

Curriculum design for the twenty-first century

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1. Introduction

This chapter is about designing an undergraduate curriculum for economics in the twenty-first century. It has never been more important to ensure that the education we provide for our students fits their needs and meets their expectations in an increasingly competitive job market. A thoughtful and well-planned curriculum design can provide a framework for this.

The chapter is intended to extend, update and complement the earlier chapter on [‘Designing undergraduate degree programmes’](#) by Rebecca Taylor (2002).

Students who expect to complete their degree programme with substantial debts need to know that the education they receive will prepare them for their life beyond graduation. A thorough and rigorous grounding in a subject will still be important, but the ability to apply disciplinary thinking in a variety of employment settings will also be crucial. Furthermore, there are more generic skills that need to be embedded into the curriculum alongside the disciplinary components. Graduates need to be prepared to adapt to a rapidly changing global environment, in ways that we cannot foresee.

As economists, we know that the subject engenders a way of thinking that is indeed widely applicable in many different contexts. However, this needs to be clear in the design of our curriculum, and needs to be apparent to potential students and to employers in order to maintain the place of economics within the university environment – at a time when a number of disciplines may come under threat.

In any move towards designing – or redesigning – a curriculum we must be aware of the constraints within which we must operate. The Quality Assurance Agency (QAA) as the regulatory body for UK HE institutions provides the framework that shapes the structure and content of the curriculum, but allows for considerable flexibility. Universities that wish to claim Bologna compatibility face further constraints – but more in the delivery than the design or content of the curriculum.

This chapter will explore how the economics curriculum can be designed to maximise its appeal to students and employers, without losing the rigour of analysis that we hold dear. It will argue that there is no unique approach to curriculum design, and that careful planning of the structure can enable a diversity of approach that will provide choice and opportunity for our students.

2. Definitions and assumptions

The focus of this chapter is on the undergraduate curriculum. The issues that arise in designing a degree programme for postgraduate students are rather different, given the specialist or vocational focus of such programmes and their shorter duration.

Curriculum design in the context of an undergraduate programme refers to the way in which material is organised within the programme. There are many dimensions to this, including the balance between micro, macro and econometric topics; the balance between theory and applied material; the need to ensure progression through the typical three-year programme; and so on. These aspects of design will be considered as the chapter unfolds.

In England, Wales and Northern Ireland, the typical undergraduate programme runs over three years – or four years for a sandwich course. In some disciplines (notably Engineering), it is common to have a four-year integrated undergraduate Masters' degree. There are advantages and disadvantages in this approach, and the possibility of adopting such a programme in Economics will be discussed [in section 6](#). Universities in Scotland operate four-year degree programmes, reflecting the different nature of pre-university education. This offers different challenges and opportunities for curriculum design, which will be explored in a case study.

Nomenclature relating to the components of a degree can vary between institutions. In this chapter, the following definitions will be used. A **degree programme** (or just **programme**) refers to the entirety of the study undertaken by a student, normally over a three-year period. Programmes are sometimes known as courses, but this chapter will refer to programmes.

The QAA provides the regulatory framework for degree programmes in the UK, and specifies the criteria to be met by any degree programme. The QAA covers Scotland through a similar but separate process. [Section 4](#) explores the way in which the QAA influences discipline-based curriculum design through its general framework and its subject benchmarks.

A programme can be seen to be divided into a number of parts. A **part** is taken to be the material studied during a year of full-time study. For example, Part 1 will be taken to refer to the material normally covered in the first year of full-time study. This is used instead of referring to 'years' to avoid potential confusion caused in relation to part-time or sandwich programmes.

Each part is in turn made up of a number of **units** or **modules**. These are also sometimes known as courses. These are the building blocks of the curriculum, and will be termed as units for the remainder of this chapter. The number of units that make up a part varies between institutions. A scan of websites of economics departments shows that the most common pattern is based on 4 or 8 units per year (23 programmes) or on 6 or 12 units per year (14 programmes). One programme uses a pattern based on 10 units per year, and three others offer a mixture of units of differing sizes. There were more than 10 other institutions that do not make public the structure on which they operate. In many cases, the pattern of curriculum design in terms of the number of modules is dictated by institutions, especially where there are joint degrees that cross schools or faculties. There is no unique 'best answer'

to what is the optimum unit size, but we are used to this in economics. This is discussed further [in section 5.2](#).

3. Desirable characteristics of an economics graduate

A first step in designing a curriculum is to be clear about the objectives of the programme. This may seem self-evident, but is deserving of some discussion. A starting point is to think about the nature of the product from the programme – i.e. to consider the desirable characteristics of a graduate from an economics programme.

3.1 Disciplinary knowledge and understanding

The first objective is to produce graduates who are well-grounded in economic analysis, fulfilling the national subject benchmarks. This is an essential feature of any economics programme, and the benchmarks are discussed [in section 4 below](#). It is also desirable for students to be exposed to a balance of theoretical and applied material – although programmes may differ in having a bias towards one or the other. Curriculum design also needs to consider the sequence in which material is presented.

3.2 Reflective and independent learners who can think like economists

Looking beyond the benchmarks, we want our graduates to be able to think like economists. This is less well-defined, but most would acknowledge that this is part of our aim in designing a programme. We would also want to produce graduates who are reflective learners and capable of independent thought and research. After all, this is the essence of what a university education is about. This is more challenging in a world in which students become increasingly exam-oriented, and in which many students come to university from educational and cultural backgrounds that have not fostered notions of independent study. If we are to be successful in achieving this objective, we need to provide opportunities for students to engage with independent study and research. These should be embedded within the design of the curriculum. These are discussed in the chapters in *The Handbook for Economics Lecturers* by KimMarie Goldrick (2007) and Peter Smith (2009).^[1]

3.3 Graduates fit for life beyond the programme

The curriculum also needs to be able to prepare our graduates for the life after their undergraduate studies. In other words, we should see the undergraduate programme as a step that will lead into the next phase of their career path. Given the burden of debt with which they will leave our programmes in the future, it is likely that they will want to know the ways in which their studies will provide a preparation for their intended career, and we will need to be able to articulate this.

Of course, one of the complications here is that there is no unique destination for an economics graduate, so the curriculum needs to be designed in such a way that it can prepare our students for multiple alternative lifepaths.

Some of our students may wish to continue their studies in economics, pursuing their studies to postgraduate level, and possibly beyond. Others may have an ambition to become professional economists. Some may wish to enter a career in finance or management. Others may enter a wide variety of other careers connected to economics to varying degrees.

In order to accommodate these different paths, the curriculum needs to be flexible enough to allow graduates to exit towards these different destinations. If we were to design a programme solely for the purpose of preparing students to proceed to an MSc and then a PhD, the curriculum would look very different from one that was designed to produce graduates for employment in a range of non-specific occupations. In many cases, we want the curriculum to deliver on both, or we may run interlocking but parallel programmes with different objectives in mind.

In the past, there may have been a tendency to focus on programmes that are just the first step in a sequence ending with a PhD, or on programmes that were designed to produce professional economists. This can result in a relatively narrow focus in the curriculum. This is by no means a feature only of economics programmes, and there are many discipline-based programmes which assume that students are only interested in a single subject. This can be unfortunate, as not all students who study history become professional historians, nor do those who study chemistry all become chemists. Economics is no different in providing graduates to a range of professions. As far as curriculum design is concerned, this means that we may want to provide opportunities for students to broaden their horizons as part of their programme of study.

There is some evidence to support this. Employers have indicated that it is not uncommon for them to interview students whose knowledge and understanding of their own discipline is excellent, but who struggle when asked questions that take them out of this comfort zone.

Curriculum design can tackle this in several ways, for example by highlighting generic skills that are embedded into the curriculum and by encouraging students to participate in what has become known as the ‘co-curriculum’ – activities in which students participate outside of the formal credit-bearing programme but which enhance their employability skills. This includes the development of ‘non-academic’ skills. The curriculum can also be designed in such a way that students are able to look beyond their own discipline as part of their programme. These issues will be explored in [section 7 \(on the graduate attributes\)](#) and [9 \(‘Looking beyond the discipline’\)](#).

