



Subject Benchmark Statement

Architecture

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How can I use this document?

This is the Subject Benchmark Statement for Architecture. It defines the academic standards that can be expected of a graduate, in terms of what they might know, do and understand at the end of their studies, and describes the nature of the subject.

The [UK Quality Code for Higher Education](#) (Quality Code) sets out the Expectations and Core Practices that all providers of UK higher education are required to meet. Providers in Scotland, Wales and Northern Ireland must also meet the Common Practices in the Quality Code.

The Quality Assurance Agency for UK Higher Education (QAA) has also published a set of [Advice and Guidance](#), divided into 12 themes, and a number of other resources that support the mandatory part of the Quality Code. Subject Benchmark Statements sit alongside these resources to help providers develop courses and refine curricula but are not part of the regulated requirements for HE providers in the UK.

This Statement is intended to support you if you are:

- involved in the design, delivery and review of courses of study in architecture or related subjects
- a prospective student thinking about studying this subject, or a current student of the subject, to find out what may be involved
- an employer, to find out about the knowledge and skills generally expected of a graduate in this subject.

Subject Benchmark Statements provide general guidance for articulating the learning outcomes associated with the course but are not intended to represent a national curriculum in a subject or to prescribe set approaches to teaching, learning or assessment. Instead, they allow for flexibility and innovation in course design within a framework agreed by the subject community.

It may be helpful to refer to relevant Advice and Guidance when using this Statement.

Explanations of unfamiliar terms used in this Subject Benchmark Statement can be found in QAA's [Glossary](#).

About this Statement

This Subject Benchmark Statement refers to bachelor's degrees with honours and master's degrees in architecture.¹

It has been produced by a group of subject specialists drawn from, and acting on behalf of, the subject community. The process is facilitated by QAA, as is the full consultation with the wider academic community and stakeholder groups which each Statement goes through.

In order to ensure the continuing currency of Subject Benchmark Statements, QAA initiates regular reviews of their content, five years after first publication, and every seven years subsequently, or in response to significant changes in the discipline.

Context the Statement operates within

While the Statement is intended to guide lecturers and course leaders in the design of academic courses leading to qualifications in architecture, it will also be useful to those developing other related courses.

Higher education providers may need to consider other reference points in addition to this Statement in designing, delivering and reviewing courses. These may include requirements set out by the Architects Registration Board (ARB), the Royal Institute of British Architects (RIBA) and the Institute for Apprenticeships and Technical Education (IfATE). Providers may also need to consider industry or employer expectations. Individual higher education providers will decide how they use this information.

The broad subject of architecture is both academic and vocational. The bachelor's award for architecture is the first stage of the typical education of an architect. This is typically either a BSc or a BA degree. The second stage of academic qualification is a master's level degree, typically in the form of a two-year MArch, which is defined as an undergraduate master's award.

Architecture qualifications typically require a total of 360 (Credit Accumulation and Transfer Scheme, or CATS) credits at bachelor's level and 240 (CATS) credits within a master's level degree. While this may equate to five years of 120 (CATS) credits each, higher education providers may construct alternatives to enable flexibility in student learning.

This Statement seeks to encapsulate the nature of a rich and diverse academic discipline. It is not intended to prescribe a curriculum, but rather describes the broad intellectual territory within which individual higher education providers will locate their courses of study in architecture.

Relationship to legislation and regulation

Higher education providers are responsible for meeting the requirements of legislation and any other regulatory requirements placed upon them, for example by funding bodies. This Statement does not interpret legislation, nor does it incorporate statutory or regulatory requirements. The responsibility for academic standards remains with the higher education provider who awards the degree.

¹ Bachelor's degrees are at level 6 (master's at level 7) in *The Framework for Higher Education Qualifications in England, Wales and Northern Ireland* and level 10 (master's at level 11) in *The Framework for Qualifications of Higher Education Institutions in Scotland*, as published in [The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies](#)

The subject of architecture is global. The knowledge and skills essential to its practice are similar across the world and practitioners are mobile. While the practice of architecture and the function, status and title of the architect are defined nationally, there is increasing recognition of the cultural and economic benefits of the mutual recognition of academic qualifications and professional status and the removal of barriers to international mobility.

