Subject Benchmark Statement

Architectural Technology

March 2022

Contents

About this Statement

This document is a QAA Subject Benchmark Statement for Architectural Technology that defines what can be expected of a graduate in the subject, in terms of what they might know, do and understand at the end of their studies. Subject Benchmark Statements also describe the nature and characteristics of awards in a particular subject or area. Subject Benchmark Statements are published in QAA's capacity as a membership organisation on behalf of the higher education sector. A summary of the Statement is also available on the QAA website.

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 have been used to inform and contribute to the content and body of knowledge that underpins this Subject Benchmark Statement.

Key changes from the previous Subject Benchmark Statement include:

- a revised structure for the Statement which includes the introduction of cross-cutting themes of:
    - equality, diversity and inclusion
    - education for sustainable development
    - employability, entrepreneurship and enterprise education
- a comprehensive review updating the context and purposes of Architectural Technology, including course design and content in order to inform and underpin the revised benchmark standards.

How can I use this document?

Subject Benchmark Statements are often used by higher education providers in the design and development of new courses in the relevant subject, as they provide a framework for specifying intended learning outcomes in an academic or vocational discipline. They are also used as a reference point when reviewing or revalidating degree courses. They may be used by external examiners in considering whether the design of a course and the threshold standards of achievement are comparable with other higher education providers. They also provide professional, statutory and regulatory bodies (PSRBs) with the academic standards expected of students.

Subject Benchmark Statements provide general guidance for articulating the learning outcomes associated with a 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.

You may want to read this document if you are:

- involved in the design, delivery and review of courses in Architectural Technology
- a prospective student thinking about undertaking a course in Architectural Technology
- an employer, to find out about the knowledge and skills generally expected of Architectural Technology graduates.

Relationship to legislation

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

The regulatory status of the Statement will differ with regard to the educational jurisdictions of the UK. In England, Subject Benchmark Statements are not sector-recognised standards as set out under the Office for Students' regulatory framework. However, they are specified as a key reference point, as appropriate, for academic standards in Wales under Quality Assessment Framework for Wales and in Scotland as part of the Quality Enhancement Framework. Subject Benchmark Statements are part of the current quality requirements in Northern Ireland. Because the Statement describes outcomes and attributes expected at the threshold standard of achievement in a UK-wide context, many higher education providers will use them as an enhancement tool for course design and approval, and for subsequent monitoring and review, in addition to helping demonstrate the security of academic standards.

The Chartered Institute of Architectural Technologists (CIAT), as the lead PSRB, uses this Subject Benchmark Statement as a basis for its requirements for accreditation of honours and master's degree level qualifications in Architectural Technology or related subjects. The honours and master's benchmark standards within this Subject Benchmark Statement form the basis of CIAT's standards of education for Chartered Membership.

Additional sector reference points

Higher education providers are likely to consider other reference points in addition to this Statement in designing, delivering and reviewing courses. These may include requirements set out by PSRBs and industry or employer expectations. QAA has also published Advice and Guidance to support the Quality Code which will be helpful when using this Statement - for example, in course design, learning and teaching, external expertise, and monitoring and evaluation.

Many professional disciplines contribute to the planning, design, construction and use of buildings, and, as such, the Subject Benchmark Statement for Architectural Technology does not sit in isolation but forms part of a suite of built environment subjects. It is important when using this document that other published QAA Subject Benchmark Statements, including Town and Country Planning; Architecture; Landscape Architecture; Engineering; and Land, Construction, Real Estate and Surveying are considered for context, curriculum design and integration as many academic institutions deliver common or shared curricula.

Explanations of unfamiliar terms used in this Subject Benchmark Statement can be found in QAA's Glossary. Sources of information about other requirements and examples of guidance and good practice are signposted within the Statement where appropriate.

Architectural technology course accreditation

Accreditation from CIAT means that a higher education provider's honours or master's degree level programme in Architectural Technology or related subject has been assessed in terms of content, structure and resources and has met the required standards. It also provides assurances that students will be able to develop their academic, analytical, communication and employability skills. CIAT will consider full-time, sandwich, part-time, multi-mode, including apprenticeships, and distance learning courses of varying duration for

accreditation from both the UK and overseas. Higher education providers may offer either a CIAT-accredited honours degree or a CIAT-accredited master's degree, or both. Those that offer both are eligible to apply for CIAT Centre of Excellence status. This status demonstrates that the higher education provider has a robust culture of research and knowledge exchange with a direct and significant impact and contribution on the evolution of the distinct nature and discipline of architectural technology.

Chartered Architectural Technologist: protected title

Only CIAT has the authority to award the professional, regulated qualification and protected title of Chartered Architectural Technologist. CIAT accepts that applicants may meet its standards of education with underpinning knowledge attained through experience in practice, as well as formal academic qualifications.

CIAT's Chartered Standards

While prospective Chartered Architectural Technologists are required to meet CIAT's Standards of Education, holders of a CIAT-accredited qualification are exempt as they are recognised as already having met these requirements, because both CIAT's Accreditation and Chartered Membership processes incorporate the use of this Subject Benchmark Statement. This Subject Benchmark Statement may be used to develop qualifications in Architectural Technology or related courses which are not accredited by CIAT; however, holders of such qualifications will not be entitled to exemptions for CIAT's Educational Standards for Chartered Membership.

Typically, in the UK, students will complete an honours degree in Architectural Technology and may then choose to undertake further study, such as a master's degree in Architectural Technology. On completion of their studies, they would go on to work in professional practice. After gaining at least three years of experience in practice, they may consider applying for Chartered Membership of CIAT, should they decide they have enough experience to meet CIAT's Standards of Education, Practice and Professionalism.

CIAT recognises the diversity and breadth of architectural technology; therefore, candidates can tailor their application for Chartered Membership to their own experiences and fields of practice, thus enabling a range of architectural technology professionals working in different areas to qualify.

