QAA

Subject benchmark statement

Architectural technology

October 2014

UK Quality Code for Higher Education
Part A: Setting and maintaining academic standards

Contents

How can I use this document?

This document is a subject benchmark statement for architectural technology that defines what can be expected of a graduate in the subject, in terms of what they may know, do and understand at the end of their studies.

You may want to read this document if you are:

- involved in the design, delivery and review of programmes of study in architectural technology or related subjects
- a prospective student thinking about studying architectural technology, 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 architectural technology.

Explanations of unfamiliar terms used in this subject benchmark statement can be found in the Quality Assurance Agency for Higher Education's (QAA's) glossary.[1]

[1] The QAA glossary is available at: www.qaa.ac.uk/aboutus/glossary.

About subject benchmark statements

Subject benchmark statements form part of the UK Quality Code for Higher Education (Quality Code) which sets out the Expectations that all providers of UK higher education reviewed by QAA are required to meet.[2] They are a component of *Part A: Setting and maintaining academic standards*, which includes the Expectation that higher education providers 'consider and take account of relevant subject benchmark statements' in order to secure threshold academic standards.[3]

Subject benchmark statements describe the nature of study and the academic standards expected of graduates in specific subject areas and in respect of particular qualifications. They provide a picture of what graduates in a particular subject might reasonably be expected to know, do and understand at the end of their programme of study.

Subject benchmark statements are used as reference points in the design, delivery and review of academic programmes. They provide general guidance for articulating the learning outcomes associated with the programme 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 programme design within a framework agreed by the subject community. Further guidance about programme design, development and approval; learning and teaching; assessment of students; and programme monitoring and review is available in *Part B: Assuring and enhancing academic quality* of the Quality Code in the following Chapters:[4]

- *Chapter B1: Programme design, development and approval*
- *Chapter B3: Learning and teaching*
- *Chapter B6: Assessment of students and the recognition of prior learning*
- *Chapter B8: Programme monitoring and review.*

For some subject areas, higher education providers may need to consider other reference points in addition to the subject benchmark statement in designing, delivering and reviewing programmes. These may include requirements set out by professional, statutory and regulatory bodies; national occupational standards and industry or employer expectations. In such cases, the subject benchmark statement may provide additional guidance around academic standards not covered by these requirements.[5] The relationship between academic and professional or regulatory requirements is made clear within individual statements, but it is the responsibility of individual higher education providers to decide how they use this information. The responsibility for academic standards remains with the higher education provider who awards the degree.

Subject benchmark statements are written and maintained by subject specialists drawn from and acting on behalf of the subject community. The process is facilitated by QAA. 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.

[2] The Quality Code, available at www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code, aligns with the *Standards and Guidelines for Quality Assurance in the European Higher Education Area*, available at: www.enqa.eu/wp-content/uploads/2013/06/ESG_3edition-2.pdf.
[3] *Part A: Setting and maintaining academic standards*, available at: www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/quality-code-part-a.
[4] Individual Chapters are available at: www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/quality-code-part-b.
[5] See further *Part A: Setting and maintaining academic standards*, available at: www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/quality-code-part-a.

Relationship to legislation

Higher education providers are responsible for meeting the requirements of legislation and any other regulatory requirements placed upon them, for example by funding bodies. The Quality Code does not interpret legislation nor does it incorporate statutory or regulatory requirements. Sources of information about other requirements and examples of guidance and good practice are signposted within the subject benchmark statement where appropriate. Higher education providers are responsible for how they use these resources.[6]

Equality and diversity

The Quality Code embeds consideration of equality and diversity matters throughout. Promoting equality involves treating everyone with equal dignity and worth, while also raising aspirations and supporting achievement for people with diverse requirements, entitlements and backgrounds. An inclusive environment for learning anticipates the varied requirements of learners, and aims to ensure that all students have equal access to educational opportunities. Higher education providers, staff and students all have a role in, and responsibility for, promoting equality.

Equality of opportunity involves enabling access for people who have differing individual requirements as well as eliminating arbitrary and unnecessary barriers to learning. In addition, disabled students and non-disabled students are offered learning opportunities that are equally accessible to them, by means of inclusive design wherever possible and by means of reasonable individual adjustments wherever necessary.

