

# BACCALAUREUS TECHNOLOGIAE: ARCHITECTURE: PROFESSIONAL (Extended curriculum programme with foundation provision) Qualification code: BTPSF0 - NQF Level 7 (4,000 credits)

Campus where offered: Pretoria Campus (day classes)  
Last year of new intake: 2017  
Teach-out (phase-out) date: 31 December 2021

Students registered for this qualification should complete their studies according to the teach-out date prescribed for the qualification, subject to the stipulations of Regulation 3.1.11 and 3.1.13 in the Students' Rules and Regulations.

Information on phased-out programmes can be obtained from the TUT website, [www.tut.ac.za](http://www.tut.ac.za).

## CURRICULUM

Consult the 2017 Faculty Prospectus for the full contents of the qualification.

**SUBJECTS PRINTED IN BOLD ARE NOT FOR REGISTRATION PURPOSES.**

### FIRST YEAR

CODE	SUBJECT	CREDIT
FPALC01	Foundation Architectural Language and Communication	(0,100)
FPBBL01	Foundation Building Business Law and Practice	(0,100)
FPBSC01	Foundation Building Science	(0,100)
FPPAD01	Foundation Principles of Architectural Design	(0,100)
FPTAD01	Foundation Technical Architectural Drawing	(0,100)
TOTAL CREDITS FOR THE FIRST YEAR:		<b>0,500</b>

### SECOND YEAR

**Subjects must be taken in combinations and in the sequence indicated. The following rules will apply:**

- CSM110T and KME110T must be taken concurrently. These subjects must also be taken with ACH100T or they should have been passed before a student may continue with the subject.
- ACH100T and THD100T must be taken concurrently.
- CDO100T may not precede ACH100T.

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
ABC100B	Applied Building Science I	(0,050)	
ACH100T	Architectural Design I	(0,400)	
CAI110T	Computer-Aided Draughting I	(0,040)	
CDO100T	Contract Documentation I	(0,120)	
COA110B	Computer Applications I	(0,040)	
COM150C	Communication I	(0,040)	
CSM110T	Construction Materials I	(0,050)	
HAC100T	History of Architecture I	(0,050)	
KME110T	Construction Methods I	(0,050)	
PTT100T	Presentation Techniques I	(0,120)	
THD100T	Theory of Design I	(0,040)	
TOTAL CREDITS FOR THE FIRST YEAR:		<b>1,000</b>	



### THIRD YEAR

Subjects must be taken in the combinations and in the sequence indicated. The following rules will apply:

- CSM200T and KME210T must be taken concurrently. These subjects must also be taken with ACH200T or they should have been passed before a student may continue with the subject.
- ACH200T and THD200T must be taken concurrently.

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
ACH200T	Architectural Design II	(0,400)	Architectural Design I
ARC200T	Architectural Technology Practice II	(0,250)	Architectural Design I Computer-Aided Draughting I Construction Materials I Construction Methods I Contract Documentation I Presentation Techniques I
CDO200T	Contract Documentation II	(0,150)	Contract Documentation I
CMI200T	Computer-Aided Design II	(0,050)	Computer-Aided Draughting I Computer Applications I
CSM200T	Construction Materials II	(0,050)	Construction Materials I
KME210T	Construction Methods II	(0,050)	Construction Methods I
THD200T	Theory of Design II	(0,050)	History of Architecture I Theory of Design I
TOTAL CREDITS FOR THE SECOND YEAR:		<b>1,000</b>	

### FOURTH YEAR

Subjects must be taken in the combinations and in the sequence indicated. The following rules will apply:

- CSM300T and KME310T must be taken concurrently. These subjects must also be taken with ACH300T and CDO300T or they should have been passed before a student may continue with the subjects.
- ACH300T, LDE310T and THD300T must be taken concurrently.
- CDO300T and SPQ300T must be taken concurrently.
- CAI310T must precede ACH300T.

