## FACULTIES OF THE UNIVERSITY OF PRETORIA

HUMANITIES NATURAL AND AGRICULTURAL SCIENCES LAW THEOLOGY ECONOMIC AND MANAGEMENT SCIENCES VETERINARY SCIENCE EDUCATION HEALTH SCIENCES ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

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## FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND **INFORMATION TECHNOLOGY**

SECTION I

(separate publication)

## SCHOOL OF ENGINEERING

- Industrial and Systems Engineering •
- Chemical Engineering •
- Electrical, Electronic and Computer Engineering ٠
- Engineering and Technology Management Mechanical and Aeronautical Engineering •
- •
- Materials Science and Metallurgical Engineering ٠
- Mining Engineering ٠
- Civil and Biosystems Engineering ٠

SECTION II (this publication)

## SCHOOL FOR THE BUILT ENVIRONMENT

- Architecture •
- **Construction Economics** •
- Town and Regional Planning •

## SCHOOL OF INFORMATION TECHNOLOGY

- Informatics •
- Information Science ٠
- **Computer Science** •

## SCHOOL FOR THE BUILT ENVIRONMENT

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## FACULTY OF ENGINEERING, BUILT ENVIRONMENT AND INFORMATION TECHNOLOGY

## SCHOOL FOR THE BUILT ENVIRONMENT

## ACADEMIC PERSONNEL AS AT 30 SEPTEMBER 2003

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Pienaar, J.S., BSc(QS)(Pret) PREP(Unisa) PrQS PMAQS .	Lecturer
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LSABI MISoCaRP	Senior Lecturer
Meyer, E., BT&RP(Pret)	Lecturer
Schoonraad, M.D., BT&RP(Pret) MUD(Wits)	Lecturer

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# Head: Student Administration Jones, E.

#### **GENERAL INFORMATION**

#### Admission

Any person who wishes to register at the University for the first time or after an interruption of studies, should apply or reapply for admission. Application for admission to all undergraduate programmes closes on 30 June.

#### Selection

Selection takes place prior to admission to the following programmes in the School for the Built Environment:

- (a) All undergraduate programmes
- (b) Postgraduate programmes

MArch(Prof), MInt(Prof), ML(Prof), MSc(Quantity Surveying), MSc (Construction Management), MSc(Project Management), MSc(Real Estate) and M(Town and Regional Planning) by coursework: A restricted number of students are admitted to taught programmes and applications close on 31 October. Admission to the MSc and PhD programmes by research is subject to approval by the Head of Department and the Dean.

#### Statement of symbols

When registering at this University for the first time, an undergraduate candidate must submit a statement of symbols obtained for subjects in the Grade 12 examination. Postgraduate students are required to submit an academic record.

## Medium of instruction

In conducting its business, the University uses two official languages, namely Afrikaans and English. In formal education, the medium of instruction is either Afrikaans or English, or both of these languages, provided that there is a demand and that it is academically and economically justifiable. However, it remains the student's responsibility to ascertain on an annual basis in which language a programme and any further level of such programme is presented. In respect of administrative and other services, a student has the right to choose whether the University should communicate with him or her in Afrikaans or English.

## Bursaries and loans

Particulars of bursaries and loans are available on request.

#### Accommodation

Applications for accommodation in university residences for a particular year may be submitted as from April 1 of the preceding year. Applications will be considered while vacancies exist, and prospective students are advised to apply well in advance. Please note that admission to the University does not automatically mean that lodging will also be available.

#### Welcoming day and academic information week

Details of the welcoming day to which all parents are cordially invited, and the subsequent academic information week during which all new first-year students **must** be present, are obtainable from the Dean of Students, University of Pretoria 0002.

#### Prescribed books

Lists of prescribed books are not available. The lecturers will inform students regarding prescribed books at the commencement of lectures.

## Amendment of regulations and fees

The University retains the right to amend the regulations and to change tuition fees without prior notification.

## NEW SYSTEM OF TUITION

In 2000, the University of Pretoria started to phase in a new system of tuition and learning which corresponds with the required guidelines of SAQA (the South African Qualifications Authority) and the NQF (National Qualifications Framework). In this system, programmes are offered which are outcomes-based, student-centred and market-orientated.

The new system was implemented in the School for the Built Environment during 2001. Students who were registered at the School for the Built Environment before or during 2000, will be able to complete the relevant qualification. A student who was registered for a degree qualification before 2000 may, in consultation with the Programme Manager and the Chairman: School for the Built Environment, be permitted to transfer to one of the new programmes. In certain instances it will be essential that students, on the recommendation of the Programme Manager and the Chairman: School for the Built Environment. The student will, however, have to comply with all the requirements of the new qualification.

## GLOSSARY OF TERMS

academic year: The duration of the academic year as determined by the University Council.

admissions regulation: A regulation compiled by the dean concerning the admission of students to a specific School, which includes a provision regarding the selection process.

**credit** (or **credit value**): A value unit linked to learning activities, calculated in accordance with the SAQA norm of **1 credit = 10 notional hours (learning hours)**. Credits are linked to modules and whole qualifications.

**curriculum**: A series of modules which form a programme, grouped together over a specified period of time and in a certain sequence according to the regulations.

**examination mark**: The mark a student obtains for an examination in a module, including practical examinations where applicable.

**extended study programme:** A study programme for a degree or diploma that is completed over a longer period than the minimum duration of the particular degree or diploma.

**final mark:** The mark calculated on the basis of the semester/year mark and the examination mark which a student obtains in a particular module according to a formula that is determined from time to time in the regulations for each module with the proviso that should no semester/year mark be required in a module, the examination mark serves as the final mark.

**GS:** A combined (final) mark (semester/year mark plus examination mark) of 40% - 49%.

**learning outcome:** The end product of a specified learning process, i.e. the learning result (specific skills) that one intends to achieve at the end of the learning process.



**level of a module:** The academic level (year) of a module, which is indicated in the module code, which gives an indication of the complexity of the module.

**module:** An independent, defined learning unit, designed to result in a specific set of learning outcomes, and which is a component of a programme.

**module code:** Consists of an equal number of letters and digits, which indicate the name of the module, the year of study, the period of study and the level of the module.

**notional hours (learning hours)**: The notional number of hours students should spend in mastering the learning content of a particular module or programme. The total number of learning hours for a module consists of the time needed for lectures, tutorials and practicals (contact hours), as well as for self-tuition, examination preparation and any other activity required by the study programme. (**notional hours = credits x10**)

**NQF**: National Qualifications Framework. This is a national framework in which all SAQA-registered qualifications are listed, arranged on eight levels in accordance with the complexity of the qualification.

**programme:** This is a comprehensively planned, structured and coherent set of teaching and learning units (modules), designed to attain a specific set of predetermined learning outcomes at a specific exit level, which culminates in a student being awarded a particular qualification (diploma, degree).

**qualification:** In outcomes-based education, a qualification is a diploma or a degree which is obtained after attaining the learning outcomes as specified in a coherent learning programme, expressed as an accumulation of credits at specific levels.

**SAQA**: South African Qualifications Authority. This body has been established by law and has as its purpose the registration of qualifications, programmes and unit standards, in order to ensure that specific national and international criteria are achieved.

**semester/year mark:** The mark a student obtains during the course of a semester or a year for tests, class-work, practical work or any other work in a particular module as approved by regulation.

**student-centred learning:** Teaching and learning methodology, which facilitates the student's total own responsibility for the learning process. A prerequisite is that lectures, tutorials and practicals be adapted so that active participation by students is always achieved.

syllabus: Summary of the contents of a module.

## DEGREES IN THE SCHOOL FOR THE BUILT ENVIRONMENT

The information regarding degree programmes here published are subject to change and may be amended prior to the commencement of the academic year in 2004.

The following degrees are awarded in the School for the Built Environment (minimum duration in brackets):

#### DEPARTMENT OF ARCHITECTURE

- (i) Baccalaureus Scientiae in Architecture BSc(Arch) (3 years)
- (ii) Baccalaureus Scientiae in Interior Architecture BSc(Int) (3 years)
- (iii) Baccalaureus Scientiae in Landscape Architecture BSc(LArch) (3 years)
- (iv) Baccalaureus Honores in Architecture BArch(Hons) (1 year)
- (v) Baccalaureus Honores in Interior Architecture BInt(Hons) (1 year)
- (vi) Baccalaureus Honores in Landscape Architecture BL(Hons) (1 year)
- (vii) Master of Architecture (Professional) MArch(Prof) (1 year)
- (viii) Master of Architecture MArch (1 year)
- (ix) Master of Interior Architecture (Professional) MInt(Prof) (1 year)

- (x) Master of Interior Architecture MInt (1 year)
- (xi) Master of Landscape Architecture (Professional) ML(Prof) (1 year)
- (xii) Master of Landscape Architecture ML (1 year)
- (xiii) Philosophiae Doctor PhD with specialization in Architecture (1 year)
- (xiv) Philosophiae Doctor PhD with specialization in Landscape Architecture (1 year)

## DEPARTMENT OF CONSTRUCTION ECONOMICS

- (i) Baccalaureus Scientiae (Quantity Surveying) BSc(QS) (3 years)
- Baccalaureus Scientiae (Construction Management) BSc(Construction Management) (3 years)
- Baccalaureus Scientiae Honores (Quantity Surveying) BSc(Hons)(QS) (2 years)
- (iv) Baccalaureus Scientiae Honores (Construction Management) -BSc(Hons)(Construction Management) (2 years)
- (v) Magister Scientiae (Quantity Surveying) MSc(QS) (1 year); Coursework (2 years)
- (vi) Magister Scientiae (Construction Management) MSc(Construction Management) (1 year) Coursework (2 years)
- (vii) Magister Scientiae (Real Estate) MSc(Real Estate) (1year) Coursework (2 years)
- (viii) Magister Scientiae (Project Management) MSc(Project Management) (1 year) Coursework (2 years)
- (ix) Philosophiae Doctor PhD (1 year)

## DEPARTMENT OF TOWN AND REGIONAL PLANNING

- (i) Bachelor of Town and Regional Planning BT&RP (4 years)
- (ii) Master of Town and Regional Planning MT&RP (1 year), Coursework (1 year)
- Philosophiae Doctor PhD with specialisation in Town and Regional Planning (2 years)

## **REGULATIONS FOR BACHELOR'S DEGREES**

## B.1 Admission to degree study

General Regulations G.1 to G.15 are applicable to all bachelor's degrees. Where the General Rules have vested authority in the Faculty to determine its own provisions, these provisions appear in this publication.

- (a) To register for a first bachelor's degree at the University, a candidate must, in addition to the required grade 12 certificate with university endorsement, comply with the specific admission requirements for particular programmes and fields of study as prescribed in the admission regulations and the regulations of the faculty.
- (b) The following persons may also be considered for admission:
  - A candidate who is in possession of a certificate which is deemed by the University to be equivalent to the required grade 12 certificate with university endorsement.
  - (ii) A candidate who is a graduate from another tertiary institution or has been granted the status of a graduate of such an institution.

(iii) A candidate who passes an entrance examination, which is prescribed by the University from time to time.

**Note:** A conditional exemption certificate does not grant admission to bachelor's study. However, in certain circumstances some of the faculties do accept a conditional exemption on the basis of mature age and prior learning. Candidates are advised to contact the specific faculty administration in this regard.

- (c) The Senate may limit the number of students allowed to register for a programme, in which case the Dean concerned may, at his discretion, select from the students who qualify for admission, those who may be admitted.
- (d) Subject to faculty regulations and the stipulations of General Regulations G.1.3 and G.62, a candidate will only be admitted to postgraduate studies if he or she is already in possession of a recognised bachelor's degree.

## B.2 Requirements for specific modules

A grade 12 examination certificate with endorsement with at least 40% (E symbol) in Mathematics and Physical Science on higher grade, or at least 50% (D symbol) in the final grade 12 examination for admission to all undergraduate study directions in the School for the Built Environment, with the exception of Town and Regional Planning in which case the requirement in Physical Science does not apply.

In the Department of Architecture applicants for the programmes in Interior Architecture and Landscape Architecture having a science subject (e.g. Biology, Geography, etc) instead of Physical Science, can be considered should the quota for admissions not be filled. Admission will still be done on merit and with the proviso that the above requirements regarding grade 12 symbols are applicable and equally met.

A candidate who has:

- (a) obtained at least 40% in Mathematics at higher grade or 50% at standard grade in the grade 12 examination, or at least 50% in Statistics 113, 123 will be admitted to (i) the modules in Banking, Informatics (except INF 153, 154, 163, 164, 253 and 263) or Statistics, and (ii) modules in Marketing Management, Economics, Financial Management and Financial Accounting at 200 level.;
- (b) registered, may write an exemption test for module FRK 151 on the work covered in grade 12 for the subject Accountancy. Should this test be passed, the student will be exempted from module FRK 151 and will be allowed to continue with module FRK 181 immediately. This module entails computer applications for Accountancy and is presented during the full first semester (14 weeks). Should the student fail the exemption test, he or she can continue with FRK 151, which entails introductory computer-supported accountancy and a few lectures. The student who failed to pass the exemption test will continue with FRK 181 in the second semester after having passed FRK 151 in the first semester. For degree purposes, credit will be given for any one of FRK 151, 152, 121 and 211, provided that FRK 181 has been passed;
- (c) obtained at least 50% in Mathematics at higher grade, or 60% at standard grade in the grade 12 examination, or at least 40% in Mathematics higher grade or 50% in Mathematics standard grade in grade 12, as well as a minimum of 60% in Computer Studies higher grade, or 70% in Computer Studies standard grade in grade 12, or an

- (d) average of at least 60% in Statistics 110\*, 120\*, or an average of at least 60% in {(Statistics 113\*, 123\*) and (Statistics 120\*)}, will be admitted to Informatics 153, 154, 163, 164, 253 and 263 (\*a minimum of 50% is required in each module);
- (e) passed the grade 12 examination in Mathematics with at least 40% at higher grade or at least 50% at standard grade, obtains admission to the modules GLY 151 and 152 in Geology;
- (f) passed the grade 12 examination in Mathematics with at least 40% at higher grade or at least 50% at standard grade, or at least 50% in Geography at higher grade, obtains admission to the modules GGY 153, 154, 132, 162 and 163 in Geography.

A student who follows a module which is presented in another faculty, must acquaint him/herself and comply with the admission requirements of the module in question, subminima requirements for tests/examinations, supplementary examination periods, etc.

## B.3 Language proficiency

Language proficiency is presented as part of specific study programme requirements. All first-year students who wish to register with the University are required to write the language proficiency test. On grounds of the results of this test, students who pass the test will be required to register for one or more language modules. Students who do not pass the test will be required to register for the EOT modules in order to obtain sufficient credits for degree purposes.

## **B.4** Computer and Information Literacy

Computer and Information Literacy is presented as compulsory modules, but exemption may be obtained by writing an exemption test.

## B.5 Registration for a specific year

A student registers for all the modules he or she intends taking in that specific year (first-semester, second-semester modules and year modules) at the beginning of an academic year. Changes to a curriculum at the beginning of the second semester may be made only with the approval of the Dean.

#### B.6 Module credits for unregistered students

There are students who attend lectures, write tests and examinations and in this manner earn "marks", but who have neither registered for modules nor have registered as students. These marks will not be communicated to any student before he/she has provided proof of enrolment. A student cannot obtain any credits in a specific academic year for a module "passed" in this manner during a previous academic year and for which he/she was not registered. This arrangement applies even where the student is prepared to pay the tuition fees.

## **B.7** Examinations

## 7.1 Examinations, projects and essays

(a) An examination in a module may be written and/or oral. Projects and essays are prepared and examined as stipulated in the study guide of the module, in accordance with the regulations and procedures as described in 7.3 below. (b) The examinations for modules of the first semester are held in May/June, while all other examinations (second-semester modules and year modules) are held in October/November.

## 7.2 Examination admission

A minimum semester/year mark of 40% is required in order to be admitted to the examination in a specific module, with the exception of first-semester modules at first-year level where a minimum semester mark of 30% is required for admission to an examination. In addition, all other examination admission requirements, applicable to the relevant module, must have been met.

## 7.3 Pass requirements

Refer also to General Regulations G.11.1(a) and G.12.2.2 No supplementary examination are awarded in Design (all ONT modules) in the Department of Architecture.