[1] <http://www.economicnetwork.ac.uk/handbook/ugresearch/>

<http://www.economicnetwork.ac.uk/handbook/dissertations>

4. The national subject benchmarks and the QA infrastructure

The first essential thing to be addressed in designing a curriculum is to ensure compliance with the requirements of the QAA, which is the regulatory body charged with the responsibility of upholding quality and standards in universities and colleges. QAA does this through its **Quality Code**, which ‘sets out the Expectations all providers of UK education are required to meet’.^[1] For the present purposes, the most important parts of the Quality Code relate to the Framework for Higher Education Qualifications (FHEQ), subject benchmark statements, programme specifications and programme approval. Many, if not all, of the steps needed to ensure compliance will be imposed on disciplines through the medium of institutional procedures.

[1] <http://www.qaa.ac.uk/AssuringStandardsAndQuality/quality-code/Pages/default.aspx>

4.1 The Framework for Higher Education (FHEQ)

The FHEQ sets the general framework for degree programmes, and the QAA is clear that it ‘should be regarded as a framework, not a straitjacket’.^[1] At the heart of the FHEQ is an attempt to ensure that qualifications awarded by HEIs maintain consistent standards, with a common expectation about student achievements. It is important to note that the ‘fundamental premise of the FHEQ is that qualifications should be awarded on the basis of achievement of outcomes and attainment rather than years of study’.^[2] This underpins the approach to be taken in designing a curriculum and in preparing the associated documentation. There is a wealth of detail in the QAA documentation, so I will focus on a few key issues that need to be built into curriculum design.

First, it is worth noting that the FHEQ does *not* constitute a credit framework. Many UK universities do operate on a credit framework, but this is not mandatory under the QAA rules. However, QAA does provide guidance on academic credit arrangements.^[3] If your institution does use a credit framework, your programme will need to recognise that in the way it is put together. The Burgess Group in 2004 called for the adoption of a common HE credit system in the UK in order to facilitate the transfer of students between institutions. Students could accumulate credits that would then be recognised in terms of the level of achievement when they wished to transfer between institutions, or wanted to take time out from study and re-enter at a later date. Under the recommended scheme (Credit Accumulation and Transfer Scheme (CATS)) a typical full-time year of study would equate to 120 ‘CATS’. For example, a programme might be based on 6 units per year, each taking the value of 20 CATS. Increasingly, many institutions – not to mention students and employers – are aware of the European context, and there has been a move towards trying to improve mobility of students around Europe, embodied in the so-called ‘Bologna Process’. Under this protocol, the European Credit Transfer and Accumulation System (ECTS) was developed to encourage mutual recognition of programmes of study and qualifications across Europe. The principle underlying this system is that the learning outcomes (and associated

workload) of a typical full-time year of academic formal learning represent 60 ECTS. In other words, 1 ECTS is approximately equal to 2 CATS.

Unfortunately, life is rarely so simple. In the UK, 1 CATS has become associated with a total study time of 10 hours, whereas 1 ECTS is associated with between 25 and 30 hours of study. This has inhibited UK institutions from engaging fully with the Bologna Process, as workload in the UK is perceived to be too low to satisfy the demands of ECTS, even if it can be argued that the learning outcomes are achieved to an equivalent standard. However, setting that aside, this chapter will refer where appropriate to CATS and ECTS as if they were interchangeable on a 2:1 basis.

Where this becomes important for curriculum design is in specifying the overall requirements for an honours degree or any of the intermediate exit points that are available on most programmes. Table 1 summarises the credit values normally associated with each part of an undergraduate programme in England.

Table 1: Credit values and curriculum design

HE qualification as in FHEQ	Part	FHEQ level	Minimum credits (CATS)	Minimum credits at the level of the qualification (CATS)	ECTS
Cert HE	1	4	120	90	
Dip HE	2	5	240	90	approx 120
Bachelor's degree with honours	3	6	360	90	180-240
Integrated Master's degree	4	7	480	120	

A normal interpretation of this is that to be awarded an honours degree, a student must have accumulated 120 CATS (60 ECTS) per part, with at least 90 CATS (45 ECTS) at each FHEQ level. The final row of this table will be discussed in section 5 of this chapter. Institutions will no doubt have their own rules and regulations for implementing the framework, so you may have no real choice in choosing the overall credit structure. Nonetheless, it is worth being aware of the structure, as it underpins curriculum design. Knowing and understanding the rules can sometimes create opportunities for creating some flexibility in design that will be discussed in section 9.

[1] <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Quality-Code-Chapter-A1.pdf>

[2] Ibid.

[3] <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/creditframework.pdf>

4.2 Subject benchmarks

When designing a curriculum, a fundamental requirement is to ensure that the contents are consistent with the relevant subject benchmarks. The economics benchmark statements, which were amended in 2007, can be found at

<http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Economics.pdf>.

If you study the benchmarks, you will find that they are not very constraining, in the sense that they summarise in a commonsense way the components that most economists would agree should lie at the heart of any economics curriculum. In other words, the benchmarks specify a range of features that we would look for in any economics degree programme. The details are not provided here, as this would be repetition of the benchmarks themselves. Suffice it to note that they encompass the aims of degree programmes in economics, and specify the subject knowledge and the subject-specific and other skills that students are expected to accrue during their studies. The economist's way of thinking and the importance of transferable concepts are also emphasised.

In other words, the benchmarks set out the attributes that students successfully completing a degree programme would be expected to have gained. Notice that the way in which the benchmark is set out is helpful when setting out to draft the programme specification, which is another essential part of developing a new curriculum.

4.3 The programme specification

The programme specification is a key document. It is intended to be a definitive statement of the contents and organisation of a programme, so that students and other stakeholders can find out all they need to know about it. To put it in the words of QAA:

‘A programme specification is a concise description of the intended learning outcomes of an HE programme, and the means by which the outcomes are achieved and demonstrated.’^[1]

Although intended for students, many programme specifications have become documents dominated by jargon and ‘education-speak’. However, where programme specifications are to be part of the Key Information Sets that all universities are required to publish for potential applicants, this is likely to lead to redrafting of specifications to ensure that they are appropriately student friendly.

The emphasis on learning outcomes in the design of programme specifications is potentially helpful and can be seen as a foil to the obsession with contact hours that keeps appearing in ministerial statements and in the press. In other words, what is important is what a student can have achieved by successfully completing a programme of study, rather than how study hours are divided between direct contact with academic staff and independent study time and other forms of learning.

Individual units are also expected to have their own learning outcomes associated with them, and the programme specification then shows how those units can be combined into a coherent programme. Having said that, the QAA also emphasises that:

‘a programme specification is not simply an aggregation of unit outcomes; it relates to the learning and attributes developed by the programme as a whole and which, in general, are typically in HE more than the sum of the parts’.^[2]

Most HEIs will have a standard template for the presentation of programme specifications, which will set the rules for drafting them. Notice that having a programme specification is not optional, as it is one of the key documents that will be audited as part of the QAA Institutional Review. Programmes will be judged by whether they deliver on the claims that are embedded in the specifications.

[1] <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Quality-Code-Chapter-A3.pdf>

[2] Ibid.

4.4 Programme approval

Chapter B1 of the QAA Quality Code contains guidance about programme approval.^[1] Again, HEIs will have measures in place at institutional level to ensure compliance with the Code. However, when designing a curriculum, there are some key things to be aware of. In particular, there will be a formal process to be followed in taking a programme through to approval, which is the institution’s way of ensuring that it is adhering to the Quality Code. This will involve some sort of external scrutiny. You will need to be aware of the timescale over which the approval process will be spread. Missing key deadlines can delay the launch of the new programme, possibly by a whole year. Box 1 shows one university’s timescale for the approval of a new programme.

A similar schedule applies for major changes to existing programmes. The decision on when to launch would also depend upon being able to advertise and recruit. Ultimately, this may be the deciding factor in choosing how quickly to launch. Timescales are likely to vary from institution to institution.

Box 1: Programme approval at the University of Southampton – timescale

For a programme to be approved for launch in September of year (t):

October (t – 1): Faculty Programmes Committee receives notification of new programmes expected to be seeking academic approval during the coming academic year.

Late October (t – 1): University Programme Committee receives report from Faculty Committees, and checks strategic fit of proposed new programmes

January (t): Faculty receives programme specification and associated documentation for detailed scrutiny, with independent external report.