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
ACH300T	Architectural Design III	(0,400)	Architectural Design II
AHC300T	Architectural Practice III	(0,050)	
BSV300T	Building Services III	(0,050)	
CAI310T	Computer-Aided Draughting III	(0,050)	Computer-Aided Design II
CDO300T	Contract Documentation III	(0,130)	Contract Documentation II
CSM300T	Construction Materials III	(0,050)	Construction Materials II
KME310T	Construction Methods III	(0,050)	Construction Methods II
LDE310T	Landscape Design III	(0,100)	Architectural Design II
SFA300T	Surveying for Architecture III	(0,040)	
SPQ300T	Specification and Quantities III	(0,030)	
THD300T	Theory of Design III	(0,050)	Theory of Design II
TOTAL CREDITS FOR THE THIRD YEAR:		<b>1,000</b>	

### FIFTH YEAR

ONE OF THE FOLLOWING OPTIONS (AS DETERMINED BY THE HEAD OF THE DEPARTMENT):

#### Option 1: Architectural Design

This option is accredited by the South African Council for the Architectural Profession (SACAP) for registration in the SACAP category of Candidate Senior Technologist, and internationally accredited by the Commonwealth Association of Architects (CAA) as CAA Part 1.



In order to continue with this option, students will be required to attain a minimum mark of 70% in the final examination for the subject Architectural Design III. Should they not meet this requirement, they will only be allowed to continue with this option if recommended by the exam panel for Architectural Design III and Theory of Design III and subsequent endorsement by the Head of the Department.

**Subjects must be taken in the combinations and in the sequence indicated. The following rules will apply:**

- CSM400T and KME400T must be taken concurrently.
- ACH400T, PUD400T, STR400T and THD400T must be taken concurrently or STR400T should be completed before a student will be permitted to register for ACH400T.

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
ACH400T	Architectural Design IV	(0,400)	Architectural Design III
CSM400T	Construction Materials IV	(0,100)	Construction Materials III
KME400T	Construction Methods IV	(0,100)	Construction Methods III
LWC400T	Law and Contract Management IV	(0,100)	Architectural Practice III
PJG410T	Project Management IV	(0,080)	Architectural Practice III
PUD400T	Principles of Urban Design IV	(0,100)	Landscape Design III
STR400T	Structures IV	(0,080)	Applied Building Science I
THD400T	Theory of Design IV	(0,040)	Theory of Design III
TOTAL CREDITS FOR THE FOURTH YEAR FOR OPTION 1:		<b>1,000</b>	

### Option 2: Architectural Technology

This option is accredited by the South African Council for the Architectural Profession (SACAP) for registration in the SACAP category of Candidate Senior Technologist.

**Subjects must be taken in the combinations and in the sequence indicated. The following rules will apply:**

- ARA400T, CDG40PT and CDG40QT must be taken concurrently.
- CDL40PT and CDL40QT must be taken concurrently.
- STW40PT and STW40QT must be taken concurrently.

CODE	SUBJECT	CREDIT	PREREQUISITE SUBJECT(S)
ARA400T	Advanced Computer Applications IV	(0,100)	Computer-Aided Draughting III
<b>CDG400T</b>	<b>Computer-Aided Draughting IV</b>		
CDG40PT	Computer-Aided Draughting: Computer Hardware IV	(0,050)	Computer-Aided Draughting III
CDG40QT	Computer-Aided Draughting: Network Systems IV	(0,050)	Computer-Aided Draughting III
<b>CDL400T</b>	<b>Construction and Detailing IV</b>		
CDL40PT	Construction and Detailing: Construction Methods IV	(0,050)	Construction Methods III
CDL40QT	Construction and Detailing: Construction Materials IV	(0,050)	Construction Materials III
LWC410T	Law and Contract Management IV	(0,050)	Architectural Practice III
<b>OFF400T</b>	<b>Office Practice IV</b>		
OFF40PT	Office Practice: Architectural Practice IV	(0,050)	Architectural Practice III
OFF40QT	Office Practice: Business Management IV	(0,050)	Architectural Practice III
PJG420T	Project Management IV	(0,050)	Architectural Practice III
<b>STW400T</b>	<b>Studio Work IV</b>		
STW40PT	Studio Work: Contract Documentation IV	(0,300)	Contract Documentation III