[6] See further the *UK Quality Code for Higher Education: General Introduction*, available at: www.qaa.ac.uk/publications/information-and-guidance/publication/?PubID=181.

About this subject benchmark statement

This subject benchmark statement refers to bachelor's degrees with honours and master's degrees in architectural technology.[7]

This version of the statement forms its third edition, following initial publication in 2000 and review and revision in 2007.[8]

Note on alignment with higher education sector coding systems

Programmes of study which use this subject benchmark statement as a reference point are generally classified under the following codes in the Joint Academic Coding System (JACS):[9]

B920 (Occupational health); C183 (Community ecology); C360 (Pest science), C470 (Population genetics & evolution); C810 (Applied psychology); C811 (Occupational psychology); C890 (Psychology not elsewhere classified; C910 (Applied biological sciences); D443 (Water resource management); D444 (Land management for recreation); D445 (Biological heritage site); D517 (Community forestry); F130 (Structural chemistry); F190 (Chemistry not elsewhere classified); F300 (Physics); F310 (Applied physics); F311 (Engineering physics); F321 (Solid-state physics); F420 (Archaeological science); F490 (Forensic & archaeological sciences); F751 (Applied environmental sciences); F752 (Hydrology); F753 (Pollution control); F754 (Biogeochemical cycles); G150 (Mathematical modelling); G160 (Engineering/industrial mathematics); G200 (Operational research); G310 (Applied statistics); H100 (General engineering); H110 (Integrated engineering); H120 (Safety engineering); H121 (Fire safety engineering); H122 (Water quality control); H123 (Public health engineering); H130 (Computer-aided engineering); H131 (Automated engineering design); H140 (Mechanics); H141 (Fluid mechanics); H142 (Solid mechanics); H143 (Structural mechanics); H160 (Bioengineering, biomedical engineering & clinical engineering); H162 (Biomechanics (including fluid & solid mechanics)); H200 (Civil engineering); H210 (Structural engineering); H220 (Environmental engineering); H221 (Energy resources); H231 (Permanent way engineering); H232 (Pavement engineering); H241 (General practice surveying); H242 (Engineering surveying); H250 (Geotechnical engineering); H311 (Thermodynamics); H350 (Offshore engineering); H674 (Virtual reality engineering); I100 (Computer science); I461 (Automated reasoning); I990 (Computer sciences not elsewhere classified); J200 (Metallurgy); J220 (Metallic fabrication); J230 (Corrosion technology); J320 (Glass technology); J614 (Marine plumbing); K100 (Architecture); K110 (Architectural design theory); K120 (Interior architecture); K130 (Architectural technology); K190 (Architecture not elsewhere classified); K200 (Building); K210 (Building technology); K220 (Construction management); K230 (Building surveying); K240 (Quantity surveying); K250 (Conservation of buildings); K251 (Property development); K290 (Building not elsewhere classified); K310 (Landscape architecture); K400 (Planning (urban, rural & regional)); K410 (Regional planning); K420 (Urban & rural planning); K430 (Planning studies); K440 (Urban studies); M100 (Law by area); M200 (Law by topic); M222 (Contract law).

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[7] Bachelor's degrees are at level 6 in *The framework for higher education qualifications in England, Wales and Northern Ireland* (2008) and level 10 in the *Scottish Credit and Qualifications Framework* (2001), and master's degrees are at level 7 and level 11 respectively.
[8] Further information is available in the *Recognition scheme for subject benchmark statements*, available at: www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Recognition-scheme-for-subject-benchmark-statements.aspx.
[9] Further information about JACS is available at www.hesa.ac.uk/content/view/1776/649/.

Summary of changes

This revised benchmark statement sets out the academic standards for architectural technology and the knowledge and understanding which someone graduating in the subject is expected to possess prior to embarking on a career in architectural technology. This review has been undertaken by an advisory group, representing the sector of architectural technology including chartered architectural technologists, academia, the profession and industry.

This subject benchmark statement is a revision of the QAA subject benchmark statement, published in 2007, which has now undergone a further review and been updated in response to a rapidly changing industry, society, environment, national and international economic dimension. The architectural technology subject benchmark statement reflects these changes in the context of the industry within which the subject sits, including the need to produce graduates that are employable yet adaptable, agile and flexible to respond to challenges and future changes.