February (t): University Programme Committee receives report from Faculty recommending academic approval.

March (t): Approved programmes entered into student record system and constituent units timetabled.

Note: This timescale refers purely to the academic approval process; more time is likely to be needed for marketing and recruitment.

[1] <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Quality%20Code%20-%20Chapter%20B1.pdf>

5. Building the core

In building the core of the curriculum, balance needs to be achieved across a range of dimensions. There needs to be a balance between theory and applied material, and between micro and macro. Decisions also need to be taken about the place of mathematics and statistics in the curriculum, being aware that the subject benchmarks indicate that a variety of approaches can be adopted. For example, it is recognised that some degrees that are not single honours economics programmes may not cover all of the core elements, and that ‘the forms of analysis chosen may differ and may be tailored to best serve the skills that students bring with them into their degree programme’.^[1] Choices here may therefore depend upon the characteristics of the student intake – or perhaps the curriculum will dictate the sort of students to be recruited.

Questions of balance also arise where a single honours curriculum may co-exist with a series of joint honours programmes or a major/minor approach. The core units on a programme need to be designed in such a way that the programme outcomes set out in the programme specification can be met by all students who complete the programme successfully. However, students value choice in their curriculum, and if the outcomes can be met in a subset of the units that make up the programme, then this can create flexibility for students to exercise some choice of what to study. This may take the form of choosing amongst a range of optional economics units, or it may be that students can choose other units (e.g. languages) from outside their core discipline. This may be one way of enabling students to enhance their employability, and is discussed [in section 9](#).

The design of the core curriculum may also need to take into account the possibility that some students may wish to spend part of their degree programme studying abroad. Many programmes are designed to enable either a whole year study abroad, or a single semester. This is discussed further [in section 5.5](#).

[1] <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/Economics.pdf>

5.1 Curriculum and audience

There are many economics programmes being taught across the UK, catering for a wide variety of different audiences. There are highly technical programmes with a heavy bias towards theory and a high level of mathematical content. There are other programmes that have a more applied focus, perhaps with a stronger, practical, employability focus. The curriculum has to be designed for its intended audience and to deliver the intended programme outcomes. This has implications for the entry requirements and for the balance of content across the curriculum. For example, requiring an A-level in Mathematics provides a signal about curriculum content.

It is also important to be aware that many students may not fully anticipate the mathematical nature of some programmes, only discovering well into the first term that they are not well suited to the approach being adopted. This seems to happen regardless of the information that

we provide before they arrive, and may reflect the content and style of the A-level Economics specifications. For students that do find that their talents and abilities are more suited to a less technical approach, curriculum design may need to be framed in such a way as to provide an 'escape route'. This may be especially important where the admissions criteria do not require students to have studied economics before embarking on the programme. This will be discussed further in section 6.

5.2 Key dimensions of curriculum design

One key aspect that will colour curriculum design is the 'short-fat' versus 'long-thin' decision. This is almost certainly the result of an institution-level policy. 'Short-fat' describes the situation in which the academic year is split into two 'semesters', with students taking half of their units in each semester, probably being examined at the end of each semester. 'Long-thin' has students taking all of their units spread across the academic year. There are strengths and weaknesses of each approach.

This issue cannot be divorced from the question of how many units a student is required to take in a year, and there is a trade-off between the flexibility of the curriculum and its focus. It may be argued that taking fewer units at any one time allows students to concentrate their studies, rather than dividing their efforts and attention between myriad different topics.

A long-thin approach may thus be most appropriate where students take a relatively small number of units. However, although this gives students time for reflection, it may come at the expense of flexibility. On the other hand, where students follow a relatively large number of units in a year, a short-fat approach enables them to focus, but may encourage pigeon-holing and in some circumstances can lead to loss of continuity.

An illustration of this can be seen at the University of Southampton, where the institution moved to a semester pattern in 1995, with most programmes adopting a structure in which students take 4 units per semester (i.e. 8 units in a year). The School of Law opted out of semesterisation, and created 'double' units, teaching 4 long-fat units across the year, realising that students would find difficulty in studying 8 units concurrently.

Can we identify an optimum number of units for a year's study?

For a programme where students are taught in a long-thin pattern, one possibility would be that adopted by Southampton's Law School, of 4 x 30 CATS units. Students under such a scheme can focus on their 4 units, analyse issues in depth and have time to reflect. In Part 3, 1 unit could be a dissertation or research project. However, such a structure places limits on student choice, unless some of the units present hybrid contents, perhaps by presenting material from a range of applied areas. An alternative solution would be to create some 'half' units. However, in a 4 unit per year pattern, students may also face high risk from having made unwise choices. A 6 x 20 CATS system introduces more flexibility but forces students to spread their efforts more thinly – but maintains time for thinking and reflection. It is possible that teaching and assessment could be phased such that some weeks could focus on a subset of the units.

Under a short-fat system, a 6 x 10 CATS per semester pattern fragments student effort without the benefit of reflection time – and increases assessment loads substantially, especially where there is a reluctance to move away from examinations as the prime assessment mode. A 4 x 15 CATS per semester pattern is more effective, and can be combined with a double (30 CATS) dissertation or research project in the final year.

5.3 Content, sequence, balance and engagement

In setting out to design (or to redesign) a curriculum, it is perhaps inevitable that much of the focus will be on what to include and in what order – as well as how to structure and organise the material. However, it is also important to be aware of the need to engage our students with their learning, and to design the curriculum to transmit the excitement of the subject. If we do not engage our students with the subject we will have failed.

Engagement comes partly through the way in which we deliver material, but curriculum design is also important. One way of capturing our students' attention through curriculum design is by using the 'Threshold Concepts' approach as outlined in the chapter in the *Handbook for Economics Lecturers* by Peter Davies and Jean Mangan.^[1] These concepts offer a focus on key ideas that can begin to introduce students to the way that economists think. For many students, it is also important to highlight applications of economic theory in the early weeks, balanced against the need to demonstrate the importance of learning and polishing quantitative skills. It is also crucial to remember that our students come from diverse backgrounds and have diverse preferences. There will be those who relish the mathematical approach and are keen to engage with theory. We need to cater for them as well.

The sequencing of material is not independent of the curriculum architecture. The flexibility of the short-fat system could allow students to follow, say, micro and maths in the first half of the year, and macro and stats in the second half. This is more difficult under a long-thin structure, where students will probably have to take all four simultaneously, although conceivably it would be possible to concentrate on micro in Part 1, leaving macro until the following year.

The transition between levels needs to be carefully planned, as this can be equally as difficult as the transition from A-level to university. The step-up into Part 2 can be a large one, and it may be wise to build in some overlap at the beginning of the Part 2 units. For example, under a short-fat curriculum students might take micro in the first semester of Part 1 and then do no further micro until they meet micro theory in the first semester of Part 2, at which time it can be quite a shock to the system!

[1] <http://www.economicnetwork.ac.uk/handbook/threshold-concepts>

5.4 Degree classification or GPA?

Several universities in the UK have been opening discussions on some key issues that could affect curriculum design in the future. In particular, there have been debates about the future

of degree classifications, and whether there should be a move towards a grade-point average system. Among the implications of such a move would be that the differential weighting of the parts/years of a degree would become less necessary, as the focus would move away from finding ways of aggregating marks towards the (more helpful) student transcripts. This could in turn mean that there would be more flexibility in scheduling optional units – for example, by having some units being taken by second and third-year students together. After all, the key requirement from QAA for a student to be eligible for an honours degree is that 90 credits have been achieved at level 6 (Part/year 3). It could be argued that although it is crucial to take (say) Micro Theory 2 before Micro Theory 3, it would not really matter whether a student took Development Economics in year 2 and Labour Economics in year 3, or *vice versa*. Of course, a decision to move to a GPA system will be an institutional one, but this could begin to happen quite soon, and when it does it may have implications for curriculum design.

5.5 Study abroad?

A further element influencing curriculum design concerns the opportunity for students to spend a period undertaking study abroad. Such opportunities can either be embedded within the curriculum or can take the form of a year out during the programme. Experience suggests that universities have been more keen to provide such opportunities for their students than students have been to take advantage of them. This is evidenced by the nation-wide tendency for UK universities to be net importers of exchange students, with many more European students coming for a year or semester in the UK than British students travelling abroad.