The member states that make up the European Economic Area have adopted a legal system of mutual recognition of professional qualifications, including architecture, which is set out in the EU Professional Qualifications Directive 2005 (Directive 2005/36/EC of the European Parliament and of the Council on the Recognition of Professional Qualifications), hereafter referred to as the Directive. The *Architects Act 1997* has been amended to take into account the requirements of the Directive in the UK. Under this Act the ARB is the UK's Competent Authority for architects for the purposes of implementing and administering the Directive. The ARB administers admissions onto the UK Register for those applicants who hold qualifications awarded in other European states which are listed under the Directive. This is referred to as the 'EU-route' onto the UK register.

The common standard of competency required of all qualified architects within the EU is specified in the Directive (Article 46, 1a-k). These requirements are incorporated within the criteria specified by the ARB and RIBA. They have also been adopted by IfATE as the basis for the competencies specified as knowledge, skills and behaviours (KSBs) within the Standards for Architectural Apprenticeships.

The ARB is required by the *Architects Act 1997* to maintain the UK Register of Architects and to prescribe UK qualifications and training for entry to the Register. In doing so, the ARB ensures that such qualifications meet the requirements of the Directive, ensuring UK-registered architects can gain professional recognition in other European states.

Qualifications in architecture: validation, prescription and quality assurance

The ARB's process of approving qualifications for the purpose of professional registration in the UK is referred to as prescription, whereas RIBA's process of approving qualifications for the purpose of obtaining chartered status as an architect is known as validation.

The ARB and RIBA currently hold shared criteria for prescribed and validated qualifications in architecture. Each organisation prescribes or validates qualifications under their own processes and procedures. The ARB and RIBA refer to the various stages of architecture education as Parts 1, 2 and 3. Typically, bachelor's qualifications in architecture may be prescribed and validated at Part 1 and master's level qualifications may be prescribed and validated at Part 2. Students may study on a full-time basis, a part-time basis, or through an apprenticeship course.

Typically, full-time students complete a year of professional experience between their bachelor's and master's degrees, which is commonly referred to as 'the year out'. Typically, students undertake a minimum of a year's professional experience after the award of their master's degree prior to sitting a final professional examination. This final examination may be delivered in various forms and is also subject to prescription and validation in order to qualify as a Part 3 award. The Part 3 awards are not included within the scope of this Statement but are subject to specific criteria published by the ARB and RIBA.

Providers may offer solely bachelor's degrees in architecture or they may offer solely master's degrees.

The ARB's policy is to typically prescribe qualifications which are awarded by UK education providers and which are delivered mainly in the UK. A more detailed account of [ARB's prescription requirements](#) can be found on ARB's website. Individuals educated in the UK are required to hold prescribed qualifications at Parts 1, 2 and 3 to join the UK's Register of Architects under what is commonly referred to as the 'UK route'.

RIBA validates qualifications throughout the world at Parts 1, 2 and 3 and generally requires individuals to hold validated qualifications at Parts 1, 2 and 3 to qualify for full RIBA membership. A detailed account of RIBA procedures for course validation may be found in their [Validation procedures and criteria](#).

The Architectural Assistant Apprenticeship allows an apprentice to gain a bachelor's degree, typically requiring a period of 48 months of work-based learning, which must be prescribed as a Part 1 qualification by the ARB. The Architect Apprenticeship allows an apprentice who has already gained an ARB-prescribed Part 1 to gain a master's level degree and complete a professional examination in architecture and these awards must be prescribed at Parts 2 and 3 by the ARB. The Architect Apprenticeship typically requires 48 months of work-based learning. IfATE stipulates the [quality assurance framework applicable to apprenticeships](#). As of September 2019 the Architectural Apprenticeships apply to England with restrictions applying elsewhere.

Although the majority of degrees in architecture are both prescribed and validated, this Statement may also cover degrees in architecture that fall outside the remit of the ARB, or which may not be prescribed for other reasons. Non-prescribed qualifications will not lead directly to registration. Similarly, this Statement also covers degrees in architecture which are not validated by RIBA.

The academic qualifications that form part of architecture education and training are designed, delivered and quality assured by higher education providers working within a national framework of qualification levels that applies to all subjects, including architecture (the *Framework for Higher Education Qualifications of Degree-Awarding Bodies in England, Wales and Northern Ireland* and the *Framework for Qualifications of Higher Education Institutions in Scotland*, published within the [Frameworks for Higher Education Qualifications of UK Degree Awarding Bodies](#) 2014). Higher education providers produce course specifications which describe the content of a particular course, specifying the intended learning outcomes and how they may be achieved and demonstrated. In working with this Statement, higher education providers may wish to map the learning outcomes of their course onto the benchmark standards set out in this document.