- (a) In order to pass a module, a student must obtain an examination mark of at least 40% and a final mark of at least 50%. A student passes a module with distinction if a final mark of at least 75% is obtained. The final mark is compiled from the semester/year mark and the examination mark.
- (b) Calculation of the final mark: The semester/year mark must account for no less than 40% and no more than 60% of the final mark, with the exception of modules like design and research projects and essays, as well as in modules where the development of general skills is the primary learning activity, where appropriate alternative norms are determined individually by schools or departments. The specific details and/or formula for the calculation of the final mark are given in the study guide of each programme. Also, a schedule listing this information (for all the modules presented in each school) will be compiled, for approval by the Dean.
- (c) Calculation of the semester/year mark. The semester/year mark is compiled from formative assessment of learning activities such as assignments, presentations, practicals and group projects, as well as from class tests and semester tests. For each module the specific formula for the calculation of the semester/year mark is determined by the lecturer(s) responsible for the presentation of the module and the details are given in the study guide of the module. Also, a schedule listing this information (for all the modules presented in each school) will be compiled, for approval by the Dean. Refer also to General Regulation G.11.1(b).
- (d) In some modules, specific requirements in respect of certain components of the semester/year mark may be set, in order for a student to pass the module (for example that satisfactory performance in and attendance at practical classes are required). Thus, even if a pass mark is obtained in the module, a pass is not granted unless these requirements are met. For such modules these specific requirements are given in the study guide of the module. Also, a schedule listing this information (for all such modules presented in each school) will be compiled, for approval by the Dean.

(e) A student must comply with the sub-minimum requirements in subdivisions of certain modules. For such modules these specific requirements are given in the study guide of the module. Also, a schedule listing this information for all such modules presented in each school will be compiled, for approval by the Dean.

## 7.4 Ancillary examinations

Refer to General Regulation G.12.3.

7.4.1 No ancillary examination are awarded in Design (all ONT modules) in the Department of Architecture.

## 7.5 Supplementary examinations

Refer to General Regulation G.12.4. No supplementary examination is granted in the first year module Design 100. Except for first year, first semester modules where supplementary examinations are compulsory between 40% and 49%, a supplementary examination is granted in instances where:

- (i) A final mark of between 45% and 49% was obtained
- A final mark of between 40% and 44% was obtained and where the candidate also obtained either a semester mark or an examination mark of 50% or higher;
- (iii) A pass mark has been obtained, but the required subminimum in the examination section of the module or divisions thereof has not been obtained.

Regulations (i) to (iii) do not apply to programmes in the Department of Architecture.

**7.6** Special examinations (including the aegrotat) Refer to General Regulation G.12.5

## 7.7 Other special examinations

- Refer to General Regulation G.12.6
- (a) The Dean may, at the recommendation of the head of the department concerned, grant a special examination in a module to a student who failed such module in the final year of study, and consequently either does not comply with degree requirements, or is unable to continue with studies in the final semester in a meaningful way. A student may at most, be admitted to one special examination in a year module or two special examinations in semester modules.
- (b) To be taken into consideration for a special examination, a student should have obtained a minimum final mark of 40% and should also have complied with all other examination admission requirements which are applicable to the relevant module.
- (c) A student must apply to the Dean in writing before consideration will be given to admission to a special examination. The Head of the Department decides when the special examination will take place and may prescribe work which should be satisfactorily completed before a student may write the examination.
- (d) The pass mark required for a special examination is 50%, a higher mark is not allocated and the semester/year mark is not taken into consideration.

#### 7.8 Re-marking of examination scripts Refer to General Regulation G.14

Relef to General Regulation G. 14

## DEGREES IN THE DEPARTMENT OF ARCHITECTURE

#### The following degrees are offered in the Department:

Architecture Baccalaureus Scientiae in Architecture Baccalaureus Honores in Architecture Magister in Architecture (Professional) Magister in Architecture (by research) Philosophiae Doctor	BSc(Arch) BArch(Hons) MArch(Prof) MArch (by research) PhD	Code 12132002 12242003 12252005 12252002 12262002
Interior Architecture Baccalaureus Scientiae in Interior Architecture Baccalaureus Honores in Interior Architecture Magister in Interior Architecture (Professional) Magister in Interior Architecture (by research)	BSc(Int) BInt(Hons) MInt(Prof) MInt (by research)	12132008 12242006 12252007 12252004
Landscape Architecture Baccalaureus Scientiae in Landscape Architecture Baccalaureus Honores in Landscape Architecture Magister in Landscape Architecture (Professional) Magister in Landscape Architecture (by research) Philosophiae Doctor	BSc(LArch) BLArch(Hons) ML(Prof) ML (by research) PhD	12132004 12242004 12252008 12252003 12262003

#### DEGREES IN ARCHITECTURE

Architecture entails the design of buildings and the spaces between those buildings. It is the art and science that is employed in order to create a livable environment, thus contributing towards the spiritual and material prosperity of the country. Architects are often independent thinkers, individualists and innovators. Although they are employed by organisations involved with development, investment, research, marketing, the industry or even education, many architects prefer to be independent consultants and entrepreneurs. BSc(Arch) is regarded as an exit level that enables the graduate to register as a Candidate Senior Architectural Technologist at the South African Council for the Architectural Profession. A Senior Architectural Technologist is a professional person registered by the SACAP in terms of the Act on the Architectural Profession (Act 44 of 2000). Such practitioners provide assistance in the practices of the disciplines of architecture, interior architecture and urban design where their responsibilities would be the documentation of projects, project administration and site management.

Students are advised to work in the offices of an architect or a landscape architect to gain practical experience during the university recesses.

A graduate wishing to become a Professional Architect must apply for and pursue a further two years of full time studies in the professional degree programme.

The Master of Architecture (Professional) degree will be recognised by the South African Council for the Architectural Profession as qualifying the graduate to register as a Candidate Professional Architect in terms of the Act on the Architectural Profession (Act 44 of 2000).

## B.8 BACCALAUREUS SCIENTIAE IN ARCHITECTURE [BSc(Arch)] (Code 12132002)

## (a) Admission requirements

See General Information B.1and B.2 in this publication.

(b) Duration

The minimum period of study is three years full-time. Candidates wishing to become Professional Architects must hereafter apply to register for the BArch(Hons) degree (one year full-time) and thereafter the MArch(Prof) degree (one year full-time).

(c) Curriculum

Unless the Dean, in consultation with the Head of the Department decides otherwise, the following applies:

Total credits: 403

Code	Module	Prerequisites	Credits
First year of	study		
First semest	er		
AAL 110	Earth Studies 110	-	8
KON 110	Construction 110	-	10
OMG 110	History of the Environment 110	) -	6
OML 110	Environmental Studies 110	-	6
ONT 100	Design 100	-	24
For students	tested as language proficient (S	See Regulation B.3.)*	
AFR 159	Taal- en Teksvaardigheid 159	-	
	or		
ENG 151	Introduction to Poetry 151	-	3
AFR 160	Taal en Teksvaardigheid 160	-	
	or		
ENG 152	Critical Language Skills 152	-	3
Second sem	nester		
CIL 120	Information Technology 120	-	10
KON 120	Construction 120	KON 110 GS	10
OMG 120	History of the Environment 120	) -	6
OML 120	Environmental Studies 120	OML 110 GS	6
ONT 100	Design 100	-	24
STU 120	Theory of Structures 120	-	10
For students	tested as language proficient (S	See Regulation B 3 )*	
I CC 153	Inleiding tot Mediageletterdhei	d 153 -	
200 100	or		
ENG 153	Introduction to Prose 153	-	3
I CC 254	Mediatekste 254		-
	or		
ENG 154	Introduction to Drama 154	-	3
ENG 154	or Introduction to Drama 154	_	3

Students requiring language proficiency modules must register for EOT 151, 152, 153, and 154 offered by the Unit for Language Skills Development. (See Regulation B.3.) These students must obtain 12 additional credits in language modules as approved by the Head of Department of Architecture. **Second year of study** 

\*

Second yea	ar of study		
First semes	ster		
AAL 210 KON 211 OKU 210	Earth Studies 210 Construction 211 Design Communication 210	AAL110 KON 110, 120 -	10 10 4
OMG 210 OML 210	Environmental Studies 210	- OML 110, 120	6
ONT 211 STU 211	Design 211 Theory of Structures 211 Total	ONT 100 STU 120	18 <u>10</u> <u>64</u>
Second ser	mester		
GGY 363	Environmental Geomorphology 3 (Capita selecta)	63 -	4
GKD 225	General Soil Science 225	-	4
KON 220	Construction 220	KON 211 GS	10
OKU 220	Design Communication 220	-	4
OMG 220	History of the Environment 220	-	6
OML 220	Environmental Studies 220	OML 210 GS	6
ONT 220	Design 220	ONT 211 GS	18
510 221	Total	STU 211 GS	<u>10</u> 62
Third year First semes	of study ster		
BER 310	Business Law 310	-	8
GGY 283	Introduction GIS 283	-	6
KON 310	Construction 310	KON 211, 220	10
OMG 310	History of the Environment 310	-	6
OML 310	Environmental Studies 310	OML 210, 220	6
ONI 310	Design 310	ONT 211, 220	16
510 311	Total	510 211, 221	<u>10</u> 62
Second ser	mester		
AAL 320	Earth Studies 320	AAL 210	10
KON 321	Construction 321	KON 310 GS,	
		ONT 310 GS	15
OMG 320	History of the Environment 320	-	6
OML 320	Environmental Studies 320	OML 310 GS	6
ONT 320	Design 320	UNT 310 GS	40
000 200	Practice Management 220	KUN 310 GS	16
5 TU 221	Theory of Structures 321	- STU 311 CS	0 10
010 021	Total	010 011 00	<u>71</u>

The programme	is set out below:
---------------	-------------------

Year	Semester	PRS	STU	AAL	KON	ONT	OML	OMG	OKU
	1		-	110	110		110	110	LANG
1	2	CIL 120	120	-	120	100	120	120	LANG
	1	-	211	210	211	211	210	210	210
2	2	-	221	GGY 363 GKD 225	220	220	220	220	220
3	1	BER 410	311	-	310	310	310	310	GGY 283
	2	320	321	320	321	320	320	320	-

## (d) Promotion to next year of study

A student is promoted to a subsequent year of study after acquiring all the prerequisite module credits of the preceding year of study.

A student is deemed to be in the year of study for which he or she is registered in Design.

If the student is not registered for Design the highest passed year of Design determines the year of study.

## (e) Concurrent presentation

Design 320 and Construction 321 must initially be examined in the same year.

## (f) Degree with distinction

The BSc(Arch) degree is conferred with distinction on a student who, at first registration, simultaneously passes both Design 320 and Construction 321 with distinction (minimum 75%) with the proviso that the degree is completed within the minimum prescribed time and all other final year modules are passed on first registration.

## B.9 BACCALAUREUS HONORES IN ARCHITECTURE [BArch(Hons)] (Code 12242003)

Refer to General Regulations G.30 to G.44.

#### **Transitional measures**

Students not having obtained full credits for the first year modules of the MArch(Prof) programme (2003-2004) are required to re-register for modules as prescribed by the Head of Department.

## (a) Admission requirements

- A candidate for the degree programme Baccalaureus Honores in Architecture:
- must be a graduate with a BSc(Arch) degree or an equivalent university degree;

or

- (2) must have an appropriate recognised tertiary qualification.
  - Such a candidate may be required, at the discretion of the Head of Department to do a:
    - (i) language proficiency test;
    - (ii) computer skills test;
    - or
- (3) must have a qualification deemed adequate by the Head of Department in consultation with the Dean and obtain (where necessary) the approval of the Senate, and comply with any other prescribed requirements.

Candidates mentioned in (2) and (3) above may, at the discretion of the Head of Department, be required to be evaluated in prerequisite fields of knowledge and/or register for additional modules for non-degree purposes;

Candidates mentioned in (1), (2) and (3) above,

- (i) should preferably have had practical experience and/or have done and recorded an extended study excursion;
- (ii) are interviewed for selection;
- (iii) must present a portfolio and/or design journal which demonstrates the requisite level of proficiency and competency and is a record of their experience within the discipline;
- (iv) are selected on merit.

Note: The number of candidates admitted to this programme is restricted.

## (b) Duration

The minimum period of study is one year full-time.

#### (c) Curriculum

(1) Unless the Head of Department, after consultation with the Dean, decides otherwise, for those students wishing to hereafter continue with the MArch(Prof) degree, the following curriculum applies:

BArch(Hons)	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Practice	CPD 711	CPD 721	CPD 731	Elective
Component	6 credits	6 credits	6 credits	6 credits
			POU 720	
			2 credits	
Theory	RFS 711	RFS 721	RFS 731	Elective
Component	6 credits	6 credits	6 credits	6 credits
Project	RFP 711	RFP 721	RFP 731	Elective
Component	20 credits	20 credits	20 credits	20 credits
-				

(2) For those students intending hereafter to continue with the MArch (by research) degree a curriculum comprising a minimum of 50% of module credits from the above and a maximum of 50% of module credits from other Honours programmes by coursework must be devised in consultation with and approval by the Head of Department.

## (d) Admission to examinations and pass requirements

The minimum pass mark is 50%. A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass. If a module is not evaluated by examination a minimum coursework mark of 50% is required. If the module is not evaluated by coursework a minimum examination mark of 50% is required.

## (e) Awarding of degree

The degree is awarded to those students having obtained the prescribed credits. Those students admitted with conditions must comply with all of these before all the 700 series module credits and the degree are awarded.

#### (f) Degree with distinction

The degree is conferred with distinction on those students registering for the first time and obtaining an average of 75% for the prescribed modules in two of the quarters (with a minimum of 70% for any of all the modules) with the proviso that the degree is completed within the minimum prescribed time and all other modules are passed on first registration.

## B.10 MAGISTER IN ARCHITECTURE (Professional) [MArch(Prof)] (Code 12252005)

Refer to General Regulations G.30 to G.44.

The Master of Architecture (Professional) is a taught master's degree for the purposes of registration as a Candidate Professional Architect with the South African Council for the Architectural Profession in terms of Act 44 of 2000 and is done by coursework, projects and a design investigation treatise and design project and discourse.

## (a) Admission requirements

- A candidate for the degree programme Magister in Architecture (Professional):
- must be a graduate with a BArch(Hons) degree or an equivalent university degree;

or

- must have an appropriate recognized tertiary qualification at honours degree level;
  - or
- (3) must have a qualification deemed adequate by the Head of Department in consultation with the Dean and obtain (where necessary) the approval of the Senate and comply with any other prescribed requirements.

Candidates mentioned in (2) and (3) above may, at the discretion of the Head of Department, be required to be evaluated in prerequisite fields of knowledge and/or register for additional modules for non-degree purposes;

Candidates mentioned in (1), (2) and (3) above,

- (i) should preferably have had practical experience and/or have done and recorded an extended study excursion;
- (ii) are interviewed for selection;
- (iii) must present a portfolio and/or design journal which demonstrates the requisite level of proficiency and competency and is a record of their experience within the discipline;
- (iv) are selected on merit.

Note: The number of candidates admitted to this programme is restricted.

#### (b) Duration

The minimum period of study is one year full-time.

#### (c) Curriculum

Unless the Head of Department, after consultation with the Dean, decides otherwise, the following applies:

MArch(Prof)	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter		
Practice	CPD 810	CPD 820	CPD 830	CPD 841		
Component	Contract	Project and	Professional	Professional		
	Documents	Investment	and Employee	Bodies and		
	10 credits	Economics	Ethics	Matters		
		10 credits	10 credits	10 credits		
		(or elective)				
Theory	DIT 801					
Component	Design Investi	gation Treatise				
-	44 credits	-				
Project	DPD 801					
Component	Design Project and Discourse					
	44 credits					

#### (d) Admission to examinations and pass requirements

The minimum pass mark is 50%. A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass. If a module is not evaluated by examination a minimum coursework mark of 50% is required. If the module is not evaluated by coursework a minimum examination mark of 50% is required.

#### (e) Design topic

The topic of the final design project (DIT 801 & DPD 801) must be approved by the Head of Department

## (f) Awarding of degree

The degree is awarded to those students having obtained the prescribed credits. Those students admitted with conditions must comply with all of these before all the 700 series module credits and the degree are awarded.

## (g) Degree with distinction

The degree is conferred with distinction on those students registering for the first time and obtaining a distinction (75%+) simultaneously for both the Design Investigation Treatise (DIT 801) and the Design Project and Discourse (DPD 801) with the proviso that the degree is completed within the minimum prescribed time and all other final-year modules are passed on first registration.

## B.11 MAGISTER IN ARCHITECTURE (by research) [(MArch (by research)] (Code 12252002)

Refer to General Regulations G.30 to G.44.

By virtue of a dissertation and examination.

#### Architecture 800: ARG 800 – Dissertation: ARG 890

Total credits : 200

## (a) Admission requirements

Candidates who wish to research a topic within the discipline of architecture and who are in possession of

- (i) a BArch or equivalent degree of four years or more;
  - or
- (ii) an honours degree in architecture, BArch(Hons), or equivalent; or
- (iii) a three-year degree with Design as major component and who successfully complete supplementary modules with weighting equivalent of an honours degree as prescribed by the Head of Department; or
- (iv) who are deemed adequate by the Head of Department in consultation with the Dean and obtaining (where necessary) the approval of the Senate and complying with whatever additional requirements may be prescribed;
- are admitted to studies for the degree Master in Architecture (by research).

