Buckinghamshire New University

PROGRAMME SPECIFICATION

1. Key Information

Programme Title:	BSc (Hons) Architectural Design and Technology BSc (Hons) Architectural Design and Technology with Foundation Year BSc (Hons) Architectural Design and Technology (Top Up)
Awarding Institution:	Buckinghamshire New University
Teaching Institution(s):	Buckinghamshire New University
Subject Cluster:	3D Design
Award Title (including separate Pathway Award Titles where offered):	BSc (Hons) Architectural Design and Technology
Pathways (if applicable)	
FHEQ level of final award:	6
Other award titles available (exit qualifications):	Certificate of Higher Education Diploma of Higher Education BSc Architectural Design and Technology
Accreditation details:	
Length of programme:	3 years 4 years with Foundation Year 1 year Top-Up
Mode(s) of Study:	Full Time
Mode of Delivery:	In person (on-site) delivery
Language of study:	English
QAA Subject Benchmark(s):	Architectural Technology (2019)
Other external reference points (e.g. Apprenticeship Standard):	
Course Code(s):	BSARCTFT / BSARCTFY / BSARCTTU
UCAS Code(s):	
Approval date:	1 December 2022
Date of last update:	

2. Programme Summary

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 (The QAA subject benchmark statements for Architectural Technology, 2019). This course has been developed using three

key themes: design, technology and management of building projects. You will learn skills of design, using both manual and digital methods, as well as emerging technologies used in the construction of buildings and structures. You will experience the studio practices that mirror the professional practices whilst working on the building design projects, you will study a variety of subjects to become proficient in construction technology, materials, legislation, sustainability and management.

This course focuses on practical, in-demand skills so that you can make sure that buildings function as they are intended to. You will develop the valuable ability to plan and design buildings embracing social, technological, environmental, ethical and cultural perspectives, meeting the client's requirements and expectations. You will be introduced to design and detail of low to high-rise, residential to commercial complex buildings, ensuring that the solutions result in buildings and structures that are constructed economically and perform efficiently.

This course will prepare you to work as part of a project team administering procurement strategies and contract procedures and to interface with the construction team, providing support and co-ordination to turn the design into reality. On completion of the course, you will know how to design and detail many kinds of buildings and communicate your designs effectively using the latest industry-standard software. You will learn to specify materials, components and assemblies to satisfy agreed briefs and standards in terms of time, cost and quality. Digital technologies are integral to the delivery of the curriculum, meeting the IT and digital standards required by the industry, both within the national and international context. You will develop vital skills that will enable you to effectively investigate building problems and present appropriate design solutions. In addition to subject knowledge, you will develop key interpersonal and transferable skills appropriate to a career in Architectural Technology.

3. Programme Aims and Learning Outcomes

Programme Aims

This programme aims to:

1. Provide learners with opportunities to develop theoretical and practical knowledge of architecture, integrating design with technology in the creation of new buildings or improving the existing stock of buildings in collaboration with other built environment disciplines
2. Equip learners with skills of selecting, defining, testing, and implementing design solutions in the context of contemporary practice and procedures, and the application of statutory regulations and other essential controls for their development
3. Enable learners to become reflective practitioners adhering to the principles, values and ethics and appreciate the role and responsibilities of the Architectural Technologist in the context of design management, project procurement and process, construction and contract management in relation to practice and employment
4. Produce graduates with key transferable skills and behaviours, including creativity, problem-solving, self-reflection and self- management and digital capability to improve employability prospects and support their career and professional development

5. Offer a contemporary curriculum engaged with social, technological, environmental, ethical, and cultural perspectives in order to develop Architectural Technologists that can meet industry requirements

Programme Learning Outcomes

Knowledge and Understanding (K)

On successful completion of the programme you will be able to:

ID	Learning Outcome
K1	Explain relevant theoretical and practical knowledge of architectural science through the integration of technology with design in the context of multidisciplinary teams.
K2	Identify client and user requirements, considering resources, sustainability and environmental impacts and regulations, in order to develop, and assess designs that reflect the client's objectives.
K3	Demonstrate the contemporary skills, knowledge and understanding required of a built environment practitioner in order to manage stakeholder expectations, identify improvements and deliver value to building projects.
K4	Identify hazards in order to control and mitigate risks whilst incorporating health and safety considerations and ensuring compliance with associated regulations in relation to design activities.
K5	Demonstrate a comprehensive understanding of regulatory, legal, social, environmental, and professional requirements in the field of architectural technology and the built environment.