Summary of changes from the previous Subject Benchmark Statement (2010)

This version of the statement forms its third edition, following initial publication in 2000, and major reviews in 2010 and 2019.

The following changes have been made to this version:

- the inclusion of references to architectural apprenticeships
- revisions to the benchmark standards with signposting to regulatory/professional bodies
- inclusion of qualification descriptors for bachelor's and master's degrees within the subject benchmark statement
- clarification of the role of the ARB's prescribed qualifications

- recognition of the application of the QAA Subject Benchmark Statement to qualifications neither prescribed by the ARB nor validated by RIBA.
- UK-wide application of the statement

This Statement applies UK-wide, which also reflects the UK-wide nature of the architects' profession and regulatory framework.

1 Nature and extent of architecture

1.1 The study of architecture draws on knowledge and skills from the natural and social sciences, mathematics, humanities and the creative arts. The discipline is concerned with the accommodation of human activity in the full range of natural, historical and social environments. The creative practice of design is the defining central focus of architecture education. The varied and complex intellectual skills of design are fundamental to the conception, elaboration and production of the spaces, buildings, cities and landscapes that make up the built environment. Design in the built environment is often a collaborative activity, requiring the application of interpersonal skills in a variety of contexts.

1.2 Architecture education is, therefore, rich, varied and, by definition, interdisciplinary, involving intellectual and practical complexity. Architecture education addresses the science, technology and engineering of building design and the constraints of practice, together with the historical and cultural dimensions of the discipline. Architecture is also constantly adapting to changing social, economic, political and environmental contexts, exemplified by climate change, globalisation, cultural diversity, information exchange and new social relationships. As a consequence, the role of the architect in society and the nature of architectural practice are constantly evolving and architecture education seeks to prepare students for this ever-changing landscape.

1.3 The creative activity of design that lies at the core of architecture education is characterised by diversity of method, theoretical underpinning and aesthetic expression. The contested nature of design gives rise, through debate, to the advancement of the subject. Design is a complex process that brings together creativity and pragmatism and is closely related to other important aspects of architectural study: technical and environmental studies; cultural context; management, practice and law; and communication. It is, therefore, the interaction of ideas, intentions and operations that gives architecture its distinctive character and allows for the variety of academic courses.

1.4 Students entering architecture courses may have little experience of design or other subjects that contribute to architectural study at higher education institutions. Students come to architecture education from a wide range of backgrounds, bringing with them the very diversity of disciplines and modes of inquiry that an architecture course requires. Many of those studying architecture do so with the intention of becoming a professional architect, or of pursuing a related career. However, the knowledge, understanding and skills that an architecture education imparts are applicable in many careers and students often go on to work in different fields.

Benchmark standards

1.5 The benchmark standards apply to courses in architecture provided by UK higher education institutions. All awards which contribute to registration as an architect through the UK route must also meet the ARB criteria in full. The ARB's criteria are available in the [Prescription of Qualifications](#): ARB Criteria at Parts 1, 2 and 3.

1.6 All awards which contribute to qualification as a RIBA Chartered Architect in the UK must also meet the RIBA criteria in full. RIBA's criteria are available in the [RIBA procedures for validation and validation criteria for UK and International courses and examinations in architecture](#).

1.7 All awards which are delivered within the apprenticeship framework for [Architectural Assistants](#) and [Architects](#) must also meet the competencies specified within the apprenticeship standards regulated by IfATE.

1.8 Benchmark standards are identified for both the bachelor's level and master's level awards. Higher education providers will not necessarily offer both and should consult the appropriate section below when designing or reviewing their courses.

1.9 The benchmark standards include the 11 clauses contained in the EU Professional Qualifications Directive 2005 (Directive 2005/36/EC of the European Parliament and of the Council on the Recognition of Professional Qualifications, Article 46 1a-k). These 11 requirements are referred to as the General Criteria.

1.10 For bachelor's degrees, the General Criteria should be read in the context of the relevant qualification descriptors. The relevant qualification descriptor will depend on whether the awarding institution is based in Scotland or elsewhere in the UK. At master's level the General Criteria should be read in the context of the qualification descriptors for master's degrees, which apply to the whole of the UK.

1.11 Graduates of the bachelor's award in England, Wales and Northern Ireland should be able to demonstrate the General Criteria in the context of the descriptors at Level 6 in the *Framework for Higher Education Qualifications of Degree-Awarding Bodies in England, Wales and Northern Ireland* (published within the [Frameworks for Higher Education Qualifications of UK Degree Awarding Bodies](#) 2014).