The ever-increasing professional diversity within architectural technology is recognised in this statement alongside the need and demand to develop the subject at honours and master's degree level. This document does not prescribe substantive content, but rather indicates the areas of knowledge which constitute the core of the subject. It also does not describe or refer to the professional or occupational standards, although the professional competencies of the Chartered Institute of Architectural Technologists[10] have been used to inform and contribute to the content and body of knowledge that underpins this subject benchmark statement.

[10] Chartered Institute of Architectural Technologists: www.ciat.org.uk/.

1 Introduction

1.1 The relationship that society has with the built environment involves differing needs, functions and aspirations. These requirements have to be identified, investigated, researched, and evaluated to ensure that projects are designed and constructed to be economical, environmentally sustainable and robust and perform efficiently and effectively within their planned life. These requirements must also recognise how social needs influence the design and construction process which includes users' experience of the completed building or project. In doing so, modern design and construction frequently involves the use of architectural technology, through new materials and components, the development of new concepts, modelling, techniques and strategies. Adding to this is the impact of information and communication technologies (ICT), modelling the whole building life cycle process, procurement strategies and extensive service installations and their influence on the design and construction process. The design and construction functions have therefore become more complex and architectural technology is now a key subject in both areas with a primary focus on designing for building performance and construction production through and by the integration of technology.

1.2 The ever-increasing impact and influence of architectural technology on building design, the science and engineering of buildings, building and the design and construction processes, within the subject of architectural technology, has seen rapid growth and change. These changes are now impacting on the broadening and deepening of the subject knowledge of architectural technology and the need for specialisation and diversification beyond honours degree level. As a result of this evidence there is now a master's degree level baseline performance and reference criteria included within this subject benchmark statement.

1.3 The subject of architectural technology does not sit in isolation but is part of a larger academic domain comprising the built and natural environments, so this statement may be cross-referenced with other related subject benchmark statements. All programmes are encouraged to draw upon knowledge concepts and paradigms from a wide range of sources. Professionals and students exist within a rapidly changing industry, where they play significant professional roles in leading, designing and managing projects and integrated teams, to deliver and achieve a sustainable built environment. This includes applying architectural technology as the link between design and construction to achieve the optimisation of production and long term performance, with the use of ICT and modelling technologies for managing, assessing and evaluating projects.

1.4 The specifications and criteria set out within this subject benchmark statement are intended to provide a broad framework from which programme providers may develop purposeful and challenging architectural technology education and learning that responds to the needs of their students and to the changing nature of the subject of architectural technology.

1.5 The benchmark standard is expressed as a threshold level of performance expected of all honours and master's degree graduates. This is the baseline performance and reference criteria necessary within honours and master's degree programmes in architectural technology. This reflects the nature of the subject which is competency based and therefore has only one standard, that of threshold.

2 Defining principles

2.1 Architectural technology is a subject that is integral to the design of buildings and structures. It is rooted in science and engineering knowledge applied to the design of buildings to achieve optimum functionality; efficient and effective construction; and robust, durable and sustainable design solutions that perform over time.

2.2 Architectural technology encompasses the impact of changing social, economic, legal, cultural, environmental, technological, business and political frameworks on the built and natural environment. It is anticipated that all architectural technology degrees will develop students' knowledge and critical understanding relating to design, technology, management and practice within a national and international context. This understanding supports the ability of practitioners to make an effective contribution within local, national, European and global contexts. Architectural technologists are engaged in projects globally and many spend time working both nationally and internationally. It is therefore important that an international dimension is included in architectural technology programmes to ensure graduates are aware of the international context of their subject.

2.3 The subject reflects inclusive design and the needs and experiences of individuals, businesses and communities. The processes involved in the design, production and use of the built environment are generally labour intensive and complex in human terms. Hence the study of architectural technology develops an awareness of health, safety and welfare issues, quality of life, social well-being and ethical responsibilities that enable the diverse needs and requirements of all stakeholders to be recognised and included. Inclusive design puts people at the heart of the design process and helps to ensure that all users have the opportunity to have the same experience of a building, place or space regardless of their disability, age, gender, or faith to create accessible and inclusive communities.