Analysis and Criticality (C)

On successful completion of the programme you will be able to:

ID	Learning Outcome
C1	Evaluate the factors affecting the design, construction, and performance of buildings allowing this to inform the selection of materials, components, systems, and technologies in order to to generate design solutions and plan associated construction activities.
C2	Assess sustainable design and technology solutions to meet client requirements and make recommendations to minimise the environmental impact of a project over the building lifecycle.
C3	Critique the assembly of technical and performance requirements and methods for specifying materials and components including the implementation of manufacturers' literature, design & technical guides andmaterial certification.
C4	Challenge current practices and your own understanding in order to improve and implement innovation in the field of Architectural technology.
C5	Strategise skills of research and scholarship in order to disseminate your learning.

Application and Practice (P)

On successful completion of the programme you will be able to:

ID	Learning Outcome
P1	Operate within relevant codes of conduct of professional organisation(s) whilst demonstrating integrity, professionalism, and ethical considerations in all activities.

P2	Exercise informed judgment to recommend appropriate procurement, contractual, legal, environmental, and management procedures by critically reviewing their relative merits to meet the client requirements.
P3	Devise creative and innovative responses to detailed designs using digital technologies including recommending, integrating andevaluating changes whilst controlling documentation associated with design.
P4	Evidence an understanding of the importance of leading and managing teams and developing colleaguesto meet changing technical, social, environmental, commercial, and managerial needs in relation to achieving common goals in delivering architectural technology projects.
P5	Exercise independent judgement through taking responsibility for actions and decisions and operating within the constraints of your own skills and knowledge as an Architectural Technologist.

Transferable skills and other attributes (T)

On successful completion of the programme you will be able to:

ID	Learning Outcome
T1	Manage and apply safe systems of work including taking responsibility for own obligations for health, safety, and welfare issues, assessing and controlling risk.
T2	Promote appropriate skills, attitudes, and behaviours in professional practice.
T3	Manage personal workloads by meeting deadlines, implementing negotiation skills, and pursuing goals in collaboration with others.
T4	Manage resources effectively to achieve project objectives in the design, construction, and operation of buildings.
T5	Communicate information, argument, and analysis effectively to technical and non-technical audiences.

Graduate Attributes

The BNU Graduate Attributes of: Knowledge and its application; Creativity; Social and ethical awareness and responsibility; and Leadership and self-development focus on the development of innovative leaders in professional and creative capacities, who are equipped to operate in the 21st Century labour market and make a positive impact as global citizens.

Graduates of this course will demonstrate know-how to design and detail low to high rise residential and commercial building and to specify materials, components and assemblies satisfying agreed client briefs and standards in terms of time, cost and quality and sustainability considerations (K1-K5). They will be demonstrating critical understanding of the importance of health and safety, sustainability and legal considerations in the design and application of technology in the construction of buildings (C1-C5). They will have vital employability skills in investigating building problems effectively and in developing detailed architectural design and technology solutions (P1-P5). They will challenge current practices and be open minded about how to improve and implement a new way of working in the field of Architectural technology leading and working collaboratively with stakeholders in embracing the use of state-of-the-art digital and innovative technologies for the design and construction of buildings (C4, P2, P4, T4). In addition, graduates will develop key interpersonal, leadership, and transferable skills appropriate to a career in Architectural Technology (T1-T5) demonstrating their ability communicate their designs effectively using

the latest industry-standard software meeting the IT and digital standards required by the industry, both within the national and international context (K3, S3, T5).

4. Entry Requirements

The University's general entry requirements will apply to admission to this programme with the following additions / exceptions:

- A typical offer will require a UCAS tariff score of: 88 - 112
- A minimum of two full A-levels (or equivalent) is required. Every application is considered on an individual basis.
- Applicants will need to complete an interview and/or demonstrate portfolio work, further guidance is given on the interview and portfolio advice pages.
- For further details of our international English entry requirements, please visit our international pages.
- Applicants who do not meet the minimum requirements for the three-year undergraduate programme, or those who do not feel fully prepared for a degree course, can apply for a four-year programme including a Foundation Year - UCAS Score 32-56

If you do not meet the entry requirements you may, if you have relevant professional experience, still be invited for interview, where you will be required to demonstrate the necessary knowledge and understanding for entry onto the course.

Previous study, professional and / or vocational experiences may be recognised as the equivalent learning experience and permit exemption from studying certain modules in accordance with our accreditation of prior learning (APL) process.