1.12 Graduates of the bachelor's award in Scotland should be able to demonstrate the General Criteria in the context of the descriptors at Level 9 or 10 (that is, without honours or with honours respectively) in the Scottish Credit and Qualifications Framework (published within the [Frameworks for Higher Education Qualifications of UK Degree Awarding Bodies](#) 2014).

1.13 Graduates of the master's level award throughout the UK should be able to demonstrate the General Criteria in the context of the jointly held descriptor at Level 7 in the Framework for Higher Education Qualifications of Degree-Awarding Bodies in England, Wales and Northern Ireland (FHEQ) and Level 11 in the Scottish Credit and Qualifications Framework (SCQF), published within the [Frameworks for Higher Education Qualifications of UK Degree Awarding Bodies](#) 2014.

1.14 The benchmark standards include five elements as follows:

- the General Criteria for bachelor's and master's levels
- the qualification descriptors for bachelor's level applicable in England, Wales and Northern Ireland
- the qualification descriptors for bachelor's degrees awarded without honours in Scotland
- the qualification descriptors for bachelor's degrees awarded with honours in Scotland
- the qualification descriptors for master's degrees awarded in the UK.

The General Criteria

- GC1 Ability to create architectural designs that satisfy both aesthetic and technical requirements
- GC2 Adequate knowledge of the histories and theories of architecture and the related arts, technologies and human sciences
- GC3 Knowledge of the fine arts as an influence on the quality of architectural design
- GC4 Adequate knowledge of urban design, planning and the skills involved in the planning process
- GC5 Understanding of the relationship between people and buildings, and between buildings and their environment, and the need to relate buildings and the spaces between them to human needs and scale
- GC6 Understanding of the profession of architecture and the role of the architect in society, in particular in preparing briefs that take account of social factors
- GC7 Understanding of the methods of investigation and preparation of the brief for a design project
- GC8 Understanding of the structural design, constructional and engineering problems associated with building design
- GC9 Adequate knowledge of physical problems and technologies and the function of buildings so as to provide them with internal conditions of comfort and protection against the climate
- GC10 The necessary design skills to meet building users' requirements within the constraints imposed by cost factors and building regulations
- GC11 Adequate knowledge of the industries, organisations, regulations and procedures involved in translating design concepts into buildings and integrating plans into overall planning

Qualification descriptors for bachelor's and master's level qualifications

1.15 The following descriptors indicate the typical standards that graduates are expected to have met in order to be awarded qualifications at bachelor's and master's Levels. These map onto the level descriptors found in the FHEQ and indicate how such levels are typically articulated in architecture courses.

Qualification descriptor applicable in England, Wales and Northern Ireland for a higher education qualification at level 6 on the FHEQ: bachelor's degree with honours

1.16 The descriptor provided for this level of the FHEQ is for any bachelor's degree with honours which should meet the descriptor in full. This qualification descriptor should also be used as a reference point for other qualifications at level 6 of the FHEQ, including bachelor's degrees and graduate diplomas.

1.17 Bachelor's degrees with honours are awarded to students who have demonstrated:

QD1.1 a systematic understanding of key aspects of architecture, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of the discipline

QD1.2 an ability to deploy accurately established techniques of analysis and enquiry within architecture

And, conceptual understanding that enables the student:

QD1.3 to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of the discipline

QD1.4 to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in architecture

QD1.5 an appreciation of the uncertainty, ambiguity and limits of knowledge

QD1.6 the ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to architecture).

Typically, holders of the qualification will be able to:

QD1.7 apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects

QD1.8 critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem

QD1.9 communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

And holders will have:

QD1.10 the qualities and transferable skills necessary for employment requiring:

- the exercise of initiative and personal responsibility
- decision-making in complex and unpredictable contexts
- the learning ability needed to undertake appropriate further training of a professional or equivalent nature.

Qualification descriptor applicable in Scotland for a higher education qualification at SCQF level 9 on the FQHEIS: bachelor's (non-honours) degree

1.18 The bachelor's (non-honours) degree in Scotland is typically achieved after the equivalent of three years of full-time higher education. In the main, and depending on the subjects or professional area(s) studied, it is awarded as either a Bachelor of Science (BSc), or a Bachelor of Arts (BA). Although all degrees will exhibit a balance of breadth and depth, some degrees will be highly focused while others will develop greater breadth of outcomes. The particular characteristics of each degree will be articulated in the definitive record for the course. Many degrees that have a specific vocational focus carry recognition by the appropriate professional or statutory body. In a small number of universities, in some faculties, this qualification is titled 'MA'. The bachelor's (non-honours) degree in Scotland is a recognised entry requirement to a number of professions across the UK.