2.4 The ever-increasing impact of ICT on the design and construction of buildings and structures is also reflected within the subject of architectural technology to acknowledge the greater need for modelling, coordination and cohesion of the whole-life building process.

2.5 The subject benchmark statement represents general expectations about standards within architectural technology and it is intended, in dialogic mode, to encourage collaborative relationships. This would include areas of interest to which the subject benchmark statement applies and also within the related built environment subject areas more generally. It is predicted that an architectural technology career pathway and job functions will be diverse and evolve within an industry that is likely to go through major changes in the next decade. In recognition of the professional diversity and employability of those working within architectural technology this should be reflected through encouraging adaptability, agility, diversity and specialisms in a fast-changing industry and work place with an attempt to future-proof knowledge and the development of new competencies and contexts.

2.6 This subject benchmark statement includes the range of master's degrees in architectural technology which may be designed to address a particular specialism or sub-discipline within architectural technology in greater detail. The range of possible master's degrees in architectural technology may include:

- programmes which build directly on honours degrees in some aspect of architectural technology but in greater depth
- professional programmes where the emphasis is on current professional practice
- interdisciplinary programmes which involve advanced scholarship, or which address a range of applications focused on particular employment opportunities.

The terms 'generalist' and 'specialist' master's degrees are used in this context and both possibilities are accommodated in this benchmark statement. The terms indicate different balances between breadth and depth; generalist master's are broader in nature, specialist master's are deeper.

3 Nature and extent of architectural technology

3.1 Architectural technology, as the technology of architecture, is an essential function routed in design and a major influence on the project process, building performance and building construction. Architectural technology professionals are responsible for ensuring that design solutions result in buildings and structures that are constructed economically and perform efficiently and effectively within the context of user needs and environmental, regulatory and budgetary requirements. Architectural technology is:

- an essential subject which encompasses knowledge and understanding which underpins the design of buildings and structures, as both a product and a process, to provide value for money and avoid premature building degradation and failure
- able to crucially influence design in relation to the construction process, as this ensures that buildings are economical, efficient and effective
- fundamental to the retrofit of design to existing buildings and a need to develop new approaches to evaluate existing structures through knowledge of building diagnostics and pathology to ensure that design solutions are compatible with the existing structure
- vital to the project and design management process of the building life cycle through the integration of technology and the use of ICT, including modelling: furthering collaborative working to aid production, performance, efficiency and effectiveness
- critical to ensure the long-term performance of buildings and structures, as architectural technology and building design are based upon knowledge and understanding of the science and engineering behavior of materials and components, with consideration of durability, robustness and knowledge of the life span and characteristics of building systems, materials and components.

3.2 Programmes in architectural technology are designed to meet the needs of industry, the profession and wider society, and generally:

- involve students in an intellectually stimulating experience of learning and studying which instils a sense of enthusiasm and passion for architectural technology, with an appreciation of its history and application in different contexts
- underline the essential position of science, engineering and technology to the design, production and performance of building and construction
- emphasise the value placed on design context and concept in relation to detailed design, health and safety and production information, including technical regulatory factors affecting buildability, sustainability and performance while considering inclusive design
- impart knowledge of project management, design management, procurement and contract
- exploit both knowledge and understanding of architectural technology to provide an analytical methodology in the derivation of solutions to design and construction-related problems through investigation and diagnostics
- develop an understanding and appreciation of the process and integration of architectural technology, design envelope and interior with structural design and building services
- reflect upon architectural technology in a technological, social, legal and economic context to encourage the development of reflective professionals
- equip students with a thorough knowledge of best practice technical access standards and relevant legislation
- ensure students apply the principles of inclusive design to projects and processes
- give an understanding of how disabled people, older people or families with small children perceive, experience and use all aspects of the built environment

- initiate an understanding of business and management skills including professional practice as appropriate to the profession of architectural technology and to be developed through subsequent professional development
- develop an appreciation of the national and international dimension of architectural technology.