1   Context and purposes of an Architectural Technology degree

Context

1.1   Architectural technology is an essential professional design discipline, which focuses on the anatomy and physiology of buildings in terms of building structures and systems, materials, and components, fabric and services relating to production, performance and processes underpinned by science, architectural engineering and technology. Architectural technology is necessary to ensure robust design and technological project solutions which achieve long-term durability of optimally manufactured, assembled and constructed buildings and structures, which perform efficiently and effectively within the context of user needs, health and safety, environmental sustainability, regulatory and briefing requirements. It is a fundamental subject for both new and existing buildings and structures but increasing in significance to retrofit design and energy efficiency.

1.2   Structure, fabric and services are critical to building safety and, in particular, the life safety of occupants and users. The consequences of recent major building failures that have impacted on the life safety of building occupants and users have resulted in governments introducing changes to legislation and standards that are focused upon improving building, fire and life safety, so that people will feel safer in their homes and other buildings. These changes in legislation are the biggest improvements in safety since the 1980s and will apply through the entire life cycle of a building, including design and architectural technology education and professional practice.

1.3   The scale of the climate emergency and the challenges faced by societies across the globe are formidable and have led to a commitment by the UK Government to a range of world-leading targets to mitigate and address the impacts of the climate change. Major changes to the way architectural technology professionals think and work will be driven by the climate emergency.

1.4   It is recognised that the wider built environment will also go through significant change in response to changing demand, needs, regulation and legislation, impacting on architectural technology professionals' diversity, adaptability, agility and specialisation. The education provision within architectural technology will need to evolve to reflect the changing context and currency, to become more diverse, with a growth in specialisation and an increasing need for specialists.

1.5   These changes will impact on the design, construction and use of buildings and structures, including the retrofitting of existing buildings to achieve greater energy efficiency and to minimise the impact of carbon, the safety and performance of buildings in use, legislation in this area, and the efficiency and effectiveness of design and construction methods utilising advanced technologies, robotics and offsite manufacture and assembly.

1.6   The processes associated with the planning, design, fabrication, production and implementation (construction and assembly) have long-term impacts on operational characteristics of buildings and structures, and on societies. Such processes will be developed and underpinned by data-driven decision-making. Through access to structured and meaningful data, such decisions can be made in a responsive mode with reduced uncertainty; mitigating the risks of and avoiding cost and time overruns which are most often than not associated within poor decision-making.

1.7   In addition to accessibility, there are also reliability, usability and adaptability of data which help ensure a more sustained and reliable approach to decision support systems. Information management systems with structured, accessible and interoperable information

protocols, review gateways and collaborative working practices can be used to support and enhance the design function. Moreover, the transition to 'digitality' is prevailing in the building and construction industry and more reliable access to infrastructures is required to support transition.

1.8   Architectural technology is well situated, not only to facilitate the delivery of the end product in industry through traditional understanding and established expectation of technology but also more and more crucially so in supporting, facilitating and embedding technology in its more recent dynamic, ever-changing and diverse interpretations. Furthermore, such evolution in the traditional role of Architectural Technologists can contribute significantly to prevention or mitigation of, or reduction in some of the major health and safety failures, financial risks, major cost and time overruns, and poor performance profiles which have recently been evidenced; what has had and continues to have immediate to long-term - sometimes fatal - impact on people, societies, the environment and the planet.

1.9   This dynamic and fluid changing focus provides the context for the specification and the criteria for the next period of standards of education for architectural technology and the flexibility in the benchmark standards for academic institutions to design and deliver their curriculum at honours and master's degree level.

1.10   The specifications and criteria set out within this Subject Benchmark Statement are intended to provide a broad framework for course providers to develop purposeful and challenging architectural technology education and learning, responsive to the needs of their students and to the changing nature of the subject of architectural technology.

Purposes of an Architectural Technology degree

1.11   Architectural technology as a design discipline differs in focus and function from other built environment disciplines and is an independent subject forming part of the built environment academic and professional domain. All courses 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 and safe places for occupants and users. 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 technologies for managing, assessing and evaluating projects.

1.12   Architectural technology plays a significant part in the project and design management process linked to the building life cycle through the integration of technology and the new world of collaborative working and creating new communities of practice. Architectural technology is critical in the digital age and incorporates empirically based design through digital technologies, information management and collaborative working to achieve optimal production, performance, environmental sustainability, economic efficiency and effectiveness, and simulation, standardisation and systemisation.

1.13   Architectural technology professionals have a leading role in designing and managing projects and teams to deliver a sustainable built environment as designers, lead designers or principal designers. It is therefore important that all Architectural Technology degrees develop students' knowledge and critical understanding relating to design, the technology of architecture, leadership and professional practice, giving consideration to the impact of changing social, ethical, economic, legal, cultural, environmental, technological, business and political frameworks on the built environment in a national and international context.

1.14   Job functions and career paths in architectural technology are diverse and will evolve in response to changing industry needs, including the need for greater specialisation. The benchmark standards for honours and master's degrees are intended to provide a broad framework to develop purposeful and challenging architectural technology education that responds to the development of new competencies and contexts, to ensure the agility and employability of those working within architectural technology. The subject considers inclusive design to ensure the development of inclusive environments which recognise the needs and experiences of diverse users of buildings and structures. The study of Architectural Technology therefore considers health, safety and welfare issues, quality of life, social wellbeing and ethical responsibilities to meet the requirements of all stakeholders.

Characteristics of an Architectural Technology degree

1.15   The breadth of the architectural technology discipline allows courses to offer a real-world curriculum that is diverse in intellectual richness, characterised by practical application of knowledge and skills that draw strength from its vocational nature. Architectural Technology courses thus need to be designed to provide well-rounded education that equips and enables architectural technology professionals to make an effective contribution to the design and realisation of buildings.

