Open University Top-up BEng (Hons) Q78 advice sheet

This document provides general information about Q78 and the application process. Advice on choosing your optional modules is included in Section 9.

Q78 Qualification Lead
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The Open University

Contents

The Open University

1. How is the top-up BEng (Hons) Q78 different from the BEng (Hons) Q65?

a) Content

Q78 offers a route to BEng (Hons) for students who have completed a vocational qualification such as a Foundation Degree (FD), Diploma of Higher Education (DipHE) or a Higher National Diploma (HND), in engineering or a closely related subject (see section 4). Students accepted onto Q78 will already have successfully completed 240 credits[1] of study and can 'top-up' their qualification to an honours degree by completing an additional 120 credits at OU level 3.

By contrast, Q65 is a standard 360 credit undergraduate degree covering OU levels 1, 2 and 3 which does not require any prior study. The modules available within Q78 are the same as the level 3 modules within Q65, but with a little more flexibility about how they can be combined. An engineering project module is a compulsory component of both qualifications.

b) Further study

Q65 students may opt to transfer to the OU MEng (M04) mid-way through their stage 2 studies. M04 is not available to Q78 students as it is an integrated 480 credit undergraduate degree. Q78 graduates who wish to continue to a higher qualification can study the Postgraduate Diploma in Engineering (E22), which could be followed by the MSc in Engineering (F46).

c) Accreditation

Q78 has been accredited as satisfying the academic requirement for IEng (Incorporated Engineer) with IET, IMechE, IED and IOM3 when combined with the OU Foundation Degree in Engineering (X11). Completion of Q78 also provides a good basis

[1] 'Credits' throughout this document refers to Credit Accumulation and Transfer Scheme (CATS) credits equivalent to OU levels 1 and 2.

for applying for IEng or CEng registration through the individual case procedure, depending on other relevant professional qualifications and experience.

DipHEs are not recognised for accreditation purposes.

Further details regarding professional recognition accreditation can be found on our accreditation page.

2. How to apply for Q78?

Download the Top-up Bachelor of Engineering application form from the 'Entry requirements' section of the Q78 qualification description website, or contact credit-transfer@open.ac.uk and ask for a Q78 application form.

We will ask for details of relevant previous qualifications and a copy of the transcript showing which modules were completed and what results were obtained. If you have completed a BTEC or SQA HNC or HND you do not need to provide syllabus information, but for other qualifications (such as a Foundation Degree offered by a specific University) it is helpful to provide this and it may aid your application. The OU credit transfer centre will check that your qualification was completed within the past 8 years and assign a credit value that is consistent with the OU qualification framework. Then an academic assessor from the engineering programme will look at the content in more detail to check how it matches with Q78 requirements (see section 5). Based on both of these assessments we will advise whether or not you are eligible for direct entry to Q78, and/or whether we can provide 'bridging study' (see section 8) if one or more of the requirements is not met.

3. Why is an entry check required?

Q78 was designed as a top-up to an OU FD/DipHE in engineering or Materials fabrication and engineering and the Q78 learning outcomes are based on the combination of any one of those qualifications together with the level 3 modules in Q78. For applicants with comparable qualifications from other institutions we need to ensure

that the prior study will be sufficient, in combination with the modules that make up Q78, to meet the Q78 learning outcomes. The content of the prior qualification does not need to exactly match that of an OU FD/DipHE, but does need to contain certain elements that will not necessarily be covered within the Q78 modules (see section 5).

4. What qualifications are suitable for direct entry to Q78?

Q78 is intended as a top-up to a completed vocational qualification such as a Foundation Degree (FD) or a Higher National Diploma (HND), in engineering or a closely related subject. The entry qualification needs to be at FHEQ[2] level 5 in England, Wales or Northern Ireland, or SCQF[3] level 8 in Scotland. This corresponds to OU level 2.

If you have already obtained an ordinary degree without honours, or previously studied for a degree such as a BEng (Hons) or MEng but did not complete it, or failed modules and were offered a lower level qualification, we are unlikely to consider your application for Q78. In this case it would be more appropriate to apply for credit transfer for our BEng (Hons) Q65. We would only consider previous honours degree study for entry to Q78 if it included a clear vocational component, and if no substantial level 3 study had been attempted.