5. Programme Structure

Pathway 1 or stand-alone course **[add further tables for each additional pathway]**

Level	Modules (Code, Title and Credits)	Exit Awards
Foundation Year 1	**Core modules:** FY026 Preparing for Success: Knowledge and Creativity (30) FY027 Preparing for Success: Self Development and Responsibility (30) FY028 Inquiry Based Learning (30) FY041 Introduction to Design and Development (30) **Option modules:** No option modules are available at this level.	**N/A.** No credit is awarded at this Level.
Level 4	**Core modules:** CAD4054 Architectural Design Principles (20) CAD4047 Science and Materials for Designers (20) CAD4048 Building Construction Technology (20) CAD4049 Building Design, Drawings and Measurement (20) CAD4050 Principles of Construction Management (20) CAD4053 Building Regulations and Legal Contexts (20)	**Certificate of Higher Education**, awarded on achievement of 120 credits at Level 4
Level 5	**Core modules** CAD5030 Advanced Construction Technology (20) CAD5031 Industrial Skills in Sustainability (20) CAD5032 Management Strategies, Finance and Economics (20) CAD5036 Digital Modelling (20) CAD5037 Building Surveying and Specifications (20) CAD5038 Advanced Architectural Design (20)	**Diploma of Higher Education**, awarded on achievement of 240 credits, including a minimum of 120 credits at Level 5
Level 6	**Core modules:** CAD6014 Research Dissertation (40) CAD6015 Procurement and Contracts Management (20)	**Ordinary Degree**, awarded on achievement of 300 credits, including 60 credits at Level 6 and 120 credits at each of Levels 4 and 5

	CAD6018 Sustainable Design and Technology Applications (20) CAD6019 Final Year Design Project (20) CAD6007 Professional Practice (20)	**Honours Degree**, awarded on achievement of 360 credits, including 120 credits at each of Levels, 4, 5 and 6

Please note: Not all option modules will necessarily be offered in any one year. Other option modules may also be introduced at a later stage enabling the programme to respond to changes in the subject area.

6. Learning, Teaching and Assessment

Learning and teaching

The course will use learning and teaching activities such as lectures, seminars, tutorials, demonstrations, and project supervision. Virtual learning environment (VLE) will be used throughout the teaching of modules. Project briefs, lecture notes, and supporting information such as study skills guides are made available through the VLE and you will be encouraged to research information using directed activities. Learners will be introduced to industry specific software and digital skills will be developed along with subject knowledge. Project and problem-based learning will be a key approach used for learning and teaching.

Industry practitioners will be involved in delivering guest lectures, site visits and contribute to the assessment of your work, where possible. In unforeseen circumstances when actual site/industry visits will not be possible, digital information such as photographs, drawings as well as opportunities for interaction with relevant industry practitioners will be provided.   At all levels of the course, employability skills have been built into the programme to prepare learners to gain work experience and acquire skills to secure employment on graduating. These activities will include practitioner visits, CV preparation, mock interviews, and production of a personal portfolio.

Digital technologies and industry standard software will be used in relevant modules. An integrated 3D digital CAD model of a building, which embeds multiple facets of information such as specifications, programme, cost, environment, health and safety etc., will be used in the teaching of relevant modules. In year 2, you will be developing digital models themselves. This will foster deep learning enabling you to see how the contents delivered in different modules are interrelated to provide holistic concepts of design, construction technology, sustainability and integration of building services for the effective design and operation of buildings.

You are expected to take ownership of their learning and are required to spend time outside the contact time with tutors undertaking independent study. Independent guided study and self-learning increases from level 4 to 6, which requires high degrees of self-discipline and time management. By graduation, it is anticipated that you will be ready to face real world challenges and gain employment.

Lectures

Lectures provide the framework for communicating theory, concepts, primary principles and industrial practices and procedures. Lectures are not deemed to focus on the one-way flow of information from lecturer to learner but are used as a vehicle for two-way dialogue and for the embedment of short concept-focussed learning activities.

Tutorials

Tutorials involve one-to-one meetings or small group supervision, feedback or detailed discussion on a particular topic or project. Tutorials can take place virtually as well face-to-face.

Seminars

Seminars are small group sessions used to consolidate and extend learning of the materials covered in lectures. The sessions centre around structured learning activities designed to

promote learner engagement. A seminar may require a short presentation from a small group of learners (peer-led) or a tutor-led session where theoretical concepts are described and explained, and example exercises as solved on a step-by-step basis. The nature of any presentation is dependent on the subject area but may for example be based on the small group findings in response to a learning activity with the finding being used for general dissemination or used for whole group discussion. The sessions may also provide a learning environment in their own right and will also be used for the provision of formative assessment and feedback.

