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

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 fulfilling the educational requirements for IEng by the IET, IED and CIBSE. Q65 offers partial accreditation towards Chartered Engineer (CEng) registration, and M04 has full CEng accreditation.

Visit the Engineering Council's website for details of current accreditation, including qualification specialism requirements and time limits.

The MSc in Engineering is accredited for CEng, provided students have an accredited honours degree. Completion of Q78 provides a good basis for applying for CEng registration through the individual case procedure, depending on other relevant professional qualifications and experience.

[1] 'Credits' throughout this document refers to Credit Accumulation and Transfer Scheme (CATS) credits

2. How to apply for Q78?

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

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 (G17/E55/X11/W11) or Materials fabrication and engineering (G18/E56/X12/W12) 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), a Diploma of HE (DipHE) 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

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

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, Manufacturing 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 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, with at least 120 at the equivalent of OU level 2. Recent FD/DipHE/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 BTEC HND units *Analytical Methods for Engineers* and *Further Analytical methods for Engineers*, 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 a new electronics module available from October 2019. If your previous qualification is in an area that does not match 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, for example, by completion of the BTEC module *Personal and Professional Development* or equivalent. Non-assessed PDP undertaken as part of your programme of study is also acceptable

[4] Qualifications and Credit Framework
[5] Scottish Qualification Framework/National Qualification Framework

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, MT365, MS327, M373.

The links below provide more information about the content of each module and some further advice is given here.

Optional modules:

- Innovation: designing for change (T317) (60 credits)*
- Structural integrity: designing against failure (T357) (30 credits)*
- Electronics: comms, computing and control (T312) (30 credits)*
- Renewable energy (T313) (30 credits)*
- Engineering small worlds: micro and nano technologies (T356) (30 credits)*
- Environmental management 2 (T319) (30 credits)*
- Mathematical methods and fluid mechanics (MST326) (30 credits)*
- Communications technology (TM355) (30 credits)
- Graphs, networks and design (MT365) (30 credits)
- Deterministic and stochastic dynamics (MS327) (30 credits)
- Optimization (M373) (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, energy and sustainability, environmental management and mathematical methods. A new mechanical engineering module is planned from October 2022. 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.

- For **T317** 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.

- **T357** 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 stress and strain and be able to interpret stress/strain curves. You should 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 exam.
- **T312** will be offered for the first time in October 2019. You need to have studied some 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 us of interactive software and remote experiments.
- **T313** 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 similar focus we would *not* advise you to take this module as there is likely to be considerable overlap.
- For **T356** you should be reasonably comfortable with basic physics, chemistry and maths, but there is no specific pre-requisite study required. This module includes content on electronic materials, and could be a good option for students who have prior qualifications in electronic engineering. The assessment for this module includes an exam.
- **T319** 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 a case study of London's Heathrow airport. It makes use of systems approaches to assess personal and stakeholder views of complex EM contexts and includes substantial group work to develop group, team, leadership and facilitation skills. The module is designed to follow on from the level 2 OU module Environmental management 1 (T219) and you should check this before choosing this option, to see what sort of background knowledge will be desirable.
- **MST326** 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 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.
- **TM355** focuses on the fundamental principles of communications technologies. 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.
- For **MT365** there is no specific pre-requisite study required but you need to have studied mathematics at HE level 2 and to be confident in dealing with mathematical topics. The assessment for this module includes an exam.

- For **MS327** you will need a good knowledge of applied mathematics including differential equations and some mechanics. 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.
- **M373** requires a good knowledge of mathematics, particularly calculus and matrices. You are strongly advised to try the M373 self-assessment quiz before choosing this module, to check you have the necessary mathematical background. The assessment for this module includes an exam.

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.

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