3.3 The subject is underpinned by acceptable levels of numeracy and literacy, industry awareness, and ICT competence. Students are made aware of underlying principles in the social and natural sciences where these affect the subject matter of their programmes of study.

3.4 Students acquire knowledge and understanding of the context, core concepts and theories relevant to architectural technology but may also broaden their knowledge in cognate and non-cognate subjects. They acquire the subject-specific skills that enable them to work effectively within the area covered by their specialism. This is supported by the development of skills, not purely specific to the subject, which they are able to apply within the academic context and the work environment.

4 Subject knowledge and understanding

4.1 Architectural technology is constantly changing and as such the importance attached to the historical and contemporary context will also continually change. While it is acknowledged that the depth and breadth in which individual aspects are treated may vary within the nature of specific architectural technology programmes, it is anticipated that all programmes ensure that students become conversant with the main aspects relating to design, technology, management and practice within a national and international context.

4.2 The subject knowledge as listed is indicative and there is purposely no attempt made to prioritise weight, prescribe or balance these subjects. Inclusion of each of these subject-specific areas within a programme gives students the required skills in understanding, principles, application, analysis, synthesis and evaluation, to differing extents:

- history and context, design of buildings including new buildings and alteration, extension and conservation of existing buildings
- factors used to establish the fundamental link between design and the technological, environmental, cultural, economic and social parameters
- design related to architectural technology as the technology of architecture ontologies, forms, functions, concepts and contexts
- design and construction process and systems efficiency, effectiveness, economic environmental sustainability and environmental impact user and market needs, cost, quality, environmental impact, safety, reliability, appearance, fitness for purpose including accessibility and inclusive design, life cycle, maintenance and refurbishment
- legal and regulatory requirements including health and safety, litigation and indemnity insurance, business and organisation structures, continuous improvement and quality assurance techniques
- science and engineering of materials and components related to design for production and performance, tectonics, design and technical guides, material certification
- building services engineering, environmental science and structural engineering related to design for production and performance
- project and design management, project procurement and process, construction and contract management architectural technology in relation to practice and employment
- computer-aided design, three-dimensional modelling, information and communication technology and building information modelling, new and emerging technologies, processes, modelling, knowledge management, information management, enterprise and infrastructure architecture
- building performance appraisal, investigation, diagnostics and non-destructive testing including the ongoing processes of evaluation, development, redevelopment and maintenance and the solution of related multifaceted problems and reliability engineering.

4.3 A systematic and broad understanding of the concepts of architectural technology is assumed prior to a student undertaking a master's degree programme of study to support their development of further in-depth knowledge and critical awareness at this level.

5 Subject-specific skills

5.1 The subject-specific cognitive skills that students are expected to have developed by the end of their honours degree programme in architectural technology are:

- an awareness of the context, and the political, economic, environmental, social and technological aspects that inform and influence the practice of architectural technology nationally and internationally
- an awareness of the technological theories that inform and influence the practice of architectural technology
- an ability to problem solve to realise the design into built form through the generation of detailed design solutions that respond to familiar and unfamiliar situations
- an ability to successfully complete a sustainable and inclusive design project, systematic review or systematic case study, informed by current understandings in the discipline
- an awareness of building elements, components, systems, and methods used for different building typologies and an ability to identify appropriate methodologies for dealing with complex problems
- an awareness of current topics and practices which inform the discipline of architectural technology including new and emerging technologies
- an awareness of project and design management, project procurement and process, construction and contract management
- an ability to identify hazards and risks and develop and maintain safe systems of work
- an ability to identify relevant legislation and legal and regulatory frameworks
- an ability to work independently and as a member of a team, developing critical discussion and analysis of complex concepts, identifying personal development needs and to plan to meet these needs through relevant and appropriate methods.

