HANDBOOK FOR 2014

FACULTY of ENGINEERING AND THE BUIILT ENVIRONMENT

DEPARTMENT of ARCHITECTURE

DEPARTMENTAL MISSION

Vision

A Department that strives to nurture a holistic approach towards education and a critical understanding of the global environment by balancing the creative and professional aspirations with the pragmatic requirements of contemporary society.

Mission

- To empower students through quality teaching, research and the practical application thereof
- To build capacity and promote sustainable partnerships with industry and the community within a national and international context
- To encourage entrepreneurial and vocational development that promotes analytical and creative thinking
- To instill ethical values and professional responsibility in the profession

NATURE OF THE ARCHITECTURAL PROFESSION

The Architectural Technologist or Senior Architectural Technologist may be self-employed upon registration with the South African Council for the Architectural Profession (SACAP) or may be employed by an architectural practice where he /she would be involved in the technical aspects of architectural design and documentation. Responsibilities, however, are broader than drawing and technical documentation and include assistance in architectural design, materials, colours, layouts, site analysis, taking levels on site, measuring existing features and buildings, studies on historical buildings for further use, model making and contract administration. Routine office hours are usually maintained although extra effort will be expected if deadlines are to be met.

In order to make a success of the course and a career in this field, prospective candidates should possess an aptitude for innovative design, construction technology and the ability to grasp technical concepts related to construction methods.

Although the greatest numbers of Architectural Technologists are employed by private architectural firms, employment opportunities also exist with the Public Service, Local Authorities and other building drawing offices.

Employment in the building industry is always closely related to the economic situation of the country, thus job opportunities vary accordingly.

What is a University of Technology?

A university of technology is characterized by being research-informed rather than research–driven, in which the focus is on strategic and applied research that can be translated into professional practice. Furthermore, research output is commercialized, thus providing a source of income for the institution. Learning programmes, in which the emphasis on technological capability is as important as cognitive skills, are developed around graduate profiles as defined by industry and the professions.

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IMPORTANT NOTICE

The departmental rules in this handbook must be read in conjunction with the Durban University of Technology's General Rules contained in the current General Handbook for Students

NOTE TO ALL REGISTERED STUDENTS

Your registration is in accordance with all current rules of the Institution. If, for whatever reason, you do not register consecutively for every year/semester of your programme, your existing registration contract with the Institution will cease. Your re-registration anytime thereafter will be at the discretion of the Institution and, if permitted, will be in accordance with the rules applicable at that time.

PLEASE NOTE THAT SMOKING IS BANNED IN THE BUILDING

1. CONTACT DETAILS

All departmental queries to:	HOD - Mr Y. Luckan
Secretary:	Ms Nomtha Sibisi
Tel No:	(031) 373 2857
Fax No:	(031) 373 2006
Location of Department:	S5 Level 5 - Steve Biko Campus

All Faculty queries to: Faculty of Engineering and the Built Environment.

Faculty officer:	Mrs Neetha Singh
Tel No:	(031)373 2548 / 2717
Fax No:	(031)373 2719
Location of Faculty office:	S4 Level 3 – Steve Biko Campus

Executive Dean:	Professor Theo Andrew
Tel No:	(031)373 2762
Fax No:	(031)373 2724
Location of Executive Dean's office:	Steve Biko Campus Block S6 level 5

2. STAFFING

HOD:	Mr Y. Luckan, M.Arch (UKZN), BTech (Mlst). PrArch
Senior Lecturers:	Dr D Whelan, PhD (London), M.Arch (UN) Mr P Da Costa, B.Bldg.A (PE), B.Arch (UPE), Arch S.A.
Lecturers:	Mr O Moodley, B.Arch (UN); PrArch, MIA Mr K. Orie, NHD.Arch (MLST) Mr T Moahloli, B Arch, (UCT) Mrs R J McCarthy, NHD.Arch (TN) Mr J Theron, B.A.S, B.Arch, M.C.P.U.D (UCT)
Technician:	Mr R. Rabinarain (Pr ArchT)
Lab Technician:	Mrs T.E. Sibiya, ND: Information Technology (DUT), B.Tech Business Admin (DUT)
Secretary:	Ms N M Sibisi, N.Dip Office Mngt & Tech, B.Tech Business Admin (DUT)

3. PROGRAMMES OFFERED BY THE DEPARTMENT

Programmes are offered in this Department which, upon successful completion, lead to the award of the following qualifications:

Qualification	SAQA NLRD Number
National Diploma: Architecture (NDARC3)	72211
Bachelor of Technology: Architecture (BTARC1)	72113

4. PROGRAMME INFORMATION AND RULES

In addition to the General Rules pertaining to Entrance Requirements, specific requirements apply to instructional programmes offered in this department and these are set out under Entry requirements and Selection procedure.

