Programme Specification

BSc (Hons) Architectural Technology

1. Programme title	Architectural Technology
2. Awarding institution	Middlesex University
3. Teaching institution	Middlesex University
4. Details of accreditation by professional/statutory/regulatory body	Professional body accreditation – TBC
5. Final qualification	Bachelor of Science (BSc hons)
6. Year of validation **Year of amendment**	English
7. Language of study	Full time / Part time / TKSW
8. Mode of study	

9. Criteria for admission to the programme

Minimum requirements are 280 UCAS tariff points, including one Science and one Numerate.

Additionally, five GCSEs with a minimum of Grade C in English and Maths are required.

BTEC National Diploma/International Baccalaureate/Advanced Progression Diplomas are also accepted. We accept Access to HE Diploma. Applications from mature candidates without formal qualifications are welcomed provided they can demonstrate appropriate levels of relevant ability and experience. This is done through assessment of APEL (accreditation of prior experiential learning) where your previous work experience will be assessed to be sufficient for entry level on the programme.

International entry requirements

We accept the equivalent of the above from a recognised overseas qualification.

English language requirements

Applicant must have competence in English language and we normally require Grade C GCSE or an equivalent qualification. The most common English Language requirements for international students are IELTS 6.0 (with minimum 5.5 in all four components).

Entry into year two or three (transfer students)

If the applicant has achieved a qualification such as a foundation

degree or HND, or have gained credit at another university, they may be able to enter a Middlesex course in year two or three according to university regulations for equating modules studied and credits earned from another institution.

10. Aims of the programme

This programme aims to produce professional and competent Architectural Technologists who are specialists in the science of architectural practice, working as part of the wider construction team, and the community by being the integrating force between concept/pure architecture and construction/services management. The programme aims to actively engage students in an intellectually stimulating learning experience to instil enthusiasm/passion for architectural technology.

Students will develop cognitive, practical and technical skills to formulate design solutions, to satisfy performance, production, process and procurement criteria, which are developed and enhanced progressively through the course. Students will also develop as reflective professionals employable and adaptable to challenges and future changes. They will develop an understanding of business and project management, design and construction management, procurement and contract skills including professional practice as appropriate to the profession of architectural technology.

11.	**Programme outcomes** (Based on **QAA Subject Benchmark 2014** and **CIAT accreditation guidelines 2014)**	
A.	**Knowledge and understanding** On completion of this programme the successful student will have knowledge and understanding of the following in relation to the four main strands of Architectural Technology – design, technology, practice, management:	**Teaching/learning methods** Students gain knowledge and understanding in all 4 strands of Design, Technology, Practice and Management through a mixture of methods: discussing and debating seminars, case studies, practical development projects using real sites, site visits, real-life project simulations and collaborative interdisciplinary projects. This is in addition to the appropriate theoretical principles and analytical tools. This will include studio and problem-based active and reflective student centred learning
1.	Identify what architectural technology is and provides in relation to practice and employment. Display an awareness of technological theories that influence architectural technology **2.** Discuss legislation, legal and regulatory requirements for buildings including health and safety, litigation and indemnity insurance **3.** Derive impact of history and context on design of buildings including new buildings and alteration, maintenance, extension, refurbishment and conservation of existing buildings	
4.	Discuss effects of technology of architecture ontologies, forms, functions, concepts, on technical	

	specifications	Collaborative interdisciplinary projects will be used in the final stages of an Honours degree programme where the synthesis and integration of the various skills and knowledge acquired throughout the programme is demonstrated.
5.	Determine user and market needs, cost, safety, reliability, appearance, fitness for purpose including accessibility and inclusive design. **6.** Criticise design and construction process and systems efficiency, for economic, environmental sustainability and technological, cultural, political and social parameters	
7.	Classify business and organisation structures, enterprise and infrastructure architecture continuous improvement and quality assurance techniques	**Assessment methods** Both summative and formative assignments will be used. Formative assignments (to help guide student's progress) and drafts of summative graded assignments will be reviewed and feedback provided back to students – both in face- to-face form, oral and written format.
8.	Evaluate building performance, appraisal by Utilising diagnostic and non-destructive testing methods in the identification of the general condition, survey information and assessing a building scope when considering refurbishment development, redevelopment and maintenance	
9.	Assess relevance of computer-aided design, three-dimensional modelling,	Students' knowledge and understanding will be assessed by a wide range of assessment methods, particularly