STW40QT	Studio Work: Specification IV***	(0,200)	Specification and Quantities III
TOTAL CREDITS FOR THE FOURTH YEAR FOR OPTION 2:		<b>1,000</b>	
TOTAL CREDITS FOR THE QUALIFICATION:		<b>4,000</b>	

## SUBJECT INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular subject. At time of publication, the syllabus content was defined as follows:

### A

#### **ADVANCED COMPUTER APPLICATIONS IV (ARA400T) CONTINUOUS ASSESSMENT** (*Subject/Module custodian: Department of Architecture*)

Visual communication and presentation software, website design and maintenance. (Total tuition time: ± 24 hours)

#### **APPLIED BUILDING SCIENCE I (ABC100B) CONTINUOUS ASSESSMENT** (*Subject custodian: Department of Architecture and Industrial Design*)

Basic units: units used in the building industry, SI units, basic mathematics, statistics, basic mechanics and structures. Principles of heat: thermal insulation, humidity and condensation, ventilation, macro- and microclimate. Principles of sound: acoustics. Electricity. Lighting: artificial light, natural light. Hydraulics. Corrosion. (Total tuition time: ± 21 hours)

#### **ARCHITECTURAL DESIGN I (ACH100T) CONTINUOUS ASSESSMENT** (*Subject custodian: Department of Architecture and Industrial Design*)

Design projects at a single-storey residential scale with simple circulation and zoning. Spaces around elements and elements in space. Ergonomics: design around human spatial requirements. Structure and material as generators. Introduction to environmental effects on design. The role of context in determining aesthetics. (Total tuition time: ± 252 hours)

#### **ARCHITECTURAL DESIGN II (ACH200T) CONTINUOUS ASSESSMENT** (*Subject custodian: Department of Architecture and Industrial Design*)

Design projects consisting of predominantly low-rise buildings with more complex circulation requirements with an emphasis on the following aspects: 1. Design process: determining design generators, concept, context and concept development. 2. Structure and material as design generators. 3. Environment and climate as design generators. 4. Introduction to problem analysis. (Total tuition time: ± 126 hours)

#### **ARCHITECTURAL DESIGN III (ACH300T) CONTINUOUS ASSESSMENT** (*Subject custodian: Department of Architecture and Industrial Design*)

Design projects of simple multi-storey buildings (i.e. offices with a basement), as well as long-span structures (i.e. factories), emphasising issues such as: 1. Problem analysis as first step to synthesis; 2. Interpretation of the brief; 3. The effects of and solutions to environmental and climatic influences on design; 4. The principles of sustainability, as applied to buildings; 5. The fabric of the city: how a design solution acts as building block within the structure and fabric of the city. (Total tuition time: ± 252 hours)

#### **ARCHITECTURAL DESIGN IV (ACH400T) CONTINUOUS ASSESSMENT** (*Subject custodian: Department of Architecture and Industrial Design*)

Design projects and exercises to promote creativeness and lateral thinking. Analysis of local heritage, town structure, climate and social structure. This will culminate in appropriate design proposals, with consideration to principles of sustainable development/green building where applicable, structure and material as major generators of design, structures with complex circulation and specialised design and/or construction and services (small auditorium, museum, etc.), as well as a mixed-use building, emphasising the following issues: problem analysis, interpretation and development of the brief. Environmental and climatic issues and their influence on design. Sustainability. Urban issues. (Total tuition time: ± 252 hours)



**ARCHITECTURAL PRACTICE III (AHC300T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Office management (drawing-office practice, forms of collaboration and doing business, strengths and weaknesses, space and equipment requirements and layout). The SAIA Practice Manual (client/architect agreement, accepting work at risk, remuneration for work at risk, styles of practice, multidisciplinary firms, agreement checklist, employment conditions, architect/consultant relationship, project managers, clerk of works, issuing drawings and documentation, the concept of principal agent). The building contract (tender procedures, types of building contracts, forms of subcontractors, dispute resolution and the role of consultants). (Total tuition time: ± 14 hours)