The language issue looms large here. In general, the language skills of British students are inferior to those of students from elsewhere. However, British students have also been reluctant to study abroad even when the language of instruction is English.

As far as curriculum design is concerned, the key issue is whether the credits earned by the student abroad are to contribute to the home institution's award or not. A student taking a term or semester abroad will need to have the credits recognised as part of the degree programme. This means that the institution will want to have quality assurance checks in place to ensure that the material studied abroad is at the appropriate level and that the foreign institution is of a recognised status. It will also be necessary to ensure that any programme outcomes that would have been achieved had the student remained in the home institution are adequately covered by the study abroad. For example, if the student would have taken a core micro or macro unit, do the units studied abroad align with the pertinent learning outcomes? This will require careful scrutiny of the unit outlines to ensure that they cover similar material. A whole year abroad may pose fewer problems, if it can be regarded as an intermission in study, such that the credits do not have to be transferred and recognised locally.

For study that is embedded in the curriculum, the language issue must be considered – at least where the opportunities to study abroad involve study in a foreign language. Indeed, even if teaching is available in English at a university in Europe or elsewhere, the language for everyday living is still a potential issue. In order for the option to study abroad to be a serious offer, students need to have the opportunity to learn or improve their language competency.

This should preferably be available within the curriculum and not just as an evening extra. This clearly has implications for curriculum design.

It is widely believed that studying abroad is a way of enhancing the student experience and improving employability, and to be able to offer students the opportunity when they visit on open or visit days seems to increase the attractiveness of programmes. However, persuading students to take up the opportunities seems to be the greatest challenge, perhaps because once students are caught up with their programmes, the risks of taking time out to study abroad loom large.

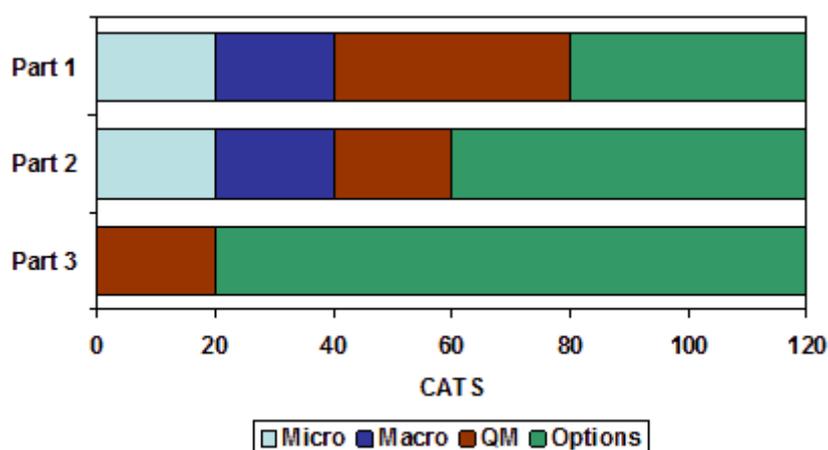
6. Case studies of economics programmes

In this section, we will explore some options for curriculum design through a series of case studies showing different approaches to curriculum design.

Case study 1: University A

University A operates a curriculum based on a pattern of 6 units per year carrying a weighting of 20 CATS taught on a long-thin basis. Figure 1 summarises the broad structure of the programme.

Figure 1: University A: a single honours economics programme



The structure of the curriculum is very clear. In Part 1, students take 1 unit each in micro and macro, and 2 units in quantitative methods (one in maths, one in statistics). The remaining credits are made up from optional units; students can take Introduction of Accounting and/or Globalisation and Development (20 CATS units), or can choose to take open units from elsewhere in the university (subject to timetable). These can be drawn from a wide range of other disciplines.

In Part 2, students again take compulsory units in micro, macro and quantitative methods, which between them count for 50 per cent of the credits. The remaining units are chosen from a list of options, including a range of economics units together with some from accounting, finance, politics and other disciplines.

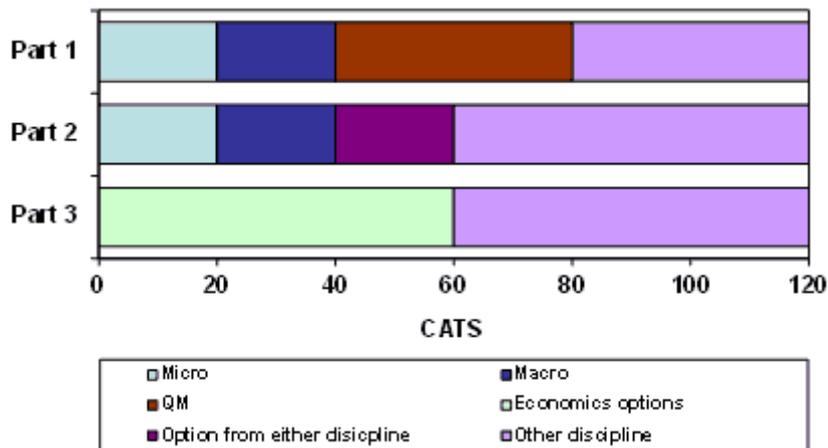
In Part 3, the only compulsory unit is Applied Econometrics, but students must take at least two from Macroeconomic Theory and Policy, Advanced Microeconomics or Applied Economics Project. A range of economics units are also on offer, and students may take up to 2 units from lists in accounting and management.

A strength of this modular structure is its transparency. The curriculum design allows students some flexibility of choice throughout the programme, whilst ensuring that the core of the programme delivers the programme outcomes required by the subject benchmarks.

Notice that students have some control over the theory-applied balance of their programme, exercised through their choice of options.

Students can also choose from a number of joint honours programmes, combining study of economics with Econometrics, Finance, Accounting, Management, Mathematics, Politics or Philosophy. The pattern for one such programme is shown in Figure 2.

Figure 2: University A: a joint economics programme



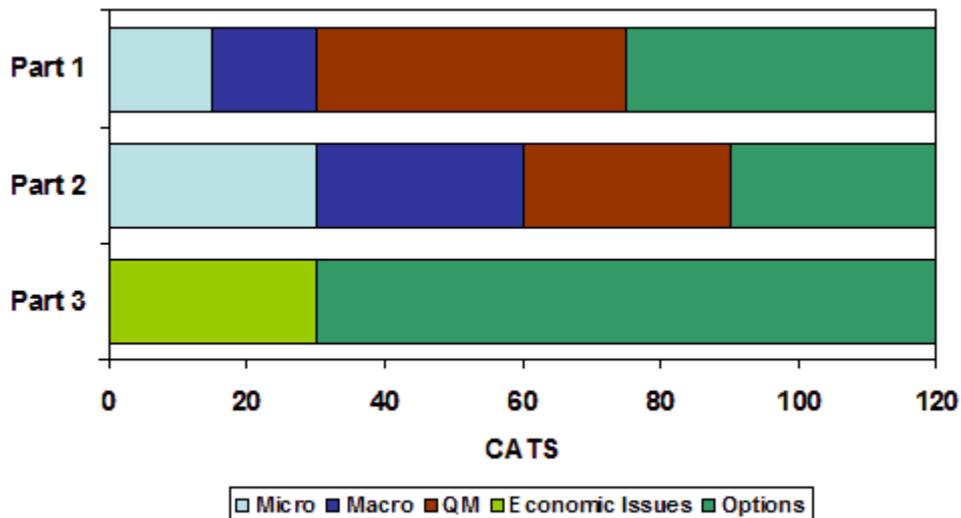
Joint honours programmes need careful curriculum design, as there are two sets of subject benchmarks to be delivered. This inevitably imposes constraints on student choice, as there is likely to be less space for optional units. This is apparent in Part 1 of this joint programme, as there is no choice of units at this stage of the programme. Furthermore, economics as a discipline tends to be demanding in terms of core units in Part 1, given the need to cover micro, macro, maths and stats. In this example based on a 6-unit year, these 4 units take up more than half of the first year, thus squeezing the other discipline.