information and communication technology and building information modelling, new and emerging technologies, processes, modelling	those that reflect the vocational nature of architectural technology, the appropriate academic challenge and continued professional development. Oral presentations Graphic presentations including computer aided design Project portfolios Collaborative and team work Individual and group projects Poster displays of project work. Models and Prototypes
Cognitive (thinking) skills On completion of this programme, in relation to the four main strands of Architectural Technology – design, technology, practice, management, the successful student will be able to: Define and analyse building services engineering, environmental science	**Teaching/learning methods** Students learn cognitive skills through weekly seminar discussions (interactive lectures) / debates delivered by experts / practitioners

and structural engineering related to design for production and performance 2. Demonstrate an ability to work independently and collaboratively as a member of a team, developing critical analysis of work ethics, identifying personal development needs to meet these needs through relevant and appropriate methods 3. Demonstrate an ability to conduct research using literature, industry resources, case studies etc. to evaluate estimates, bids, tenders etc. 4. Analyse building elements, components, systems, and methods used for building typologies and identify appropriate methodologies for dealing with complex problems 5. Determine hazards and risks and develop teams responsibilities and methods of work 6. Analyse project and design management, project procurement and process, construction and	from industry as well as from university. Further supported by face-to-face and online discussion groups and e-journals led by academic staff, for in- depth discussion, research and collaborating within the cohort. There will also be weekly problem- based design and technology activities, model creation and individual supervision conducted within the design studio, equipment workshop and digital media studios with state-of- the-art software and hardware. **Assessment methods** Students' cognitive skills are assessed by design projects and models, reflective and critical

contract management, knowledge and information management, 7. Solve problems to realise the design into built form through the generation of detailed design solutions that respond to familiar and unfamiliar situations	analysis projects, reports and portfolios of construction case studies, models and prototypes, including exhibitions of products designed, individual and team projects (year 2 and 3), presentations and group reviews. Students will assess each other's work in group projects (peer assessment) and themselves (self assessment). Industry practitioners and leaders will help develop projects and assess them.
Practical skills On completion of the programme the successful student will be able to: Establish client requirements and user factors; identify challenges and preferences in order to develop the design brief and formulate proposals	**Teaching/learning methods** Students learn practical skills through face-to-face weekly problem-based design and technology activities,

that respond to the brief 2. Realise the design into built form through the generation of detailed technical solutions that respond to complex and unfamiliar situations 3. Apply legal and regulatory requirements to achieve inclusive and sustainable buildings using building regulations, health and safety, quality assurance and control systems 4. Utilise technical and performance requirements and methods for specifying materials and components including implementation of manufacturers' literature, design and technical guides, material certification, tectonics, science 5. Produce creative design solutions utilising high-quality architectural 2D or 3D presentations, artefacts and parametric models through the application of various methodologies	model creation and individual supervision conducted within the design studio, equipment workshop and digital media studios. In addition to technical and analytical feedback on their work related to case studies. **Assessment methods** Students' practical skills are assessed by design projects, digital and physical models, technical details, structure designs, reflective and critical analysis projects, reports and portfolios of construction case studies, models and prototypes, including exhibitions of products designed, individual and team projects (year2,3), presentations and group reviews. Students