**ARCHITECTURAL TECHNOLOGY PRACTICE II (ARC200T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

This module/subject consists of work-integrated learning in an architectural practice, where the following aspects should be encountered: Presentation drawings. Working drawings and specifications. Building and site surveying. Office procedures (electronic data-management procedures, printing and plotting, issuing drawings, library, filing, staff meetings, general office duties). Local authority procedures and approval of documents. Exposure to site inspections and meetings. Liaison with consultants and representatives. (No formal tuition hours)

**B****BUILDING SERVICES III (BSV300T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Drainage. Water reticulation. Electrical and electronic services. Lighting. Communication. Air and gas supply. Heating and cooling. Elevators and escalators. Natural heating and ventilation. Fire protection and control. Building regulations. Employing alternative and green technology. Acoustics. Sound systems. (Total tuition time: ± 14 hours)

**C****COMMUNICATION I (COM150C)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Communication within the architectural profession. Relevant terminology and professional vocabulary. Summarising techniques. Comprehension. Report writing. Academic writing and referencing using ENDNOTE (or other approved referencing software). (Total tuition time: ± 30 hours)

**COMPUTER-AIDED DESIGN II (CMI200T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Building Information Modelling (BIM) software. Using ArchiCAD (or other approved CAD software) to produce working drawings from design models. Intermediate skills level of ArchiCAD (or other approved CAD software). (Total tuition time: ± 24 hours)

**COMPUTER-AIDED DRAUGHTING I (CAI110T)****CONTINUOUS ASSESSMENT**

**(Subject custodian: Department of Architecture and Industrial Design)**ArchiCAD (or other approved CAD software): An introduction with emphasis on using 2D in the production of technical drawings. (Total tuition time: ± 30 hours)

**COMPUTER-AIDED DRAUGHTING III (CAI310T)****CONTINUOUS ASSESSMENT**

**(Subject custodian: Department of Architecture and Industrial Design)**Photoshop (or other approved rendering software), 3-D modelling and rendering, REVIT for Architecture (or other approved CAD software). (Total tuition time: ± 30 hours)

**COMPUTER-AIDED DRAUGHTING: COMPUTER HARDWARE IV (CDG40PT)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

An overview of all the current terminology, concepts and basics of computing hardware. Hardware support and software support for different operating systems. (Total tuition time: ± eight hours)

**COMPUTER-AIDED DRAUGHTING: NETWORK SYSTEMS IV (CDG40QT)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Current and emerging networking hardware basics and terminology. Operating system set-up for networking.



Data security and maintaining networks. Basic network-related software support skills. (Total tuition time: ± eight hours)

**COMPUTER APPLICATIONS I (COA110B)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*MS Windows, MS Word, MS Excel, Photoshop. Basic hardware terminology. Introduction to the Internet and e-mail. SketchUp. (Total tuition time: ± 42 hours)

**CONSTRUCTION AND DETAILING: CONSTRUCTION MATERIALS IV (CDL40QT)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Cement, concrete and cementitious products. Metals: corrosion, joining, ferrous and non-ferrous metals. Bricks and blocks: clay, concrete and earth. Timber: defects and protection, products. Polymers, plastics and rubbers. Mastics. Composite materials: external cladding, wood products. Paint systems. Adhesives. (Total tuition time: ± 21 hours)

**CONSTRUCTION AND DETAILING: CONSTRUCTION METHODS IV (CDL40PT)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Bricks and blocks. Timber structures. Detailing. Geotechnical investigations. Roofs. Sustainable building methods. Thermal behaviour of buildings. Surface water drainage. Solar energy. Building systems (Agreement certificate). Building services. Regulations (SANS 10400 and NHBC). (Total tuition time: ± 21 hours)

**CONSTRUCTION MATERIALS I (CSM110T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*Timber: SAPine, common hardwoods.