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

1.17   Architectural technology is a distinct subject that is independent but is integral to the design of buildings, structures, fabric and services. It is rooted in science and engineering knowledge, which is applied to the design of buildings to achieve optimum functionality, efficient and effective construction, and robust, durable and sustainable architectural solutions that perform over time and provide safe places for occupants and users. The subject of Architectural Technology has four key educational components - theoretical, experiential, professional and ethical - linked to the functions of design, technology and practice.

1.18   PSRB accreditation/quality assurance arrangements are further described in the About this Statement section.

Equality, diversity and inclusion (EDI)

1.19   The architectural technology discipline has a track record of inclusivity, widening access and participation, and attracting learners from diverse backgrounds. Higher education providers tend to attract cohorts from schools and colleges in underrepresented areas for this subject, thus ensuring the equitable inclusion of ethnic minorities, students from less affluent backgrounds and otherwise disadvantaged students, including students with caring responsibilities and disabled students. Providers have a duty to make their curriculum inclusive and to embed diverse and positive representation throughout it, in order to ensure the diverse nature of society and inclusivity are explicit at all levels.

1.20   Architectural Technology courses embrace inclusivity and this was a feature of the previous Subject Benchmark Statement. Inclusivity is used as a measure by the Chartered

Institute of Architectural Technologists (CIAT) in assessing student work against its accreditation requirements. This review has provided the opportunity to revisit and assess EDI and how this could be embedded within the curriculum. The Architectural Technology EDI Vision Statement, framed by the *Equality Act 2010* as the current relevant legislation, acts as a cross-cutting theme for this Statement.

Architectural Technology EDI Vision Statement

1.21   The vision requires the encouragement of greater participation in architectural technology from a diverse population, and, as an expectation of architectural technology education and practice, a commitment to equality, diversity and inclusion.

1.22   Consideration of the whole life cycle of a project is an expectation of Architectural Technologists at all levels. To embed EDI, equal attention is required to the life cycle of the end-users of the project, across the range of potential experiences a diverse population brings, and how those experiences change as the users grow and age.

1.23   There already exists an expectation of inclusive design being embedded as a requirement of education and practice; understanding that poor structures make for poor experiences, and that these poor experiences make for a poorer society with potentially systemic and fatal consequences. Therefore, equality, diversity and inclusion should be as demonstrably embedded across education and practice as health and safety is and sustainability must be. Architectural technology professionals should be able to accessibly communicate the value of inclusive design.

1.24   At the core of professional practice is the expectation of honesty and integrity, and respect for the values and needs of a diverse population whose perceptions and understanding change and evolve.

1.25   Architectural technology is a distinctive profession arising from a professional and vocational environment, and this is reflected by the higher education providers for the subject, which have proud records of widening participation. It is important that these skills, experiences and the supporting data are reflected in the promotion of architectural technology to support the ongoing evolution of the profession.

1.26   Inquisitive architectural technology professionals, who are able to ask the right questions, are encouraged, not only for the benefit of understanding project form and function, but also to appreciate the impact their decisions have on the comfort, safety and wellbeing of the project end-users. The expectation of the development of these skills will help support a profession which creates and specifies inclusive spaces, materials and systems.

Sustainability

1.27   The core skills provided by all Architectural Technology courses align with the learning outcomes suggested by the [Education for Sustainable Development Guidance](#) produced by Advance HE and QAA (March 2021). These include critical thinking, self-awareness, collaborative competencies, and anticipatory and strategic thinking.

1.28   The architectural technology discipline plays a key role in implementing sustainability within the built environment, as it has the benefit of blending creativity and scientific innovation, which impact upon all of society as it interacts with the built environment. If the discipline can truly develop and embed sustainability within the design, construction and use of the built environment, sustainability goals will be enhanced greatly. In terms of education, a broad knowledge set and ability to apply aspects from the three pillars of sustainability (environment, economy, society) are essential at an early stage in the

Architectural Technologist's career. The major role of the education sector is to develop and build capacity for this action, as it has been shown that at higher education level, training and research activities have a considerable impact on implementing sustainability-related knowledge and innovations into practice.

1.29   The eight UNESCO key competencies for sustainability - systems thinking, anticipatory (futures thinking), critical thinking, strategic, collaboration, integrated problem-solving, self-awareness and normative competencies - should be aligned with appropriate learning outcomes within the curriculum. This will help transform how staff and students appreciate issues related to sustainable development and apply this to their ways of thinking, practising and being.

1.30   The vision is that all Architectural Technology courses contain a fully balanced, integrated and interdisciplinary approach to sustainability themes. These will produce graduates who are aware of the sustainability goals that they can contribute towards, and achieve them in a confident, efficient manner. Learners should be engaged in real-life case studies to support and develop critical evaluation of available and innovative solutions, and reflection as learning approaches.

1.31   Any strategic framework for Education for Sustainable Development may take account of two sides - namely, updating the pedagogy (curricula, skills, philosophy and theory) to reflect upon new and innovative teaching styles which can be tailored to specific aims; and ensuring an increased real-world application of the taught skills.

1.32   This will most likely be achieved through problem-based learning delivered through a variety of methods (such as hands-on projects and industry collaboration) to encourage the application of theory. Higher education providers need to ensure a balanced approach to future curricula change. It is crucial that both soft and hard skills are developed evenly and course content does not become biased towards the 'exciting' topics of software and technology. These topics ought to be covered, but not at the expense of in-depth understanding of sustainability principles. New updated curricula may increase the awareness of social, economic and environmental problems and equip students with the skills to solve them.

1.33   Learners should also be encouraged to confidently disseminate their learning experience and knowledge in their profession through 'collaborative learning' with their peers, as well as outside the classroom - within their communities and social networks. They need to be introduced to new ways of working collaboratively with other stakeholders in the construction industry, including clients, contractors and suppliers. 'Enquiry-based learning' may also be considered as another approach where students investigate topics, relevant to architectural technology, within real-life scenarios in which they develop skills of experimental design, data collection, critical analysis and problem-solving.