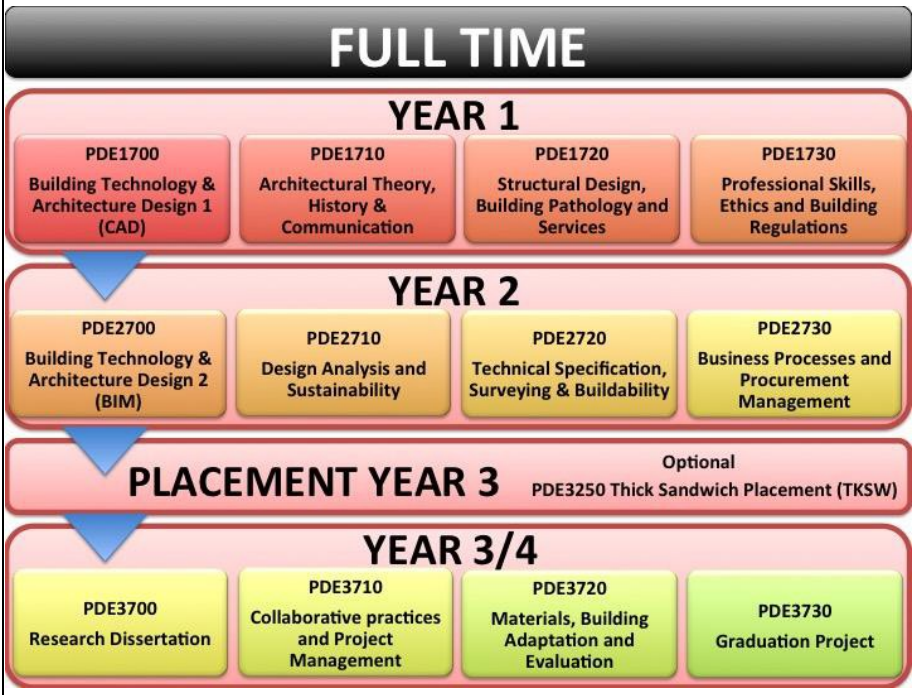
	will assess each other's work in some modules. Industry practitioners and leaders will help develop projects and assess them.
Graduate skills On completion of this programme the successful student will be able to: Develop a strategy for career and personal development by using the relevant key skill over an extended period of time, plan how this will be achieved, and adapt this strategy, as necessary, to achieve the quality of outcomes required Monitor own progress, critically reflect on performance in using the relevant skill, evaluate overall strategy and present outcomes from of work, including ways of further improving skills through continuous effective learning. Recognise and analyse problems and plan novel strategies for their solution.	**Teaching/learning methods** Students acquire graduate skills through discussing and debating seminars, case studies, practical development projects using real sites, real-life project simulations and collaborative interdisciplinary projects. It is anticipated that this will include studio and problem- based active and reflective student centred learning to acquire decision making, communication and graduate skills

problem-solving skills including self-direction and originality, 4. Communicate and interact effectively with professionals from other subjects, and independent, inter-disciplinary team working. Present architectural technology information and articulate arguments clearly and correctly. 5. Demonstrate the ability to make informed judgements based on evidence, research, question current theories and practice, and make decisions in complex and unpredictable situations 6. Recognise and implement good practice habits, skills in the analysis, synthesis and evaluation of technological information and data numeracy	which include self and peer assessment. **Assessment methods** Students' graduate skills are assessed by a combination of all of the previously mentioned techniques with placing an important factor during grading on demonstrating team work, self and peer assessment of projects, analytical work.