The notion of an ‘escape route’ embedded in Part 1 (as mentioned in the previous section) can be illustrated through this example. A student entering the single-honours programme could choose the options in Part 1 in such a way as to cover the core units needed for the other discipline of one of the joint-honours programmes, whether that be Politics, or Management etc. The final decision on which programme to pursue is thus delayed until the end of Part 1, so that if a student discovers a keen interest in Politics once having been exposed to the discipline, then he or she would be able to transfer to the alternative stream. It is also important to notice that providing an escape route can work both ways: the structure described here provides a route into single-honours economics as well as out.

Case study 2: University B

University B operates a curriculum based on a pattern of 8 (15 CATS) units per Part. Figure 3 summarises the structure of the curriculum.

Figure 3: University B: a single honours economics programme

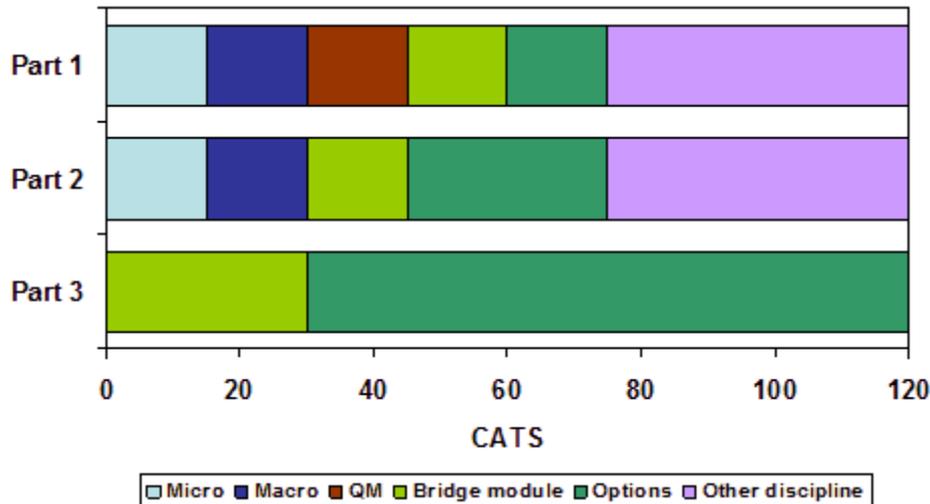


In Part 1, students take units in micro and macro, plus 3 units in QM (Introduction to Statistics, Mathematics for Economists and Introduction to Econometrics). Students entering without A-level Mathematics take an additional unit in Basic Mathematical Economics. The remaining credits come from a choice of optional units. In Part 2, students take 3 core units (each rated at 30 CATS), together with a choice of optional units to make up the remaining credits. The programme allows for students to follow language units as options, and then take a year abroad on an ERASMUS placement in year 3, returning to complete Part 3 as a fourth year. In Part 3, students take 1 compulsory unit (Economic Issues: Theory and Policy) that runs over the whole year. This provides students with the opportunity to study particular topical economic issues in detail, and in more depth than can be achieved in a shorter unit. Remaining credits come from a choice of optional units, of which 60 CATS must be from the economics list.

As with University A, the structure of the degree is transparent, and enables students to achieve the programme outcomes associated with the subject benchmarks in the core units whilst still retaining flexibility of choice in the optional units. This provides the opportunity for students to focus on those areas of economics that especially appeal to them.

University B also runs a number of joint honours programmes, and Figure 4 shows how one of these programmes works.

Figure 4: University B: a joint honours economics programme



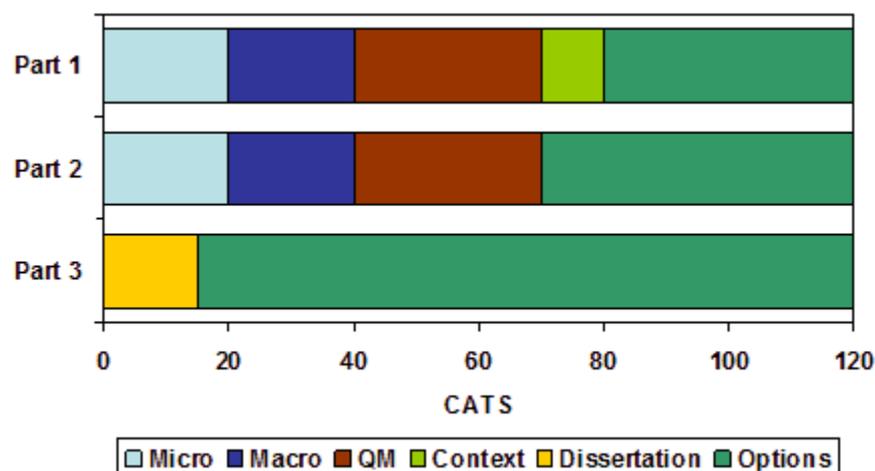
This structure is for a joint honours degree in Economics and Politics, with students spending approximately half of their time studying each of the two main disciplines. In Part 1, students take 3 units in economics (micro, macro and QM), and 3 in Politics. There is also a ‘bridging unit’ (State and Economy) that serves to link the two disciplines together. There is also one free optional choice. In Part 2, there is a double unit that covers micro and macro, and another bridging unit (the Economics of Politics). Students then choose options from Economics and from Politics in such a way as to maintain approximate balance between the two disciplines. In Part 3, students take units in International Political Economy and the Political Economy of Globalisation, and then choose the remaining units from options in the two main disciplines.

This structure enables students following the programme to achieve the outcomes required to meet the subject benchmarks for both Economics and for Politics. An advantage of the 8-unit per year pattern over 6 per year is that it is more straightforward to maintain balance between the two disciplines that make up the joint degree. Given University B’s curriculum design, students also have flexibility to choose from a wide range of optional units in each of the disciplines.

Case study 3: University C

University C offers an interesting approach that blends units with different credit ratings. The structure is illustrated in Figure 5.

Figure 5: University C: a single honours economics programme



plus non-credit-bearing modules in Study skills (Part 1) and Careers skills (Part 2).

In Part 1, students follow 20 CATS-rated units in micro and macro, together with two 15 CATS-rated units in QM, streamed depending on whether a student has or has not taken A-level Mathematics. Students then take a 10 CATS unit, with a choice between ‘Economic Perspectives’ and ‘Current Economic Issues’, allowing students to gain a broader perspective on the use of economic analysis. Remaining credits come from a choice of options either in Economics or from other schools. These are mainly 10 CATS, but some are 20. In addition students take a unit that provides study skills, which is not credit-rated.

In Part 2, there are compulsory units in micro (20 CATS) and macro (20 CATS), together with either 2 units in quantitative economics (15 CATS each) or econometrics (also 15 CATS each). There is also a compulsory non-credit-bearing unit in careers skills. Remaining credits are then built up from Economics or from other schools, with individual options carrying 10 CATS. In Part 3, students undertake a dissertation or project (15 CATS) and then choose from a list of Economics options, each rated at 15 CATS.

This more complex curriculum design (in terms of the credit architecture) offers flexibility in approach, but may be less transparent in the sense that students have to take units that carry different weightings and have different numbers of lectures and tutorials associated with them. The mixed pattern only works if the mix is repeated across schools, otherwise it becomes difficult for students to select units in other disciplines – if they wish to do this, of course.

Another feature worth noting is the inclusion in the design of non-credit-bearing units covering study and career skills. Introducing study skills to students can be crucial in helping

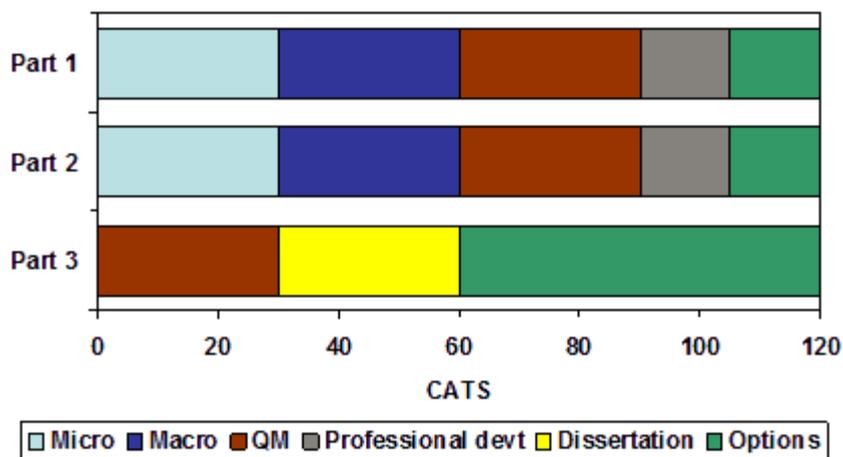
them to make the transition into university study. Students arrive from school or college with expectations about modes of learning and forms of feedback that we cannot fulfil – and, in many cases, are inconsistent with them becoming independent and reflective learners. At a workshop at my university, an A-level teacher from a local college told us that she would never be allowed to talk in a lesson for more than 10 minutes at a time, nor would she ask her students to read more than a few pages at one sitting. Coming from that into an environment where students are expected to sit in lectures and then go off and read articles and chapters of books requires a major adjustment. The career skills unit highlights the importance of employability in a rapidly changing fee environment.