1.19 Bachelor's degrees are awarded to students who have demonstrated the following.

QD2.1 A broad and comparative knowledge of the general scope of architecture, its different areas and applications, and its interactions with related subjects. A detailed knowledge of architecture. Specialised study will be informed by current developments in architecture.

QD2.2 A critical understanding of the essential theories, principles and concepts of architecture and of the ways in which these are developed through the main methods of enquiry in the subject. An awareness of the provisional nature of knowledge.

QD2.3 Familiarity and competence in the use of routine materials, practices and skills and of a few that are more specialised, advanced and complex.

QD2.4 Well developed skills for the gathering, evaluation, analysis and presentation of information, ideas, concepts and quantitative and/or qualitative data, drawing on a wide range of current sources. This will include the use of ICT as appropriate to architecture.

1.20 Typically, holders of the qualification will be able to:

QD2.5 use their knowledge, understanding and skills, in both identifying and analysing problems and issues and in formulating, evaluating and applying evidence-based solutions and arguments

QD2.6 communicate the results of their studies and other work accurately and reliably in a range of different contexts using the main specialist concepts, constructs and techniques of architecture

QD2.7 identify and address their own learning needs, including being able to draw on a range of current research, development and professional materials

QD2.8 apply their architectural and transferable skills to contexts where criteria for decisions and the scope of the task may be well defined but where personal responsibility, initiative and decision-making is also required.

Qualification descriptor applicable in Scotland for a higher education qualification at SCQF level 10 on the FQHEIS: bachelor's degree with honours

General

1.21 The bachelor's degree with honours in Scotland is typically offered through the equivalent of four years of full-time higher education. It is awarded mainly as either a Bachelor of Science (BSc Hons), or a Bachelor of Arts (BA Hons). All honours degrees will exhibit a balance of breadth and depth as will be clear from the definitive records for individual courses. Many honours degrees will have a specific vocational focus, and in some cases will carry recognition by the appropriate professional or statutory body. In a small number of universities, in some faculties, this qualification is titled 'MA (Hons)'. The honours degree is the recognised 'normal' entry requirement to postgraduate study and to many professions across the UK.

1.22 Honours degrees are awarded to students who have demonstrated the following.

- QD3.1 A systematic, extensive and comparative knowledge and understanding of architecture as a whole and its links to related subjects. A detailed knowledge of a few specialisms and developments, some of which are at, or informed by, the forefront of architecture.
- QD3.2 A critical understanding of the established theories, principles and concepts, and of a number of advanced and emerging issues at the forefront of architecture.
- QD3.3 A critical understanding of the uncertainty and limits of knowledge and how it is developed, and an ability to deploy established techniques of analysis and enquiry within architecture.
- QD3.4 A comprehensive knowledge and familiarity with essential and advanced materials, techniques and skills, including some at the forefront of architecture.
- QD3.5 Skills in identifying information needs, and in the systematic gathering, analysis and interpretation of ideas, concepts and qualitative and quantitative data and information from a range of evaluated sources, including current research, scholarly, and/or professional literature.

1.23 Typically, holders of the honours degree will be able to:

- QD3.6 use their knowledge, understanding and skills in the systematic and critical assessment of a wide range of concepts, ideas, and data (that may be incomplete), and in both identifying and analysing complex problems and issues, demonstrating some originality and creativity in formulating, evaluating and applying evidence-based solutions and arguments
- QD3.7 communicate the results of their study and other work accurately and reliably using the full repertoire of the principal concepts and constructs of architecture
- QD3.8 systematically identify and address their own learning needs both in current and in new areas, making use of research, development and professional materials as appropriate, including those related to the forefront of developments
- QD3.9 apply their subject-related and transferable skills in contexts of a professional or equivalent nature where there is a requirement for:
 - the exercise of personal responsibility and initiative decision-making in complex and unpredictable contexts
 - the ability to undertake further developments of a professional or equivalent nature.

Qualification descriptor at level 7 on the FHEQ and SCQF level 11 on the FQHEIS: master's degree applicable in England, Scotland, Wales and Northern Ireland)

1.24 The descriptor provided for this level of the frameworks is for any master's degree which should meet the descriptor in full. This qualification descriptor should also be used as a reference point for other qualifications at level 7/ SCQF level 11 on the Framework for Qualifications of Higher Education Institutions in Scotland (FQHEIS), including postgraduate certificates and postgraduate diplomas.