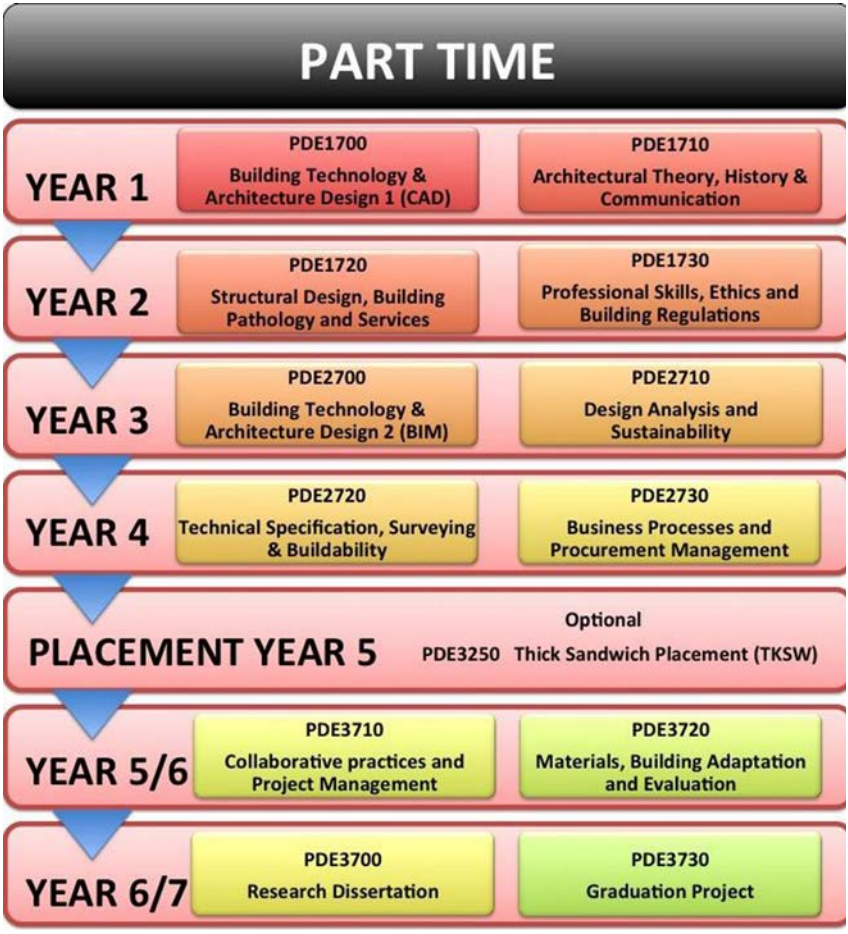
12. Programme structure (levels, modules, credits and progression requirements)

12. 1 Overall structure of the programme

Programme Structure Diagram in Full Time mode:



Programme Structure Diagram in Part Time mode:



Programme Structure

- ***3 years - Full-time + placement year (optional)***
- ***6 years - Part-time + placement year (optional)***

The programme consists of 12 compulsory modules undertaken at levels 4,5,6, over a 3-year period in full-time mode in addition to an optional placement year, or 6 years in part-time mode in addition to an optional placement year.

Full-time study mode

In year one, students will embark on a 24 weeklong study of 4 modules (30 credits each) to gain specialist knowledge with industrial focus that will lead to 120 credits. Each module is taught in a 3-hour session / week face-to-face at university, but each module requires in total 300 learning/study hours from the student per year. This includes individual study time, group work, on-line journals, working on deliverables etc.

Students will study module PDE1700 – Building Technology & Architecture Design 1, PDE1710 - Architectural Theory, History & Communication, PDE1720 - Structural Design, Building Pathology and Services, and PDE1730 - Professional Skills, Ethics and Building Regulations.
In year two, students will study the following 4 modules (30 credits each) to gain specialist knowledge with industrial focus that will lead to 120 credits: PDE2700 – Building Technology & Architecture Design 2, PDE2710 - Design Analysis and Sustainability, PDE2720 - Technical Specification, Surveying & Buildability, and PDE2730 - Business

Processes and Procurement Management.
In year three, students will study the following 4 modules (30 credits each) to gain specialist knowledge with industrial focus that will lead to 120 credits: PDE3700 – Research Dissertation, PDE3710 - Collaborative practices and Project Management, PDE3720 - Materials, Building Adaptation and Evaluation, and PDE3730 Graduation Project.

There is an optional placement year that students can undertake after completing their second year of study and before commencing their 3rd year. Opportunities can be suggested for placement through the university's network with industry organisations. This optional placement is a graded module (PDE3250 - TKSW Thick Sandwich Placement), which is awarded an additional and separate 120 credits to the 360 credits of the degree. On achieving the 120 credits a Diploma of Industry Studies (DIS) is awarded for it in addition to the BSc honours degree award, but it does not contribute to the award classification or affect it.