## (b) Duration and curriculum

After a minimum of one year of registration, the student is to submit a dissertation for examination and have an oral examination of the dissertation in the related field of study.

## (c) Awarding of the degree

The Master of Architecture degree is conferred on students obtaining a minimum of 50% for both the dissertation and oral examination.

#### (d) Degree with distinction

The Master of Architecture degree is conferred with distinction on students obtaining a minimum of 75% for both the dissertation and the oral examination.

B.12	PHILOSOPHIAE DOCTOR
	[PhD] (Code 12262002)

Refer to General Regulations G.15, G.52 and G.55.

## Architecture 900: ARG 900 - Thesis: ARG 990

- (a) Candidates who have obtained a Master's Degree in Architecture are admitted to doctoral studies.
- (b) Candidates in possession of a master's degree by coursework may, at the discretion of the Head of Department, be required to pass modules supplementary prior to commencing studies.
- (c) A PhD student must submit a thesis which deals with a topic from the discipline of architecture and which provides proof of advanced original research and/or creative work which makes a real and substantial contribution to the knowledge and/or practice of architecture.
- (d) A student must submit at least one draft article to a recognised journal for publication, before or concurrent with the submission of the thesis. The draft article must be based on the research undertaken for the thesis and must be acceptable to the supervisor.
- (e) The doctoral examination, either written or oral, **is compulsory**, and covers the content of the thesis as well as the field of study on which the thesis is based.

## DEGREES IN INTERIOR ARCHITECTURE

Interior Architecture is the art and science of the design of designated spaces. It focuses on the needs of the user and the harmony between architectural spaces and the detailed design of spaces and life-style products. Graduates will have the ability to design interiors and products. Attention is given to the design process, building and material technology, building climate, ergonomics, history and visual communication within the context of society, economics, politics and technology. It is very important that students have the ability to visualise spaces, think three-dimensionally and solve problems creatively.

It is recommended that those graduates wishing to practice as interior designers pursue further studies namely the one year, full-time Honours in Interior Architecture programme. A graduate wishing to become a Professional Interior Architect is advised to register for the MInt(Prof) degree programme.

ENG 154

B.13	BACCALAU [BSc(Int)] (0	REUS SCIENTIAE IN INTERI Code 12132008)		Ε				
(a)	Admission Refer to Ger	Admission requirements Refer to General Information B.1 and B.2 in this publication.						
(b)	Duration The minimu become Pro BInt(Hons) o Those candi must hereaf Interior Arch	<b>Duration</b> The minimum period of study is three years full-time. Candidates wishing to become Professional Interior Architects must hereafter apply to register for the BInt(Hons) degree (1 year full-time) and the MInt(Prof) degree (1 year full-time). Those candidates wishing to become interior and product designers must hereafter register for the one year full-time honours degree programme in Interior Architecture [BInt(Hons)].						
(c)	Curriculum Total credits	: 415						
	Code First year o	Module f study ster	Prerequisite	Credits				
		Earth Studies 110	_	8				
	KON 110	Construction 110	_	10				
	OMG 110	History of the Environment 1	10 -	6				
	OML 110	Environmental Studies 110	-	6				
	ONT 100	Design 100	-	24				
	For students AFR 159	tested as language proficient ( Taal- en Teksvaardigheid 159 or	(See Regulation B.3. 9 -	)*				
	ENG 151	Introduction to Poetry 151	-	3				
	AFR 160	Taal- en Teksvaardigheid 160	) -	-				
	ENG 152	<b>or</b> Critical Language Skills 152	-	3				
	Second sen	nester						
	CIL 120	Information Technology 120	-	10				
	KON 120	Construction 120	KON 110 GS	10				
	OMG 120	History of the Environment 12	20 -	6				
	OML 120	Environmental Studies 120	OML 110 GS	6				
	ONT 100 Design 100 - 24							
	510 120	neory of Structures 120	-	10				
	For students	tested as language proficient	(See Regulation B.3.	)*				
	LCC 153	Inleiding tot Mediageletterdhe	eid 153 -					
	ENG 153	Introduction to Prose 153	-	3				
	LCC 254	Mediatekste 254						
		or						

20

3

Introduction to Drama 154

Students requiring language proficiency modules must register for EOT 151, 152, 153, and 154 offered by the Unit for Language Skills Development. (See Regulation B.3.) These students must obtain 12 additional credits in language modules as approved by the Head of Department of Architecture.

\*

Second year First semest	r of study er		
AAL 210 KON 211 OKU 210 OMG 210 OML 210 ONT 213 TKS 210 Second sem	Earth Studies 210 Construction 211 Design Communication 210 History of the Environment 210 Environmental Studies 210 Design 213 Textiles 210 Total ester	AAL 110 KON 110, 120 - - OML 110, 120 ONT 100 -	10 10 6 18 <u>16</u> 70
AAL 223 KON 223 OKU 220 OMG 220 OML 220 ONT 223 TKS 220	Earth Studies 223 Construction 223 Design Communication 220 History of the Environment 220 Environmental Studies 220 Design 223 Textiles 220 Total	- KON 211 GS - OML 210 GS ONT 213 GS TKS 210 GS	8 10 4 6 18 <u>16</u> <u>68</u>
Third year of	f study or		
BER 310 KON 313 MST 313 OMG 310 OML 310 ONT 313 OKU 313	Business Law 310 Construction 313 Material Studies 313 History of the Environment 310 Environmental Studies 310 Design 313 Design Communication 313 Total	- KON 211,223 - OML 210, 220 ONT 213, 223 OKU 210, 220	8 10 6 16 <u>6</u> 62
Second sem	ester	A A L 040	40
AAL 320 KON 323	Construction 323	KON 313 GS ONT 313 GS	10
MST 323 OMG 320 OML 320 ONT 323	Material Studies 323 History of the Environment 320 Environmental Studies 320 Design 323	MST 313 - OML 310 GS ONT 313 GS KON 313 GS	10 6 6 16
PRS 320	Practice Management 320 Total	-	<u>8</u> 71

			3						
Year	Semester	PRS	MST	AAL	KON	ONT	OML	OMG	OKU
	1	-	-	110	110	100	110	110	Lang
1	2	-	STU 120	-	120	100	120	120	Lang
2	1	-	TKS 210	210	211	213	210	210	210
	2	-	TKS 220	223	223	223	220	220	220
	1	BER 410	313	-	313	313	310	310	313
3	2	320	MST 323	320	323	323	320	320	

The programme is set out below:

## (d) Promotion to next year of study

A student is promoted to a subsequent year of study after acquiring all the prerequisite module credits of the preceding year of study.

A student is deemed to be in the year of study for which he or she is registered in Design.

If the student is not registered for Design the highest passed year of Design determines the year of study.

## (e) Concurrent presentation

Design 323 and Construction 323 must initially be examined in the same year. The degree is awarded to those students obtaining all the prescribed credits for the programme modules.

## (f) Degree with distinction

The degree is conferred with distinction on a student who, at first registration, simultaneously passes both Design 323 and Construction 323 with distinction (minimum 75%) with the proviso that the degree is completed within the minimum prescribed time and all other final-year modules are passed on first registration.

## B.14 BACCALAUREUS HONORES IN INTERIOR ARCHITECTURE [Bint(Hons)] (Code 12242006)

Refer to General Regulations G.30 to G.44.

## **Transitional measures**

Students not having obtained full credits for the first-year modules of the MInt(Prof) programme (2003-2004) are required to re-register for modules as prescribed by the Head of Department.

## (a) Admission requirements

A candidate for the degree programme Baccalaureus Honores in Interior Architecture:

 must be a graduate with a BSc(Int) degree or an equivalent university degree;

or

- (2) must have an appropriate recognised tertiary qualification. Such a candidate may be required, at the discretion of the Head of Department to do a:
  - (i) a language proficiency test;
  - (ii) a computer skills test;

or

(3) must have a qualification deemed adequate by the Head of Department in consultation with the Dean and obtain (where necessary) the approval of the Senate and comply with any other prescribed requirements.

Candidates mentioned in (2) and (3) above may, at the discretion of the Head of Department, be required to be evaluated in prerequisite fields of knowledge and/or register for additional modules for non-degree purposes.

Candidates mentioned in (1), (2) and (3) above,

- (i) should preferably have had practical experience and/or have done and recorded an extended study excursion;
- (ii) are interviewed for selection;
- (iii) must present a portfolio and/or design journal which demonstrates the requisite level of proficiency and competency and is a record of their experience within the discipline;
- (iv) are selected on merit.

Note: The number of candidates admitted to this programme is restricted.

## (b) Duration

The minimum period of study is one year full-time.

#### (c) Curriculum

(1) Unless the Head of Department, after consultation with the Dean, decides otherwise, for those students wishing hereafter to continue with the MInt(Prof) degree, the following curriculum applies:

BInt(Hons)	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Practice	CPD 713	CPD 723	CPD 733	Elective
Component	nponent 6 credits 6 credits		6 credits	6 credits
			POU 720	
			2 credits	
Theory	RFS 713	RFS 723	RFS 733	Elective
Component	6 credits	6 credits	6 credits	6 credits
Project	RFP 713	RFP 723	RFP 733	Elective
Component	20 credits	20 credits	20 credits	20 credits

(2) For those students intending to continue hereafter with the MInt (by research) degree a curriculum comprising a minimum of 50% of module credits from the above and a maximum of 50% of module credits from other Honours programmes by coursework must be devised in consultation with and approval by the Head of Department.

#### (d) Admission to examinations and pass requirements

The minimum pass mark is 50%. A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass. If a module is not evaluated by examination a minimum coursework mark of 50% is required. If the module is not evaluated by coursework a minimum examination mark of 50% is required.

## (e) Awarding of degree

The degree is awarded to those students having obtained the prescribed credits. Those students admitted with conditions must comply with all of these before all the 700 series module credits and the degree are awarded.

#### (f) Degree with distinction

The degree is conferred with distinction on those students registering for the first time and obtaining an average of 75% (with a minimum of 70% for any of the modules) for the prescribed modules across two quarters with the proviso that the degree is completed within the minimum prescribed time and all other modules are passed on first registration.

## B.15 MAGISTER IN INTERIOR ARCHITECTURE (Professional) [MInt(Prof)] (Code 12252007)

Refer to General Regulations G.30 to G.44.

The Magister in Interior Architecture (Professional) is done by coursework, a design investigation treatise and design project and discourse.

#### (a) Admission requirements

Candidates for the degree programme Magister in Interior Architecture (Professional):

- (1) must be a graduate with a BInt(Hons) degree or an equivalent university degree;
  or
- must have an appropriate recognized tertiary qualification at honours degree level;
   or
- (3) must have a qualification deemed adequate by the Head of Department in consultation with the Dean and obtain (where necessary) the approval of the Senate, and comply with any other prescribed requirements.

Candidates mentioned in (2) and (3) above may, at the discretion of the Head of Department, be required to be evaluated in prerequisite fields of knowledge and/or register for additional modules for non-degree purposes;

Candidates mentioned in (1), (2) and (3) above,

- (i) should preferably have had practical experience and/or have done and recorded an extended study excursion;
- (ii) are interviewed for selection;

- (iii) must present a portfolio and/or design journal which demonstrates the requisite level of proficiency and competency and is a record of their experience within the discipline;
- (iv) are selected on merit.

Note: The number of candidates admitted to this programme is restricted.

## (b) Duration

The minimum period of study is one year full-time.

## (c) Curriculum

Unless the Head of Department, after consultation with the Dean, decides otherwise, the following applies:

MInt(Prof)	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter		
	CPD 810	CPD 820	CPD 830	CPD 843		
	Contract	Project and	Professional	Professional		
Practice	Documents	Investment	and Employee	Bodies and		
Component	10 credits	Economics	Ethics	Matters		
-		10 credits	10 credits	10 credits		
		(or elective)				
Theory	DIT 803					
Component	Design Investiga	tion Treatise				
	44 credits					
Project	DPD 803					
Component	Design Project and Discourse					
	44 credits					

## (d) Admission to examinations and pass requirements

The minimum pass mark is 50%. A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass. If a module is not evaluated by examination a minimum coursework mark of 50% is required. If the module is not evaluated by coursework, a minimum examination mark of 50% is required.

## (e) Design topic

The topic of the final design project (DIT 803 & DPD 803) must be approved by the Head of Department.

## (f) Awarding of degree

The degree is awarded to those students having obtained the prescribed credits. Those students admitted with conditions must comply with all of these before all the 700 series module credits and the degree are awarded.

## (g) Degree with distinction

The degree is conferred with distinction on those students registering for the first time and obtaining a distinction (minimum 75%) simultaneously for both the Design Investigation Treatise (DIT 803) and the Design Project and Discourse (DPD 803) with the proviso that the degree is completed within the minimum prescribed time and all other final year modules are passed on first registration.

## B.16 MAGISTER IN INTERIOR ARCHITECTURE (by research) [Mint (by research)] (Code 12252004)

Refer to General Regulations G.30 to G.44.

By virtue of dissertation and examination.

#### Interior 800: INT 800 – Dissertation: INT 890

Total credits: 200

#### (a) Admission requirements

Candidates who wish to research a topic within the discipline of interior architecture and who are

- (i) in possession of a BInt or equivalent degree of four years or more;
- or
- (ii) in possession of an honours degree in Interior Architecture, BInt(Hons), or equivalent; or
- (iii) in possession of a three-year degree with Design as major component and who successfully complete supplementary modules with weighting equivalent of an honours degree as prescribed by the head of department; or
- deemed adequate by the Head of Department in consultation with the Dean and obtaining (where necessary) the approval of the Senate and complying with whatever additional requirements may be prescribed,

are admitted to studies for the degree programme Master in Interior Architecture (by research).

#### (b) Duration and curriculum

After a minimum of one year of registration the student submits a dissertation for examination and has an oral examination of the dissertation in the related field of study.

## (c) Awarding of the degree

The Master of Interior Architecture degree is conferred on students obtaining a minimum of 50% for both the dissertation and oral examination.

#### (d) Degree with distinction

The Master of Interior Architecture degree is conferred with distinction on students obtaining a minimum of 75% in both the dissertation and the oral examination.

## B.17 PHILOSOPHIAE DOCTOR [PhD] (INTERIOR ARCHITECTURE)

**NOTE:** This degree will only be submitted for approval by the Council on Higher Education (CHE) once there are suitably qualified candidates. It is therefore not yet presented.

#### DEGREES IN LANDSCAPE ARCHITECTURE

Landscape architecture is the science and art of the design of outside areas for the use and enjoyment of humans. Parks, game reserves, recreational areas and marinas are only a few of the environments which the landscape architect designs. They create urban oases in the form of plazas and pedestrian routes, and design environments around shopping centres and residential developments. The landscape architect can join a private firm, start an own business, or accept employment in central, provincial or local government in departments that handle water usage and research, forestry, environmental matters, sport, recreational and fishing areas, and nature conservation.

Students are advised to work in the offices of an architect or a landscape architect to gain practical experience during the university recesses.

BSc(LArch) is a three-year degree and is regarded as an exit level that enables the graduate to register as a Candidate Landscape Architectural Technologist who is a professional person registered by the South African Council of the Landscape Architectural Profession in terms of the Act on the Landscape Architectural Profession (Act 45 of 2000). Such practitioners provide assistance in the practices of the disciplines of Landscape Architecture and Urban Design where their responsibilities would be the documentation of projects, project administration and site management. A graduate wishing to become a Professional Landscape Architect must apply for and pursue a further two years of full-time studies in the relevant professional degree programme.

The Master of Landscape Architecture (Professional) degree is recognised by the South African Council for the Landscape Architectural Profession as qualifying the graduate to register as a Candidate Professional Landscape Architect in terms of Act 45 of 2000.

## B.18 BACCALAUREUS SCIENTIAE IN LANDSCAPE ARCHITECTURE [BSc(LArch)] (Code 12132004)

#### (a) Admission requirements

Refer to General Information B.1 and B.2 in this publication.

#### (b) Duration

The minimum period of study is three years full time. Candidates wishing to become Professional Landscape Architects must hereafter apply to register for the BL(Hons) degree (1 year full-time), and thereafter the ML(Prof) degree (1 year full-time).