5.2 Additional subject-specific cognitive skills demonstrated at master's level are the ability to:

- make critically informed choices about issues and considerations which influence the delivery of sustainable and inclusive design
- research, analyse and critically appraise design methodologies relating to the building fabric and envelope and identify relationships and influences on a healthy and comfortable building environment
- articulate in a critically informed manner development of more complex architectural technology, construction, materials and services related to sustainability and in relation to advancements in built environment and the wider community including inclusive design
- acquire a critical awareness of the complexities and interdependencies of sustainable design and the constraints involved in applying the theories of sustainability into practice at a variety of development scales
- critically examine the relationship of architectural technology to design and construction methods, materials and components to the climate and the natural world and resources
- demonstrate a critical awareness of sustainable design principles and emergent technologies and concepts using a wide range of information sources
- critically evaluate the theoretical approaches and form considered judgements relevant to the spatial, aesthetic, technical and social qualities of a sustainable design within the scope and scale of wider development

- define objectives pertinent to the chosen architectural technology research problem, critically evaluate and apply established techniques of research and enquiry in pursuing those research objectives.

5.3 The subject-specific practical skills that students are expected to have developed by the end of their honours degree programme in architectural technology are the ability to:

- produce creative design solutions utilising high-quality architectural 2D or 3D presentations, artefacts and parametric models through the application of various methodologies
- establish client requirements and user factors; identify challenges and preferences in order to develop the design brief and formulate proposals that respond to the brief
- apply legal and regulatory requirements to achieve inclusive and sustainable buildings using building regulations, health and safety, quality assurance and control systems
- present architectural technology information and articulate arguments clearly and correctly, in an appropriate format to a range of audiences
- realise the design into built form through the generation of detailed technical solutions that respond to complex and unfamiliar situations
- utilise diagnostic methods in the identification of structural elements and the general condition, evaluation of building survey information and assessing a building scope when considering refurbishment or other work
- utilise technical and performance requirements and methods for specifying materials and components including implementation of manufacturers' literature, design and technical guides, material certification.

5.4 Additional subject-specific practical skills demonstrated at master's level are the ability to:

- select appropriate techniques and procedures
- show competence in the planning, design and execution of research work
- work independently and be self-critical in the evaluation of risks, procedures and outcomes
- use an understanding of the limits of accuracy of data and publications to inform future work.

5.5 The development of generic skills in communication, numeracy, ICT, working with others, improving own learning and performance, and problem solving help architectural technology graduates extend their own learning and performance. In a world that requires people to respond to and anticipate change, these skills are essential to remaining employable and flexible in future work, including self-employment. By the end of their honours degree programme in architectural technology, students are expected to have developed the ability to:

- develop a strategy for using the relevant key skill over an extended period of time, and plan how this will be achieved
- monitor progress, critically reflect on their performance in using the relevant skill, and adapt their strategy, as necessary, to achieve the quality of outcomes required
- evaluate their overall strategy and present the outcomes from their work, including ways of further improving their skills.

5.6 Additional generic skills at master's level are an ability to demonstrate:

- problem-solving skills including self-direction and originality
- effective communication and interaction with professionals from other subjects
- exercise of initiative and personal responsibility
- making decisions in complex and unpredictable situations
- independent, inter-disciplinary and team working.

6 Teaching, learning and assessment

6.1 As a vocational subject the academic challenge of programmes reflects the nature of the professional architectural technology sector. The variety of architectural technology programmes offered by higher education providers has led to a rich range of teaching, learning and assessment methods being employed. As a subject that bridges theoretical, practical and professional activities, its pedagogy embraces the practical application of theory and the embedding of employability skills. Approaches such as case studies, practical development projects using real sites, project simulations and collaborative interdisciplinary projects are encouraged because of their particular relevance to the subject area.

6.2 The learning experience reflects the vocational nature of the architectural technology profession in content and skills provision. Wherever possible this includes simulation of real-life interdisciplinary collaborative scenarios and practical sessions, in addition to the appropriate theoretical principles and analytical tools. It is anticipated that this will include studio and problem-based learning environments.

6.3 A focus on active and reflective learning is expected in addition to providing the opportunity to carry out an extensive piece of relevant work. Generally this would be in the form of a collaborative interdisciplinary project in the final stages of an honours degree programme where the synthesis and integration of the various skills and knowledge acquired throughout the programme is demonstrated.

6.4 At master's degree level, there is a strong emphasis on students applying their knowledge of architectural technology to the solution of unfamiliar problems. Assessment of the research project is generally crucial in determining the achievement of master's degree level learning outcomes.