Every previous qualification is considered individually: section 5 gives more detail of what is required. It is difficult to give exact guidance since qualifications can vary considerably, but some examples of qualifications where direct entry to Q78 is often approved are BTEC HNDs (QCF[4]) or Foundation Degrees in General engineering, Mechanical engineering, Electrical/Electronic engineering or Building Services engineering. Some qualifications provide a better match with the content of the level 3 modules within Q78 than others (see section 9). Some qualifications, including some

[2] Framework for Higher Education Qualifications
[3] Scottish Credit and Qualifications Framework
[4] Qualifications and Credit Framework

SCQF HNDs and older (SQA/NQF[5]) HNDs, may not meet the credit requirements for Q78 and bridging study may be required. Other examples where bridging study is often required are qualifications in Engineering Systems, Automotive engineering, Civil engineering, Marine engineering.

5. What will the entry check be looking for?

For direct entry to Q78 your prior qualification will need to satisfy the following conditions:

- Your qualification must have been completed within the previous 8 years at the time of application (see section 6).
- The OU credit transfer assessment of your qualification must be at least 240 credits equivalent to OU levels 1 and 2, with a minimum of 120 at the equivalent of OU level 2. Recent FD/ HNDs are most likely to meet this requirement. Applications with a minimum of 180 credits will be assessed for Q78, and up to 90 credits of bridging study may be specified if appropriate (see section 8).
- Accreditation of prior learning or prior experiential learning (APL or APEL) is not currently included in the credit assessment, and credit awarded by condonement or compensation will not be counted.
- Your qualification must include at least 30 credits of explicit maths content. This condition would be satisfied, for example, by passes in both the Pearson BTEC HND units Engineering Maths and Further Mathematics, or equivalent.
- Your qualification must include practical content with a vocational focus. This might take the form of a work-based project, or modules with a clear vocational emphasis.
- Your qualification must include engineering content that provides adequate preparation for the modules available within Q78 (see section 9). The engineering curriculum currently offered by the OU has a bias towards materials, mechanics and design, with more limited options in electronics and other specialist areas. If your previous qualification is in an area that does not match

[5] Scottish Qualification Framework/National Qualification Framework

the curriculum we can offer, your module choice may be very limited and Q78 may not be the best option for you.

- Your previous study must include some evidence of structured engagement with personal development planning (PDP). This condition would be satisfied if a PDP unit is included in your qualification, or non-assessed PDP undertaken as part of your programme of study is also acceptable providing you can supply evidence of this. If we do not find sufficient evidence of PDP in your previous study we will ask you to complete a short PDP unit (see section 7), however this will not stop you from beginning Q78.

6. What time limits apply?

Your previous qualification must have been completed within the last 8 years *at the time of application*. If the next available module start date is slightly outside the 8 year limit you will be able to register, provided you applied within the 8 year limit and started your studies at the earliest available opportunity.

The 120 credits of OU study required to complete Q78 must be completed within 5 years.

If bridging study is required, this must be completed either within the 8 year time limit for the previous qualification, or, for qualifications close to the 8 year limit, within 2 years of the bridging study offer.

7. How can the PDP requirement be satisfied?

If the transcript of your qualification does not include evidence of structured engagement with personal development planning (PDP) we will ask you to complete a short unit on Personal development planning for engineering, which is available from our OpenLearn website. You will be asked to submit responses to activities 3, 5, 8, 10 and 12 (or equivalent exercises from any PDP you have undertaken elsewhere). The unit should take no more than twelve hours to complete and there is no cost. We will contact you with more details if you fall into this category.

8. What is bridging study and why do I need it?

If your previous qualification does not satisfy all the conditions set out in section 5 we are often able to recommend OU modules to fill the gap, which we refer to as 'bridging study'. Successful completion of these modules within the required time frame (see section 6) would then qualify you to register for Q78. The most common reasons for specifying bridging study are either a shortfall in the credit value of the previous qualification, or to fill a gap in subject coverage. We will recommend particular OU modules which will fill the gap and provide the best preparation for the level 3 options available within Q78. The modules most commonly recommended as bridging study are the level 1 module T194 Engineering: mathematics, modelling, applications, where there is insufficient explicit maths content in the previous qualification, or one or more of the level 2 modules offered within the BEng(Hons) Q65. Modules studied on a standalone basis as bridging study are not part of the Q78 qualification and would not be covered by a Q78 tuition fee loan. The Student Support Team (see section 10) can advise on whether there may be other possible funding options.

Bridging study does not have to take the form of OU modules, but it would be advisable to check with us first if you plan to undertake additional external study in order to qualify for Q78.