#### (c) Curriculum

Total Credits: 403

Unless the Dean, in consultation with the head of department, decides otherwise, the following curriculum applies:

Code	Module	Prerequisite	Credits
First semest	er	-	
AAL 110	Earth Studies 110	-	8
KON 110	Construction 110	-	10
OMG 110	History of the Environment 110	) -	6
OML 110	Environmental Studies 110	-	6
ONT 100	Design 100	-	24

## Built Environment 2004

For students	tested as language proficient (See F	Regulation B.3.)*	
AFR 159	Taal- en Teksvaardigheid 159	-	
	or		
ENG 151	Introduction to Poetry 151	-	3
AFR 160	Taal- en Teksvaardigheid 160	-	
	or		
ENG 152	Critical Language Skills 152	-	3
	5 5		
Second sem	ester		
CIL 120	Information Technology 120		10
KON 120	Construction 120	KON 110 GS	10
OMG 120	History of the Environment 120	-	6
01010120			0
OMI 120	Environmental Studies 120	OMI 110 GS	6
ONT 100	Design 100		24
STI 120	Theory of Structures 120	-	10
STU 120	trated as least an areficiant (Cas I		10
For students	tested as language proficient (See F	Regulation B.3.)	
LCC 153	Inleiding tot Mediageletterdheid 15	3-	
	or		
ENG 153	Introduction to Prose 153	-	3
LCC 254	Mediatekste 254	-	
	or		
ENG 154	Introduction to Drama 154	-	3

Students requiring language proficiency modules must register for EOT 151, 152, 153, and 154 offered by the Unit for Language Skills Development. (See Regulation B.3.) These students must obtain 12 additional credits in language modules as approved by the Head of Department of Architecture.

#### Second year of study First semester AAL 210 Earth Studies 210 AAL 110 10 KON 212 Construction 212 KON 110, 120 10 OKU 210 Design Communication 210 4 OMG 210 History of the Environment 210 6 OML 210 Environmental Studies 210 OML 110, 120 6 Design 212 ONT 212 ONT 100 18 **PWT 212** Plant Science 212 10 -Total <u>64</u> Second semester GGY 363 Environmental Geomorphology 363 -4 (Capita selecta) GKD 225 General Soil Science 225 4 KON 220 Construction 220 KON 212 GS 10 OKU 220 Design Communication 220 4 OMG 220 History of the Environment 220 6 OML 220 Environmental Studies 220 OML 210 GS 6 **ONT 222** Design 222 ONT 212 GS 18 **PWT 222** Plant Science 222 **PWT 212 GS** 10 Total 62

Third year of study									
First semes	First semester								
BER 310	Business Law 310	-	8						
GGY 283	Introduction GIS 283	-	6						
	(Capita selecta)								
KON 310	Construction 310	KON 212, 220	10						
OMG 310	History of the Environment 310	-	6						
OML 310	Environmental Studies 310	OML 210, 220	6						
ONT 312	Design 312	ONT 212, 222	16						
PWT 312	Plant Science 312	PWT 212, 222	<u>10</u>						
	Total		<u>62</u>						
Second sen	nester								
AAL 320	Earth Studies 320	AAL 210	10						
KON 322	Construction 322	KON 310 GS,							
		ONT 312 GS	15						
OMG 320	History of the Environment 320	-	6						
OML 320	Environmental Studies 320	OML 310 GS	6						
ONT 322	Design 322	ONT 312 GS							
		KON 310 GS	16						
PRS 320	Practice Management 320	-	8						
PWT 322	Plant Science 322	PWT 312 GS	<u>10</u>						
	Total		<u>71</u>						

The programme is set out below:

Year	Semester	PRS	PWT	AAL	KON	ONT	OML	OMG	OKU
	1	-		110	110		110	110	LANG
1	2	-	STU 120	-	120	100	120	120	LANG
	1	-	212	210	212	212	210	210	210
2	2	-	222	GGY 363 GKD 225	220	222	220	220	220
3	1	BER 410	312	-	310	312	310	310	GGY 283
	2	320	322	320	322	322	320	320	-

#### (d) Promotion to next year of study

A student is promoted to a subsequent year of study after acquiring all the prerequisite module credits of the preceding year of study.

A student is deemed to be in the year of study for which he or she is registered in Design.

If the student is not registered for Design the highest passed year of Design determines the year of study.

## (e) Concurrent presentation

Design 322 and Construction 322 must initially be examined in the same year.

## (f) Degree with distinction

The BSc(LArch) degree is conferred with distinction on a student who, at first registration, simultaneously passes Design 322 and Construction 322 with distinction (minimum 75%) with the proviso that the degree is completed within the minimum prescribed time and all other final year modules are passed on first registration.

## B.19 BACCALAUREUS HONORES IN LANDSCAPE ARCHITECTURE [BL(Hons)] (Code 12242004)

Refer to General Regulations G.30 to G.44.

#### **Transitional measures**

Students not having obtained full credits for the first year modules of the ML(Prof) programme (2003-2004) are required to re-register for modules as prescribed by the Head of Department.

## (a) Admission requirements

A candidate for the degree course Baccalaureus Honores in Landscape Architecture:

- must be a graduate with a BSc(LArch) degree or an equivalent university degree;
  or
- (2) must have an appropriate recognised tertiary qualification;
- Such a candidate may be required, at the discretion of the Head of Department to do a:
  - (i) language skills test;
  - (ii) a computer proficiency test;
  - or
- (3) must have a qualification deemed adequate by the Head of Department in consultation with the Dean and obtain (where necessary) the approval of the Senate, and comply with any other prescribed requirements.

Candidates mentioned in (2) and (3) above may, at the discretion of the Head of Department, be required to be evaluated in prerequisite fields of knowledge and/or register for additional modules for non-degree purposes.

Candidates mentioned in (1), (2) and (3) above,

- (i) should preferably have had practical experience and/or have done and recorded an extended study excursion;
- (ii) are interviewed for selection;
- (iii) must present a portfolio and/or design journal which demonstrates the requisite level of proficiency and competency and is a record of their experience within the discipline;
- (iv) are selected on merit.

Note: The number of candidates admitted to this programme is restricted.

#### (b) Duration

The minimum period of study is one year full-time.

## (c) Curriculum

(1) Unless the Head of Department, after consultation with the Dean, decides otherwise, for those students wishing to hereafter continue with the ML(Prof) degree, the following curriculum applies:

BL(Hons)	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Practice	CPD 712	CPD 722	CPD 732	Elective
Component	6 credits	6 credits	6 credits POU 720 2 credits	6 credits
Theory Component	RFS 712 6 credits	RFS 722 6 credits	RFS 732 6 credits	Elective 6 credits
Project Component	RFP 712 20 credits	RFP 722 20 credits	RFP 732 20 credits	Elective 20 credits

(2) For those students intending to continue hereafter with the ML (by research) degree a curriculum comprising a minimum of 50% of module credits from the above and a maximum of 50% of module credits from other Honours programmes by coursework must be devised in consultation with and approval by the Head of Department.

## (c) Admission to examinations and pass requirements

The minimum pass mark is 50%. A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass. If a module is not evaluated by examination a minimum coursework mark of 50% is required. If the module is not evaluated by coursework a minimum examination mark of 50% is required.

#### (d) Awarding of degree

The degree is awarded to those students having obtained the prescribed credits. Those students admitted with conditions must comply with all of these before all 700 series module credits and the degree are awarded.

## (e) Degree with distinction

The degree is conferred with distinction on those students registering for the first time and obtaining an average of 75% (with a minimum of 70% for any of the modules) for the prescribed modules across two quarters with the proviso that the

degree is completed within the minimum prescribed time and all other modules are passed on first registration.

## B.21 MAGISTER IN LANDSCAPE ARCHITECTURE (Professional) [ML (Prof)] (Code 12252008)

Refer to General Regulations G.30 to G.44.

The Master of Landscape Architecture (Professional) is a taught master's degree for the purpose of registration as a Candidate Professional Landscape Architect with the South African Council for the Landscape Architecture Profession in terms of Act 45 of 2000 and is done by coursework, projects and a design investigation treatise and design project and discourse.

## (a) Admission requirements

or

Candidates for the degree programme Magister in Landscape Architecture (Professional):

- must be a graduate with a BL(Hons) degree or an equivalent university degree;
  or
- must have an appropriate recognised tertiary qualification at honours degree level;
- (3) must have a qualification deemed adequate by the Head of Department in consultation with the Dean and obtain (where necessary) the approval of the Senate and comply with any other prescribed requirements.

Candidates mentioned in (2) and (3) above may, at the discretion of the Head of Department, be required to be evaluated in prerequisite fields of knowledge and/or register for additional modules for non-degree purposes;

Candidates mentioned in (1), (2) and (3):

- (i) should preferably have had practical experience and/or have done and recorded an extended study excursion;
- (ii) are interviewed for selection;
- (iii) must present a portfolio and/or design journal which demonstrates requisite level of proficiency and competency and is a record of their experience within the discipline;
- (iv) are selected on merit.

Note: The number of candidates admitted to this programme is restricted.

## (b) Duration

The minimum period of study is one year full-time.

#### (c) Curriculum

Unless the Head of Department, after consultation with the Dean, decides otherwise, the following applies:


ML(Prof)	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
Practice	CPD 810	CPD 820	CPD 830	CPD 842
Component	Contract	Project and	Professional	Professional
-	Documents	Investment	and Employee	Bodies and
	10 credits	Economics	Ethics	Matters
		10 credits	10 credits	10 credits
		(or elective)		
Theory	DIT 802			
Component	Design Investiga	ation Treatise		
-	44 credits			
Project	DPD 802			
Component	Design Project a	and Discourse		
-	44 credits			

### (d) Admission to examinations and pass requirements

The minimum pass mark is 50%. A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass. If a module is not evaluated by examination a minimum coursework mark of 50% is required. If the module is not evaluated by coursework a minimum examination mark of 50% is required.

### (e) Design topic

The topic of the final design project (DIT 802 & DPD 802) must be approved by the Head of Department.

### (f) Awarding of degree

The degree is awarded to those students having obtained the prescribed credits. Those students admitted with conditions must comply with all of these before all the 700 series module credits and the degree are awarded.

### (g) Degree with distinction

The degree is conferred with distinction on those students registering for the first time and obtaining a distinction (75%+) simultaneously for both the Design Investigation Treatise (DIT 802) and the Design Project and Discourse (DPD 802) with the proviso that the degree is completed within the minimum prescribed time and all other final year modules are passed on first registration.

B.21 MAGISTER IN LANDSCAPE ARCHITECTURE (by research) [ML (by research)] (Code 12252003)

Refer to General Regulations G.30 TO G.44.

By virtue of dissertation and examination.

#### Landscape Architecture 800: LAN 800 – Dissertation: LAN 890

Total credits : 200

#### (a) Admission requirements

Candidates wishing to research a topic within the discipline of landscape architecture and who are

- (1) in possession of a BL or equivalent degree of four years;
  - or
- in possession of an honours degree in Landscape Architecture, BL(Hons), or equivalent; or
- (3) in possession of a three-year degree with Design as major component and successfully complete supplementary modules with weighting equivalent of an honours degree as prescribed by the Head of Department; or
- (4) deemed adequate by the Head of Department in consultation with the Dean and obtaining (where necessary) the approval of the Senate and complying with whatever additional requirements may be prescribed

are admitted to studies for the degree Master in Landscape Architecture (by research).

#### (b) Duration and curriculum

After a minimum of one year of registration the student submits a dissertation for examination and has an oral examination of the dissertation in the related field of study.

### (c) Awarding of the degree

The Master of Landscape Architecture degree is conferred on a student obtaining a minimum of 50% for both the dissertation and oral examination.

### (d) Degree with distinction

The Master of Landscape Architecture degree is conferred with distinction on a student obtaining a minimum of 75% in both the dissertation and the oral examination.

### B.22 PHILIOSOPHIAE DOCTOR [PhD] (Code 12262003)

Refer to General Regulations G.15, G.52 and G.55.

### Landscape Architecture 900: LAN 900 – Thesis: LAN 990

- (a) Candidates who have obtained a master's degree in landscape architecture are admitted to doctoral studies.
- (b) Candidates having a master's degree by coursework may, at the discretion of the head of department, be required to do supplementary coursework prior to commencing studies.
- (c) A PhD student must submit a thesis, which deals with a topic from the discipline of landscape architecture and which provides proof of advanced original research and/or creative work which makes a real and substantial contribution to the field of knowledge and/or practice of landscape architecture.
- (d) A student must submit at least one draft article to a recognised journal for publication, before or concurrent with the submission of the thesis. The draft article must be based on the research undertaken for the thesis and must be acceptable to the supervisor.
- (e) The doctoral examination, either written or oral, **is compulsory**, and encompasses the content of the thesis as well as the field of study on which the thesis is based.
- (f) A student who obtains a minimum of 50% for both the thesis and examination is awarded the degree.



### DEGREES IN THE DEPARTMENT OF CONSTRUCTION ECONOMICS

### (a) Admission requirements

Refer to General Information B.1 and B.2. in this publication.

### (b) Duration

The minimum duration of study is three years full-time.

#### (c) Examinations and promotion

- (i) A student is promoted to the following study year after completing the undermentioned number of credits:
  - Quantity Surveying and
  - Construction Management
  - Second year of study: 138 credits
  - Third year of study: 276 credits
- (ii) The Dean may, on the recommendation of the Head of Department, allow a student, who qualifies for promotion to a subsequent year of study, but who has not passed all the modules of that year, to carry over these modules to the next or a later year provided no clashes occur on the timetable.
- (iii) Students who wish to take modules in advance not prescribed for a particular year of study, or who must repeat modules, may only register for modules in more than two consecutive years of study with the approval of the Head of the Department.
- (iv) A student who complies with all the requirements for the degree with the exception of one year module or two semester modules, in which a final mark of at least 40% has been obtained, may be admitted to a special examination in the module(s) concerned, at the start of the ensuing semester.
- (v) The degree is awarded if all the prescribed modules have been passed:
  - BSc(Quantity Surveying): 456 credits; BSc(Construction Management): 462 credits;
- (vi) On the recommendation of the Head of Department, the Dean may in exceptional circumstances deviate from the abovementioned stipulations, provided that no timetable clashes occur.

### (d) Degree with distinction

The degree is conferred with distinction on a student who has obtained an average of at least 75% for all the prescribed modules of the final year, or who has obtained at least 75% in two of the following modules (75% average where the module is composed of two semester modules) and subject to the average of all other modules not being less than 65%:

#### (i) BSc(Quantity Surveying)

- (aa) Quantities 300
- (bb) Construction Information Technology 300
- (cc) Quantity Surveying Practice 300
- (dd) Building Services 312 and 322 (average 75%)
- (ee) Building Science 310 and 320 (average 75%)

### (ii) BSc(Construction Management)

- (aa) Construction Quantities 300
- (bb) Construction Information Technology 300

- (cc) Construction Management 310 en 320 (average 75%)
- (dd) Building Services 312 en 322 (average 75%)
- (ee) Building Science 310 en 320 (average 75%)

### (e) Curriculum

The curricula for the BSc(Quantity Surveying) and BSc(Construction Management) degree programmes are extended over three study years in semester modules and year modules with the prerequisites and module credits as indicated.

The symbol GS after a module indicates that a combined (final) mark (semester/year mark plus examination mark) of 40% - 49% is required for admission to the module in the first column.

#### \* Language

The language proficiency of students registering for the first time at this University will be tested at the beginning of the year. Depending on these results, every student in the Department of Construction Economics must:

- obtain 12 credits in the language proficiency modules EOT 151, 152, 153, 154 offered by the Unit for Language Skills Development;
  or
- obtain 12 credits through a combination of language skills modules offered by the Unit for Language Skills Development and modules offered by the School of Languages (in consultation with the relevant Head of Department);
   or
- obtain 12 credits in modules offered by the School of Languages and/or any other modules approved by the Head of Department.

### \*\* Computer literacy

A student may obtain credits for the relevant modules by successfully completing the exemption tests at the beginning of the academic year.

### B.23 BACCALAUREUS SCIENTIAE (QUANTITY SURVEYING) [BSc(QS)] (Code 12132013)

The examinations for the BSc(Hons)degree in Quantity Surveying are approved by the Minister as prescribed examinations in terms of the stipulations of the Quantity Surveying Profession Act (Act No. 49/2000).

Quantity surveying is the science that delivers specialised financial and contractual services and advice to clients in the building and construction industry, as well as in related industries. The quantity surveyor is an independent and professional consultant who works with architects, consulting engineers, and the building contractor, in order to protect the interests of the client, while at the same time also looking after the interests of the contractor.

There are many employment opportunities in the building and construction sector, government departments, in the property sector, banks and manufacturing industry. Most of the qualified quantity surveyors, however, work in the private sector where they find employment with quantity surveying practices, or open their own practices after registration with the South African Council for the Quantity Surveying Profession.