Metals: steel, galvanising and aluminium. Concrete: cement types, aggregates, how to make good concrete. Masonry: bricks and blocks. Mortars: classes and types. Plasters: cement, lime and earth. Roof coverings: concrete tiles and sheet metal (profiles and laying practice). Paint: basic systems (primers, undercoats and topcoats). Floor finishes: ceramic tiles (glazed and quarry), carpets, timber and their skirtings. Fixing systems: nails, screws and bolts. (Total tuition time: ± 28 hours)

**CONSTRUCTION MATERIALS II (CSM200T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Waterproofing materials for pitched and flat concrete roofs. Timber: joints commonly used in fittings, doors and windows. Manufactured timber boards. Concrete: cement types, aggregates, integral finishes on concrete, reinforcement, concrete floor finishes. Masonry: concrete bricks and blocks. Mortars: classes and types. Glass: types and applications. Fibre cement sheeting and tiles. Insulation materials for roofs. (Total tuition time: ± 14 hours)

**CONSTRUCTION MATERIALS III (CSM300T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Timber: softwoods and common hardwoods, jointing (particularly poles) and protection. Metals: steel, stainless steel, brass, copper and aluminium. Plastics: fibre-glass, ABS, PMMA. Stone types. Concrete. Load-bearing masonry. Tiles. Thatch. (Total tuition time: ± 28 hours)

**CONSTRUCTION MATERIALS IV (CSM400T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Cement, concrete and cementitious products. Metals: corrosion, joining, ferrous and non-ferrous metals. Bricks and blocks: clay, concrete and earth. Timber: defects and protection, products. Polymers, plastics and rubbers. Mastics. Composite materials: external cladding, wood products. Paint systems. Adhesives. (Total tuition time: ± 21 hours)

**CONSTRUCTION METHODS I (KME110T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*Regulations: SANS 10400 and the

National Home Builders Registration Council (NHBC). Site investigation, site visits. Substructure: excavations, strip foundations (other foundation types in concept only). Superstructure: load-bearing walls, cavity walls and elementary masonry detailing. Retaining walls: garden, brick and stone. Roofs: design and selection, trusses, beams, rafters and elementary ceilings. Services: sanitary fittings, design of drainage and water supply systems, electrical systems. Fittings: residential door types and their construction. Stairs: interior stairs for applicable building types. (Total tuition time: ± 28 hours)



**CONSTRUCTION METHODS II (KME210T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)* Regulations: National Building Regulations (SANS 10400) and NHBC Regulations, where applicable. Sub-structure: semi-basement and simple retaining walls, drainage behind walls, complex strip foundations, cut and fill. Damp-and waterproofing: semi-basements. Superstructure: load-bearing walls, cavity walls, masonry detailing, expansion joints. Roofs: flat concrete roofs, trusses, beams, rafters, suspended ceiling systems and bulkheads, plastered metal lathes. Structures: pad footings, reinforced strip footings, columns and slabs. Services: design of drainage and water supply systems, stormwater catch pits, electrical layout. Fittings: commercial door and window types and their construction, master keying. Stairs and ramps: interior stairs and ramps, elementary prefabricated stairs. (Total tuition time: ± 28 hours)

**CONSTRUCTION METHODS III (KME310T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)* Regulations: SANS 10400 and NHBC. Bricks and blocks: durability and exposure zones, bonding, joints, pointing and stability, design of multi-storey structures, tall walls, lintels and beams. Timber structures: joint design and fasteners, products and uses, floors and flooring, long-span roofs for commercial and shopping centres. Detailing: performance criteria, evaluation of existing details and generating model details. Site and geotechnical investigations: failure of foundations, warning signs, bearing capacities, consolidation, stabilisation, groundwater, moisture content and types of soil tests. Roofs: evaluation and problem-solving, gutter and down-pipe design, expansion joint design, packing decks, roof lights and ventilators. Sustainable buildings: recyclability, resource-saving manufacture, initial and life-cycle cost-efficiency, initial and life-cycle energy efficiency, ease of use and maintenance. Thermal behaviour of buildings: revision of basic principles, microclimate. Low-cost solutions. Thermal performance: responsive configurations, sun control, insulation and materials. Structures: trusses, portal frames, complex foundations, pre-stressing (both pre- and post-tensioning). De-terioration of buildings: performance criteria, planned maintenance, weathering, corrosion and case studies. Site and surface-water drainage: hydrological factors, site drainage, risks and risk assessment, factors affecting run-off and economic considerations. Solar energy: passive systems, active systems, trombe walls and rock beds. Building systems: Agrément certification, etc. Services: waste disposal, gas, data and communication systems, security systems and incinerators. (Total tuition time: ± 28 hours)