1.34   Architectural Technology courses need to involve both interdisciplinary work and independent learning aspects to develop well-rounded students. 'Problem-based learning' may be adopted to facilitate creative environments for interdisciplinary learning in which students work together to address complex, multifaceted problems. New curricula should ensure that theory is combined with practical projects to achieve environmentally sustainable design objectives and enhance student learning experience. Academic-industry partnerships should be fostered by Architectural Technology courses. These are hugely beneficial for the development of student confidence and allow the real-world application of the theory taught by higher education providers in a professional setting. In addition, these will develop student employability skills and readiness for industry which will ensure sustainably aware graduates are employed where they can make a real-world impact.

Entrepreneurship, enterprise and employment

1.35   Entrepreneurship education is defined as 'the application of enterprise behaviours, attributes and competencies into the creation of cultural, social or economic value. This can, but does not exclusively, lead to venture creation' (QAA 2018). Enterprise can be defined as 'the generation and application of ideas, which are set within practical situations during a project or undertaking… It combines creativity, originality, initiative, idea generation, design thinking, adaptability and reflexivity with problem identification, problem solving, innovation, expression, communication and practical action' (QAA 2018).

1.36   Enterprise and entrepreneurship education can add value to the journey of the learner, whether they are interested in starting their own business venture or being enterprising when working for someone else in the private, public, voluntary or community sector. Enterprise and entrepreneurship education supports behaviours, attributes and competencies that are likely to have a significant impact on the individual student in terms of successful careers. It prepares students for changing environments and provides enhanced impact through placements and activities that build links between academic institutions and external organisations. Beyond employment, entrepreneurship education provides competencies to help students lead a rewarding, self-determined, professional life, well placed to add social, cultural and economic value to society through their careers.

1.37   Architectural Technology courses are well placed to incorporate and benefit from the introduction of enterprise and entrepreneurship as it can draw upon past students who have developed such characteristics; visiting lecturers; master classes; live, community-based projects; innovative design development; manufacture and assembly. Approaches to teaching and learning, by their very nature, often encompass entrepreneurial learning. Regardless of whether these are labelled as enterprise and entrepreneurship education, the enhancement of appropriate skills, knowledge, attributes and behaviours necessary for transforming creative ideas into actions are of ever-increasing importance (see section 4).

1.38   Recognising an Architectural Technology degree prepares students for the world of work and employability, and takes graduates beyond just the job role to help inspire and motivate critical thinking and creativity linked to novel applications. Course teams are encouraged to include this within the curriculum to broaden, deepen and inspire students to be the catalysts for change. Many course teams already have this focus, and this Statement endorses and supports their work and the continuum.

1.39   Architectural Technology courses are encouraged to engage with employers and this is further stipulated within the accreditation process of CIAT, which requires links with the profession to help ensure that the curriculum and its delivery align with professional, industry and employer needs. This engagement is becoming increasingly important with the development of degree and graduate apprenticeship courses. To provide a seamless link from academia to professional practice, CIAT has developed and supports aspirATion - a dynamic, forward-thinking and inclusive network of students, recent graduates and newly qualified professionals entering the discipline, which works to shape the future of architectural technology.

1.40   Higher education providers should consider the benefits of involving employers of different sizes and from different sectors through a variety of modes of engagement, including subgroups, that work on specific employer-related issues, which meet less frequently and use electronic communication. A key driver of employer involvement is corporate social responsibility (CSR). The CSR ethos of businesses is a key driver of employer involvement, with emphasis on widening participation, local employment for local people, and activity being driven by 'finding the right job for the right person'. There are

benefits of employer involvement for both the course and employers. Learning from employer perspectives brings a kind of 'business realism' to the student learning.

2   Distinctive features of an Architectural Technology degree

Design of courses

2.1   The Subject Benchmark Statement represents general expectations about standards within Architectural Technology and it is intended, in dialogic mode, to encourage collaborative relationships in course design. This would include areas of interest to which the Subject Benchmark Statement applies and 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 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 workplace with an attempt to future-proof knowledge and the development of new competencies and contexts.

2.2   This Subject Benchmark Statement includes benchmark standards for master's degrees in Architectural Technology which may be designed to address a particular specialism or subdiscipline within architectural technology in greater detail. The range of possible master's degrees in Architectural Technology may include: courses which build directly on honours degrees in some aspect of architectural technology but in greater depth; professional courses where the emphasis is on current professional practice; and interdisciplinary courses which involve advanced scholarship or which address a range of applications focused on particular employment opportunities.

2.3   Architectural technology is a subject that is integral to the design of buildings, structures, fabric and services. 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 architectural solutions that perform over time and provide safe places for occupants and users. As referenced in paragraph 1.17, the subject of architectural technology has four key educational components - theoretical, experiential, professional and ethical - linked to the functions of design, technology and practice.

2.4   The subject of architectural technology reflects the purpose of 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 wellbeing 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 ability, age, gender or faith to create accessible and inclusive communities.

2.5   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 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 technology professionals 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 courses to ensure graduates are aware of the international context of their subject. The Chartered Institute of Architectural

Technologists (CIAT) utilises this Subject Benchmark Statement in a global context to develop and accredit courses in countries outside of the UK jurisdiction, including in the EU, Australia, UAE, India, Hong Kong and China where it has been translated into Mandarin.

2.6   The ever-increasing impact of technology 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.

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

Accessibility

2.8   All higher education providers have an obligation to ensure accessibility for those wishing to study with them, onsite and online. This is no different for Architectural Technology courses, and the expectations set out in the equality, diversity and inclusion Vision Statement (see paragraphs 1.21-1.26) apply equally to all courses aligned with the topic.

2.9   As noted in the Vision Statement, there is a strong association between Architectural Technology courses and higher education providers with a strong record relating to widening participation. It is therefore an expectation of such institutions to:

- offer screening and diagnostic assessments to students who may have specific learning differences (SpLDs)
- provide specialist support, one-to-one tutoring, or scribes, among other methods of support
- make available mentors, including peer mentors
- ensure any reasonable adjustments required by students are made to curricula, tuition, exam arrangements and assessment types and timeframes
- assist with making claims for appropriate external support, including benefits
- ensure their curricula are accessible for disabled students.