(a)

Curriculum Total credits required: 456

Code First year of	Module f study	Prerequisites	Credits
BGG 111 BOU 131 BWT 110 GBD 112 HVH 101	ter Building Organisation 111 Building Drawings 131 Building Science 110 Building Services 112 Quantities 101	- - -	8 6 9 9 12
FRK 111 FRK 181	Financial Accounting 111 Financial Accounting 181	Par. B.2 Par. B.2 FRK 111 GS	10 3
CIL 171** CIL 172**	Computer and Information Literacy 171 Computer and Information Literacy 172	Par. B.2 Par. B.2	3 3
EOT 151* EOT 152* SLK 151 SLK 152	Language Skills 151 Language Skills 152 Psychological Perspectives 151 Cognitive Processes 152 Total	- - -	3 3 6 <u>6</u> 81
Second sen BOU 120 BWT 120 GBD 122 HVH 101 OMG 122 CIL 173** CIL 174** SLK 155 SKE 122 EOT 153* EOT 154*	nester Building Drawings 120 Building Science 120 Building Services 122 Quantities 101 History of the Environment 122 Computer and Information Literacy 173 Computer and Information Literacy 174 Environmental Psychology 155 Introduction to Structures 122 Language Skills 153 Language Skills 154 Total	BWT 110 GS BWT 110 GS GBD 112 GS - Par. B.2 Par. B.2 - -	8 9 9 12 14 3 6 12 3 <u>3</u> 82
First semes BWT 210 EKN 110 GBD 212 HVH 200	ter Building Science 210 Economics 110 Building Services 212 Quantities 200	BWT 110/120 GS Par.B.2 - HVH 101	9 10 9
STK 110 SKE 212 TRN 213	Statistics 110 Structures 212 Site Surveying 213 Total	BWT 110/120 GS Par. B.2 SKE 122 GS -	12 13 9 <u>12</u> 74

### Built Environment 2004

Second sem	ester		
BWT 220	Building Science 220	BWT 210 GS	9
EKN 120	Economics 120	EKN 110 GS	10
FRK 121	Financial Accounting 121	FRK 111 GS	11
GBD 222	Building Services 222	-	9
HVH 200	Quantities 200	HVH 101	0
11111200		BW/T 110/120 GS	12
OMG 224	History of the Environment 224	OMG 122 GS	14
STK 161	Statistics 161	STK 110 GS	13
SKE 222	Structural Stool and Timbor 222	SKE 212 CS	13
5NL 222		SKL 212 00	<u>9</u> 07
	Total		07
Third year o	fstudv		
First semest	er		
BER 310	Business Law 310	-	8
BRK 300	Quantity Surveying Practice 300	-	9
BWT 310	Building Science 310	-	9
GBD 312	Building Services 312	-	ğ
HVH 300	Quantities 300	BWT 220 GS	U U
		HVH 200	
		GBD 122 GS	15
KIT 300	Construction Information	CII 171 172	10
	Technology 300	173 174/	
	reennelegy eee	Par B 2	9
SKF 312	Reinforced Concrete Structures	SKF 212 GS	9
0.12 0.12	312	0.12 2.12 00	<u> </u>
	Total		68
			<u></u>
Second sem	ester		
BRK 300	Quantity Surveying Practice 300	-	9
BWT 320	Building Science 320	-	9
GBD 322	Building Services 322	GBD 312 GS	9
HVH 300	Quantities 300	BWT 220 GS	
		HVH 200	
		GBD 122 GS	15
KIT 300	Construction Information	CIL 171.172.	
	Technology 300	173. 174/	
		Par. B.2	9
SKF 322	Civil Engineering Services 322	-	9
	Total		<u>60</u>
			<u></u>

### B.24 BACCALAUREUS SCIENTIAE (CONSTRUCTION MANAGEMENT) [BSc(Construction Management)](Code 12132017)

The examinations of the BSc(Hons) degree in Construction Management are recognised by the Chartered Institute of Building (CIOB) as prescribed examinations for membership of that institute as well as the Minister in terms of the stipulations as described in the Project and Construction Management Professions Act (Act No 48/2000).

Construction management is the field of study meant for the person who wishes to become part of the process of infrastructure development, especially the construction of buildings. The construction manager is a professional business person who acts as manager for undertakings in the building, construction and property industry as well as related support services. Career opportunities cover a wide spectrum, and construction managers find employment as main and sub-contractors in the building and construction industry, as project managers or investment experts with financial institutions and property developers, as property experts who offer broker services and compile packages, as managers of building and property portfolios for investors, as suppliers of material and equipment to the building and construction industry, as consultants for financial services in the construction and related sectors, or as private entrepreneurs working in these fields.

### (a) Curriculum

Total credits required: 462

Code First year o First seme	Module of study ster	Prerequisites	Credits
BGG 111	Building Organisation 111	-	8
BOU 131	Building Drawings 131	-	6
BWT 110	Building Science 110	-	9
FRK 111	Financial Accounting 111	Par. B.2	10
FRK 181	Financial Accounting 181	Par. B.2	
		FRK 111 GS	3
GBD 112	Building Services 112	-	9
HVH 101	Quantities 101	-	12
CIL 171**	Computer and Information		
	Literacy 171	Par. B.2	3
CIL 172**	Computer and Information		
o	Literacy 172	Par. B.2	3
SLK 151	Psychological Perspectives 151	-	6
SLK 152	Cognitive Processes 152	-	6
EOT 151*	Language Skills 151	-	3
EOT 152"	Language Skills 152	-	<u>3</u> 01
	Total		01
Second set	nester		
BOU 120	Building Drawings 120	BWT 110 GS	8
BWT 120	Building Science 120	BWT 110 GS	9
GBD 122	Building Services 122	GBD 112 GS	9
HVH 101	Quantities 101	-	12
OMG 122	History of the Environment 122	-	14
CIL 173**	Computer and Information		
	Literacy 173	Par. B.2	3
CIL 174**	Computer and Information		
	Literacy 174	Par. B.2	3
EOT 153*	Language Skills 153	-	3
EOT 154*	Language Skills 154	-	3
SLK 155	Environmental Psychology 155	-	6
SKE 122	Introduction to Structures 122	-	<u>12</u>
	lotal		82

Second year First semest	of study er		
ABR 311 BWT 210 EKN 110 GBD 212 KSH 201	Labour Law 311 Building Science 210 Economics 110 Building Services 212 Construction Quantities 201	- BWT 110/120 GS Par.B.2 - HVH 101	6 9 10 9
STK 110 SKE 212 TRN 213	Statistics 110 Structures 212 Site Surveying 213 Total	BWT 110/120 GS Par. B.2 SKE 122 GS -	12 13 9 <u>12</u> 80
Second sem BWT 220 EKN 120 FRK 121 GBD 222 KSH 201 OMG 224 STK 161 SKE 222	ester Building Science 220 Economics 120 Financial Accounting 121 Building Services 222 Construction Quantities 201 History of the Environment 224 Statistics 161 Structural Steel and Timber 222	BWT 210 GS EKN 110 GS FRK 111 GS - HVH 101 BWT 110/120 GS OMG 122 GS STK 110 GS SKE 212 GS	9 10 11 9 12 14 13 <u>9</u>
Third year of First semest BER 310 BWT 310 GBD 312 KBS 310 KSH 300	f study er Business Law 310 Building Science 310 Building Services 312 Construction Management 310 Construction Quantities 300	- - - - KSH 201 BWT 220 GS	8 9 12
KIT 300 SKE 312	Construction Information Technology 300 Reinforced Concrete Structures 312 Total	CIL 171,172, 173, 174/ Par B.2 SKE 212 GS	9 <u>9</u> <u>68</u>
Second sem BWT 320 GBD 322 KBS 320 KSH 300	ester Building Science 320 Building Services 322 Construction Management 320 Construction Quantities 300	- GBD 312 GS KBS 310 GS KSH 201 BWT 220 GS	9 9 12 12
KIT 300 SKE 322	Construction Information Technology 300 Civil Engineering Services 322 Total	CIL 171,172, 173,174/ Par B.2 -	9 <u>9</u> 60

### HONOURS PROGRAMMES

Refer to General Regulations G.30 to G 44.

#### (a) Admission requirements

Subject to the stipulations of the General Regulations, a BSc(Quantity Surveying) or BSc(Construction Management) degree or equivalent qualification as well as practical experience which is deemed adequate by the Head of Department is required for admission. It may be required of students to pass ancillary undergraduate modules during the first year of study.

#### (b) Duration

The minimum period of study is two years.

#### (c) Supplementary examinations

No supplementary examinations are granted at postgraduate level.

#### (d) Promotion and complying with degree requirements

- (iI) A student is promoted to the second year after acquiring a minimum of 100 credits for modules completed in the first year of study.
- (ii) A degree is awarded when all prescribed modules have been passed.

### (e) Degree with distinction

The degree is conferred with distinction when a student has obtained a combined average of at least 75% for all the prescribed modules of the final year, or who has obtained at least 75% in two of the modules as indicated below (75% average where the module is composed of two semester modules) and subject to the average of all the other modules not being less than 65%.

### (i) BSc(Hons)(Quantity Surveying)

- (aa) Quantity Surveying Practice 700
  - (bb) Contruction Contract Law 730 and 740 (average 75%)
  - (cc) Management Practice 730 and 740 (average 75%)
  - (dd) Feasibility Studies 700
  - (ee) Treatise 785

### (ii) BSc(Hons)(Construction Management)

- (aa) Financial Management 701
- (bb) Construction Contract Law 730 and 740 (average 75%)
- (cc) Construction Management 730 and 740 (average 75%)
- (dd) Feasibility Studies 700
- (ee) Treatise 785

#### (f) Curriculum

The curricula for the BSc(Hons)(Quantity Surveying) and BSc(Hons) (Construction Management) degrees are extended over two study years in semester modules and year modules with the prerequisites and module credits as indicated.

The symbol GS after a module indicates a combined (final) mark (semester/year mark plus examination mark) of 40% - 49% required for admission to the module in the first column.

### B.25 BACCALAUREUS SCIENTIAE HONORES (QUANTITY SURVEYING) [BSc(Hons)(QS)] (Code 12242014)

Code First year of	Module study	Prerequisites	Credits
BKR 700 BRK 710 BTP 700	er Building Cost Estimation 700 Quantity Surveying Practice 710 Management Practice 700	- - -	10 9 10
BWT 710 EOW 710 HVH 700	Building Science 710 Property Financial Mathematics 71 Quantities 700 Total	0 - -	9 9 <u>12</u> 59
Second sem BHU 720 BKR 700 BTP 700 EOW 720 HVH 700 KKR 720	Hester Housing 720 Building Cost Estimation 700 Management Practice 700 Introduction to Property Law 720 Quantities 700 Construction Contract Law 720 Total		9 10 10 9 12 <u>10</u> 60
Second year First semest BOE 730 BRK 700 BRK 785 EOW 700	r of study er Building Economics 730 Quantity Surveying Practice 700 Treatise 785 Feasibility Studies 700	BRK 710 GS BKR 700 GS HVH 700 GS - EOW 710 GS EOW 720 GS	9 9 9 12
KKR 730 KPB 730	Construction Contract Law 730 Construction Project Management 730 Total	-	10 <u>9</u> <u>58</u>
Second sem BRK 700 BRK 785 EOW 700 KEN 740 KKR 740	Quantity Surveying Practice 700 Treatise 785 Feasibility Studies 700 Construction Entrepreneurship 740 Construction Contract Law 740 Total	HVH 700 GS - EOW 710 GS EOW 720 GS - KKR 730 GS	10 9 12 9 <u>7</u> 47
POU 720	Practical Development Feasibility 720	-	2

### B.26 BACCALAUREUS SCIENTIAE HONORES (CONSTRUCTION MANAGEMENT) [BSc(Hons)( Construction Management)] (Code 12242015)

Code First year of study	Module /	Prerequisites	Credits
First semester BWT 710 EOW 710 FMT 700 KBS 710 KSH 700	Building Science 710 Property Financial Mathematics 710 Financial Management 700 Construction Management 710 Construction Quantities 700 Total	- - - -	9 9 12 12 <u>9</u> 51
BHU 720 EOW 720 FMT 700 KBS 720 KKR 720 KSH 700	Housing 720 Introduction to Property Law 720 Financial Management 700 Construction Management 720 Construction Contract Law 720 Construction Quantities 700 Total	- - - KBS 710 GS - -	9 9 12 12 10 <u>9</u> <u>61</u>
Second year of ste First semester	udy		
BEV 700 EOW 700	Industrial Safety 700 Feasibility Studies 700	- EOW 710 GS EOW 720 GS	8
FMT 701 KBS 785 KKR 730 KPB 730	Financial Management 701 Treatise 785 Construction Contract Law 730 Construction Project Management 730 Total	FMT 700 GS - -	12 9 9 <u>10</u> <u>60</u>
Second semester BEV 700	Industrial Safety 700	-	8
EOW 700	Feasibility Studies 700	EOW 710 GS EOW 720 GS	5 12
FMT 701 KBS 785 KEN 740 KKR 740	Financial Management 701 Treatise 785 Construction Entrepreneurship 740 Construction Contract Law 740 Total	FMT 700 GS - - KKR 730 GS	12 9 10 <u>9</u> <u>60</u>
POU 720	Practical Development Feasibility 720	-	2

### MASTER'S PROGRAMMES

Subject to the stipulations of Regulations G.1.3, G.30 and G.62, a BSc(Hons) degree or equivalent qualification and practical experience which is deemed adequate by the Head of Department, is required for admission. Supplementary undergraduate modules may be prescribed during the first year of study. The degree may be obtained in one of two ways, namely by virtue of a dissertation and an examination or by virtue of a taught curriculum and a treatise. The requirements for the two options are set out below.

### (a) By virtue of a dissertation and examination

### (i) Duration and curriculum

- (aa) The degree is conferred on the basis of a dissertation and examination on the field of study of the dissertation and/or divisions of the field of study as required by the Head of \_Department.
- (bb) The minimum duration is one year during which the student works under supervision of the Head of Department.

#### (ii) Examination and pass requirements

The minimum pass mark is 50% for both the dissertation and the examination. The degree is conferred with distinction when a student obtains at least 75% in the examination and the dissertation.

### (b) By virtue of a curriculum with coursework and a treatise

### (i) Duration and curriculum

- (aa) The degree can be obtained by successfully completing a curriculum with coursework and a treatise.
- (bb) The minimum period of study is two years part-time.
- (cc) The curriculum is compiled in consultation with the Head of Department.

### (ii) Admission to the examination and pass requirements

- (aa) A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass.
- (bb) Examination requirements are set out in the departmental study manuals.
- (cc) The minimum pass mark is 50%.
- (dd) The topic of the treatise must be approved by the Head of Department and a minimum of 50% is required to pass.
- (ee) The degree is conferred with distinction on a student who obtains a weighted average of at least 75% in half of the required modules, at least 75% in the treatise, and a weighed average of at least 65% in the remaining modules.

### B.27 MAGISTER SCIENTIAE (QUANTITY SURVEYING) MSc(QS) per dissertation and examination (Code 12252010) MSc(QS) per coursework and treatise (Code 12252011) MSc Applied Science (Code 12252018)

(a) Examination: BRK 800

Dissertation: BRK 890

(b) Treatise: BRK 895

MSc( (Code MSc( (Code MSc	B.28 MAGISTER SCIENTIAE (CONSTRUCTION MANAGEMENT) MSc(Construction Management) per dissertation and examination (Code 12252012) MSc(Construction Management) per coursework and treatise (Code 12252013) MSc Applied Science (Code 12252019)				
(a) (b)	Examination: Treatise:	KBS 800 KBS 892	_	Dissertation: KBS 891	
B.29 MAGISTER SCIENTIAE (REAL ESTATE) MSc(Real Estate) per dissertation and examination (Code 12252020) MSc(Real Estate) per coursework and treatise (Code 12252015) MSc Applied Science (Code 12252017)					
(a) (b)	Examination: Treatise:	EMW 800 EMW 892	-	Dissertation: EMW 890	
(a) (b) B.30 MSc( (Code MSc( MSc	Examination: Treatise: MAGISTER SCII Project Manage e 12252021) Project Manage Applied Science	EMW 800 EMW 892 ENTIAE (PRO. ment) per diss ment) per cou a (Code 122520	– IECT MA sertation rsework D16)	Dissertation: EMW 890 NAGEMENT) and examination and treatise (Code 12252014)	

Depending on the qualifications of an applicant, the Head of the Department, after consultation with the Dean, may prescribe any or all of the following supplementary modules during the first year of study:

BTP 600 Management Practice Preparatory 600 BWT 600 Building Science Preparatory 600 GBD 600 Building Services Preparatory 600

With reference to paragraph (b) (i) (cc) above, the curricula for MSc degrees per coursework and treatise are compiled from the modules listed below. Depending on the specific degree enrolled for, the inclusion of certain modules will be compulsory and others optional. Enrolment for certain modules may also be conditional to having passed or performed satisfactorily in others.

In order to be considered for the award of the degree, a candidate should have obtained a minimum of 160 credits for modules and, in addition, have submitted and passed an applicable treatise (60 credits), i.e. a total of 220 credits.