**CONTRACT DOCUMENTATION I (CDO100T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Drawing equipment and materials, lettering, line work and geometric exercises, graphic projections, scale, dimensioning and annotation. Working drawings: ground-floor plan, sections, elevations and site plan, application of the National Building Regulations, services layouts. Construction detailing, measuring existing work, drawing office equipment, storage of information, the role of the architect, technologist and other professional consultants, the building contractor and the client. (Total tuition time: ± 168 hours)

**CONTRACT DOCUMENTATION II (CDO200T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Working drawings of own design, which could be used for measuring by a quantity surveyor and as contract documents with a bill of quantities. Detail drawings for discussion with consultants. Construction detail design drawings. Schedules: finishing, doors, windows, cupboards, etc. Details of components and fixtures. (Total tuition time: ± 63 hours)

**CONTRACT DOCUMENTATION III (CDO300T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

SANS 10400: safety, access for the disabled, dimensioning and modular coordination. Substructure: bearing piles, basement construction and retaining walls. Structural systems: concrete, steel, timber and load-bearing masonry. Roofs: long-spanning sheet metal, tiles, thatch and flat concrete roofs. External construction: cladding types, industrial cladding, prefabricated cladding and curtain walling. Internal construction: partitioning, staircases and glazing. Thermal performance: responsive configurations, sun control, insulation and materials. Structures: trusses, portal frames, complex foundations and pre-stressing (both pre- and post-tensioning). Construction detail: design drawings. Schedules: finishing schedules, door schedules, window schedules, joinery and details of components and fixtures. Working drawings: used as contract documents with a bill of quantities, for measuring by a quantity surveyor. (Total tuition time: ± 126 hours)



**CONSTRUCTION METHODS IV (KME400T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Bricks and blocks. Timber structures. Detailing. Geotechnical investigations. Roofs. Sustainable buildings. Thermal behaviour of buildings. Surface water drainage. Solar energy. Building systems (Agrément certificate). Building services. Regulations (SANS 10400, NHBRC). (Total tuition time: ± 21 hours)

**F****FOUNDATION ARCHITECTURAL LANGUAGE AND COMMUNICATION (FPALC01)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Module 1: architectural presentation techniques: introduction to the various methods of communicating design ideas and concepts to clients and peers (oratorical and linguistic tutoring). An introduction to the use of artistic media to present design ideas (pencil, markers, watercolour and 3D CAD programs). Building basic models for design development and presentation purposes (cutting boards, glue, skills in constructing models). Module 2: language cultural studies: Language course on writing, oral skills development and public speaking. Writing essays related to the architectural field. Prescribed reading: architecture- and language-related (building architectural vocabulary, background and world view). (Total tuition time: ± 42 hours)

**FOUNDATION BUILDING BUSINESS LAW AND PRACTICE (FPBBL01)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Module 1: Understanding of legalities concerning the structure known as the SACAP. This includes researching the structure and workings of the SACAP. Module 2: Understanding legalities regarding the agreement between the architect and the client. This module investigates the client architect agreement and the legal onus on each party. Module 3: Legalities for plan submission at local authorities. Student will visit local authorities and acquire the necessary documentation needed to submit plans. These documents will be completed as for a real set of plans for submission. Module 4: Legalities placed upon the architect from the SACAP. This includes the reservation of work, the architectural stages of work as per the SACAP guidelines, architect's fees structures and calculations thereof, as well as the yearly published notices in the Government Gazette. (Total tuition time: ± 42 hours)