Part-time study mode

In part-time mode, only 2 modules will be studied per year for a total 60 credits / year, for 6 years. The modules will be studied in the same order as per the diagram above, with the same teaching, learning and assessment techniques as in full-time mode.
Year 1: PDE1700 – Building Technology & Architecture Design 1 **/** PDE1710 - Architectural Theory, History & Communication
Year 2: PDE1720 - Structural Design, Building Pathology and Services **/** PDE1730 - Professional Skills, Ethics and Building Regulations

Year 3: PDE2700 – Building Technology & Architecture Design 2 **/** PDE2710 - Design Analysis and Sustainability
Year 4: PDE2720 - Technical Specification, Surveying & Buildability **/** PDE2730 - Business Processes and Procurement Management
Year 5: PDE3710 - Collaborative practices and Project Management **/** PDE3720 - Materials, Building Adaptation and Evaluation
Year 6: PDE3700 – Research Dissertation **/** PDE3730 Graduation Project

Upon completion of the programme Students will be able to progress their career development by applying for a Chartered Architectural Technologist status from the Chartered Institute of Architectural technology (CIAT)

12.2 Levels and modules		
Level 4 (1)		
COMPULSORY	OPTION AL	PROGRESSION REQUIREMENTS
Students must take all of the following: **PDE1700** Building Technology & Architecture Design 1 (CAD) (30 credits) **PDE1710** Architectural Theory, History & Communication (30 credits) **PDE1720** Structural Design, Building Pathology and Services (30 credits) **PDE1730** Professional Skills, Ethics and Building Regulations (30 credits)	None	To progress to level 5, the student must successfully pass and complete 30 credits in all modules at level 4.
Level 5 (2)		

COMPULSORY	OPTION AL	PROGRESSION REQUIREMENTS
Students must take all of the following: **PDE2700** Building Technology & Architecture Design 2 (BIM) (30 credits) **PDE2710** Design Analysis and Sustainability (30 credits) **PDE2720** Technical Specification, Surveying & Buildability (30 credits) **PDE2730** Business Processes and Procurement Management (30 credits)	None	To progress to level 6, the student must successfully pass all modules..
Level 6 (3)		
COMPULSORY	OPTION AL	PROGRESSION REQUIREMENTS

Students must take all of the following: **PDE3700** Research Dissertation (30 credits) **PDE3710** Collaborative practices and Project Management (30 credits) **PDE3720** Materials, Building Adaptation and Evaluation (30 credits) **PDE3730** Graduation Project (30 credits)	**PDE3250** TKSW	For BSc (hons) award, the student must successfully pass and complete 30 credits in all level 4,5,6 modules.

12.3 Non-compensatable modules (note statement in 12.2 regarding FHEQ levels)	
Module level	**Module code**
Compensation is not permitted on any module.	

1

See attached below.

14.

Refer to the University Regulations for generic guidance, and the Programme Handbook, under the Assessment section, for additional information

http://www.mdx.ac.uk/about-us/policies/university-regulations

15.

The work placement year is optional and takes place between the second and third years of the degree in full-time, or fourth and fifth year of the degree in part-time.

The programme will arrange industrial visits and seek relevant industrial partnerships. There will be strong involvement from industrial partners in terms of sponsored projects and specialist lectures. A series of online/face-to-face guest lectures are compulsory for attendance and analysis by the candidates throughout the course of the programme.

Through diverse connections with organisations in all disciplines of the construction and infrastructure industry in both UK and abroad, the university can open up opportunities for placement in both design, construction and operations related organisations and projects.

16.

This course prepares students to work in diverse positions in the construction sector, both public and private, as architectural technologists, architectural designers, architectural engineers, BIM modellers, BIM coordinators and site coordinators.

Graduates may go on to become lead designers, information managers, project managers, BIM managers, consultants or set up their own architectural design practices.

Career options also include work within architectural practices, construction organisations, infrastructure organisations, housing associations, local authorities, legislation and building authorities, central and local government, with property developers, processing and off-site manufacturing industries, research and academia, energy sectors, sustainability, conservation, conversion, maintenance, management, standards and construction legislation bodies, new build, restoration, retrofit or re-use projects.