Studio Practice

Whilst you learn within CAD suites, workshops, libraries and lecture theatres across the campus, you will experience studio practice. Relevant learning and teaching activities for design projects will take place in the studio mirroring the industry practices and the studio practice will also provide peer learning opportunities. Industry professionals who provide live project briefs may visit the studio for reviews of work.

Case study Projects

A series of case study projects, either written scenarios or live briefs from the industry will be used for the development of knowledge and skills of design and technologies for the buildings and structures. Projects are designed to present new challenges to learners as they progress through the course and involve working with varied sites, clients and requirements. All projects commence with an introduction to a written brief, which guides learners through the subsequent stages of research and analysis, design development and final presentation. You will record your work and keep a portfolio from the first year to final year.

Use of Digital Models including Computer Aided Design (CAD)

Computer aided design is an essential skill for Architectural Technology learners to acquire and apply to project work. You will learn AutoCAD, Revit, 3d Studio Max, Rhino and Photoshop through structured lessons in IT/CAD suites and studios.

Group Critiques

The formal critique (crit) when you are required to display your work to a panel of tutors and your peers is considered central to your learning experience. The process encourages you to become increasingly articulate and confident when discussing their work and prepares you for client presentations when you enter practice. The crit is seen as an important forum not only for critical appraisal but also for debate and discussion among the panel, and as an opportunity for you to question the opinions of the tutors.

Personal Development Planning

You are required to record your work across all three levels of the course as you progress through sequences of projects. 2D and 3D artefacts in different media are photographed and documented so that an ongoing digital portfolio is kept. Aspects of design practice such as site visits and collaborations with clients or colleagues on other courses are also documented. Personal Development Planning Portfolios encourage you to employ self-evaluation skills and critically reflect upon the learning outcomes for projects and the connections between studio and theory modules.

Workshops

You will receive inductions so that they are able to use the extensive range of equipment on campus including timber, metal and ceramic workshops to make presentation pieces for projects. There are facilities for 3D printing and laser cutting, with workshop technicians providing support. These sessions also, may be used for the provision of formative assessment and feedback.

Study Visits and Tours

The course team arranges visits to galleries, museums, construction project sites as well as visits to sites of historical and contemporary interest introducing you to the clients, contacts and project sites. There will be opportunities for international study visits organised across the School.

Practical Sessions

Practical sessions are small group activities designed to promote the practical skills required by the module learning outcomes. Typically, these will involve structured learning activities with well-defined outcomes. For example, material descriptions in Science and Materials.

Laboratory Work

Laboratory work is used to underpin theoretical concepts and supports the practical aspects of a module. The learning activities require the application of appropriate techniques, interpretation of data and the communication of results. The activities also aim to promote an enquiring learner approach to potential sources of error and Health and Safety implications. Laboratory sessions complement both lecture and small group teaching sessions and emphasise regulatory roles of various British Standard and Euro Codes.

Assessment

A variety of assessment vehicles are used as appropriate to each module. The forms of assessment have been chosen so as to motivate learners to achieve and to create positive learning opportunities. The assessments are mainly coursework, which include:

- Written assignments carried out in the learner's own time
- Report
- Portfolio
- In-class assignments
- Computer-based test
- Set exercises - worksheets, to be completed as required usually in the learner's own time
- Presentations (for example, poster and oral)
- Laboratory exercises
- Proposal
- Dissertation

Assessment criteria reflect the progressively independent learning expected as the learners progress through the course. This supports the practical nature of the course, supported by theoretical research and critical writing.

Formative feedback on the learner's progress on the project work, directed study activities and assessments will be provided using verbal feedback during individual tutorials, group critiques or seminar sessions and peer feedback. Formative feedback opportunities will be

provided to monitor and reflect on progress, identifying areas of achievement as well as focusing on objectives for future development.

Contact Hours

Learners can expect to receive approximately 12 hours of scheduled learning activities per week. You will also be expected to undertake 18-20 hours of independent study (including research and practice) per week towards the completion of your coursework.