2.10   While not an exhaustive list, these should be the basic services supporting students.

2.11   For Architectural Technology courses specifically, due to the design-orientated nature of key modules, students are required to engage with a number of different learning and assessment types. This also requires from them a variety of outputs beyond the more traditional essays, reports and exams expected of other undergraduate and postgraduate courses.

2.12   Specific adjustments for the types of assessments associated with these courses should sit alongside the expectations for adjustments to exams and assessments detailed above at any education establishment. With regard to a design module, for example, to create a convincing studio or client engagement scenario, students are expected to verbally and visually present their design and technology solutions to the assessment tasks they are set. For students with learning differences or conditions such as anxiety, adjustments can be made to the nature of these presentations, and can, for instance, include a progression across an academic year from one-on-one sessions to a growing number of peers being present at each subsequent presentation to boost confidence.

2.13   To support the capacity to make adjustments to serve the diverse populations courses hope to attract, clearly-expressed expectations for assessments are necessary, written with an appreciation of the differing capabilities of students, respectful, not only of learning styles and perspectives, but also of circumstances. For example, where a design module requires a significant number of drawings and models to be produced, a student from an economically-challenged background could be provided with the opportunity to create and submit their work digitally, using the computing facilities provided, as an expectation of an Architectural Technology course.

2.14   Architectural technology as a sector and profession is often an early adopter of digital technologies and is well placed to take advantage of the acceleration of digital technologies, impacting, for example, on the delivery of education across all sectors. Embracing this acceleration of remote and blended learning, for instance, will allow for increased accessibility to and on Architectural Technology courses, and for the progressive adjustment of attitudes and expectations as students graduate and inform the profession. Such considerations should always be mindful of the circumstances of individual students, with progressive higher education providers making use of funding support for those experiencing forms of digital poverty, including access to suitable equipment, and data and bandwidth provision.

Progression

2.15   Over the course of a degree with honours (FHEQ Level 6; FQHEIS Level 10) students of Architectural Technology degree courses (with honours) will progress from one level of study to the next, in line with the regulations and processes for each institution. However, it is expected that each level would see the attainment of certain knowledge, expertise and experience which builds towards the final achievement of meeting all of the threshold-level subject-specific and generic skills listed in this Statement.

2.16   Architectural Technology master's degrees in the UK comprise either full-time or part-time study and tend to be more specialised in specific areas such as Sustainable Design, Fire Safety, Architectural Engineering, Building Performance, Design Management, Project Management, Retrofit Design and Conservation. This list is not exhaustive.

2.17   In a standard three-year undergraduate honours degree course, students may exit earlier and be eligible for a Certificate of Higher Education, a Diploma of Higher Education, or an honours degree depending upon the levels of study completed to a satisfactory standard. Scottish bachelor's degrees with honours are typically designed to include four years of study, which relates to the structure of Scottish primary and secondary education. Upon graduation from an undergraduate degree, it would be expected that a student who had achieved a second-class degree or higher would be capable of, and equipped for, undertaking postgraduate study.

Flexibility

2.18   Courses in Architectural Technology may be delivered through a variety of means, including full-time, sandwich, part-time, online, multi-mode or blended, including apprenticeships, and distance learning programmes of varying duration. It is anticipated that Architectural Technology courses will offer a range of teaching and learning methods, and the course content will vary according to the strengths, interests and expertise of the course delivery team and the higher education provider.

2.19   Industry input may also take the form of guest lectures, critiques and the opportunity to provide students with work placements. Within Architectural Technology courses, there is an expectation that students will undertake a design project and/or a dissertation. This part

of the student's learning requires them to demonstrate critical analysis, evaluation and reflection to address potential risks and ethical issues associated with a proposed project.

Partnership

2.20   This entails the strategic involvement of employers, employer organisations, business-led organisations and recruitment agencies. Employer engagement focuses on the practical issues of making contact with employers to raise awareness and to encourage them to offer jobs, work placements and other employment-related opportunities to students and graduates. While employer involvement and engagement can take place on a relatively informal basis, without putting any 'good practice' requirements on employers (beyond meeting legal obligations), some partnerships have sought to institute charters and other good practice principles relating to the recruitment, employment and development of young people in the workforce.

2.21   There are many ways employers may be directly involved in strategic activities, such as through employer forums or subgroups, by providing strategic or operational advice, or through more arms-length involvement in guiding specific activities. A single employer may be involved in more than one way and at different times. Employer involvement can be time-consuming, which is a particular issue for small employers, and means large employers are more likely to be involved.

Monitoring and review

2.22   A major feature of academic quality assurance and enhancement at a higher education institution is having in place monitoring and regular review processes for the courses it delivers. Higher education providers routinely collect and analyse information and undertake periodic course review according to their own requirements. They will draw on a range of external reference points, including this Statement, to ensure that their provision aligns with sector norms. Monitoring and evaluation is a periodic assessment of a course, conducted internally or by external independent evaluators. Evaluation uses information from both current and historic monitoring, to develop an understanding of student achievement and inform future course planning.

2.23   Externality is an essential component of the quality assurance system in the UK. Higher education providers will use external reviewers as part of periodic review to gain an external perspective on any proposed changes and ensure threshold standards are achieved and content is appropriate for the subject.

2.24   External examination, currently in use across the UK higher education sector, also helps to ensure consistency in the way academic standards are secured by degree-awarding bodies. Typically, external examiners will be asked to comment on the types, principles and purposes of assessments being offered to students. They will consider the types of modules on offer to students, the outcomes of a cohort and how these compare to similar provision offered within the UK. External examiners produce a report each year and make recommendations for changes to modules and assessments (where appropriate). Subject Benchmark Statements, such as this one, can play an important role in supporting external examiners in advising on whether threshold standards are being met in a specific subject area.