- Academic work done during the semester/ year

  A year mark shall be determined according to the General Rules and/or as indicated in the syllabi and/or learner guide lines for the particular subject.

  Year marks shall be applicable to subjects assessed by examination.

  All deadlines for submission of projects shall be adhered to.

  Submissions handed in timeously will be eligible for upgrading once marks are issued for that project.

  The upgrading of academic work for which marks have been awarded during the first or second semester may be resubmitted at the portfolio examinations for reconsideration.

  If a submission deadline is not adhered to, the work will not be assessed or be eligible for upgrade or inclusion in the year end portfolio.

  Under no circumstances will first time submissions of projects/academic work be evaluated at the portfolio examinations.

  Where circumstances prevail that have prevented timeous submission of work, the matter will be dealt with in terms of the conditions of the Department rule 10 (Special Test).

- Conduct of students in the studio

  Rules of conduct pertaining to the specific studio, as instituted by the Head of the Department, shall apply to all students registered for the programme. No smoking, eating or drinking in the studios will be permitted.

- Work Integrated Learning:

  This programme requires the student/candidate to undergo a period of a minimum of six months experiential learning as part of the course. All prescribed subjects (instructional offerings) and the prescribed experiential

component must be passed in order to obtain sufficient credits to qualify for the qualification.

A student must register for experiential learning within two (2) weeks of starting a period of experiential learning.

Unregistered periods of experiential learning will not be considered for credit purposes.

If any of the registered details regarding experiential learning change, the student must advise the department in writing within two (2) working weeks of the new details (e.g. employer, supervisor, address, telephone number).

It is the student's responsibility to obtain procedural steps from the departmental secretary, and to comply therewith, regarding such matters as the logbook, reporting progress and submitting of completed documentation.

5. PROGRAMME STRUCTURE

- ### Duration and structure of the course

  The National Diploma course is structured over three years, full time basis only.

  The first and third years comprise full-time study at the Durban University of Technology, whilst second year entails working in the professional field for a period of 6 months and studying full-time for 6 months. The Bachelor of Technology degree is a full-time one-year post-diploma course.

- ### Experiential training (Work Integrated Learning)

  The second year of the National Diploma is partly devoted to experiential training. Students should be employed by a professional architectural practice, whilst remaining registered at the Durban University of Technology. This work is assessed.

5.1 National Diploma: Architectural Technology (NDARC3)

YEAR I

5.2.1 STUDIO WORK I: SWRK102

Assessment: Continuous Evaluation/Portfolio Hrs per week: 4

SYLLABUS

1. Drawing instruments and materials
2. Lettering, line drawing and geometrical exercises
3. Graphic projections
4. Working drawings of low-rise domestic buildings, including drainage schedules and municipal submission drawings
5. Application of the National Building Regulations
6. Construction detail design and drawing
7. Measurement of existing work
8. Drawing office equipment, filing, storage and library
9. Planning & design exercises in relation to low-rise domestic buildings
10. The role of the architect, architectural technologist, other building professionals, the contractor and the client

5.2.2 PRESENTATION I: PRSN101

Assessment: Continuous Evaluation/Portfolio Hrs per week: 4

SYLLABUS

1. The nature and application of presentation drawing and the differences between presentation drawing and technical drawing
2. Development of freehand sketching and drawing style
3. Design Theory: Form, space, proportions, rhythm, balance, scale, symmetry, texture, pattern, colour, light and shade.
   Sustainable architectural design – Social, Economic and Environmental
4. Design of Simple low scale architectural projects.
5. Compilation of sets of sketch plans

5.2.3 CONSTRUCTION & DETAILING I: CDET102

Assessment: Continuous Evaluation/Portfolio Hrs per week: 4

SYLLABUS

1. Construction methods and materials for low-rise simple buildings
2. Exercises to foster critical and analytical thinking in basic construction problems
3. Introduction to framed structures
4. Comprehensive Study of Building Materials and Technologies for low-rise simple buildings.
5. General introduction to building services and design and documentation of the following as applied to low-rise buildings:
6. Drainage systems and materials
7. Electrical distribution
8. Hot and cold water supply

5.2.21 COMMUNICATION I: CMMN101

Evaluation: Continuous Evaluation Hrs per week: 2

SYLLABUS

1. Introduction to course methods and objectives
2. Communication theory
3. Oral presentation
4. Group communication skills and meeting procedure
5. Leadership skills
6. Technical writing and correspondence
7. Practical communication applications