**CET 810** Construction Equipment and Information Technology 810 (10 credits) DPS 820 Dispute Resolution 820 (10 credits) EBS 801 Property Management 801 (20 credits) Property Valuation 801 (20 credits) EDW 801 EDW 802 Property Valuation 802 (20 credits) Property Development 801 (20 credits) EOW 801 EOW 802 Property Development 802 (20 credits) Facilities Management 801 (20 credits) FAM 801 FBS 811 Financial Management 811 (10 credits)

Built Environment 2004

FBS 821	Financial Management 821 (10 credits)
KKR 801	Construction Contracts 801 (20 credits)
NMK 820	Research Methodology 820 (10 credits
PJB 801	Project Management 801 (20 credits)
PJB 802	Project Management 802 (20 credits)
PMN 820	Property Investment 820 (10 credits)
SKB 811	Construction Contract Law 811 (10 credits)
SKB 786	Personnel Management 786 (10 credits)
SKD / 00	reisonnei Management 700 (10 cieuts)

### DOCTORAL PROGRAMMES

Refer to General Regulations G.15, G.52 and G.55.

- (a) No student will be admitted to the study for a doctor's degree unless he or she holds an applicable Master's degree.
- (b) A PhD student must submit a thesis which deals with a topic from the list of subject disciplines.
- (c) The doctoral examination, either written or oral, is compulsory, and covers the content of the thesis as well as the sections of the field of study on which the thesis is based.

### B.31 PHILOSOPHIAE DOCTOR [PhD] (Code 12262014)

Quantity Surveying 900: BRK 900 - Thesis: BRK 990

### B.32 PHILOSOPHIAE DOCTOR [PhD] (Code 12262015)

Construction Management 900: KBS 900 – Thesis: KBS 990

### B.33 PHILOSOPHIAE DOCTOR [PhD] (Code 12262016)

Real Estate 900: EMW 900 - Thesis: EMW 990

### DEGREES IN THE DEPARTMENT OF TOWN AND REGIONAL PLANNING

Town and Regional Planning is primarily about the planning, design, implementation and management of public interventions in the development and use of land from site to supranational level so as to widen choice, promote equity and ensure sustainable development. The guiding motive of the profession is the generation of viable alternatives to present settlement types. At the current juncture in South Africa's history, town and regional planning is a key profession in the rectification of the spatial and other imbalances in both urban and rural areas, as well as the improvement of inefficient and under-performing living environments.

The ideal town and regional planner is a creative person who is able to put forward innovative solutions to complex problems, a mediator who is able to reconcile diverse points of view, a strategic thinker and a good manager. Given the enormous backlogs in the fields of housing and social services and the misery in which many South Africans

find themselves, planners also need a strongly developed sense of social and environmental justice and be committed to human development.

While the majority of town and regional planners act as private consultants to the public and the private sector, they are also employed by all three spheres of government, research agencies such as the CSIR and the HSRC, non-Governmental organisations, community-based organisations, major financial institutions and property development groups.

B.34	BACCALAUREUS IN TOWN AND REGIONAL PLANNING	
	[BT&RP] (Code 12132022)	

### (a) Admission requirements

Refer to General Information B.1 and B.2 in this publication.

(b) Curriculum

Total credits : 640

Code	Module	Prerequisites	Credits
First year			
First semes	ter		
CIL 171	Computer Literacy 171	-	3
CIL 172	Computer Literacy 172	-	3
EKN 110	Economics 110	-	10
EOT 151**	Language Skills 151	-	3
EOT 152**	Language Skills 152	-	3
GGY 132	Cartographic Skills 132	-	4
STK 110	Statistics 110	Par B.2	13
TPA 110	Site Analysis and Assessment 110	-	16
TRP 110	Introduction to Planning 110		12
TRP 111	Planning and Settlement Histories		
	before the Industrial Revolution 111	-	<u>12</u>
	Total		<u>79</u>
Second sen	nester		
CIL 173	Computer Literacy 173	-	3
CIL 174	Computer Literacy 174	-	3
EKN 120	Economics 120	EKN 110 GS	10
EOT 153**	Language Skills 153	-	3
EOT 154**	Language Skills 154	-	3
GGY 162	Remote Sensing 162	-	4
GGY 164	Physical Geography of		
	South Africa 164	-	8
TPA 120	Settlement Analysis and		
	Assessment 120	-	16
TPS 120	Principles of Settlement Design 120	) -	12
TRP 121	Planning and Settlement Histories		
	since the Industrial Revolution 121	-	<u>12</u>
	Total		<u>74</u>

\*\* The language proficiency of students registering for the first time at this University will be tested at the beginning of the year. Depending on these results, every student in the Department of Town and Regional Planning must:

- obtain 12 credits in the language skills modules EOT 151, 152, 153, 154 offered by the Unit for Language Skills Development; or
- obtain 12 credits through a combination of language skills modules offered by the Unit for Language Skills Development and modules offered by the School of Languages (in consultation with the relevant head of department); or
- obtain 12 credits in modules offered by the School of Languages and/or any other modules approved by the head of department.

### Second year

First seme	ster		
GGY 283	Introductory GIS 283	-	12
PAD 251	Public Administration 251	-	8
PAD 252	Public Administration 252	-	8
TPD 210	Development Planning 210	-	12
TPS 210	Settlement Design Concepts 210	TPA 110 GS	
		TPA 120 GS	40
	Land Line Management Theory 240	TPS 120 GS	16
190210	Total	-	<u>16</u> 72
Second se	mester		
GGY 264	Urban Social Morphology 264	-	12
TPA 220	Plan and Policy Analysis		
	and Assessment 220	-	12
TPD 220	Theory of Strategic and Integrated		
	Development Planning 220	TPD 210 GS	16
TPS 220	Settlement Establishment and		10
TDU 261	Housing Delivery 220	19521065	10
1F0 201	Economics 261	-	8
TPU 262	Land Use Management Practice 262	TPU 210 GS	8
RES 151	Introduction to research 151	-	6
	Total		78
Third year			
First seme	ster		_
MDS 310	Municipal Services Provision 310	-	6
TPD 310	Participatory Planning 310		12
PES 361	Spallal Concepts 310 Research methodology and	19521065	10
NEO 301	Methods 361	_	15
SVC 310	Transport Planning 310	-	6
TRP 310	Institutional and Legal Structures		-
	for Planning 310	-	20
TRP 300	Planning Futures 300	TRP 110,	
		TRP 111/121	9
	Total		<u>84</u>

	Second semester					
	GGY 362	Natural Resource Management 362	-	18		
	SOC 258	Population Studies 258	-	10		
	TPD 320	Local Economic Development 320	-	12		
	TPS 320	Metropolitan District and Local	GGY 283 GS			
	11 0 020	Spatial Planning 320	TPD 220 GS			
		opular ranning 020	TPU 262 CS			
			TPC 202 GG	20		
		Planning Futures 200	TPD 440	20		
	TRP 300	Planning Futures 300	TRP 110	~		
			TRP 111/121	9		
		lotal		<u>69</u>		
	ELECTIVE M	ODULES				
of at	least 18 credit	s from the following modules during the	second and third vea	ar of		
study	/:					
	Code	Module	Prerequisites Cre	edits		
	EKN 251	Economics 251	EKN 110/120			
			STK 110/120	8		
	FKN 252	Economics 252	FKN 110/120	-		
		20011011100 202	STK 110/120	8		
	GIS 310	Geographic Information	0111 110/120	0		
	010 010	Systems 210	CCV 202	24		
	SOC 252	Systems 510	661 205	24 45		
	500 352			10		
	EKN 220	Economics 220	EKN 251/252	16		
	GIS 320	Spatial Analysis 320	GIS 310	24		
	RES 261	Methods for critical thinking and				
		Research 261	RES 151	10		
	GGY 263	Urban Modelling 263	-	12		
	SOC 355	Rural and Urban Sociology 355	-	15		
	or any other relevant modules as approved by the Head of Department					
	<b>F</b>					
	Fourth year					
	First semes			~		
	EOW 710	Property Financial Mathematics 710	-	9		
	PRF 412	Professional Practice 412	-	8		
	SVC 410	Transport Engineering 410	-	6		
	TPE 410	Essay 410	RES 151			
			RES 361	20		
	TPI 451	Planning Interventions:	TPS 310/320 GS			
		Metropolitan Areas 451	TRP 310 GS			
			TPD 310/320 GS	16		
	TPI 452	Planning Interventions:	TPS 310/320 GS			
	111402	Lirban Areas 452	TRP 310 GS			
		olball Alcas 402	TRE 210/220 CS	16		
	TDD 400	The Future of Planning 400	TPD 310/320 G3	10		
	TRP 400	The Future of Planning 400	TRP 300 GS	10		
		lotal		85		
	Second sem	lester				
		Introduction to Property Law 720	-	٩		
	BUI 720	Housing 720		0		
	TDE 420	Eccov 420		3		
	1 F L 420	Losay 420		20		

### Built Environment 2004

TPI 453	Planning Interventions: Supranational, National and	TPS 310/320 GS TRP 310 GS	
TPI 454	Regional Scale 453 Planning Interventions: Peri-Urban and Rural	TPD 310/320 GS TPS 310/320 TRP 310 GS	16
	Areas 454	TPD 310/320 GS	16
TRP 400 Total	The Future of Planning 400	TRP 300 GS	<u>10</u> 80
POU 720	Practical Development Feasibility 720	-	2

### Transitional arrangements for 2004

Elective modules to the value of 6 credits are replaced by RES 151. Students registered for their 3<sup>rd</sup> or 4<sup>th</sup> year in 2004, still need to obtain 24 elective credits. TPE 351 is replaced with RES 361. TRP 410 is replaced with TRP 300. TRP 420 is replaced with TRP 400.

#### Implications for 2004:

Students enrolled for their fourth year of study in 2004 should ensure that they successfully complete TRP 300 and elective modules to the value of 24 credits.

Students enrolled for their third year of study in 2004 should ensure that they successfully complete RES 361 and elective modules to the value of 24 credits.

Students that were registered for EOW 700 in their final year of study before 2004, need to still successfully complete EOW 700 in order to comply to degree requirements.

### (c) Promotion and examinations

A student is promoted to the year of study mentioned below after obtaining the number of credits indicated:

- Second year of study after obtaining 107 credits.
- Third year of study after obtaining 214 credits.
- Fourth year of study after obtaining 333 credits.

### (d) Degree with distinction

The degree is conferred with distinction when a student complies with all the prescribed requirements and has passed the following modules of the fourth year simultaneously with an average of at least 75% and a weighted average of 70% in all the prescribed modules of the final year of study:

- (i) The Future of Planning 400 TRP 400
- (ii) Planning Interventions: Metropolitan Areas TPI 451
- (iii) Planning Interventions: Urban Areas TPI 452
- (iv) Planning Interventions: Supranational, National and Regional Scale TPI 453
- (v) Planning Interventions: Peri-Urban and Rural Areas TPI 454
- (vi) Essay TPE 410, 420

### B.35 MASTER OF TOWN AND REGIONAL PLANNING (MT&RP)

Refer to the General Regulations.

#### (a) Code 12252022: By virtue of an examination and a dissertation.

Subject to the stipulations of General Regulations G.30, G.37 en G.38 the BT&RP degree or an acceptable qualification, as well as practical experience deemed adequate by the head of the department are required for admission to the study for the MT&RP degree.

- (i) The Master's degree [MT&RP] is conferred by virtue of a dissertation as well as related assignments as prescribed by the head of department including an academic article for publication and an examination in the field of the dissertation and/or sections thereof as required by the head of the department/supervisor.
- (ii) Supplementary undergraduate modules for the MT&RP degree may be prescribed for students who have not obtained a BT&RP degree.
- (iii) The minimum passmark is 50% in both the dissertation and examination and the degree is conferred with distinction on a student who obtains at least 75% in both the examination and dissertation.
- (iv) The minimum duration of study is one academic year, during which a student will work under supervision of the head of department/supervisor.
- (v) The successful completion of a relevant module in research methodology is a prerequisite for approval of the study proposal.

### Examination: SSB 800 - Dissertation: SSB 890 (240 credits)

#### (b) Code 12252023: By virtue of coursework and a treatise.

Subject to the stipulations of General Regulations G.30, G.37 en G.38, a relevant four-year degree, or a relevant three-year degree plus honours degree, or a relevant three year degree plus a minimum of 5 years relevant experience, is required for admission to the MT&RP degree programme.

This Master's degree is obtained by virtue of coursework and a treatise. Supplementary undergraduate modules for the MT&RP degree may be prescribed for students who have not obtained a BT&RP degree. A minimum final mark of 50% is required and the degree is conferred with distinction on a student who obtains a weighted average of at least 75% in the examinations of all the prescribed core modules as well as the treatise.

### (c) Duration

The minimum duration of study is one year.

### (d) Curriculum

### Code Module

TPE 800 Treatise 800 (100 credits)

The Head of Department must approve the topic of the treatise. The successful completion of a relevant module in research methodology is a prerequisite for approval of the study proposal.

For students with an undergraduate qualification in Town and Regional Planning, modules to the value of at least 60 credits need to be taken from the following core modules:

For students without an undergraduate qualification in Town and Regional Planning, modules to the value of at least 120 credits need to be taken from the following core modules:

TPU 810	Land Use Management and Land Development 810 (20 credits)
TPS 810	Sustainable Settlement Planning and Design 810 (20 credits)
TPS 820	Design for Safety 820 (10 credits)
TPD 820	Integrated Development Planning 820 (20 credits)
TPI 811	Metropolitan and Urban Area-based interventions 811 (20 credits)
TPI 821	Regional Interventions 821 (20 credits)
TRP 800	An overview of planning theory and practice 800 (20 credits)

Remaining credits must be taken from the core modules above and/or the following level 7 or 8 modules in consultation with the Head of Department:

- Modules can be taken from the master's and honours degree programmes in: Civil and Transportation Engineering (School of Engineering);
- Environment and Society (School of Environmental Sciences);
- Public Management (School of Public Management);
- Rural Development (School of Agriculture and Rural Development);
- Economics (Faculty of Economic and Management Sciences);
- Modules in Research Methodology; and/or
- Other modules as approved by the Head of Department.

For the students without an equivalent module in Planning Law in a former under/postgraduate qualification in Town and Regional Planning, the following module need to be successfully completed as a prerequisite for obtaining the MT&RP degree in addition to prescribed modules:

TRP 310 - Institutional and Legal Structures for Planning 310 (20 credits)

### Transitional arrangements for 2004

TRP 310 and TRP 800 are recommended, but not compulsory, for students registered before 2004, without an undergraduate degree in Town and Regional Planning.

TPE 810 is replaced with TPE 800.

The prerequisite, requiring the successful completion of a relevant module in research methodology for the approval of a study proposal, is not applicable for students registered before 2004.

### B.36 PHILOSOPHIAE DOCTOR [PhD] (Code 12262022)

Refer to General Regulations G.15, G.52 en G.55.

- (a) A candidate is admitted to doctoral studies only if he or she holds a Master's degree. A student must have successfully completed a relevant module in research methodology in order for his/her study proposal to be approved.
- (b) A student for the PhD degree must submit a thesis as well as an academic article(s) dealing with a topic in the field of study.

(c) An oral and/or written doctoral examination is required dealing with the contents of the thesis as well as the subject matter of the discipline on which it is based.

Examination: SSB 900 - Thesis: SSB 990 (400 credits)

**Transitional arrangements for 2004** The prerequisite, requiring the successful completion of a relevant module in research methodology for the approval of a study proposal, is not applicable for students registered before 2004.

# SYLLABI FOR DEGREE PROGRAMMES IN THE SCHOOL FOR THE BUILT ENVIRONMENT

#### Note:

(i) Syllabi are arranged alphabetically by module code.

 Unless otherwise indicated, the number of lectures, practicals and studio sessions refer to the number presented per week.

### (AAL 110) Earth Studies 110 (3 lectures/week, 14 weeks, 8 credits)

Macro-environment:

Basic ecology: ecosystems, structures and constituents.

*Ecodynamics:* cycles in ecosystems, man within the ecosystem, the environment resources, field ecology.

# (AAL 210) Earth Studies 210 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Meso-environment:

*Climate*: atmospheric constituents and processes, weather systems, heat radiation and transfer, solar charts, sun movement and heat gain control.

Air: airflow patterns around structures, natural ventilation.

Water vapour. diffusivity, transfer, and condensation.

*Heat:* thermal comfort and comfort indices, thermal performance of materials and structures, time lag, decrement and periodic heat transfer.

### (AAL 223) Earth Studies 223 (2 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 8 credits)

The impact of social, economic and political systems on, and the multidisciplinary approach to design decision making for *inclusive environments* and *barrier free environments*. The application of this understanding in developing communities.