The university will support the graduates career ambitions by helping develop a professional portfolio, CV and career entry plan through one-on-one supervision and feedback from industry professionals. They will also have access to our Employability Service during and after their degree.

The programme content will be enriched by keeping industrial engagement, collaboration active, and offering sponsored projects. This will help reveal current opportunities and future trends in their relevant employment sector.

17.

Meeting the learning outcomes of this programme requires active participation in the subject and development of autonomous practice in meeting objectives. Supporting this level of active participation is achieved via regular weekly face-to-face or online tutorial contact with academic staff, productive and informed support from technical staff, the use of online resource based learning materials and discussion tools through our virtual online university environment Moodle and collaborative system Adobe Connect Breeze.

The programme cohort will have weekly discussion sessions for interaction, collaboration and sharing of experiences to guide development of work through peer support. In the case of sponsored projects, industrial partners will also be part of the panel for offering guidance and support. There will also be weekly seminars/webinars with Q&A delivered by guest lecturer experts in industry in different topics related to the studied modules. The guest experts will work with the module leaders in designing the seminars to be given.

Our Learning Enhancement Unit will also provide special support in Academic writing. The subject provides extensive studio, laboratory and workshop facilities where students can engage with their coursework assignments in a supported and productive environment with the modules' tutors, who are all also practitioners in industry, or Graduate Academic Assistants (GAAs), with attention to diversity.

18. J r	JCAS Code – W245 ACS Code - K130 (Architectural echnology)
19. R b	rchitectural Technology (2014)

20. Reference points

QAA Subject Benchmark Statement for Architectural Technology (2014)
QAA The Frameworks for Higher Education Qualifications of UK Degree-Awarding Bodies (2014)
CIAT Accreditation Guidelines for Honours Degree Level Programmes (2015)
CIAT Guidance for Mapping QAA Subject Benchmark Statement for Architectural Technology (2014)
Middlesex University Regulations

21. Other information

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of your programme handbook and the university regulations

Appendix 2: Curriculum Map

Curriculum map for BSc (Hons) Architectural Technology

This section shows the highest level at which programme outcomes are to be achieved by all graduates, and maps programme learning outcomes against the modules in which they are assessed.

Programme learning outcomes

Knowledge and understanding		**Cognitive skills**	
A 1	Identify what architectural technology is and provides in relation to practice and employment. . Display an awareness of technological theories that influence architectural technology	B 1	Define and analyse building services engineering, environmental science and structural engineering related to design for production and performance
A	Discuss legislation, legal and regulatory requirements for buildings including health	B	Demonstrate an ability to work independently and collaboratively as a member of a team,

2	and safety, litigation and indemnity insurance	2	developing critical analysis of work ethics, identifying personal development needs to meet these needs through relevant and appropriate methods

A 3	Derive impact of history and context on design of buildings including new buildings and alteration, maintenance, extension, refurbishment and conservation of existing buildings	B 3	Demonstrate an ability to conduct research using literature, industry resources, case studies etc. to evaluate estimates, bids, tenders etc.
A 4	Discuss effects of technology of architecture ontologies, forms, functions, concepts, contexts on technical specifications	B 4	Analyse building elements, components, systems, and methods used for different building typologies and identify appropriate methodologies for dealing with complex problems
A	Determine user and market needs, cost, safety, reliability, appearance, fitness for	B	Determine hazards and risks within projects throughout the construction lifecycle and develop

5	purpose including accessibility and inclusive design. Criticise design and construction process and systems efficiency, for economic, environmental sustainability and technological, cultural, political and social parameters	5	teams responsibilities and methods of work for risk assessment and management