5.2.4 HISTORY & APPRECIATION OF ARCHITECTURE I: HAAR101

Assessment: Continuous Evaluation/Portfolio Hrs per week: 2

SYLLABUS

1. Introduction to the influences on architectural form, its elements and principles; definitions of architecture
2. The evolution of architecture from earliest times to the present day
3. The development of structural devices, building methods & materials

5.2.5 APPLIED BUILDING SCIENCE I: ABSA101

Examination: 3 Hour Paper Hrs per week: 4

SYLLABUS

1. Basic applied mechanics in terms of the concepts force, stress and deformation
2. The development of an appreciation of the influences of loads on structures
3. Expansion and contraction, convection, conduction and radiation of heat and the orientation of buildings
4. Sound and Acoustics in built space
5. Distribution and use of electricity
6. Lighting of buildings
7. Environmental influences on Building Design

5.2.6 COMPUTER-AIDED DRAUGHTING III (PART A): CADG301

Assessment: Continuous Evaluation/Portfolio Hrs per week: 2

SYLLABUS

1. Revision of work done in first year
2. Introduction to principles and range of computer drawing systems
3. Introduction to computer-aided draughting
4. Brief introduction to computer based graphics

5.2.7 COMPUTER APPLICATIONS I: CAPP102

Assessment: Continuous Evaluation/Portfolio Hrs per week: 2

SYLLABUS

1. Introduction to computers
2. Operating systems basics
3. Application programs
4. Entrepreneurship and Office systems

YEAR II

5.2.8 STUDIO WORK II: SWRK 202

Assessment: Continuous Evaluation/Portfolio Hrs per week: 6

SYLLABUS

1. Design of medium scale medium complexity buildings
2. Sketch Plans and models
3. Planning exercises

5.2.9 CONSTRUCTION AND DETAILING II: CDET202

Assessment: Continuous Evaluation/Portfolio Hrs per week: 6

SYLLABUS

1. Construction methods for low-rise medium- complexity buildings
2. Elementary steel, timber and reinforced concreted framed structures
3. Building services for low-rise domestic buildings
4. Construction Drawings and details

5.2.10 PRACTICAL BUILDING STUDIES II: PSTD201

Assessment: Continuous Evaluation/Portfolio Hrs per week: 2

SYLLABUS

1. Building materials for low-rise domestic buildings
2. National Building Regulations as they apply to building materials
3. The construction process; on-site practice
4. Schedules
5. Soil and Rock Types

5.2.11 THEORY OF DESIGN II: THDN201

Examination: 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Theoretical discourse of Architectural Theory of the late 20th century namely Bauhaus, Expressionism, De Stijl and International Style/Early modernism and postmodernism
2. Critical analysis of theory towards architectural design

5.2.12 HISTORY & APPRECIATION OF ARCHITECTURE II: HAAR201

Examination: 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Historical development of Architecture
2. Historical and environmental influences and issues which shaped the Architecture of Africa
3. Looking at architectural models of other developing continents specifically relating to environmental issues, innovative use of material
6. Exploring planning issues relating to housing systems and patterns
7. The debate around sustainable development in the built environment will form an integral subject of delivery

5.2.13 ADVANCED COMPUTER AIDED DRAUGHTING III (PART B) : CADG321

Assessment: Continuous Evaluation/Portfolio Hrs per week: 4

SYLLABUS

1. Advanced CAD modeling
2. Renders and animation

5.2.14 YEAR III

5.2.15 STUDIO WORK III: SWRK302

Assessment: Continuous Evaluation/Portfolio Hrs per week: 6

SYLLABUS

1. Working drawings to cover buildings types as dealt with in Applied Design 111 and Construction Detailing III including all services, schedules, foundation and roof plans, and construction detail
2. Application of National Building Regulations
3. Presentation techniques to expand on those dealt with in First Year, as well as model building
4. Introduction to specification writing a major project taken from initial concept design to final working drawings and specifications
5. Introduction to estimating building cost

5.2.16 CONSTRUCTION AND DETAILING III: CDET302

Assessment: Continuous Evaluation/Portfolio Hrs per week: 6

SYLLABUS

1. Exercises to promote the application of critical and analytical thinking to construction problems
2. Methods and materials for building types other than those dealt with in the First and Second Year, steel and reinforced concrete-framed buildings and multi-storey buildings
3. Deep foundations
4. Basements and retaining walls
5. Co-ordination of services
6. Design and detailing of solutions to construction problems in architectural design.
7. Visits to sites of various types of building under construction

