

Upon completion, an Architectural Technologist apprentice will be able to:

Knowledge

- K1.1 Demonstrate knowledge of 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).
- K1.2 Demonstrate knowledge and understanding of the construction process and of the materials and technology that comprise best practice.
- K1.3 Understand the short and longer-term environmental impact, both positive and negative, of construction activities and how to maximise and minimise these impacts during all stages of the project and in the longer term.
- K1.4 Know how to review threats and opportunities for the built environment and appraise and evaluate the influence of local, social, technological, environmental, inclusion, historical, contemporary, economic, political, legal and ethical factors that inform and influence the discipline and practice of Architectural Technology.
- K1.5 Understand client, user and stakeholder needs through the analysis and interpretation of the nature of a project, including the evaluation of context to determine project scope.
- K1.6 Understand obligations with legal and regulatory requirements such as for health and safety, including fire safety as well as wellbeing and environmental issues to include:
 - how to identify potential hazards and manage the risks
 - the use of advances in construction and sustainable technologies to design holistically from first principles, for production, sustainability, performance, quality of life and social wellbeing
 - Incorporate all appropriate requirements when generating design solutions to ensure welfare, safety and security of all stakeholders during the life cycles of buildings.

- K1.7 Understand how to apply knowledge of the construction process to the examination and selection of procurement processes.
- K1.8 Create 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.
- K1.9 Utilise current technological practices to make data-driven decisions in a collaborative working environment based on and through the application of processes and technologies for modelling, production, management and communication of information.
- K1.10 Understand and evaluate different leadership styles in relation to projects appropriate to their role.
- K1.11 Understand 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.
- K1.12 Recognise common defects in buildings and understand quality measures including structural reports, dilapidation surveys and construction reports and how these can be utilised.
- K1.13 Deploy architectural and technological principles of structure, fabric and service systems to create concepts and develop design solutions in complex contexts when working independently or as part of a team.
- K1.14 Understand current legislation and other UK/home nation safety standards and their impact on construction activities.
- K1.15 Understand the science and engineering of construction and environmental performance including building physics, fire engineering and pathology relating to the analysis, evaluation and compliance when designing or working on new and existing buildings. The latter can include conservation, maintenance, retrofit, renovation and/or change of use projects.
- K1.16 Know how to develop effective work relationships and cross team working with other construction Team professionals involved in the project.

- K1.17 Demonstrate understanding of procurement methods and contract administration, architectural practice, design leadership, management roles and functions (including, principal/lead designer, design management, project management, information management, compliance plan management, etc.) and professional behaviours, conduct and ethics.
- K1.18 Understand methods to ensure collaboration and communicate effectively with duty holders including clients, Principal Designers, Principal Contractors, consultants and/or stakeholders, colleagues, sub-contractors.
- K1.19 Understand the need for building safety as it relates to current and/or future occupants or users.

Skills

- S1.1 Set and review objectives, identify resources and their limitations and plan, monitor and control own activities to ensure projects are delivered in line with project requirements for the stakeholders including occupants or users.
- S1.2 Contribute under supervision to the management risks of health, safety, wellbeing and environment in line with legislation, hazards, environment, safe buildings and safe systems of work and plan for its mitigation to minimise its impact.
- S1.3 Engage with and contribute, under supervision, to legal and contractual matters and contract management relating to the site and work within commercial and legal constraints to ensure effective project outcomes as/if required.
- S1.4 Liaise with the Principal Designer and/or Contractor on matters relating to building safety for the benefits of all current and future occupiers or users.
- S1.5 Investigate problems, causes and effects and determine compliance solutions.
- S1.6 Participating in the Identification, obtaining, processing, and making available information required to manage projects.

- S1.7 Contribute to the evaluation and appraisal of the of project stages with colleagues, team members and external stakeholders to ensure effective teamwork, conflict resolution and lessons learnt.
- S 1.8 Contribute to the implementation of innovative solutions.
- S1.9 Contribute to the management or manage under supervision effective client hand over and effective customer service.
- S1.10 Develop effective work relationships, cross team working and conflict resolution with other construction Team professionals involved in the project.
- S1.11 Contribute to the analysis and interpretation of instructions/briefs to determine the project scope for design deliverables, including stakeholder requirements.
- S1.12 Create design solutions for project(s) based upon architectural and technological design principles through the design, integration and co-ordination of structure, fabric and services.
- S1.13 Develop design solutions that are inclusive, safe, resilient, robust and sustainable.
- S1.14 Contribute to the design and specify critically evaluated systems, components, materials and methods used within a project to satisfy both production and building performance parameters.
- S1.15 Ensure that the design solutions comply with contractual, regulatory and legal requirements for each stage of the project.
- S1.16 Contribute to the management of projects independently or as part of a team within the scope of their responsibilities including contract deliverables in accordance with planning and programming requirements.
- S1.17 Under supervision, identify and assess design risks to mitigate impact on the project brief, people, climate and natural environment
- S1.18 Effectively and efficiently manage or contribute to the management of the planning and execution of design and work, addressing conflicts and resolving issues that may arise.

- S1.19 Manage or contribute to the management of risk, compliance and approvals with the statutory and regulatory processes and procedures technologies in building design, ensuring that buildings and/or assets perform efficiently, effectively, safely and sustainably.
- S1.20 Contributing to the identification of factors affecting project evolution and delivery, including hazards and risks, by developing, implementing, and maintaining systems and records.
- S1.21 Monitor, apply and use relevant legislation, standards, regulatory frameworks,
- S1.22 Demonstrate self-reflection and continuous improvement in understanding current and emerging topics relevant to their context and jurisdiction of practice.
- S1.23 Operate at a professional level, demonstrating appropriate behaviours and reasonable skill and care based on knowledge, proficiency and experience in practice.
- S1.24 Demonstrate awareness and due diligence of the principles of sustainable practice; social justice, and ethical issues.
- S1.25 Plan and manage effective meetings, present information to a variety of audiences.

Behaviours

- B1.1 Work within own level of competence and know when to seek advice from others and when to be able to advise clients and/or stakeholders.
- B1.2 Work within rules and regulations of professional competence and conduct and demonstrate integrity and professionalism in all activities as set by professional body requirements.
- B1.3 Identify personal development, education, skills, experience and/or training needs and meet-them through regular action planning and monitoring to maintain fitness to practice.
- B1.4 Demonstrate good practice including health and safety in the work environment, for users and the public.

- B1.5 Demonstrate effective interpersonal skills, including how to motivate others and raise awareness of issues of bad practice and notify relevant parties.
- B1.6 Demonstrate the use of professional experience, to communicate and convey decisions confidently, appropriately, accurately and confidentially if necessary.
- B1.7 Interact and collaborate professionally with stakeholders, agencies and clients.
- B1.8 Demonstrate the values of morals, ethics, respect and integrity including standards and conduct, e.g. leadership, teamwork and communication, personal responsibility and accountability and duty of care to others including building occupants and/or users.
- B1.9 Undertake continuing professional development (CPD) to ensure currency and relevance of the skills, knowledge, experience, and behaviours required to practice.