The question in curriculum design is whether to integrate such skills development into the formal curriculum and make it credit-bearing, or to follow the example of University C and require all students to take the units, but have them sitting alongside the curriculum. There is a tendency to see such skills development as being ‘unacademic’ in quality, and thus not worthy of carrying credit. On the other hand, if such units do not carry credit, do students have an incentive to take them seriously?

Case study 4: University D

University D has taken a very different view on what is appropriately embedded within the curriculum. The website notes that ‘there is no complicated modular structure, just lots of interesting opportunities’. However, the structure is effectively based on a 4-unit structure with some half units, as illustrated in Figure 6.

Figure 6: University D: a single honours economics programme



In Part 1, students take 30 credit units in micro, macro and QM, plus a 15 credit unit in Personal and Professional Development. For the final 15 credits, they choose between Banking and Finance in a Global Context or Introduction to Economic Institutions and Frameworks. In Part 2, the core is again contained in three 30-credit units in micro, macro and QM, and there is a 15 credit-rated unit in Professional Practice in International Business and Economics. The remaining 15 credits come from a selection of optional economics units. Part 3 is made up of a 30 credit unit in applied econometrics plus a 30 credit project, which

may be theoretical or applied. Students then choose from a list of 30-credit options (the list also includes one 60-credit unit in the Economics of Regulation and Public Services).

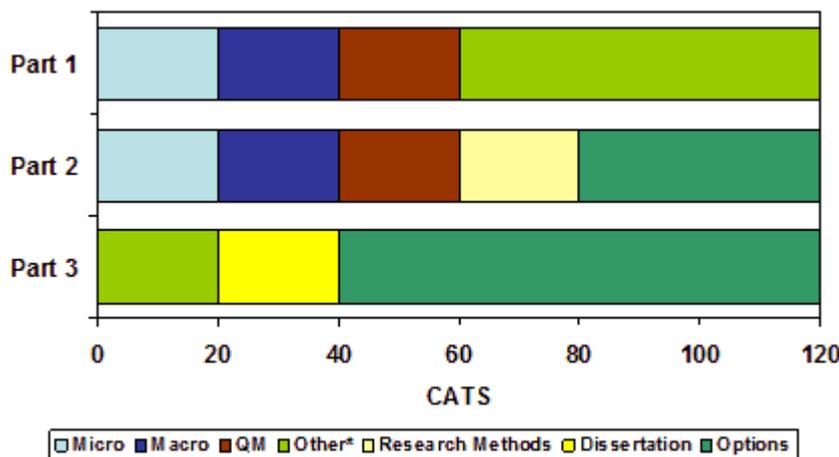
The professional development units are a new development for University D, and are still under development at the time of writing. In Part 1, the unit is partly about study skills, but also helps to develop students' personal, communication and career management skills, and to instil in them 'a sense of personal motivation and commitment'. In Part 1, the unit also 'incorporates appropriate management, organisational, sociological and psychological theories oriented towards the international business settings'.

By embedding such units within the design of the curriculum, University D is affirming the importance of personal development and employability as an integral part of a degree programme, and not just an optional add-on. The design of the curriculum nonetheless enables the programme outcomes required by the subject benchmark to be achieved. The large unit size does create a very clear structure for the programme, but may be seen as limiting the extent to which students are able to exercise choice in terms of options.

Case study 5: University E

University E follows a 6 unit per year structure with students being strongly encouraged to take a year out in year 3 either for a work placement or to spend a year abroad. Figure 7 illustrates the structure.

Figure 7: University E: a single honours economics programme



Other: Part 1: modules in Understanding Business & Financial Information, Developing Economic Thinking and Becoming a Practical Economist; in Part 3: a module in Economic Theory and Policy (including Managing Individual Change).

Part 1 offers no choices for students on this programme. Half of Part 1 is devoted to units in micro, macro and QM; other units have a strong vocational flavour, setting economics in perspective and highlighting the practical skills that economics provides, whilst also emphasising the importance of understanding business and financial information. These units begin to prepare students for possible work placements that they may take up as their third year of the programme. Part 2 provides more units in micro, macro and QM, plus a research

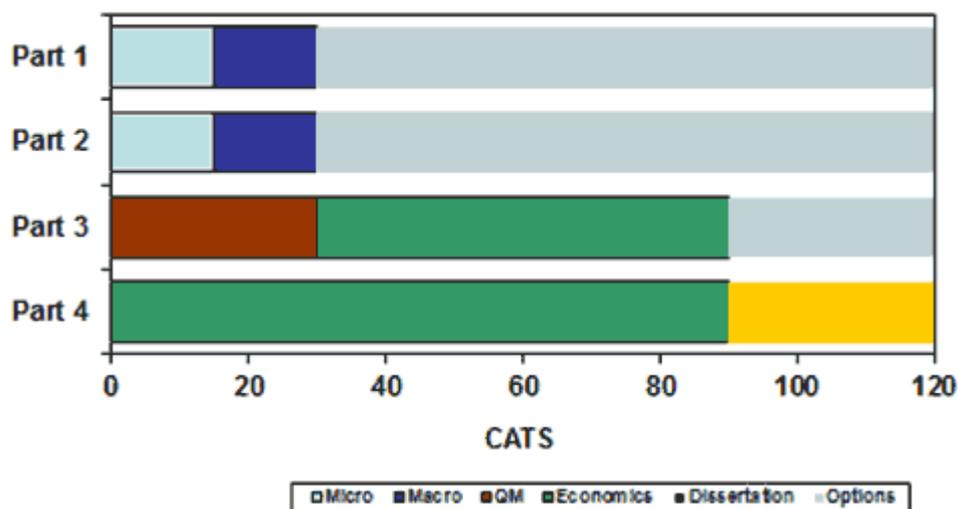
methods unit which helps in preparation for the compulsory dissertation or applied project that comes in Part 3. In Part 2, students also choose one specialist economics unit in each semester. Part 3 creates more flexibility to select specialist economics units.

Again, the placement year, whilst not compulsory, provides a strong employability focus to the degree programme which may be attractive to students who wish to pursue a career as an economist. The school provides a placement team to support students in finding an appropriate placement and in monitoring progress during the placement year. Students are required to complete a portfolio whilst working to provide evidence for employers of the work experience gained. Those who choose not to undertake the placement are encouraged to gain work experience through internships, paid work or through volunteering.

Case study 6: University F (Scottish)

Under the Scottish system, degree programmes are four years long, with students following a wide range of units in years 1 and 2 before embarking on two years of honours study.

Figure 8: University F: a single honours economics programme (Scotland)



You can see from Figure 8 that the economics content of the first two years is relatively small, and that QM makes no appearance until year 3. Students are thus exposed to a broader educational experience in the early years of their degree – indeed, they can transfer between discipline areas at a late stage, so long as they have studied the key units in the first two years. University F offers a series of units in the first two years which are termed as ‘Enhanced Study’ units, encouraging students to broaden their horizons or take up a language.

A four-year integrated Master’s programme

A possibility that has not been extensively pursued in England and Wales so far has been the four-year undergraduate master’s programme in economics. Such programmes are common in some disciplines – notably in engineering and some science programmes. The idea is that

students follow a four-year undergraduate programme, ending up with the degree of M.Eng., M.Math., M.Chem. etc.