5.2.17 PRINCIPLES OF ARCHITECTURAL DESIGN III: PADE301

Assessment: Continuous Evaluation/Portfolio Hrs per week: 6

SYLLABUS

1. Contextually responsive architectural design
2. Typical building types with particular reference to function, circulation, climate, topography and other factors
3. Planning and design exercises space requirements for human activities
4. Principles of mass housing
5. Studies of contemporary South African architectural & planning issues

5.2.18 SURVEY AND LANDSCAPING III: SVLD301

Evaluation: Continuous Evaluation/Portfolio Hrs per week: 2

SYLLABUS

1. Elementary principles of surveying with optical instruments and preparation of contour drawings
2. Local soil, clay and rock types
3. Land form design and treatment of landscape surfaces
4. Principles and elements of landscape design and practical landscape design projects
5. Required dimensions for vehicle circulation and parking
6. Surface water drainage

5.2.19 OFFICE PRACTICE III: OPRA301

Examination: 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Office management structures
2. The architect's duties and responsibilities and relationships with other building professionals, the contractor and the client
3. The building contract

5.2.20 BUILDING SERVICES III: BSER302

Evaluation: Continuous Evaluation/Portfolio Hrs per week: 2

SYLLABUS

1. Drainage and electrical distribution for high-rise buildings and low-rise buildings other than housing
2. Hot and cold water supply and distribution
3. Solar water heating
4. Fire-fighting systems and appliances
5. Surface water drainage
6. Space heating
7. Security systems
8. Introduction to air-conditioning
9. Dimensional requirements for air-conditioning systems, lifts, & escalators
10. The National Building Regulations as they apply to building services
11. Ventilation

5.2.22 THEORY OF DESIGN III:

Examination: 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Theoretical discourse of Architectural Theory and inter-connected philosophical paradigms of the late 20th century and the early 21st century.
2. Sustainability in architecture
3. Planning issues related to spatial and urban form will be an integral basis of this part of the syllabus.

5.2.23 HISTORY & APPRECIATION OF ARCHITECTURE III:

Examination: 3 Hour Paper Hrs per week: 2

SYLLABUS

1. The historical evolution of architecture in the late 20th century to early 21st century
2. Historical evolution of architecture in developing countries
3. Relevance of history in architectural design.

5.3 B.TECH. ARCHITECTURAL TECHNOLOGY (BTARC1)

5.3.1 PRINCIPLES OF URBAN DESIGN IV PUDN401

Evaluation: Examination 6 Hour Paper Hrs per week: 3

SYLLABUS

1. Historical background
2. An introduction to urban character, elements and structures
3. A short overview of mass urbanization
4. The influence of authorities and development control measures
5. Techniques applied to surveys, analyses and documentation
6. Practical work

5.3.2. THEORY OF DESIGN IV THDN401

Evaluation: Examination 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Urban Space, Form and Detail
2. Contextualism / Place Theory
2. Sustainability in Architecture
3. Neo Organic Architecture
4. Design methodology
5. The influence of human requirements & behaviour on design & planning

5.3.3 APPLIED DESIGN IV ADES401

Evaluation: Continuous Evaluation/Portfolio Hrs per week: 8

SYLLABUS

1. Exercises to foster inventiveness
2. Integrated Design projects chosen to represent a diversity of building types (uses)
3. Practical application - by means of design projects - of principles and theory covered in other subjects
4. Design problems and solutions pertaining to aspects of construction technology

5.3.4 HOUSING IV HOUS402

Evaluation: Examination 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Historical and present day local and international solutions
2. Legislation and political influences
3. Formative influences
4. Available resources
5. Infrastructure and services

5.3.5 STRUCTURES IV STRU401

Evaluation: Examination 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Introduction to structures
2. Mechanical properties of building materials
3. Elementary design principles to the major structural components of buildings
4. Application of structural technology in design

5.3.6 OFFICE PRACTICE IV: OPRA401

Examination: 3 Hour Paper Hrs per week: 2

SYLLABUS

1. Management of Building Projects
2. Dispute resolution
3. The building contract
4. Principles of Contract Law and Case studies

6. ASSESSMENT RULES

- **Special tests**

  A special test may be granted by the Head of Department to a student who has been prevented from taking a test as a result of,

  a) illness on the day of the test or immediately before it, provided that he/she submits medical certificate, which has been signed by a health practitioner.

  b) by circumstances which, in the opinion of the Head of Department were beyond his/her control at the time of the test, provided satisfactory evidence is provided within a week of the student first presenting him/herself in the Department thereafter.