9. How can I plan my Q78 studies?

You need to study 90 credits from the optional modules listed, followed by the compulsory 30 credit engineering project module T452.
Your choice of optional modules must include at least one of the modules marked with an asterisk, on which your engineering project can be based. Ideally you should complete the module on which you intend to base your project before starting T452 and this is likely to influence the order in which you choose to study the optional modules.

You may not study more than two of the following: TM355, MST368, MS327.

The links below provide more information about the content of each module and some further advice is given here. The list of available modules varies slightly from year to year as modules are updated or new options added, but the overall range of subject areas will stay the same.

Optional modules:

- Electronics: signal processing, control and communications (T312) (30 credits)
- Renewable energy (T313) (30 credits)
- Innovation: designing for change (T317) (60 credits)
- Mechanical engineering: computer aided engineering (T329) (30 credits)
- Environmental management: pathways to sustainability (T330) (30 credits)
- Nanoscale engineering (T366) (30 credits)
- Structural integrity: predicting and assessing performance (T367) (30 credits)
- Deterministic and stochastic dynamics (MS327) (30 credits)
- Mathematical methods and fluid mechanics (MST326) (30 credits)
- Graphs, games and designs (MST368) (30 credits)
- Computational applied mathematics (MST374) (30 credits)
- Communications technology (TM355) (30 credits)

Compulsory module:

- The engineering project (T452) (30 credits)

You will need to think carefully about how much time you have available to devote to your studies. All of the optional modules start in October and are spread over 31 study weeks, finishing in May of the following year. For a 30 credit module you will need to allow about 10 hours a week for your studies, twice this for a 60 credit module. This is a considerable workload and we strongly advise you not to take on more than 60 credits at a time, particularly if you are in full time employment. You can take up to 5 years to complete the modules for Q78 and are far more likely to succeed if you study one (or at most two) modules at a time.

The level 3 modules that make up Q78 are ideally designed to follow on from OU modules at level 1 and 2 and tend to have a core focus on materials, mechanics and design, with additional options in electronics, communications, energy and sustainability, environmental management and mathematical methods. You should choose modules that fit well with your previous studies and may find that you need to do some background reading if there is a significant mismatch. All the optional modules assume some mathematical knowledge and skills, though the mathematical requirements vary considerably. Further information on available level 3 modules, including taster materials in the form of free short courses, are available on the Discover your module page.

Further advice is given below.

- **T312** *Electronics: signal processing, control and communications* you need to have studied electronics previously and be reasonably confident with mathematics. It is designed to follow on from the level 2 OU module T212 Electronics: sensing, logic and actuation and you should check this to see what prior knowledge will be assumed. T312 makes extensive use of interactive software and remote experiments. The T312 Discover your module page has more information, sample content and self-assessment quizzes.

- **T313** *Renewable energy* is a good choice if your previous qualification included general energy studies. You need to be reasonably confident in mathematics but there is no specific pre-requisite study required. T313 includes a technology feasibility assessment of the energy and carbon cost effectiveness of at least three renewable energy technologies and requires a considerable amount of simple spreadsheet modelling. If your previous qualification had a strong focus on renewable energy we would not advise you to take this module as there is likely to be considerable overlap. The T313 Discover your module page has more information, sample content and self-assessment quizzes.

- **T317** *Innovation: designing for change* some previous experience of design is useful, but not essential. If you are interested in design and sustainability issues this is a good module to consider whatever your previous background. A project forms a significant part of the assessment for this module. The T317 Discover your module page has more information, sample content and self-assessment quizzes.

- **T330** *Environmental management: pathways to sustainability* will be of interest if your previous qualification included environmental management (EM). It is a web-based module and focuses on contemporary EM issues, including adapting to the impacts of climate change, protecting biodiversity, and putting global sustainable development goals into practice. It makes use of systems approaches to explore personal, organisational and community responses to complex environmental issues. T330 includes a structured programme of reflective work to develop the knowledge and skills you will need as an environmental manager to respond to this complexity. The module is designed to follow on from the level 2 OU module Environmental management: systems and sustainability (T220) and you should check this before choosing this option, to see what sort of background knowledge will be desirable. The Discover your module page is currently under construction for this new module and will be found on the Discover your module pages.