2.25   Architectural Technology courses may be subject to professional accreditation by CIAT and require assessment and evaluation for approval. This is usually done through a combination of site visits and desk-based reviews in accordance with CIAT requirements.

3 Content, structure and delivery

Content

3.1 Architectural technology is a creative, innovative design discipline rooted in science and engineering. It is a design function which focuses on efficient and effective construction of new buildings and structures, and the retrofit of existing buildings and structures through the use of building systems, materials, components and robust sustainable design solutions that perform and endure over time and protect occupants and users. Architectural technology plays a significant part in any project and design management process of the building life cycle, through the integration of technology, collaborative working and information management. It incorporates the use of digital technologies and processes such as building information modelling (BIM) relating to building production, performance, sustainability, efficiency and effectiveness.

3.2 There is a growing need for buildings to perform efficiently, deliver human comfort, consume less energy, generate less waste and fewer carbon emissions - both in the production of the building or structure and during its operation, and provide a safe environment for users and occupants. The rising complexity of projects requires strategies for effective collaboration between stakeholders, continuing professional development and increased social and ethical awareness. More than ever before, architectural technology bridges the gap between architectural concept and architectural solution. It responds to the increasing demand for professionals who can shape the built environment in the UK and internationally to achieve a sustainable, and socially and ethically responsible future.

3.3 The subject of architectural technology reflects the purpose of 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 wellbeing 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.

3.4 Against a fast-changing built environment sector, the relationship that society has with the built environment involves differing needs, functions and aspirations. These requirements have to be identified, 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. Such requirements must also recognise how social needs influence the design and construction process, which includes users' experience of the completed building or project and their life safety. 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.

3.5 Adding to this is the impact and influence on the design and construction processes of technologies and modelling the whole building life-cycle process, procurement strategies and extensive service installations. 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. 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.

Structure and aims of Architectural Technology honours degrees

3.6   Courses should typically be designed to allow students to understand how to:

- create economical, environmentally-sustainable, efficient and effective processes and design solutions to complex and complicated architectural design and construction challenges, from concept through to design realisation and project completion for the optimisation of the production and performance of buildings

- adopt innovative design approaches that seek to respond to the climate emergency and contribute to reducing the impact of building and construction on the natural and built environment, minimising carbon emissions

- develop a broad range of communication skills across a wide variety of graphical and textual means, both manual and digital, as well as mastering oral presentation skills transferable to any public or private setting in practice

- manage the design and construction process based upon the integration of architectural technology and the utilisation of digital technologies relating to new buildings and structures, and the retrofitting of existing buildings and structures

- respond with agility and intelligence to the social, economic, environmental, technical, cultural and political context, including climate change at local, national and international level

- adopt a systematic approach for the process of producing accurate design information that satisfies standards and relevant legislation, and integrating the exterior envelope and interior with structure, fabric and services

- adopt strategies to optimise the management of the building life cycle through the use of information management systems for safety and use

- embrace new and emerging concepts, technologies and practices that impact on the long-term production, performance and maintenance of new and existing buildings and structures

- evaluate existing structures through building diagnostics and pathology to ensure that design solutions are compatible with the existing structure, fabric and services

- embed health and safety practices from first principles through to occupation and maintenance, including, but not limited to, fire, life safety and legislation

- develop business and management skills, including industry and professional practice standards, client engagement, project procurement and working with other professionals, service providers and authorities

- embrace and promote the principles of equality, diversity and inclusion to ensure fairness in treatment and opportunities

- recognise, respect and celebrate differences; create an environment where everyone feels welcome, included and valued, irrespective of identity; understand and prevent unconscious bias

- behave in an ethical, professional and responsible manner, demonstrating awareness of the principles of social justice, ethical issues, collaborative working and effective communication.

Structure and aims of Architectural Technology master's degrees

3.7	A systematic and broad understanding of the concepts of architectural technology is assumed prior to a student undertaking a master's degree course of study to support their development of further in-depth knowledge and critical awareness at this level. Additional subject-specific skills to be 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 the built environment and 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.

Teaching and learning

3.8	Architectural technology is a subject where the academic challenge of courses reflects the nature of the professional sector. The variety of Architectural Technology courses 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 relevance to the subject area.

3.9	Architectural technology is a collaborative design discipline and higher education providers are encouraged to undertake studio-based teaching and learning, particularly where there is no opportunity for students to gain experience of this in the workplace, with students able to work on projects as individuals and as members of defined, interdisciplinary teams. Student-based pedagogy in the form of problem-based learning is encouraged, with direct input from industry practitioners through the provision of real-life or simulated scenarios, or case studies.

3.10	The focus on teaching and learning, and the student acquisition of knowledge and

understanding of the context, core concepts and theories relevant to architectural technology, 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.

3.11   As a vocational subject, the academic challenge of courses reflects the nature of the professional architectural technology sector. The variety of Architectural Technology courses offered by higher education providers has led to a rich range of teaching, learning and assessment methods being employed. Wherever possible, this includes simulation of real-life project scenarios, interdisciplinary collaboration and practical sessions, in addition to the appropriate theoretical principles and analytical tools. It is anticipated that these include problem-based learning in studio environments.

3.12   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 course where the synthesis and integration of the various skills and knowledge acquired throughout the course is demonstrated.

3.13   Teaching, learning and assessment at master's level provides opportunities to discuss, debate and develop knowledge and skills relating to current and emerging topics relevant to the Architectural Technology discipline.

3.14   Teaching and learning at this level encourage the development of critical understanding of complex ideas, the ability to formulate creative and personal responses, and create a learner-centred approach where students combine theory and practice in the context of research, project work and intellectual debate.

3.15   Master's courses expand and refine knowledge of architectural technology theories, techniques and concepts. Students will further develop their subject with a consideration of professional, ethical, and practical issues.