- **Supplementary Examinations & Re-Write Examinations**

  Notwithstanding anything contrary to the General Rules, supplementary examinations will only be available in the following subjects in this department:

  National Diploma

  First Year

  Applied Building Science I

  Second Year

  History & Appreciation of Architecture II

  Theory of Design II

  Third Year

  Office Practice III

  Theory of Design III

  History & Appreciation of Architecture III

  B. Tech

  Theory of Design IV

  Housing IV

  Structures IV

  Principles of Urban Design IV

  Office Practice IV

- **Promotion To Higher Level**

  Students will only be allowed to register for the second year of study provided they have passed the following subjects:

  - Studio Work I
  - Construction & Detailing I
  - Presentation I
  - History & Appreciation of Architecture I

- Computer Applications I
- Computer Aided Draughting III

Students will only be allowed to register for the third year of study provided they have passed the following subjects:

- Studio Work II
- Construction & Detailing II
- Practical Studies II
- Completed and signed off their Work Integrated Learning.

Students that have passed the above subjects and have failed either or both of the subjects, History & Appreciation of Architecture II and/or Theory of Design II, may only register for their minor subjects in Third Year. Such students will however not be able to register for History & Appreciation of Architecture III and Theory of Design III until they have passed History & Appreciation of Architecture II and Theory of Design II.

- Continuous Evaluation / Portfolio Evaluation

An average of 40% must be achieved across all assessment tasks that comprise the portfolio. A student that has failed any project may resubmit such prior to final portfolio evaluation date. This means that no new work will be assessed at final portfolio evaluation. Resubmissions may be awarded a maximum mark of 50%.

Students are required to attend all crit sessions and at least 75% of all studio sessions.

Both submission of work and attendance at portfolio are compulsory.

7. RE-REGISTRATION RULES

- Refusal to Re-Register

A student will not be permitted to re-register with the Department of Architecture for any formal instructional programme if he/she has failed to meet the minimum requirements as set out in the Department's rules, or fails all subjects in any one year of study.

- Students will be entitled to appeal against such refusal of re-registration in terms of Rule G1(9). However such an appeal will only be favourably considered if the student has attended a minimum of 75% of all lectures in the relevant subjects/s

8. ENTRY REQUIREMENTS AND SELECTION PROGRAMME

- National Diploma: Architecture

The minimum requirements for application to the National Diploma: Architecture is a National SENIOR CERTIFICATE or equivalent with the following compulsory subjects:

Maths - Level 3 Pass
English. – Level 3 Pass

Other recommended subjects (not compulsory): Technology, History, Art, Technical Drawing, Geography.

- In addition to the minimum requirements, as set out above, prospective students will be required to undergo a selection test.
- A prospective student must submit an application form through the Central Applications Office (C.A.O.).

- Bachelor of Technology: Architecture

For consideration for admission for entry to the B.Tech Architecture the following entry requirements will apply:

- N.Dip. Architectural (old course) - at least three (3) years approved post – diploma experience in a registered architect's office or bridging course as specified by the Department.
- N.H.Dip. Architectural (old course) - at least three (3) years approved post - experience in a registered Architect's office or bridging course as specified by the Department.
- N.Dip. Architecture - A pass mark of 60% in Studio Work III, Construction and Detailing III and Principles of Architectural Design III. If accepted the learner will be permitted to register for all 5 B.Tech subjects.

Applicants not meeting the above-mentioned criteria may be considered for admission on the submission of a portfolio, provided if accepted, that they will only be permitted to register in their first year of registration for the following subjects; Housing VI, Theory of Design IV, and Structures IV.

9. FINANCIAL AID

The financial service has a limited amount of funding to assist financially needy students.

Applications are only considered after students have registered. Funding is limited to South African students only, who have registered full-time for their qualification (diploma). After a student has registered he/she may obtain an application form from the Financial Aid office on his/her campus if he/she wishes to apply for financial assistance.

10. APPLICATION PROCEDURE

10.1 Application forms are available from the Central Applications Office (CAO).

These forms are also available at the Student Admissions office.

Address letters to: Central Applications Office, Private Bag X06, Dalbridge, 4014

Telephone: (031) 268 4444

Fax: (031) 2684422

Internet: http://www.cao.ac.za

11. REGISTRATION PROCESS

Registration takes place in January each year. Application forms should be submitted in the year prior to the year the student intends to register.

For further information contact:

Department of Architecture,

Durban University of Technology,

Steve Biko Campus,

P.O. Box 1334,

Durban, 4000 - Telephone: (031) 3732857