- **T329** *Mechanical engineering: computer aided engineering* (offered for the first time in 2022) is an excellent choice if your prior qualification focussed on mechanical or aerospace engineering, are reasonably confident with mathematics and looking to learn how CAE software works, what it can do and its limitations. To study this module, you need a grounding in the concepts of stress and strain, dynamic systems, fluid dynamics, differentiation, integration and matrices. The Discover your module page is currently under construction for this new module and will be found on the Discover your module pages.

- **T366** *Nanoscale engineering* (offered for the first time in October 2021) and provides an introduction to the multidisciplinary subject of nanotechnology. There are no specific pre-requisites, but you will be expected to be familiar with concepts from general engineering and basic chemistry and to be reasonably confident with maths. The module includes content on mechanical, electronic and microfluidic devices and could be a good option for students who have prior qualifications in mechanical or electronic engineering. The T366 Discover your module page has more information, sample content and self-assessment quizzes.

- **T367** *Structural integrity: predicting and assessing performance* (offered for the first time in October 2022) is an excellent choice if your prior qualification focussed on mechanical or materials engineering and you are reasonably confident with mathematics. To study this module, you need to understand the concepts of mechanics of materials, which include analytical methods of determining the stresses and strains in engineering structures and their components due to any loads acting on them. These are the essential building blocks for the subject matter covered in T367 and therefore the first two weeks of the study comprise a revision of essential topics. You should also be familiar with structure/property relationships in materials and common failure mechanisms including creep, corrosion and fatigue. You will be expected to apply mathematical principles to solve engineering problems. The assessment for this module includes an EMA, in which students will carry out a failure analysis on a case provided and write a short (3000 words) technical report. Being a new module, T367 unfortunately does not currently have a Discover your module page.

- **TM355** *Communications technology* focuses on the fundamental principles of communications technologies. It is a good choice if your previous study included electronics. You will need a reasonable background in mathematics, including the use of binary numbers to represent digital data, trigonometry, algebraic manipulation and using linear and logarithmic graphs. You should

be familiar with the distinction between analogue and digital data. The assessment for this module includes an exam. The TM355 Discover your module page has more information, sample content and self-assessment quizzes.

- **MS327** *Deterministic and stochastic dynamics* you will need a good knowledge of applied mathematics including differential equations and some mechanics. You can check you're ready for MS327 and see the topics it covers here. You are strongly advised to try the MS327 self-assessment quiz before choosing this module, to check whether you have the necessary mathematical background. The assessment for this module includes an exam. The MS327 Discover your module page has more information, sample content and self-assessment quizzes.

- **MST326** *Mathematical methods and fluid mechanics* requires a very high level of mathematical ability. You will need to have a sound knowledge of ordinary differential equations, vector calculus, multiple integrals, basic particle mechanics and some knowledge of partial differential equations and Fourier series. You can check you're ready for MST326 and see the topics it covers here. You are strongly advised to try the MST326 self-assessment quiz before choosing this module, to check whether you have the necessary mathematical background. A revision booklet containing worked examples and exercises will help you prepare. The assessment for this module includes an exam. The MST326 Discover your module page has more information, sample content and self-assessment quizzes.

- **MST368** *Graphs, games and designs*
  Before taking MST368, you should be confident in algebra, functions, geometry, matrices and methods of proof. You could gain these skills for, example, from prior study of *Essential Mathematics 1* (MST124) or *Essential Mathematics 2* (MST125).

You can check your skills using the Are You Ready For quiz. The MST368 Discover your module page has more information and samples of module content.

- **MST374** *Computational applied mathematics*
  Before taking MST374 *Computational applied mathematics*, you should be confident in vectors, matrices, basic calculus, differential equations, partial differentiation, vector calculus and Taylor series. You could gain these skills for, example, from prior study of Stage 2 mathematics modules: *Mathematical Methods, Models and Modelling* (MST210) or *Mathematical Methods* (MST224).

  You can check your skills using the Are You Ready For quiz. The MST374 Discover your module page has more information and samples of module content.

The engineering project module **T452** starts in February and you will be able to choose a project related to one of the optional modules you have studied. You need to take this as your final module and we strongly recommend that you have completed the module you intend to base the project on before starting on T452. Projects are available based on the module options marked with an asterisk in the list above.

10. Where can I get more advice?

If you want to talk to someone about applying for Q78, module choices, funding options, or have any other queries, please contact the Engineering, Design, Environment and Development Student Support Team at EDED-support@open.ac.uk or telephone 01908 541067.

If you are a registered OU student, you will be able to find more information about many of the Q78 options on the Discover your module pages on the engineering subject advisory website.