3.16   Learning, teaching and assessment at master's level encourage students to critically apply a variety of advanced research, analytical and practical techniques to enquiry and problem solving in architectural technology. These methods allow critical evaluation, synthesis, concepts and research findings to develop and debate best practice in architectural technology.

3.17   Research is a crucial part of academia. Students will develop their research skills further completing an advanced research or design project. Students are challenged to think in critical, creative and applied ways, devise research questions, design and conduct a research methodology, and produce original knowledge which will be important to the discipline. As well as conducting their own research project, students will communicate their research professionally to the academic and/or professional community using professional written, oral and visual means.

Assessment

3.18   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.

3.19   Architectural Technology courses should contain an explicit assessment strategy as part of their curriculum design. This strategy will clearly and directly reflect the learning

outcomes of the course components, support student learning, and enable students to demonstrate progressive levels of attainment. The strategy will reflect the variety of abilities and skills developed within the curriculum tied to the methods of teaching and learning adopted by the particular course.

3.20   The assessment strategies and vehicles of assessment of Architectural Technology courses should include a mix of methods that are, overall, accessible to students from varying educational and cultural backgrounds within different learning situations. Where individual students may be disadvantaged by particular assessment methods, adjustments to those assessments must be considered in discussion with the student concerned, while ensuring fairness across the full cohort. The procedures used for assessment should cover the subject knowledge (breadth and depth), abilities and skills developed through the degree course. The assessment of work undertaken in practical classes is most likely to be through exercises or project/portfolio submissions. Seminar contributions may be assessed either directly or indirectly. Coursework may be part of the overall assessment of a student's performance or regarded as a pedagogic device for developing research and presentation skills, with formative assessment and regular feedback being provided by the tutor. Feedback and assessment may also be provided by the peer group.

3.21   Architectural Technology courses should use a range of assessment methods during the course that reflect the range of learning outcomes. The following list provides an indication of the range of current practice and is not meant to be a specific checklist against which to measure individual courses:

- design projects carried out over a prolonged period
- essays and assignments prepared to a defined timetable to assess knowledge and understanding of a topic, and communication, analytical and presentation skills
- examination through unseen and seen papers under timed conditions requiring written essays and/or multiple-choice questions to assess knowledge base, understanding and analytical skills
- reports to assess observational procedures, practical skills and methodologies
- oral presentations to assess communication skills and group work
- graphical presentations in a variety of media formats, including the production of posters
- presentations in other media and formats - for example, creating a video or webpage, or the observed participation of practical team-based exercises in the field, laboratory and/or classroom, to assess skills in collaboration and group problem-solving
- online examinations, multiple-choice questions and electronic workbooks
- portfolios of work relating to practical exercises
- reports on external placements.

3.22   At master's degree level, there is a strong emphasis on students applying their knowledge of architectural technology to the solution of complex problems. Assessment of the major project is generally crucial in determining the achievement of master's degree level learning outcomes. These assessments may take the form of a major piece of design work, a substantial research project, or a mixture of both.

4   Benchmark standards

Introduction

4.1   The benchmark standards are 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 courses in Architectural Technology, including graduate and degree apprenticeship programmes. This reflects the nature of the profession, which is competency based and therefore determined by threshold standards.

4.2   The vast majority of students will perform significantly better than the minimum threshold standards. Each higher education provider has its own method of determining what appropriate evidence of this achievement will be and should refer to Annex D: Outcome classification descriptions for FHEQ Level 6 and FQHEIS Level 10 degrees. This Annex sets out common descriptions of the four main degree outcome classifications for bachelor's degrees with honours: 1st, 2.1, 2.2 and 3rd.

4.3   The benchmark standards for Architectural Technology may be achieved in several ways and are compatible with the diversity of curricula and modes of assessment. Consequently, it is not assumed that the benchmark standards map directly onto specific modules within a course of study. The benchmark standards represent the threshold expectations in terms of skills, knowledge, experience and behaviours of an Architectural Technology graduate in the UK.

4.4   It is anticipated that all courses in Architectural Technology will enable students to become conversant with the main aspects of the subject (that is, design, technology, management and practice). The benchmark standards in Architectural Technology are established through student performance demonstrating understanding of these aspects and the ability to apply them where appropriate.

4.5   The nature and purpose of master's degrees in Architectural Technology vary greatly. Some are conversion qualifications that aim to allow those with backgrounds in a different subject to develop a career in architectural technology. Others enable specialisation within a specific aspect of the discipline. The benchmark standards for master's degrees in Architectural Technology are applicable to both types.

Benchmark standards for honours degrees (threshold)

4.6   Architectural technology requires skills, knowledge, experience and behaviours in design, technology, management and practice. Therefore, holders of a bachelor's degree with honours in Architectural Technology demonstrate knowledge, understanding, application, analysis, evaluation and creativity to differing extents, relative to:

- context, which includes the social, technological, environmental, economic, political, legal and ethical factors that inform and influence the discipline and practice of architectural technology at local, regional and global levels

- professional behaviours, conduct and ethics, architectural practice, design leadership and management functions (for example, principal/lead designer, design management, information management), procurement methods and contract administration

- technologies and interrelation of building elements, systems, components, materials and methods used in the construction and adaptation of different building typologies, and how these contribute to the functions of buildings

- architectural and technological design principles, science (that is, fundamentals of building physics and pathology) and values that drive approaches taken in works to new and existing buildings (for example, conservation, maintenance, renovation and adaptation)

- designing holistically, including the ability to detail the design from first principles, for production, performance, sustainability and better environmental performance and in response to regulatory requirements, health and safety, wellbeing and advances in sustainable technologies

- client, user and stakeholder needs, analysing and interpreting the nature of a development, and evaluating context to determine the responsive scope of a project

- health and safety requirements within a regulatory system, identifying, analysing, and evaluating hazards and risks when generating solutions to ensure health, safety, welfare and security during the life cycles of buildings, including compliance and enforcement

- creating resilient, sustainable and inclusive design solutions as whole systems and in detail in response to varied situations, which are informed by current understandings within the discipline and wider context, including climate change

- current philosophies, processes and technologies for the modelling, communication, and management of information and to apply them in a collaborative working environment to support data-driven decision-making

- current and emerging topics, technologies and practices (including regulations and standards) that inform the architectural technology discipline through self-reflection, identification of personal development needs, and action planning to maintain awareness and currency, and to accommodate specialisation in light of new and emerging professional environments.