Master's degrees are awarded to students who have demonstrated:

- QD4.1 a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of architectural practice
- QD4.2 a comprehensive understanding of techniques applicable to their own research or advanced scholarship
- QD4.3 originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline

And, conceptual understanding that enables the student to:

- QD4.4 evaluate critically current research and advanced scholarship in architecture
- QD4.5 evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.

Typically, holders of the qualification will be able to:

- QD4.6 deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences
- QD4.7 demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level
- QD4.8 continue to advance their knowledge and understanding, and to develop new skills to a high level.

And holders will have:

- QD4.9 the qualities and transferable skills necessary for employment requiring:
 - the exercise of initiative and personal responsibility
 - decision-making in complex and unpredictable situations
 - the independent learning ability required for continuing professional development.

2 Learning and teaching

Course design and operation

2.1 Architects have a unique conceptual and integrative role in the making of buildings and places, working in cooperation with communities, clients and others within the construction industry and professional services sectors. The defining skill of the architect is design - the ability to conceive of, and elaborate on, physical artefacts that respond to human needs and values and evoke aesthetic and intellectual responses. The extensive body of technical and cultural knowledge that is required to enable the architect to meet the pragmatic requirements of practice, and to give designs cultural resonance, complements this core skill.

2.2 Just as the practice of designing buildings revolves around the idea of the project, architecture education is typically based upon a sequence of design projects in which students integrate and apply knowledge to satisfy particular requirements in a particular place. It is an established requirement that at least half of the assessed work in a course leading to prescribed and validated qualifications should be devoted to design, and this is typically interpreted as being design project work. While many aspects of the body of theoretical, historical, technical and professional knowledge required for effective practice may be learned in the context of the design project, most courses include a variety of subject-based courses that enable students to gain an understanding of the coherent nature of particular bodies of knowledge. Such courses may beneficially be shared by students of other professional and associated disciplines.

2.3 The early stages of an architecture education are concerned with the development of new intellectual frameworks and skills. Project work at this stage is commonly divided into small elements with regular assessment and feedback. As the student progresses, the level of complexity of each element of study increases.

2.4 Engagement with practice is essential to the education of the architect. Many teachers of architecture are also active in practice, and the contribution of visiting tutors and critics is an important component of an architecture course. Monitored professional experience is a prerequisite for ARB registration and RIBA membership. It offers students the opportunity to apply their skills and knowledge and to develop their understanding of practice, and the roles and responsibilities of architects and other professionals.

2.5 A period of professional experience may be a compulsory element of an academic course, or it may be a requirement for admission to a master's level course. Architecture courses may be designed as part-time degrees, with students continuing to work in practice, or as apprenticeships where work-based learning is integral to the course.

2.6 In addition to the requirements for students to engage in personal development planning during periods of professional experience, architecture education promotes reflective practice through studio, tutorial and assessment processes. Students are encouraged to produce sketchbooks, learning journals or reflective diaries related to their work. The progressive assembly of an academic portfolio (comprising design project work, written and other assignments) represents an important aspect of personal development planning.

Design projects

2.7 Through a process of project-based learning and teaching, students develop the skills required to produce architectural designs, gain an understanding of the application of technical knowledge to design situations, and explore how theory and action inform each other.

2.8 The scale and subject matter of design projects is varied, but the general pattern is constant. Students respond individually, or in groups, to a brief or proposition. Ideas are developed using a variety of drawing, making and computer-based methods supported by discussions with tutors, fellow students and others. Proposals are presented using drawings, sketchbooks, physical models and artefacts, computer models and digital images, often accompanied by explanatory text.

2.9 An important element of this method of learning and teaching is the regular participation of practicing professionals from architecture and cognate professions, bringing their experience and expertise into the academic setting. The interaction of a cohort of student peers together with academics, professionals, live project clients and consultants, as a community of practice in the learning and teaching setting, allows a dialogue - incidental, structured, and iterative - which is important to this educative process. As part-time tutors, visiting lecturers and critics they play a key role in the verbal presentation and critique of students' work in a variety of settings ranging from formal and informal public reviews and critiques to individual and group tutorials. Experienced practitioners contribute to learning and teaching through mentoring the next generation of graduates in professional practice while benefitting from the skills and knowledge the students bring to the practice setting. Experienced practitioners also fulfil an essential role as part of the external examining team.