# (AAL 320) Earth Studies 320 (3 lectures + 1/2 studio session/week, 14 weeks, 10 credits)

Environmental filters and forecasting techniques:

*Sound:* the physical nature of sound, physiology of hearing, sound and noise sources, transfer, absorption and isolation, noise control; measurement, levels, frequency analysis, A-loading, room acoustics, reverberation periods.

*Light:* properties of natural light, design criteria, daylight factors, diffusion, quality, energy requirements and saving.

Mechanical systems: energy demand and efficiency, energy dissipation.

#### (ABR 311) Labour Law 311 (3 lectures/week, 14 weeks, 6 credtis) (Offered by the Department of Mercantile Law – Faculty of Law)

General principals of law of contract, with emphasis on employment contract, ie *locatio conductio operarum*; the provisions of the Labour Relations Act; the Basic Conditions of Employment Act; and the Employment Equity Act: as applied to both individual and collective labour law; labour dispute resolution.

# (AFR 159) Taal- en Teksvaardigheid (1) 159 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of Afrikaans)

Voorbereiding vir die skryfproses (met inagneming van teksdoelwitte, lesersdoelwitte, organisasiedoelwitte, oriëntering t.o.v. die teks, die leser en die inhoud); soorte boodskappe in 'n teks; die opstel van 'n raamwerk; vaste teksstrukture; die aanbring van uiterlike struktuur (inhoudsopgawes, inleidings, brugparagrawe, slot, inhoudsopskrifte); literatuurverwysings en bronnelyste; tegniese afwerking.

# (AFR 160) Taal- en Teksvaardigheid (2) 160 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of Afrikaans)

Onderskeid tussen tekstipes en tekssoorte; styl en register; belangrikste stilistiese eise waaraan tekste moet voldoen, verskillende tekssoorte, w.o. formele korrespondensie, sakebriewe; tekste rondom betrekkings en vergaderings-kommunikasie; die verslag en kommunikasie via die Internet.

### (BER 310) Business Law 310 (4 lectures/week, 14 weeks, 8 credits)

(Offered by the Department of Mercantile Law – Faculty of Law)

Introduction to law; general principals of law of contract; specific contracts: contracts of purchase and sale, employment contracts, contracts of letting and hiring of work, law of agency; general aspects of business law; dispute resolution – mediation and arbitration.

### (BEV 700) Industrial Safety 700 (2 lectures/week, 28 weeks, 8 credits)

Study and development of sensitivity for industrial safety, accident prevention and total loss control. An approved certificate in first aid has to be submitted before this module will be awarded.

#### (BGG 111) Building Organisation 111 (2 lectures/week, 14 weeks, 8 credits)

The structure of the building industry and the role of building disciplines and related parties.

### (BHU 720) Housing 720 (2 lectures/week, 14 weeks, 9 credits)

Concepts, principles, history, current trends in settlement, shelter and integrated living environments; role of housing in society; statutory policy and planning frameworks and paradigms; housing delivery options; housing development management; financing and property rights options; housing types and densities; housing product, norms and standards; management and maintenance of social housing stock; housing needs assessment and post-occupancy evaluation; consumer education and protection

### (BKR 700) Building Cost Estimation 700 (4 lectures/week, 28 weeks, 20 credits )

Estimation of building costs – principles and process; elements of a price; rough quantities and inclusive quantities (elemental and builders') for estimating; estimating methods; pricing of various trades and preliminaries; building cost escalation; life-cycle costing.

### (BOE 730) Building Economics 730 (2 lectures/week, 14 weeks, 9 credits)

Advanced estimating of building cost and specialist installations; price forecasting and cost indices; cost analysis and economical design guidelines; cost planning and cost modelling; cost reporting; simulation; limits of confidence and probability; databases; exp

(BOU 120) Building Drawings 120 (1 lecture + 1 practical/week, 14 weeks, 8 credits) Preparation of technical drawings of simple buildings including services for local authorities.

**(BOU 131) Building Drawings 131 (1 lecture + 1 practical/week, 14 weeks, 6 credits)** Geometrical construction and polygons. Orientation of lines and flat surfaces in space. True lengths and inclinations. Projections on oblique planes. Projections of solids. Sections through solids. Lines of penetration, curves, unfoldings, isometric projections; perspective drawings, shadows and contours.

(BRK 300) Quantity Surveying Practice 300 (2 lectures/week, 28 weeks, 18 credits) Payment certificates; final accounts; contract price adjustments; value-added tax; specification; communication skills.

### (BRK 700) Quantity Surveying Practice 700 (3 lectures/week, 28 weeks, 20 credits)

Model preliminaries; different types of bills of quantities; bills of quantities compilation; contract administration; project administration; conditions of appointment and fee accounts; professional indemnity; Quantity Surveying Profession Act; Council for the Built Environment Act; value management.

### (BRK 710) Quantity Surveying Practice 710 (2 lectures/week, 14 weeks, 9 credits) Engineering quantities and cost management.

### (BRK 785) Treatise 785 (28 weeks, 18 credits)

An essay on a subject approved by the Head of Department should be handed in during the final year of study.

#### (BTP 700) Management Practice 700 (4 lectures/week, 28 weeks, 20 credits)

Introduction to communication and its implementation in practice. General functions and management of office administration. Budgets, cash-flow schedules and financial statements for the quantity surveying practice. Interpretation of financial statements and general finances.

#### (BWT 110) Building Science 110 (2 lectures/week, 14 weeks, 9 credits)

Principles, methods and materials used in best practice in the construction of simple single-storey buildings.

#### (BWT 120) Building Science 120 (2 lectures/week, 14 weeks, 9 credits)

Advanced study of materials and components used in the construction of simple buildings.

### (BWT 210) Building Science 210 (2 lectures/week, 14 weeks, 9 credits)

Erection and construction of multi-storey buildings. Site management and temporary site work, building equipment; specialised foundations and cellars.

### (BWT 220) Building Science 220 (2 lectures/week, 14 weeks, 9 credits)

Material study of glass, plastics, glues, rubber, mastics, bonding agents, fibre cement, bituminous products, paint systems, epoxies and waterproofing.

### (BWT 310) Building Science 310 (2 lectures/week, 14 weeks, 9 credits)

Erection and construction of specialized building components and finishes.

#### (BWT 320) Building Science 320 (2 lectures/week, 14 weeks, 9 credits) Material study of metals; thermal comfort of buildings.

### (BWT 710) Building Science 710 (2 lectures/week, 14 weeks, 9 credits)

Critical review of current development and construction practice; alternative and sustainable resource utilisation; innovation in construction; statutory and voluntary programmes and instruments for the promotion of sustainable development; technical evaluation of innovative construction material and methods; maintenance, repair, conservation, restoration, and redesign and reuse of buildings and services.

# (CIL 120) Information Technology 120 (1 lecture + 2 practicals/week, 14 weeks, 10 credits)

Computer architecture and hardware: an overview of the different types of computers, information vs data, representation of data, computer architecture, and peripherals. System software: operating systems, compilers, utility software. Applications software: databases, spreadsheets, wordprocessing, graphics software. Information literacy: formulating search strategies, searching CD-ROMs and searching the internet. Analysis, organizing and synthesis of information.

# (CIL 171) Computer and Information Literacy 171 (2 lectures/week, 7 weeks, 3 credits)

Keyboard and mouse skills, e-mail, basic Internet and Web skills, basic theoretical introduction to hardware and software. Microsoft Windows as operational system.

# (CIL 172) Computer and Information Literacy 172 (2 lectures/week, 7 weeks, 3 credits)

Wordprocessing programmes: creation, editing and formatting of documents, outline editing, automatic numbering and footnotes, tables and columns, insertion of multimedia, data exchanges, etc. Presentation programmes: creation of presentations, together with figures, text animation and the insertion of multimedia.

### (CIL 173) Computer and Information Literacy 173 (2 lectures/week, 7 weeks, 3 credits)

Spreadsheet programmes: Basic spreadsheet skills including formulas and diagrams. Database programmes: Basic database skills including searches, compilation of reports, etc.

# (CIL 174) Computer and Information Literacy 174 (2 lectures/week, 7 weeks, 3 credits)

Search strategy formulation: the use of Boolean operators, natural language and controlled language; searches on CD-ROM and the Internet; the evaluation of Internet search engines; the analysis, organization and synthesizing of information; resources study.

#### (EKN 110) Economics 110 (3 lectures/week 14 weeks, 10 credits)

Conceptualise the context and the interrelationships of the different sectors in South African economy. The functioning of international trade and exchange rates, government economics and policy, the labour market, monetary economics and policy, economic development, environmental economics with specific reference to the South African context. The impact of national and international decisions and events on the South African economy.

### (EKN 120) Economics 120 (3 lectures/week, 14 weeks, 10 credits)

The economic environment and problem: working and course of the South African economy; functioning and interrelationships of the different economic sectors. Macro-

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economic theory and analysis. Analyse and interpret economic performance criteria: economic growth, inflation, job creation, balance of payments and exchange rate stability, income distribution. Calculate and interpret core economic indicators.

Basic micro-economic principles: demand analysis (consumer theory), supply analysis (producer theory). Market analysis: market equilibrium, price determination, market forms, market failure, calculate and interpret price, income and cross elasticities.

### (EKN 220) Economics 220 (3 lectures/week, 14 weeks, 16 credits)

International economic insight is provided into: international economic relations and history, theory of international trade, international capital movements, international trade politics, economic and customs unions and other forms of regional co-operation and integration, international monetary relations, foreign exchange markets, exchange rate issues and the balance of payments, as well as open economy macro-economic issues.

### (EKN 251) Economics 251 (3 lectures/week, 7 weeks, 8 credits)

From Wall and Bay Streets to Diagonal Street - a thorough understanding of the mechanisms and theories explaining the workings of the economy is essential. Macroeconomic insight is provided into: the real market, the money market, two market equilibrium, monetarism, growth theory, conjuncture analysis, inflation, Keynesian general equilibrium analysis and fiscal and monetary policy issues.

### (EKN 252) Economics 252 (3 lectures/week, 7 weeks, 8 credits)

Micro-economic insight is provided into: consumer and producer theory, general microeconomic equilibrium, pareto-optimality and optimality of the price mechanism, welfare economics, market forms and the production structure of South Africa.

# (ENG 151) Introduction to Poetry 151 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of English)

In this module, students are introduced to the critical study of poetry in English. After an initial outline of analytical methods and poetic techniques, students will study poems written in different periods of English literature from the Middle Ages to contemporary South Africa.

# (ENG 152) Critical Language Skills 152 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of English)

Introduction to critical reading, writing and language skills is a module intended to improve student proficiency in English. Students will learn the rules of English grammar, to extract arguments from passages of prose and to provide a synopsis of a single argument as well as a synthesis of a number of such arguments.

### (ENG 153) Introduction to Prose 153 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of English)

This module introduces the study of the novel and embraces both metropolitan and African texts. By the end of this module, students should be proficient in the skills of reading a novel perceptively and of writing critically on the novel.

# (ENG 154) Introduction to Drama 154 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of English)

This module introduces the study of drama by examining a number of plays representing different genres, periods and contexts, including both African and metropolitan texts. By the end of the module, students should be proficient in the skills of reading a play perceptively and of writing critically on drama.

### (EOT 151) Language Skills 151 (2 lectures/week, 7 weeks, 3 credits) (Offered by the Unit for Language Skills Development)

Knowledge of basic grammar and basic vocabulary is revised, using documentary texts that are thematically subject related. In terms of skills the focus is placed on the development of the receptive skills (listening and reading) on text level, while the development of the productive skills (speaking and writing) will also receive attention, but only on paragraph level.

### (EOT 152) Language Skills 152 (2 lectures/week, 7 weeks, 3 credits)) (Offered by the Unit for Language Skills Development)

Knowledge of general academic vocabulary is developed by means of general academic texts, which are thematically subject related. A foundation is laid in the knowledge of text grammar and argumentation forms. All four the linguistic skills (listening, reading, speaking and writing) are practised on text level.

### (EOT 153) Language Skills 153 (2 lectures/week, 7 weeks, 3 credits) (Offered by the Unit for Language Skills Development)

Knowledge of subject specific vocabulary is developed, using subject specific academic and scientific texts. Basic knowledge of text grammar and argumentation forms is broadened. Specific attention is given to the application of the two receptive skills (listening and reading) for academic purposes.

#### (EOT 154) Language Skills 154 (2 lectures/week, 7 weeks, 3 credits) (Offered by the Unit for Language Skills Development)

The focus is on developing and applying the four linguistic skills on text level for academic purposes. The two productive skills (speaking and writing) will receive special attention.

### (EOW 700) Feasibility Studies 700 (3 lectures/week, 28 weeks, 24 credtis)

Overview of factors affecting the feasibility of proposed developments. Detailed financial viability studies of different types of property developments.

# (EOW 710) Property Financial Mathematics 710 (2 lectures/week, 14 weeks, 9 credits)

Application of the principles of interest calculations on the building industry; introduction to financial return techniques, nett present values and internal rate of return.

### (EOW 720) Introduction to Property Law 720 (2 lectures/week, 14 weeks, 9 credits)

Moveable and immovable property. Rights over immovable property; private legal circumscription of ownership; relevant legislation pertaining to property; real securities; the registration of rights; zoning regulations.

#### (FMT 700) Financial Management 700 (4 lectures/week, 28 weeks, 24 credits)

Budget estimates, cash-flow schedules and financial statements as well as the handling of contract accounts as introduction to financial management.

### (FMT 701) Financial Management 701 (4 lectures/week, 28 weeks, 24 credits)

The application of cost-accounting, budgets and cash-flow schedules, and financial statements in general financial management.

### (FRK 111) Financial Accounting 111 (4 lectures/week, 14 weeks, 10 credits)

The nature and function of Accounting; the development of Accounting; financial position; financial result; the recording process; processing of Accounting data; elementary income statement and balance sheet; flow of documents; accounting systems; introduction to internal control and internal control measures; bank reconciliations; control accounts; adjustments; financial statements of a sole proprietorship.

#### (FRK 121) Financial Accounting 121 (4 lectures/week, 14 weeks, 11 credits)

Elements of financial statements in detail. The conceptual framework. Income statements, balance sheets, cash-flow statements; financial statements of analysis and interpretation of clubs, partnerships, close corporations. Introduction to companies.

### (FRK 181) Financial Accounting 181 (2 lectures/week, 7 weeks, 3 credits)

Computer processing of accounting information. (Offered in first and second semester.)

### (GBD 112) Building Services 112 (2 lectures/week 14 weeks, 9 credits)

Sanitary services; soil and waste drainage for simple, multi-storey and multi-purpose buildings; local sewage by-laws; construction of all types of sewage and sanitary fittings; stormwater drainage and construction; rainwater disposal.

### (GBD 122) Building Services 122 (2 lectures/week, 14 weeks, 9 credits)

Sanitary services; hot and cold-water supply to simple and multi-storey buildings; local by-laws; water reticulation to town development; different hot-water systems; water purification systems; sewage for town development.

#### (GBD 212) Building Services 212 (2 lectures/week, 14 weeks, 9 credits)

Climatic conditions, human comfort, characteristics of buildings, airconditioning, energy efficiency.

#### (GBD 222) Building Services 222 (2 lectures/week, 14 weeks, 9 credits)

Installation and operation of lifts and other mechanical services; cleaning and waste disposal systems; industrial kitchens and cold rooms; fire detection and protection.

### (GBD 312) Building Services 312 (2 lectures/week, 14 weeks, 9 credits)

Theory of electricity; regulations of electricity-supply authorities; electrical installations; distribution of electricity.

### (GBD 322) Building Services 322 (2 lectures/week, 14 weeks, 9 credits)

Principles of illumination; illumination installations; lightning security; security systems; communication systems. Multimedia installations.

#### (GGY 132) Cartographic Skills 132 (1 practical/week, 7 weeks, 4 credits)

Principles of cartography. Map reading, analysis and interpretation; introductory survey techniques.

### (GGY 162) Remote Sensing 162 (1 practical/week, 7 weeks, 4 credits)

Use, interpretation and analysis of satellite imagery, aerial photography and other remotely sensed data.

# (GGY 164) Physical Geography of South Africa 164 (4 lectures/week, 7 weeks, 8 credits)

Introduction to the physical geography of South Africa including climate and weather patterns, landscape evolution and topographical incidence. Landscaping processes within arid, semi-arid and coastal environments; fluvial systems and processes; mountain environments.

# (GGY 263) Urban Modelling 263 (4 lectures + 2 practicals/week, 14 weeks, 12 credits)

Theoretical constructs for the single and multi-nodal forms of the western city. Modelling the inter-urban settlement system, and intra-urban tertiary activity. Presentation skills; geographic communication; analysis and statistical interpretation of spatial data.