Benchmark standards for master's degrees (threshold)

4.7 In addition to the benchmark standards above, those holding a master's degree in Architectural Technology can demonstrate:

- critical awareness of the historical and contemporary context, and the underpinning social, technological, environmental, economic, political, legal and ethical theories that inform and influence the practice of architectural technology
- systematic understanding and critical awareness of current and emerging trends in architectural technology such as, but not limited to, digital construction
- evaluation of appropriate methodologies for dealing with complex problems
- independent analysis of complex concepts applied in the generation of critical discussion by working with some originality
- completion of a major piece of design work, or substantial research project, informed by thorough understandings of the discipline.

Generic skills for Architectural Technology graduates

4.8 On graduating with an honours degree in Architectural Technology, students should be able to:

- perform assigned tasks as part of a team
- bring together information and materials from different sources
- identify problems and questions
- undertake the analysis of factual information

- recognise strengths and weaknesses in the arguments of others
- produce a synthesis of the state of knowledge on a particular subject or topic
- with guidance, undertake tasks independently
- reflect on their own progress and make use of feedback provided
- express themselves effectively both verbally and/or non-verbally
- present knowledge or an argument in a way that is comprehensible to others
- use relevant digital systems to collate, analyse, select and present information
- deliver presentations utilising visual aids and multimedia
- demonstrate an ability to comprehend when presented with new ideas or information
- demonstrate skills in recognising and describing material
- understand the importance of health and safety, and of equality, diversity and inclusiveness in the work environment
- appreciate and engage in contemporary debates relating to sustainability, employability and global perspectives, including decolonisation and anti-racism
- appreciate the need to act in a sustainable manner and display ethical behaviour and conduct.

5   List of references and further resources

Chartered Institute of Architectural Technologists
https://architecturaltechnology.com

Chartered Institute of Architectural Technologists joining information
https://architecturaltechnology.com/joining/joining-the-institute.html

Chartered Institute of Architectural Technologists Programme Accreditation
https://architecturaltechnology.com/education/educational-establishments.html

Institute for Apprenticeships and Technical Education - Design and Construction
Management (degree apprenticeship - England)
www.instituteforapprenticeships.org/apprenticeship-standards/design-and-construction-management-degree-v1-0

Skills Development Scotland - Construction and the Built Environment (graduate
apprenticeship - Scotland)
www.skillsdevelopmentscotland.co.uk/media/43670/cbe-framework-level-10.pdf

Advance HE, Knowledge Hub: Framework for Enterprise and Entrepreneurship Education
www.advance-he.ac.uk/knowledge-hub/framework-enterprise-and-entrepreneurship-education

QAA (2018) Enterprise and Entrepreneurship Education: Guidance for UK Higher Education
Providers
www.qaa.ac.uk/quality-code/enterprise-and-entrepreneurship-education

6 Membership of the Advisory Group for the Subject Benchmark Statement for Architectural Technology

Membership of the Advisory Group for the Subject Benchmark Statement for Architectural Technology (2022)

Professor Sam Allwinkle (Chair)	Edinburgh Napier University
Dr Matthew Brooke-Peat	Leeds Beckett University
Georgia Clarke	QAA Coordinator
David Comiskey	Ulster University
Ethan Dunbobbin	Graduate student
Dr Heba Elsharkawy	Kingston University
Dr Suha Jaradat	Edinburgh Napier University
Justin Kelly	BPTW Architecture
Mark Kennett	Wilson Kennett Partnership
Gary Mees	Construction Industry Council
Tara Page	Chartered Institute of Architectural Technologists
Dr Poorang Piroozfar	University of Brighton
Associate Professor Sarah Radif	Solent University
Dan Rossiter	British Standards Institution
Dr Andy Smith	QAA Officer
Dr Graham Smith	Jacobs International Consultants
Dr Colin Stuhlfelder	Wrexham Glyndŵr University
Anthony Walsh	Stride Treglown Consultants

QAA would like to thank Professor Elizabeth Cleaver, Professor Michael McLinden and the Disabled Students' Commission for their valued contributions to the development of the Statement.

Membership of the Advisory Group for the Subject Benchmark Statement for Architectural Technology (2019)

The fourth edition, published in 2019, was revised by QAA to align the content with the revised UK Quality Code for Higher Education, published in 2018. Proposed revisions were checked and verified with the Chair of the benchmarking and review group for the Subject Benchmark Statement for Architectural Technology from 2014.

Professor Sam Allwinkle	Edinburgh Napier University
Simon Bullock	QAA

Membership of the Advisory Group for the Subject Benchmark Statement for Architectural Technology (2014)

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

Professor Sam Allwinkle (Chair)	Edinburgh Napier University
Patricia Behal	Construction Industry Council
Janet Bohrer	QAA

David Comiskey	University of Ulster
Hazel Doherty (Student reader)	Edinburgh Napier University
Mark Kennett (Employer representative)	Wilson Kennett Partnership
Tara Page	Chartered Institute of Architectural Technologists
Sarah Radif	Solent University
Brigitte Stockton	QAA
Professor Norman Wienand	Sheffield Hallam University
Aled Williams	University of Salford and HEA

Membership of the Advisory 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
Dr E A Brookfield	Chartered Institute of Architectural Technologists
D R S Cracknell	Construction Industry Council
T Dufty	ArcTech Associates
C Orr	University of Bolton
N Wienand	Sheffield Hallam University

Membership of the Advisory Group for the Subject Benchmark Statement 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