An example in economics is the M.Econ. programme on offer at the University of Southampton. Students follow the first three years of the B.Sc. single honours economics programme, and can exit with a B.Sc. at the end of year 3. However, they can continue into year 4, in which they study core units from the full M.Sc. in Economics (or the M.Sc. in Economics and Econometrics), together with some options and an advanced research project. They can then graduate in the June of their fourth year with an M.Econ.

From the student perspective, there are some clear advantages. They graduate earlier than if they do the full M.Sc. (because they do not have to submit a dissertation in the September). They have access to student loans for the full four years of study, whereas they would get no loans for the full M.Sc. From the staff perspective, there is no additional teaching, as the M.Econ. students are co-taught with the other M.Sc. students. In the new fee regime, such programmes could become more popular because of the access to student loans.

There are some disadvantages, of course. The notion of the four-year integrated undergraduate masters is less familiar to employers than it is in engineering and science. The level 7 year (Part 4) contains fewer credits than the full-blown master's, which raises issues of Bologna-compatibility.

Case study summary

The case studies have shown a variety of alternative approaches to curriculum design. All programmes allow students to achieve the subject benchmarks for an honours degree in economics, but with variety in a number of dimensions.

The credit architecture varies between institutions (and sometimes within institutions, which can cause issues). Most operate a credit system based on multiples of 15 or 20 credit units (CATS), but some have a mixture. In general, the larger the unit size, the less flexible is curriculum design. Smaller units offer more flexibility and choice for students, but this may have implications for the assessment load. However, when designing a curriculum, it is likely that the institution will dictate the size of the basic building block.

All the models of curriculum design presented offer a balance between the three pillars of an economics programme – micro, macro and quantitative methods – and in most cases a balance is maintained in the core units. However, students then have some flexibility to vary the mix in the remaining part of the curriculum by their choice of options. Option lists naturally vary according to the interests and research strengths of staff, and the extent to which students are able to choose units from outside economics varies between programmes.

There is also a spectrum of ways in which study and careers skills are embedded into the curriculum or sit alongside it, and in the opportunities that students have for undertaking work placements or study abroad. In practice, many programmes offer students the opportunity of study abroad, but few take it up. Work placements may become more attractive to students in the new fee regime, if students come to see employability as a key factor in their choice of programme.

Top tips when embarking on curriculum design

- Be aware of the credit architecture;
- choose a balance between core and optional units, remembering that the core needs to meet the subject benchmarks;
- maintain an appropriate balance between micro, macro and QM, appropriate for the characteristics of students entering the programme;
- consider whether study and career skills should be credit-bearing within the curriculum or outside the formal structure.

7. Graduate attributes

The issue of how to embed employability into the curriculum is by no means a recent phenomenon. Much of the discussion has centred around notions of what is meant by ‘graduateness’ – i.e. what are the characteristics that we look for in a graduate. Following much debate in Australia in the 1990s, this has developed into a debate about ‘graduate attributes’.

The term ‘graduate attributes’ can be defined as the ‘qualities, skills and understandings that a university community agrees its students should develop during their time with the institution and consequently shape the contribution they are able to make to their profession and society....They are qualities that also prepare graduates as agents of social good in an unknown future’^[1] (Bowden *et al.*, 2000). The QAA Scotland included graduate attributes as one of its enhancement themes in its project on *Graduates for the 21st Century*.^[2] The King’s-Warwick Project was a HEFCE-funded initiative, *Creating a 21st Century Curriculum*, that aimed to assist academic departments and universities wishing to ‘develop an active and outward-looking curriculum that will enable undergraduates to experience an education that is research-rich, inter-disciplinary, engaged both locally and globally and supports the development of advanced academic literacy’.^[3] An international survey carried out as part of this project indicated that graduate attributes were ‘the most discussed outcome of curriculum change initiatives’.

A Google search on the phrase ‘graduate attributes’ shows that many universities in the UK and elsewhere have been devoting enormous attention to the identification of these graduate attributes.^[4] A sample list of attributes would be:

- academic attributes
- communication skills
- research and inquiry
- the ability to be a reflective learner
- global citizenship
- ethical leadership.^[5]

When designing a curriculum, you should check whether your institution has a graduate attributes framework, as you may be expected to ensure that students have opportunities to develop these attributes within the curriculum, although it may be that some of them will be more readily developed in the co-curriculum. Examples of attributes that can be developed within the curriculum include ensuring that students have opportunities for group work, for giving presentations and for learning about and practising research methods.

Equally important as providing students with opportunities to acquire these attributes is making sure that they are aware that they are acquiring them. Employers have commented that students in interview are often unaware of the skills and attributes that they have been building up during their studies.

Top tip

Check whether your institution defines a set of graduate attributes and whether students need to be given opportunities to acquire these as part of the curriculum.

[1] Bowden, J., Hart, G., King, B., Trigwell, K. and Watts, O. (2000). *Generic capabilities of ATN University Graduates*, Canberra: Australian Government Department of Education, Training and Youth Affairs. Available at: <https://www.clt.uts.edu.au/ATN.grad.cap.project.index.html>

[2] <http://www.enhancementthemes.ac.uk/>

[3] <http://kingslearning.info/kwp/>

[4] A useful review of the literature on graduate attributes can be found at http://www.leedsmet.ac.uk/7_Graduate_Attributes.pdf

[5] <http://www.soton.ac.uk/careers/attributes.html>

8. Research-led teaching

The relationship between research and teaching has always been contentious, if only because of the tension that exists between competing demands on the time and energy of academic staff. This applies especially strongly in institutions where promotion (and appointment) depend more upon research excellence and publications than upon the ability to deliver learning and teaching effectively. It has been argued that students at a university, whether at undergraduate or postgraduate level, should be exposed to the research that is such a central part of a university's mission. The undergraduate curriculum is thus expected to deliver 'research-led teaching'.

Although there may be a widespread agreement that there should be research-led teaching, there is much less consensus on what this actually means, and it has been interpreted in different ways in different contexts. Broadly, we can identify four different approaches.

At one level, there are many university websites that include statements such as 'you will be taught by experts who are at the cutting edge of their disciplines'. This is one interpretation of research-led teaching. Students will be taught by researchers with a proven track record of excellence. The efficacy of this approach may vary. The mere fact of being taught by an active researcher in itself does not guarantee that the research will rub off on the students. A lecturer may spice up the lectures with anecdotes about research or present some of the results in an accessible way, but the scope for this when teaching introductory mathematics or consumer demand may be limited. The curriculum must thus present opportunities for researchers to inject research into their teaching. A common way of doing this is through the menu of options provided for students, so that researchers have the opportunity to present units that are closely related to their own area of expertise. It has to be admitted, however, that this form of research-led teaching, valuable as it is, is rather passive from the students' viewpoint.

A second level of research-led teaching is to ensure that the curriculum delivers the skills needed for students to engage in research. A unit in research methods might fit the bill here, and this could be fully or partly assessed by having students prepare a research proposal on a topic of their choice.

A third level would be to require students to engage in a research project or dissertation. It will be clear from the case studies presented in section 6 that this is indeed a common feature of many economics degree programmes. Students can find this one of the most rewarding parts of their programme.

Another rather different interpretation of research-led teaching is that teaching should be informed by pedagogic research. This goes beyond the scope of this chapter, as it is not a curriculum design issue as such. This is perhaps more to do with staff development and the need to expose academic staff to the results of pedagogic research.

9. Looking beyond the discipline

For students who proceed from undergraduate studies in economics to take a Master's degree and then follow this up by researching a Ph.D., an undergraduate programme that focuses on economics alone may provide a good preparation. Perhaps for those who exit after the Master's and become professional economists, an intense focus may also work well. However, for students who enter other careers, such a concentration may produce tunnel vision. Indeed, it could be argued that even for the professional economist or Ph.D., some exposure to the world beyond economics may produce a more rounded and balanced individual. The increasing move towards interdisciplinary research gives further impetus to the desirability of allowing students to look beyond their discipline, and explore the big issues of our day through different disciplinary lenses.

A curriculum can readily be designed to permit this flexibility, given earlier arguments about the ability to achieve the outcomes associated with the subject benchmarks in a subset of the units that make up a programme.