**FOUNDATION BUILDING SCIENCE (FPBSC01)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Module 1: Theory of commonly used building construction methods and materials. Module 2: Elementary principles of building science related to architectural design. Module 3: Practical making modelling and making, students design and construct their own toolbox. (Total tuition time: ± 42 hours)

**FOUNDATION PRINCIPLES OF ARCHITECTURAL DESIGN (FPPAD01)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Module 1: Principles of architectural design: introduction to the process of design. Focus on pragmatic planning principles, relationship of spaces, ergonomic principles and application of structure and construction as part of design decision-making. Module 2: Architectural terminology and theory: introduction to the language used in architectural theory. The focus will be on the correct use of terminology through examples and an explanation of their meaning. Module 3: Practical approach to the theorem design to develop model make. This theorem is explored as a whole throughout the year. (Total tuition time: ± 252 hours)

**FOUNDATION TECHNICAL ARCHITECTURAL DRAWING (FPTAD01)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Architecture and Industrial Design)**

Module 1: Build skill and understanding of the methods and materials needed to construct a basic building in South Africa. Module 2: Master the basic sketching techniques needed to sketch and draw these methods and materials as related to the module. Module 3: Understand the basic types of construction relevant to the assignments in the module. (Total tuition time: ± 48 hours)





## H

### **HISTORY OF ARCHITECTURE I (HAC100T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Introduction and an overview of Western architecture, from the origins to the present day, and Southern African architecture, from the origins to the present day. Principal examples, as well as technological and cultural aspects, are highlighted and put in social context. Visits to local historical examples. (Total tuition time: ± 28 hours)

## L

### **LANDSCAPE DESIGN III (LDE310T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

A brief historical overview. Terminology, perceptions and basic design principles. Landscape design and the design process. Spatial development. Land form. Circulation and paving. Site structures. Plant material. Water. Basic urban design principles. Urban ecology. (Total tuition time: ± 42 hours)

### **LAW AND CONTRACT MANAGEMENT IV (LWC400T, LWC410T)**

**CONTINUOUS ASSESSMENT**

*(Subject/Module custodian: Department of Architecture)*

Contract law – basic concepts, such as contract documentation. Basic principles of South African common law. Arbitration. Construction law. Building contract. Principles of property law – forms of ownership. Tender procedures – forms of tender. Certificates. Sectional titles. Land Tenure Act. Principles of bankruptcy and liquidations. Nominated subcontractors. Laws governing the built environment. Case studies. (Total tuition time: ± 21 hours)

## O

### **OFFICE PRACTICE: ARCHITECTURAL PRACTICE IV (OPF40PT)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

The services and duties of the professional practitioner of architecture as defined by the Architectural Profession Act, 2000 (Act No. 44 of 2000) and the SACAP Board Notice 154 of 2009 (the Code of Professional Conduct). Specific themes include time as a resource, managing projects and clients, as well as post-completion responsibilities. (Total tuition time: ± 21 hours)

### **OFFICE PRACTICE: BUSINESS MANAGEMENT IV (OPF40QT)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Office organisation, including managing oneself, the team and the business in the architectural profession. Marketing and generating an income while establishing new business avenues. (Total tuition time: ± 10 hours)

## P

### **PRESENTATION TECHNIQUES I (PTT100T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

The application of drawing and sketching principles relevant to architectural presentation. The syllabus covers ten basic skills. Line work different types of lines and uses. Construction lines as a drawing element. General sheet and drawing layout. Tracing techniques relevant to architectural presentation. Architectural contextual elements-trees. Architectural contextual elements-people. Typography, spelling and vocabulary. Architectural model building. Three dimensional sketching, perspectives and isometric projections. General layout composition and ordering principles for architectural presentation. (Total tuition time: ± 56 hours)