A 6	Classify business and organisation structures, enterprise and infrastructure architecture continuous improvement and quality assurance techniques	B 6	Analyse project and design management, project procurement and process, construction and contract management, knowledge and information management
A 7	Evaluate building performance, appraisal by Utilising diagnostic and non-destructive testing methods in the identification of the general condition, survey information and assessing a building scope when considering	B 7	Solve problems to realise the design into built form through the generation of detailed design solutions that respond to familiar and unfamiliar situations

	refurbishment development, redevelopment and maintenance		
A 8	Assess relevance of computer-aided design, three-dimensional modelling, information and communication technology and building information modelling, new and emerging technologies, processes, modelling	B 8	
Practical skills		**Graduate Skills**	

C 1	Establish client requirements and user factors; identify challenges and preferences in order to develop the design brief and formulate proposals that respond to the brief	D 1	Develop a strategy for using the relevant key skill over an extended period of time, plan how this will be achieved, and adapt this strategy, as necessary, to achieve the quality of outcomes required

C 2	Realise the design into built form through the generation of detailed technical solutions that respond to complex and unfamiliar situations	D 2	Monitor progress, critically reflect on student's performance in using the relevant skill, evaluate their overall strategy and present the outcomes from their work, including ways of further improving their skills through continuous learning
C 3	Apply legal and regulatory requirements to achieve inclusive and sustainable buildings using building regulations, health and safety, quality assurance and control systems	D 3	Recognise and analyse problems and plan novel strategies for their solution. problem-solving skills including self-direction and originality

C 4	Utilise technical and performance requirements and methods for specifying materials and components including implementation of manufacturers' literature, design and technical guides, material certification, tectonics, science	D 4	Communicate and interact effectively with professionals from other subjects, and independent, inter-disciplinary team working. Present architectural technology information and articulate arguments clearly and correctly.
C 5	Produce creative design solutions utilising high-quality architectural 2D or 3D presentations, artefacts and parametric models through the application of various methodologies	D 5	Demonstrate the ability to make informed judgements based on evidence, research, question current theories and practice, and make decisions in complex and unpredictable situations
C 6		D 6	Recognise and implement good practice habits, skills in the analysis, synthesis and evaluation of technological information and data

Programme outcomes

A 1	A 2	A 3	A 4	A 5	A 6	A 7	A 8	B 1	B 2	B 3	B 4	B 5	B 6	B 7	C 1	C 2	C 3	C 4	C 5	D 1	D 2	D 3	D 4	D 5	D6
Highest level achieved by all graduates																									
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Building Technology & Architecture Design 1 (CAD)	PDE 1700	X								X			X			X	X				X			X	X	X	X

Architectural Theory, History & Communication	PDE 1710			X	X												X					X	X		X	
Structural Design, Building Pathology and Services	PDE 1720				X		X			X											X	X	X	X	X	X

Professional Skills, Ethics and Building Regulations	PDE 1730	X	X							X								X			X	X		X		X
Building Technology & Architecture Design 2 (BIM)	PDE 2700					X				X					X	X		X			X			X	X	X	X

Design Analysis and Sustainability	PDE 2710				X	X									X						X	X	X	X	

Module Title	Mo	Programme outcomes																								
	d-	A	A	A	A	A	A7	A	B	B	6	B	B		B	B	B7	C	C	6	C	C		C	D	D		D	D	D	D	1	2
ule Code by	1			A	2	3	4		8	1		2	3		4	5			1	2		3		4	5			3	4	5	6		
				5																													
	Level																																
Technical Specification, Surveying & Buildability																																	

PDE 2720	X				X			X					X		X			X	X	X	X						

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Business Processes and Procuremen t Manageme nt	PDE 273 0							X				X		X	X							X	X	X	X	X	X
Research Dissertation	PDE 370 0	X	X	X	X	X					X		X		X		X						X	X	X	X	X
Collaborativ e practices and Project Manageme nt	PDE 371 0	X	X				X					X		X	X				X			X	X	X	X	X	

Materials, Building Adaptation and Evaluation	PDE 3720				X			X					X							X				X	X	X	X
Graduation Project	PDE 3730				X	X			X	X	X		X			X	X	X		X	X	X	X	X	X	X	X
TKSW	PDE 3250																										