One approach is through the development of joint honours programmes that expose students to two related disciplines, as set out in some of the case studies in [section 5](#). One disadvantage of the joint honours approach is that students may achieve the benchmark levels of knowledge and understanding in each of their two disciplines, but may not have acquired the depth needed to pursue postgraduate work in either of them.

A number of universities are beginning to think more imaginatively about how to broaden the horizons of their students by creating opportunities to be exposed to different ways of thinking about the big issues of our day.

One example is the LSE100 initiative, which is compulsory for all undergraduates at the LSE from 2010-11 onwards. The following extract from the LSE100 guidebook summarises what is on offer:

‘Whatever your degree course, LSE100 is designed to enhance your experience at the [LSE] by enabling you to complement your disciplinary training with an understanding of different ways of thinking; to learn from debating and collaborating with students from other disciplines and cultural backgrounds; and to strengthen your research and communication skills.’^[1]

The LSE100 course covers a wide range of topics with contributions that present from a range of different disciplinary perspectives. It sits outside the curriculum, so is not credit-bearing, running in the Lent term of year 1 and the Michaelmas term of year 2. It is graded on a non-numeric basis, with categories of Pass, Merit, Distinction and Fail. The result appears on the student transcript, but does not contribute to degree classification. Part of the assessment is a two-hour unseen written examination, taken outside of term time.

Another initiative was launched by the University of Aberdeen in 2010; it reshaped its curriculum ‘to produce graduates who are more rounded, better informed and more intellectually flexible’.^[2] The reforms aimed to maintain the ‘quality and depth of the

traditional Scottish degree’, but at the same time expand the range of choice open to students. In the first and second years of their programme, students can choose either to ‘study around [your] core subject to gain breadth and context; add a language, a science or business study as an extra subject ... or choose from a range of new multidisciplinary course based on real world problems’.^[3]

This is an example of encouraging diversification and exposure to new ways of thinking that is embedded within the curriculum, rather than sitting alongside. The Scottish system of four-year degrees makes this an especially attractive way of offering choice and diversity, as there is less pressure to fill the curriculum with disciplinary units.

An example in England is the University of Southampton, which has embarked on a Curriculum Innovation Programme. This is also aimed at encouraging students to escape from their disciplinary silos and broaden their horizons by taking units away from their home discipline and to enhance the research-led nature of teaching by introducing students to some of the interdisciplinary research being undertaken in the institution, such as climate change, web science and sustainability. A range of units is being developed, to be delivered and assessed in innovative ways, with the objective that all students from 2012 entry onwards will be able to choose from a menu of optional units at some point during their studies.^[4]

[1] <http://www2.lse.ac.uk/intranet/students/LSE100/GuideforFirstYearUGs.pdf>

[2] <http://www.abdn.ac.uk/documents/crefBrochure.pdf>

[3] Ibid.

[4] See www.soton.ac.uk/cip

10. Coping with growth of student numbers

A major challenge in curriculum design is coping with the growth in student numbers that has been witnessed in many economics programmes in recent years. Evidence suggests that economics is one of the disciplines with a relatively high earnings premium in terms of lifetime earnings. For example, *The Complete University Guide* reported that economists in graduate jobs earned salaries that only fell below those graduating from dentistry, medicine and chemical engineering. It may thus be that growth in student numbers will not stutter as much as some disciplines with the advent of the new fee regime.

This has implications for curriculum design. Decisions will need to be made about the balance between core units and options, and between lectures and class/ seminar group teaching. The big lecture offers economies of scale in delivery of core material, but affects the student experience. Smaller group teaching is costly in staff time, and students do not always appreciate being taught by doctoral students. Hard decisions may need to be made about the number of options that can be provided given student-staff ratios.

The physical infrastructure may have an impact on curriculum design as numbers grow. If the size of the cohort expands beyond the capacity of the largest lecture theatre, then this may necessitate double teaching, or the use of video-streaming. This may influence curriculum design indirectly, by limiting the staff resources available for teaching optional units. Increasing and improving the use of technology-enhanced and blended learning may be crucial in coping with expansion without damaging the student experience.

More imaginative use of contact time may help. For example, given the extensive use of problem sets and exercises in economics learning, how important is it to run multiple small group classes to go through the answers to problem sets? It may be possible to keep the whole group together, and have a session in which the lecturer presents the solutions to everyone, and then back this up with drop-in surgery sessions with doctoral students. Curriculum design can thus be used to improve efficiency in delivery of learning and teaching.

11. The role of periodic programme review (PPR)

The QAA requires that all programmes are subjected to review on a regular cycle. No doubt your institution has procedures in place to make sure that this happens. The idea underlying periodic review is to evaluate the continuing validity and relevance of a programme given the changing environment in which we operate. In my institution, 'periodic' is interpreted as meaning that all programmes are reviewed on a five-year cycle.

As with so many bureaucratic processes, PPR can come to be seen as an irksome burden imposed from outside that requires compliance. This may be especially so when the timing brings the PPR into conjunction with preparations for the Research Excellence Framework (REF). If these attitudes can be overcome, the PPR offers an opportunity to refresh and invigorate a curriculum that can become tired as it evolves gradually through time. In the past few years, I have chaired PPR panels in a wide range of discipline areas. When the programme team arrives simply with the aim of ticking the boxes, they leave feeling that nothing has been achieved. Where the team comes prepared to be self-critical and open to new ideas and approaches, the benefits can be substantial.

So, the PPR must be seen as an opportunity to take a hard and close look at the curriculum to see whether it continues to meet the needs of the students who follow the programme. When a curriculum evolves over time, it can become jaded and inefficient, with over-dependence on 'we have always taught it like this'. It should be remembered that curriculum change does not necessarily make life more difficult, and may be an opportunity to look for efficiencies that will save staff time whilst improving the experience that students receive.

The PPR process is imposed from outside, from the QAA and from the institution's own structure. It can thus be an opportunity to engage some colleagues who may not always be at the vanguard of the revolution in learning and teaching. It may, for example, be an opportunity for colleagues from a non-UK background to be given a glimpse of the UK system and to expose the rationale that underpins curriculum design in England. It is also an opportunity to review modes of delivery and assessment in a co-ordinated way as a programme team, when all too often it is left to a few enthusiasts to blaze a trail. It can be a learning experience and a creative opportunity – or it can be a chore requiring compliance.

12. Managing change

In general, we hate change – especially where this is seen as change for the sake of change. We build our lives around routines, reinforced by processes that enable things to happen in predictable ways. Change can be painful because we interrupt these routines and lose predictability. This should not mean that we never change, but it may mean that change is a process that needs to be managed. There is a large and growing literature on the management of change.

Undertaking a major reform of the curriculum is an example of a project for which change should be consciously managed. I would suggest that of most importance in this respect is to have a clear view of the destination. What will the curriculum look like at the end of the process, and what will be the advantages compared with the existing position? Be ready to highlight the benefits that will flow to staff – as well as to students. This is essential if staff are to be expected to devote time to redesigning their teaching alongside meeting REF targets. It helps if there are demonstrable benefits to be gained from reform that could not be tapped by tweaking current structures. It may also help to have a clear timeline over which the reforms will be completed so that life can return to a new normality.

A key decision may be whether to go for a short sharp shock of reform or to go for gradualism. Do we concentrate the misery and settle down, or insinuate the changes drip by drip so nobody notices?

13. Communicating with stakeholders

Let's be honest: curriculum design is not the most exciting topic in the world, and it is not the easiest thing to convey to applicants, students, staff and employers. The previous sections have argued that curriculum design must fulfil a range of objectives. It must ensure coverage of the subject benchmarks. It must deliver a learning experience to students that prepares them for their life as a graduate – in whatever direction they may choose to go after graduation. It must be attractive in offering challenge and flexibility. Graduates from the programme must have the qualities that potential employers are seeking.

Articulating these various qualities to the key stakeholders is a challenge. As soon as we start to explain the credit architecture and component units, the audience is lost. So save the detail for a sub-page to which people can refer if they need to know. Focus on the key features – and remember when designing the curriculum that simplicity in design will be a major help when it comes to explaining the structure and content of a programme. No doubt individual programmes will also wish to highlight the special features of their offering that are totally unique to them and to them alone, as part of the distinctiveness that characterises their institutions. But I could not possibly comment on that.