### **PRINCIPLES OF URBAN DESIGN IV (PUD400T)**

**CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Structural configurations: structural systems, structural planning, stabilising elements, structural patterns, structural loads. Basic mechanics: forces, moments, stresses. Sectional properties: centroids, moment of inertia. Material properties: general stress and strain, Young's Modulus. Other stresses: stresses due to internal forces, combined stresses. Deflections: elastic beam deflections. Approximate sizing of structural components: beams, trusses, columns, retaining walls. (Total tuition time: ± 21 hours)



**PROJECT MANAGEMENT IV ( PJG410T, PJG420T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)* Management approaches. The business environment. Personnel management. Financial management. Risk analysis. Financial viability studies. IT integration. Decision-making and problem solving. Corporative communication. Small business management. Politics, ethics and social responsibility. Case studies. (Total tuition time: ± 14 hours)

**S****SPECIFICATION AND QUANTITIES III (SPQ300T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

The following aspects of specification and quantities are covered: introduction to bills, specifications for bills of quantities, interaction between drawings and other contract documentation, as well as estimates, feasibility, measuring units, costing and influencing factors. (Total tuition time: ± nine hours)

**STRUCTURES IV (STR400T)****CONTINUOUS ASSESSMENT**

*(Subject custodians: Departments of Civil Engineering and Architecture)*

Visits to buildings. Relevant topics relating to design projects. Green architecture. Pro-bono architecture and architecture for the poor. Selected topic from the social and behavioural sciences. Speculative architecture. Selected period from the fine arts, including painting and sculpture. Theory: the work of international and local architects and architectural firms. (Total tuition time: ± 21 hours)

**STUDIO WORK: CONTRACT DOCUMENTATION IV (STW40PT)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

A module integrated with Construction Methods and Materials to produce a complete set of working drawings on selected design projects. (Total tuition time: ± 224 hours)

**STUDIO WORK: SPECIFICATION IV (STW40QT)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

An introduction to the National Building Specifications (NBS) software package (or other approved software). Preparation of on-screen specifications for the building industry. Integrated with Contract Documentation. (Total tuition time: ± 15 hours)

**SURVEYING FOR ARCHITECTURE III (SFA300T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Principles of surveying. Basic surveying methods. Practical levelling and contouring. Setting out of buildings. Introduction to geographic information systems (GIS). Basic use and application of the Global Positioning System (GPS). Cadastral, referencing and photogrammetric software (CAD). Fieldwork practice. (Total tuition time: ± 24 hours)

**T****THEORY OF DESIGN I (THD100T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Visits to buildings. The process of design. Relevant topics relating to design projects. Space, form, proportion, scale. Organising principles. Circulation. Theory: Bauhaus, Modern Movement, International Style. (Total tuition time: ± 28 hours)

**THEORY OF DESIGN II (THD200T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*

Visits to buildings. The process of design: Relevant topics relating to design projects. Theory: Romantic pragmatism. Christopher Alexander. Arts and Crafts movement, Art Nouveau, Art Deco, Classicism. History: Cape settlement. 18th and 19th Century South African architecture. Indigenous Southern African design. Neo-classicism in Pretoria and Johannesburg. (Total tuition time: ± 21 hours)

**THEORY OF DESIGN III (THD300T)****CONTINUOUS ASSESSMENT**

*(Subject custodian: Department of Architecture and Industrial Design)*



Visits to buildings. The process of design: Part 3. Relevant topics relating to design projects. Environmental effect on buildings. Theory: the Post-Modern Movement, deconstruction, Late Modern Period. History: the Modern Movement in Pretoria and Johannesburg. The vernacular architecture of Africa. (Total tuition time: ± 21 hours)

**THEORY OF DESIGN IV (THD400T)**

**CONTINUOUS ASSESSMENT**

**(Subject custodian: Department of Architecture and Industrial Design)**

Visits to buildings. Relevant topics relating to design projects. Green architecture. Pro-bono architecture and architecture for the poor. Selected topic from the social and behavioural sciences. Speculative architecture. Selected period from the fine arts, including painting and sculpture. Theory: the work of international and local architects and architectural firms. (Total tuition time: ± 21 hours)