7. Programme Regulations

This programme will be subject to the following assessment regulations:

- [Academic Assessment Regulations](#)

8. Support for learners

The following systems are in place to support you to be successful with your studies:

- The appointment of a personal tutor to support you through your programme
- A programme handbook and induction at the beginning of your studies
- Library resources, include access to books, journals and databases - many of which are available in electronic format – and support from trained library staff
- Access to Blackboard, our Virtual Learning Environment (VLE), which is accessible via PC, laptop, tablet or mobile device
- Access to the MyBNU portal where you can access all University systems, information and news, record your attendance at sessions, and access your personalised timetable
- Academic Registry staff providing general guidance on University regulations, exams, and other aspects of students and course administration
- Central student services, including teams supporting academic skills development, career success, student finance, accommodation, chaplaincy, disability and counselling
- Support from the Bucks Students' Union, including the Students' Union Advice Centre which offers free and confidential advice on University processes.

9. Programme monitoring and review

BNU has a number of ways for monitoring and reviewing the quality of learning and teaching on your programme. You will be able to comment on the content of their programme via the following feedback mechanisms:

- Formal feedback questionnaires and anonymous module 'check-ins'
- Participation in external surveys
- Programme Committees, via appointed student representatives
- Informal feedback to your programme leader

Quality and standards on each programme are assured via the following mechanisms:

- An initial event to approve the programme for delivery
- An annual report submitted by the External Examiner following a process of external moderation of work submitted for assessment
- The Annual Monitoring process, which is overseen by the University's Education Committee
- Review by the relevant PSRB(s)
- Periodic Subject Review events held every five years

- Other sector compliance and review mechanisms

10. Internal and external reference points

Design and development of this programme has been informed by the following internal and external reference points:

- The Framework for Higher Education Qualifications (FHEQ)
- The QAA Subject Benchmark Statement – see detailed mapping below
- The BNU Qualifications and Credit Framework
- The BNU Grading Descriptors
- The University Strategy

Mapping of Subject Benchmark Statement and any relevant Apprenticeship Standard to Programme Learning Outcomes

Subject Benchmark Statement / Apprenticeship Standard:	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Benchmark / Standard requirement	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
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.	x		x		x	x					x			x	X					
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.			x		x						x	x		x	x		x	X		

Subject Benchmark Statement / Apprenticeship Standard:	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Benchmark / Standard requirement	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
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.			x			x			x				x						x	
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).	x		x			x		x	x				x							
Designing holistically, including the ability to		x	x		x	x	x	x	x				x		x					

Subject Benchmark Statement / Apprenticeship Standard:	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Benchmark / Standard requirement	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
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		x										x		x					x	
Health and safety requirements within a regulatory system, identifying, analysing, and evaluating hazards and				x	x						x	x				x				

Subject Benchmark Statement / Apprenticeship Standard:	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Benchmark / Standard requirement	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
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.	x					x	x								x					
Current philosophies, processes and technologies for the modelling, communication, and management of			x							x			x				x			x

Subject Benchmark Statement / Apprenticeship Standard:	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Benchmark / Standard requirement	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
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.	x					x			x		x		x		x				x	

Mapping of Programme Learning Outcomes to Modules

Programme Learning Outcome	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Module Code (Core)	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
Level 4																				
Architectural Design Principles	x	x				x	x	x	x	x	x				x			x		x
Science and Materials for Designers			x				x	x	x										x	
Building Construction Technology			x	x	x			x					x			x				
Building Design, Drawings and Measurement	x																			
Principles of Construction Management	x		x									x		x	x	x		x	x	
Building Regulations and Legal Contexts			x	x	x						x	x			x	x				
Level 5																				
Advanced Construction Technology			x	x	x			x	x				x			x				
Industrial Skills in Sustainability	x	x					x							x					x	
Management Strategies, Finance and Economics		x										x		x					x	
Digital Modelling			x						x				x							

Programme Learning Outcome	Knowledge and understanding (K)					Analysis and Criticality (C)					Application and Practice (P)					Transferable skills and other attributes (T)				
Module Code (Core)	K1	K2	K3	K4	K5	C1	C2	C3	C4	C5	P1	P2	P3	P4	P5	T1	T2	T3	T4	T5
Building Surveying and Specifications												x	x							
Advanced Architectural Design	x	x				x		x	x	x	x				x			x		x
Level 6																				
Final Year Design Project						x	x		x	x	x			x	x		x	x		x
Professional Practice		x				x			x	x				x	x		x	x		
Procurement and Contracts Management		x	x									x		x						
Research Dissertation						x			x	x					x			x		x
Sustainable Design and Technology Applications		x					x	x	x						x			x		x