2.10 While academic studio projects share some general characteristics with professional project work, they vary widely in length, focus and subject matter. Each project is designed to fit into a coherent sequence that runs throughout a course of study. Sometimes a project seeks comprehensive responses, at other times a project may address particular aspects of the design.

2.11 There is never a single correct answer in design. Students' responses are likely to be diverse, drawing on a combination of interpretation, intuition, logical process and established practice.

2.12 In formulating their proposals, students will be engaged in an iterative process of research, interpretation, proposition, reflection, critical analysis and synthesis that typically considers site and cultural context, user needs and values, economics and technical resolution. The inherent complexity and open-ended nature of design requires students to make a considerable investment in the time devoted to project work and it is not uncommon for students to devote considerably more time to their project work than the credit weighting would suggest. Those designing and delivering architectural courses should be mindful of this characteristic of project work and seek to ensure that all coursework requirements are reasonable and achievable within the allocated study hours.

Other methods

2.13 While the design project is central to learning in architecture (as in other creative disciplines), other pedagogical methods are essential to the development of the knowledge and skills required in the practice of architecture.

2.14 Some aspects of architectural knowledge may be learned through coherent linear or block courses based on structured reading, lectures, visits, observational drawing and seminars. These aspects include history; theory; management, practice and law; and principles of structure, environmental science and construction. Alternatively, these aspects may be integrated, in whole or in part, within design projects.

2.15 Research and writing skills are essential to professional practice, and courses should include elements aimed at developing students' abilities in these areas, including essay and report-writing assignments. Typically, students undertake a specialist research study or other analytical and structured piece of writing, which may be called a dissertation.

2.16 Interactive computer-based study is increasingly available to support the development of skills and knowledge. Collaborative group work, which can include cross-disciplinary work, is an important means of developing team-working skills that are essential in practice. Live project work that gives students practical experience of working closely with communities, clients and users while developing collaborative and team-working skills is also an important aspect of some architectural courses.

2.17 Study visits in the UK, elsewhere in Europe and further afield offer students an invaluable opportunity to experience a wide range of architecture and contrasting cultural contexts, as well as buildings-in-progress on construction sites. While highly recommended, study visits requiring additional financial contributions by students typically do not form a mandatory element of the learning experience.

Environment and resources

2.18 Design project work is considered by teachers and practitioners to be essential in learning the skills of architectural design. Closely associated with the recognition of the design project as the core learning experience is the use of studio-based teaching and learning as an essential component of architecture education. Artists and architects have often chosen to work in large well-lit rooms with large tables for drawing and space for making, and this prototype was consequently adopted as the predominant learning and teaching environment in architecture.

2.19 The word 'studio' means much more in architecture education than a convenient workroom. It is also a form of socialised learning which promotes discourse and the exchange of ideas. It encompasses creative cooperative working in which the outcomes, the architectural design and the educational benefit in terms of skill development, are greatly superior to that which could be achieved by the individual student working alone.

2.20 Implicit in this view of studio teaching is the very direct relationship between students, and between student and tutor, involving frequent one-to-one and small group tutorials. It is resource-intensive in terms of physical space as well as staff time. Ideally, studios should be designed with good natural lighting, large floor areas to accommodate appropriate furniture for studio working and adequately equipped space for either the presentation of digital work, or the presentation of physical drawings and models, or a combination of the two. To be fully effective, studio space should be dedicated to architectural teaching and students should have access to it for long periods of intense, uninterrupted, cooperative activity and peer learning. There is a strong correlation between

consistent participation in the life of the studio and the quality of designs produced by students and the acquisition of design skills.

2.21 Within the conventional educational environment the studio is the setting for the creation, display and discussion of design work in individual and group tutorials as well as in more public reviews. In addition, the studio is increasingly used as a setting for the learning and teaching of theoretical, historical, professional and technical aspects of architecture. It is generally recognised that the existence of convenient, secure and accessible studio space makes a decisive contribution to the specific and intensive qualities of architecture education and professional culture, and that the studio is essential to the maintenance of the integrity and strength of the discipline of architecture.

2.22 Studios should provide all students with adequate access to power and data, secure storage and storage for materials, models and work in progress. Studios should have easy access to printing and plotting facilities and ideally access to kitchen facilities. Studio spaces should be supported by adequate space for the display of student work either as part of exhibitions or as part of periodic open critiques or reviews of student project work. Ideally, each student should be provided with a dedicated space sufficient to allow them to work within the studio environment for the duration of design projects.

