education Teaching committee paper to Senate proposing revised Rules of Assessment for 2020 summer exam cycle (April 2020)
3. University of Education Senate minutes approving variations to University Rules of Assessment for 2020 summer exam cycle (April 2020)

### Summary of Significant Changes

**Summarise** overall changes to delivery and assessment of AHEP LOs across programme content and confirm how overall delivery and assessment of all AHEP LOs has been maintained.

1. BEng/MEng: All modules (including final year major projects) were delivered as originally planned, including practical coursework, but the final coursework assessments were all submitted and marked online (some would have been submitted and marked online normally).
2. MSc: All taught modules (Autumn/Spring terms were delivered as originally planned, including practical coursework, but the final coursework assessments were all submitted and marked online (some would have been submitted and marked online normally). Significant adjustments were required to some MSc major projects to replace (Summer 2020) practical laboratory work with equivalent simulation work and transfer all project assessment processes to online submission and feedback. However, the applicable AHEP LOs continued to be delivered and assessed within these projects.

### Programme and/or Module Content Adjustments
- List any modules or module elements that were unable to be delivered (e.g. due to closure of engineering laboratories or project facilities).
• Which AHEP LOs did these missing elements of the programme cover?
• Where are the AHEP LOs associated with the missing elements covered elsewhere in the programme?
• Are there any required AHEP LOs that were unable to be delivered and/or assessed at programme level as a result of the revised programme delivery and assessment that was deployed during the COVID-19 period?
• If there have been no significant adjustments to programme or module content please state Not Applicable

1. 2019-2020 academic year: no modules unable to be delivered.
2. 2019-2020 academic year: all BEng/MEng modules and AHEP LOs delivered prior to closure of physical access; some changes to assessment of AHEP LOs through replacement of traditional exams with online equivalents; all AHEP LOs still assessed, but with some adjustments (see below).

MSc taught module AHEP LOs delivered prior to closure of physical access; some changes to assessment of AHEP LOs through replacement of traditional exams with online equivalents; all AHEP LOs still assessed, but with some adjustments (see attached assessment policy for details).

MSc major project specifications have had to be revised to enable all practical work to be completed online, involving converting some projects from practical/physical lab work to simulation analysis, but maintaining coverage of the same AHEP LOs; assessment will be unaffected except for project presentations/demonstrations/vivas being conducted by videoconference.

3. N/A
4. No

**Delivery Adjustments**

• List any changes to module delivery and the impact these have had on learning of AHEP LOs.
• List any plans to introduce additional content later in the programme to cover material that was unable to be delivered as planned this year (e.g. workshop training and practice, practical laboratories using specialist facilities, etc).

If there have been no significant adjustments to delivery please state Not Applicable

1. No changes to taught module delivery (BEng/MEng/MSc), except additional time allowed for online submission of final pieces of coursework; no effect on AHEP LOs delivered.
2. N/A, all AHEP LOs delivered for 2019-20

**Assessment Adjustments**

• List any changes made to coursework, project and/or exam assessment arrangements.
• For each assessment change made, identify its impact on the assessment of AHEP LOs.
• Where award of credit for a module has changed due to adjustment of the assessment of the module, or though application of a ‘no-detriment’ provision, clarify whether the AHEP LOs covered by the module are changed or unchanged, and confirm whether any compensation and condonement provisions remain within the limits applicable at the time of accreditation.
• If there have been no significant adjustments to assessment please state Not Applicable.

1. No changes to coursework content (for BEng/MEng/MSc) except that from late Spring term onwards, all coursework (including project assessments) was submitted and assessed online.

All exams were switched from traditional delivery to online delivery; an additional hour for each exam was provided to help students adjust to changed exam arrangements; exam question orders were permuted randomly for each student to minimise opportunities for cheating/collaboration, in line with revised exam policy agreed by University of Education Senate in April 2020.

2. N/A
3. No changes were made to criteria for awarding module credit. In addition, the Compensation limitations agreed at the most recent accreditation visit to the Department continue to be applied in full.

**Any other information**

*If there is any other information that would be helpful to the accrediting PEIs, please give brief details below. For example, did you liaise with external examiners/industry advisory board/partner-providers etc about changes to content/delivery/assessment etc.*

1. External examiner for Electronic and Mechanical Engineering consulted.
2. Liaison with two feeder colleges to regarding changes to delivery and assessment of programmes giving direct entry to final year BEng Computer Science