6.5 A wide range of assessment methods is encouraged, particularly those that reflect the vocational nature of architectural technology, the appropriate academic challenge and continued professional development.

7 Benchmark standards for honours degrees

7.1 The benchmark standards for architectural technology may be achieved in a number of ways and are compatible with the diversity of curricula and different modes of assessment. Thus, it is not assumed that the subject benchmark statement necessarily maps onto specific modules within a programme of study. The standards represent the threshold expectations in terms of knowledge, skills and abilities of a graduate in architectural technology at honours degree level in the UK.

7.2 The subject benchmark statement has been structured to simplify and shorten its presentation and to allow the possibility of amending the content periodically, as the subject evolves over time.

7.3 It is anticipated that all programmes in architectural technology ensure that students become conversant with the four main aspects of the subject: design, technology, management and practice. The threshold standards in architectural technology are established through student performance demonstrating a knowledge and understanding of these aspects.

7.4 Architectural technology requires knowledge and skills in understanding, application, analysis, synthesis and evaluation to differing extents relative to design, technology, management and practice. All holders of a bachelor's degree with honours in architectural technology should be able to demonstrate:

- an awareness of the context, and the political, economic, environmental, social and technological aspects that inform and influence the practice of architectural technology nationally and internationally
- an ability to problem solve to realise the design into built form through the generation of detailed design solutions that respond to familiar and unfamiliar situations
- an ability to successfully complete a sustainable and inclusive design project, systematic review or systematic case study, informed by current understandings in the discipline
- an awareness of building elements, components, systems, and methods used for different building typologies
- an awareness of current topics and practices which inform the discipline of architectural technology including new and emerging technologies
- an awareness of project and design management, project procurement and process, construction and contract management
- an ability to identify hazards and risks and develop and maintain safe systems of work and legal and relevant legislation and regulatory frameworks
- an ability to work independently and as a member of a team identifying personal development needs and to plan to meet these needs through relevant and appropriate methods.

8 Benchmark standards for master's degrees

8.1 The following describes the minimum benchmark standards additional to those above for holders of a master's degree in architectural technology:

- a systematic understanding and critical awareness of topics which are informed by the forefront of the subject of architectural technology
- a critical awareness of the history and the context, and the political, economic, environmental, social and technological theories that inform and influence the practice of architectural technology
- an ability to identify appropriate methodologies for dealing with complex problems or those of an unfamiliar or unpredictable nature
- an ability to develop critical discussion and analysis of complex concepts, and work independently and with some originality
- an ability to successfully complete a substantial research project, design project, systematic review or systematic case study, informed by wide current understandings in the subject.

Appendix: Membership of the benchmarking and review groups for the subject benchmark statement for architectural technology

Membership of the review group for the subject benchmark statement for architectural technology (2014)

Professor Sam Allwinkle (Chair)	Edinburgh Napier University
Patricia Behal	Construction Industry Council
David Comiskey	University of Ulster
Tara Page	Chartered Institute of Architectural Technologists
Sarah Radif	Southampton Solent University
Professor Norman Wienand	Sheffield Hallam University
Aled Williams	University of Salford and Higher Education
AcademyBrigitte Stockton	QAA
Janet Bohrer	QAA

Employer representative

Mark Kennett	Wilson Kennett Partnership

Student reader

Hazel Doherty	Edinburgh Napier University

Membership of the review group for the subject benchmark statement for architectural technology (2007)

Details provided below are as published in the second edition of the subject benchmark statement.

Professor Sam Allwinkle (Chair)	Edinburgh Napier University
F A Berriman	Chartered Institute of Architectural Technologists (formerly the British Institute of Architectural Technologists)
Dr E A Brookfield	Chartered Institute of Architectural Technologists
D R S Cracknell	Construction Industry Council
T Dufty	ArcTech Associates
C Orr	The University of Bolton
N Wienand	Sheffield Hallam University

Membership of the original benchmarking group for architectural technology (2000)

Details provided below are as published in the original subject benchmark statement.

Professor Sam Allwinkle (Chair)	Edinburgh Napier University
Dr E A Brookfield	British Institute of Architectural Technologists
D R S Cracknell	Construction Industry Council
T J Law	Private practitioner
K O'Riordan	Luton University

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