2.23 Although traditional drawing skills remain important in the development of design abilities, digital technologies offer essential tools in the development and presentation of design work. The rapid development of information and computer technology in architectural and construction practice presents a challenge to higher education providers, which need to be able to offer facilities comparable to those that students will work with in practice. They need sufficient access to up-to-date software, to the high specification hardware needed to run complex graphic and analytical courses, and to high quality, large format printers, plotters and 3-D output devices.

2.24 Well-equipped workshops that allow the construction of artefacts, physical models and full-size mock-ups are an important resource for architecture education. The availability of well-qualified technical support staff is essential for the efficient and productive use of computer facilities and workshops.

2.25 Architecture students require access to a comprehensive collection of technical literature, statutory instruments and standards as well as an up-to-date library of books and journals.

3 Assessment

Assessment of design work

3.1 The regular formative review of students' design project work is an important part of the learning process. At the end of a project, and sometimes at intermediate stages, each student presents his or her work to an audience of fellow students, tutors and visiting critics. Feedback may be given to students in a variety of forms. These events are commonly referred to as crits or reviews.

3.2 In many cases, students actively participate in the discussion and feedback. The regular review of student work in a public arena is important in the development of critical self-reflection, a key skill in the acquisition and application of all architectural knowledge.

3.3 The summative assessment of design work can be carried out by multiple assessors at project reviews, or at a separate portfolio review, or through the submission of project reports. Assessments may rely on hard copies being provided, or on various forms of digital submission. The supporting IT infrastructure should allow for the particular nature of architectural project submissions. While summative assessment should be based on clear and explicit criteria, the marking process relies heavily on the expert judgements of discerning markers and examiners.

Assessment of other work

3.4 Other elements of the course are assessed using methods of formative and summative assessment appropriate to higher education. Courses are expected to include substantial requirements for written texts at all levels, ranging from notation on drawings to report writing and scholarly essays. In some cases, supporting subjects are assessed synoptically alongside design project work.

3.5 Besides a range of practical and academic skills, architecture graduates are expected to display commitment, artistry, personal expression, imagination and creativity. Graduates are expected to possess an understanding of professional ethics and professional behaviours.

Appendix 1: Membership of the Review Group for the Subject Benchmark Statement for Architecture

Membership of the review group for the Subject Benchmark Statement for Architecture (2019)

Mr Peter Garstecki	Architectural Apprenticeship Trailblazer Group
Professor David Gloster	Royal Institute of British Architects (RIBA)
Ms Olivia Marshall	Architecture Student Network (ASN)
Ms Emma Matthews	Architects Registration Board (ARB)
Professor David McClean	Robert Gordon University
Dr Andy Roberts	Cardiff University
Ms Hannah Vowles	Birmingham City University
Professor Peter Walker	University of Salford
Professor Alexander Wright (Chair)	University of Bath
Simon Bullock	QAA

Membership of the review group for the Subject Benchmark Statement for Architecture (2010)

Details provided below are as published in the second edition of the Subject Benchmark Statement.

Iain Borden	University College London
Caine Crawford	ARCHAOS (National Student Architectural Society)
Judi Farren-Bradley	Kingston University
Katharine Heron (Chair)	University of Westminster
Jim Low	Birmingham City University
Richard Parnaby	University of the West of England, Bristol
David Porter	Glasgow School of Art
Andy Roberts	The Higher Education Academy Subject Centre for Education in the Built Environment (CEBE)
Richard Saxon	Building Design Partnership and Royal Institute of British Architects (RIBA)
In attendance	
Laura Bellingham	Quality Assurance Agency for Higher Education (QAA)
Chris Cross	Standing Conference of Heads of Schools of Architecture (SCHOSA)
Chris Ellis	SCHOSA
Emma Matthews	Architects Registration Board (ARB)
David Gloster	RIBA
Sarah Lupton	ARB
Mike Starling	ARB

Membership of the original benchmarking group for architecture (2000)

Details below appear as published in the original Subject Benchmark Statement for Architecture, Architectural Technology and Landscape Architecture (2000).

Ms A Boddington	University of Brighton
Mr D Clews	University of North London
Professor D Dunster (Chair)	University of Liverpool
Dr M Fraser	Oxford Brookes University
Professor J Low	University of Central England in Birmingham
Professor S Spier	University of Strathclyde

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Southgate House, Southgate Street, Gloucester GL1 1UB
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Tel: 01452 557 000
Website: www.qaa.ac.uk