# (GGY 264) Urban Social Morphology 264 (4 lectures + 2 practicals/week, 14 weeks, 12 credits)

The structure and spatial distribution of class, income, ethnicity, age and other demographic variables in urban environments in South Africa and other parts of the world. Qualitative and quantitative analyses of social change and transformation in cities, including segregation, desegregation and gentrifying.

Other themes include: urban perception, urban living, social area analysis, and spatial strategies for social integration.

### (GGY 283) Introductory GIS 283

### (BT&RP students) (4 lectures + 2 practicals/week, 14 weeks, 12 credits) (BSc(Arch) and BSc(LArch) students) (4 lectures, 14 weeks, 6 credits) (Capita selecta)

Introduction to Geographic Information Systems (GIS), types of GIS, data input, data analysis, and output and associated technology. GIS applications and data analysis techniques in practicals comprise theoretical concepts presented in lectures. The practical application of GIS is emphasised rather than mastering software.

# (GGY 362) Natural Resource Management 362 (4 lectures + 2 practicals/week, 14 weeks, 18 credits)

The biosphere as an environmental system; environmental degradation due to mismanagement; principles and approaches to sustainable resource management; ecosystem management in South Africa; solutions to environmental degradation; terrain potential and impact assessment. Special emphasis is placed on tourism as a land-use.

### (GGY 363) Environmental Geomorphology 363 (4 lectures/week, 14 weeks, 4 credits) (*Capita selecta*)

Interactions of geomorphic processes within the physical and built environments; themes such as geomorphology and environmental change, slope processes and the environment, geomorphic risks and hazards, soil erosion and conservation, geomorphology in environmental management, weathering in urban environments, preservation of buildings, and deterioration and preservation of indigenous rock art. Practicals involve fieldwork and subsequent laboratory analysis.

# (GIS 310) Geographic Information Systems 310 (3 lectures + 1 practical/week, 14 weeks, 24 credits)

Advanced theory and practice of Geographic Information Systems; GIS applications; design and implementation of GIS applications.

(GIS 320) Spatial Analysis 320 (3 lectures + 1 practical/week, 14 weeks, 24 credits) Introduction to spatial analysis techniques classification, interpolation, extrapolation, georeferencing, topology, visualisation, networks, spatial interaction, spatial statistics and general spatial systems analysis.

# (GKD 225) General Soil Science 225 (3 lectures + 1 practical/week, 7 weeks, 4 credits)

# (Offered by the Department of Plant Production and Soil Science – Faculty of Natural and Agricultural Sciences)

Origin and development of soil, weathering and soil formation processes. Profile differentiation and morphology. Physical characteristics: texture, structure and soil water. Chemical characteristics: Clay minerals, ion exchange, pH and soil fertility. Soil classification.

Practical work: Laboratory evaluation of simple soil characteristics. Field practical work on soil formation in the Pretoria area.

### (HVH 101) Quantities 101 (4 lectures/week, 28 weeks, 24 credits)

Introduction to quantity surveying, mensuration; interpretation of drawings, methodology of measuring, working up processes, general instructions, measuring of simple building elements.

### (HVH 200) Quantities 200 (4 lectures/week, 28 weeks, 24 credits)

Measuring of single-storey buildings and simple building elements, and adjustment of foundations on sloping sites. Abstracting and billing.

### (HVH 300) Quantities 300 (6 lectures/week, 28 weeks, 30 credits)

Measuring of simple concrete structures, different concrete slab constructions, joinery, structural steelwork, sundry metalwork, plumbing and drainage, simple electrical work and external works. Theory of monetary allowances in bills of quantities. Abstracting and billing.

### (HVH 700) Quantities 700 (4 lectures/week, 28 weeks, 24 credits)

Measuring of demolitions, alterations, geotechnical engineering works, mass earthworks, advanced earthworks and concrete work, precast concrete, advanced brickwork, rubble walling, stone masonry, advanced electrical work and mechanical services. Abstracting and billing.

#### (KBS 310) Construction Management 310 (3 lectures/week, 14 weeks, 12 credits) General functions and techniques of management. Office administration. Introduction to communication.

(KBS 320) Construction Management 320 (3 lectures/week, 14 weeks, 12 credits) The use of construction equipment. Site establishment. Purchasing and handling of building materials.

(KBS 710) Construction Management 710 (3 lectures/week, 14 weeks, 12 credits) Work study, allotment and analysis of costs and programming techniques.

### (KBS 720) Construction Management 720 (3 lectures/week, 14 weeks, 12 credits)

Production management, operational management techniques and productivity. Human resource management.



#### (KBS 785) Treatise 785 (28 weeks, 18 credits)

An essay on a subject approved by the Head of Department has to be completed during the final year of study.

# (KEN 740) Construction Entrepreneurship 740 (3 lectures/week, 14 weeks, 9 credits)

Marketing and strategic management, public relations, responsibilities and rights of directors, partners, members and shareholders of companies. Business ethics.

### (KIT 300) Construction Information Technology 300 (4 lectures/week, 28 weeks, 18 credits)

Orientation in the use of electronic technologies and aids in the construction industry and the application of construction industry software.

### (KKR 720) Construction Contract Law 720 (4 lectures/week, 14 weeks, 10 credits)

Mediation and arbitration; alternative dispute resolution; legislation and uses; law of delict; negligence and damage to property; building and engineering construction contract types; tendering procedures.

### (KKR 730) Construction Contract Law 730 (4 lectures/week, 14 weeks, 10 credits)

Law of contract – an overview; history of building contracts in South Africa; principal building agreement: definitions, objective, preparation, execution, completion, payment, cancellation, settlement of disputes; minor works agreement; other agreements; case studies.

### (KKR 740) Construction Contract Law 740 (2 lectures/week, 14 weeks, 7 credits)

Subcontracting: consultants; main contractor; direct contractor and subcontractor; nominated/selected subcontract agreement: definitions, objective, preparation, execution, completion, payment, cancellation, settlement of disputes; non-nominated subcontract agreement; case studies.

# (KON 110) Construction 110 (2 lectures + 1 studio session/week, 14 weeks, 10 credits)

Drawing conventions. Surveying, map projections, distance measurement with tape, levelling instrument, practical contour plan and site sections. Site and structure data collection and interpretation. Contours, cut-and-fill. Stormwater. Typical city site: city block, shape, title, services. Introduction to materials: properties, movement, binding, thermal properties, water resistance, durability, appearance, production, economy. Concrete, clay bricks, mortar, bond. Concrete blocks, modular co-ordination. Building stone. Timber. Steel.

### (KON 120) Construction 120 (2 lectures + 1 studio session/week, 14 weeks, 10 credits)

Single-storeyed buildings: preparation for building work. Setting out, foundations, foundation walls, filling. Dampproofing. Surface beds, steps, level differences, stoeps. Super-structure walls, stability, hearths, chimneys, and gable walls. Building in of windows, doors, services. Thresholds, window sills, lintels. Timber roof structures and

finishes: profiled sheet metal, concrete tiles and thatch. Plaster and screeds. Ceilings. Windows, doors, ironmongery. Fasteners.

### (KON 211) Construction 211 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Double-storeyed buildings: reinforced concrete, steel and timber-framed structures. Offshutter concrete. Load-bearing masonry. Low-pitch roofs and waterproofing, other pitched-roof finishes. Lightweight partitioning. Glass. Joinery. Small precast elements.

### (KON 212) Construction 212 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Water courses: design and construction. Site slope analysis and contour manipulation. Stormwater: run-off calculations. Hydraulic structures.

### (KON 220) Construction 220 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Soil mechanics: foundations, basement construction and waterproofing.

Site structures: geotextiles and geomembranes, stairs, walls, retaining walls, fences, ramps, gabions, prefabricated retaining blocks. Built planters, lapas, braais, pavilions, decks.

# (KON 223) Construction 223 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Interior construction systems: suspended ceilings, dry wall construction, access floors. Fire prevention: regulations and applications. User safety: regulations and applications. Introduction to kitchen design. Principles of prefabrication.

### (KON 310) Construction 310 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Roads: design and construction, materials and finishes, kerbing. Water features: design and construction. Street furniture. Construction equipment. Site and building services: water lines, sanitary plumbing and pipe systems above ground and indoors, underground sewer systems, electricity, electrical lighting and gas.

# (KON 313) Construction 313 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Building and site services: water lines, sanitary plumbing and pipe systems above ground and indoors, underground sewer systems, electricity and gas. Electrical lighting: light, lamp types, luminaires; lighting requirements. Product design: design of a luminaire (in ONT 313): the preparation of technical documentation and a prototype.

# (KON 321) Construction 321 (1 lecture + $2\frac{1}{2}$ studio sessions/week, 14 weeks, 15 credits)

Integration of the foregoing coursework. Introduction to construction norms and standards, technical drawing practice and specifications. Cost estimates, feasibility and payability. Advanced materials: ceramics, polymers, adhesives, paint, metals, glass. Human transportation systems: types, applications. Design of a small commercial building (in ONT 321) and the preparation of its construction drawings.

# (KON 322) Construction 322 (1 lecture + $2\frac{1}{2}$ studio sessions/week, 14 weeks, 15 credits)

Integration of the foregoing coursework. Introduction to construction norms and standards, technical drawing practice and specifications. Cost estimates, feasibility and payability. Advanced materials: ceramics, polymers, adhesives, paint, metals, glass. Design of a landscape: (in ONT 322) and preparation of its construction drawings.

# (KON 323) Construction 323 (1 lecture + $2\frac{1}{2}$ studio sessions/week, 14 weeks, 15 credits)

Integration of the foregoing coursework. Introduction to construction norms and standards, technical drawing practice and specifications. Cost estimates, feasibility and payability. Advanced materials: ceramics, polymers, adhesives, paint, metals, glass. Human transportation systems: types, applications. Design of an interior in the public realm within an existing architectural envelope (in ONT 323), preparation of its construction drawings.

### (KPB 730) Construction Project Management 730 (3 lectures/week, 7 weeks, 10 credits)

Introduction to project management in the building and property industry. Key processes, knowledge areas and techniques are covered.

### (KSH 201) Construction Quantities 201 (4 lectures/week, 28 weeks, 24 credits)

Measuring of single-storey buildings and simple building elements, and adjustment of foundations on sloping sites, sundry metalwork and joinery.

### (KSH 300) Construction Quantities 300 (4 lectures/week, 28 weeks, 18 credits)

Measuring of simple concrete structures, structural steelwork, plumbing and drainage, and alterations. Quantities of materials, analysis of building costs, certificates, contract price adjustments (CPA) and final accounts.

### (KSH 700) Construction Quantities 700 (4 lectures/week, 28 weeks, 18 credits)

Preliminaries and pricing thereof, different types of bills of quantities, builder's quantities, civil engineering works, tender documentation, analysis of building costs, economical designs, building cost estimates, practical contractor's administration and cost management – internal and external.

### (LCC 153) Inleiding tot Mediageletterdheid 153 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of Afrikaans)

'n Inleidende studie van eietydse gedrukte en elektroniese media (koerante, tydskrifte, radio, TV, rolprente, internet).

### (LCC 254) Mediatekste 254 (2 lectures/week, 7 weeks, 6 credits) (Offered by the Department of Afrikaans)

n Genregerigte analise van verskillende tipes mediatekste soos dit voorkom in koerant-, tydskrif-, rolprent-, televisie- en radioverband.

### (MDS 310) Municipal Services Provision 310 (2 lectures/week, 14 weeks, 6 credits)

Municipal water and electricity supply; sewerage; stormwater handling; the processing of solid waste; the control of air and noise pollution.

# (MST 313) Material Studies 313 (3 lectures + ½ studio session/week, 14 weeks, 10 credits)

(Offered by Department of Materials Science and Matallurgical Engineering) Unconventional construction materials: properties, applications.

# (MST 323) Material Studies 323 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Application of materials in artificial environments:

- Development of modern materials and processes in product design
- Joint theory
- New applications in technical textiles, polymers and other artificial materials
- Material selection and technical development in conjunction with projects in design (ONT 323) and construction (KON 323).

### (OKU 210) Design Communication 210 (21 lectures + $\frac{1}{2}$ studio session/week 2 weeks (block week), 4 credits)

Computer-aided design (CAD) and 3-dimensional CAD.

# (OKU 220) Design Communication 220 (21 lectures + $\frac{1}{2}$ studio session/week 2 weeks (block week), 4 credits)

Photography, video techniques and presentation. Advanced graphic computer skills. The graphic image as generator. Use of examples from a wide variety of building types.

### (OKU 313) Design Communication 313 (2 lectures + 1 studio session/week,

**14 weeks, 6 credits)** Advanced graphic and presentation techniques.

### (OMG 110) History of the Environment 110 (4 lectures + $\frac{1}{2}$ studio session/week, 7 weeks, 6 credits)

Approaches and guidelines to the study of history of the environment. Under-standing of the process of endemic construction and its monumentalisation, settlement and urbanization of various ages and environments. An interdisciplinary investigation of living spaces as shapers of social interaction through archaeology and architecture: domestic buildings through the ages. The history of the environment of the Mediterranean up until the Hellenistic Bronze Age.

### (OMG 120) History of the Environment 120 (4 lectures + $\frac{1}{2}$ studio session/week, 7 weeks, 6 credits)

The history of the environment of the Mediterranean civilisations up until Emperor Justinian 565 AD.

# (OMG 122) History of the Environment 122 (2 lectures/week, 14 weeks, 6 credits) (Offered by the Department of Architecture)

Introduction to the study and application of the history of the environment. Insight in the process of endemic building, settlement and urbanisation in various periods and environments. Concise history of the environments of the Antique, Bronze Era, Classical, Christian, Judaic, and Muslim cultures of the Mediterranean and European civilizations up until the Renaissance. Bhuddism and Shintoism in the East.

#### (OMG 210) History of the Environment 210 (4 lectures/week, 7 weeks, 6 credits)

The history of the environment and the link between medieval Northern Europe, the Mediterranean region, the Arabian peninsula and the northern border areas of the Indian

ocean, China and Japan from the time of Emperor Justinian 565 AD till the fall of Constantinople in 1453 AD.

#### (OMG 220) History of the Environment 220 (4 lectures/week, 7 weeks, 6 credits)

History of the environment of the West from the circumnavigation of the southern Cape Point of Africa in 1488 AD. Housing typologies in South Africa as manifestations of socio-political realities.

# (OMG 224) History of the Environment 224 (2 lectures/week, 14 weeks, 6 credits) (Offered by the Department of Architecture)

Concise history of the environment of the West, from the circumnavigation of the southern Cape Point in 1488 AD until the present, with specific reference to contemporaneous environments in Southern Africa.

### (OMG 310) History of the Environment 310 (4 lectures/week, 7 weeks, 6 credits)

A brief history of the environment of Asia and the Americas before European colonization. History of the environment of Africa between the tropics within global context up until the present.

### (OMG 320) History of the Environment 320 (4 lectures/week, 7 weeks, 6 credits)

History of the environment of Southern Africa from the proto human – old Stone Age – until the present.

### (OML 110) Environmental Studies 110 (4 lectures/week, 7 weeks, 6 credits)

Introduction to contemporary thought with emphasis on perception and interpretation as functions of culture. Building types as artefacts of material culture. Social implications and spatial interpretations of housing design. Focus: twentieth-century artefacts. Development of a vocabulary to describe and illustrate the discipline of design. Development of an individual design framework within the ethos of the Department.

#### (OML 120) Environmental Studies 120 (4 lectures/week, 7 weeks, 6 credits)

Theme A: Design methodology, procedural design theory with the aim of developing personal strategies in the design studio. Design aids and tools for a variety of design situations including housing.

Theme B: Design principles, composition, colour, proportion and scale, developed as visual language.

Theme C: Anthropometry, ergonomy and barrier-free design.

### (OML 210) Environmental Studies 210 (4 lectures/week, 7 weeks, 6 credits)

Theme A: Normative stances as function of a theoretical frame of reference. Settlement planning at micro and macro levels. Habitation models as reflections of social hierarchies and interaction. Mono and multi functional loci, symbols and practices. Time and space as structuring elements. The contemporary theory pertaining to space and place as central principles of the environmental design disciplines.

Theme B: Analysis of various housing scenarios, alternative delivery models, design principles in housing and applications.

Theme C: Basic conservation theory in design. Conservation legislation, policy and practice.

### (OML 220) Environmental Studies 220 (4 lectures/week, 7 weeks, 6 credits)

Visual literacy: visual media – analysis, interpretation and criticism.

The designer as visual thinker – perception, ideograms, recording techniques and visual notes, ground-figure analysis.

#### (OML 310) Environmental Studies 310 (4 lectures/week, 7 weeks, 6 credits)

Theme A: A hermeneutic analysis of design theory and products of the recent past and the meta-language of its description. The viewing of culture, philosophy and science as ecosystem of the designer.

Theme B: Contemporary theory, approaches and projects in housing. Developing a personal approach.

Theme C: Advanced approaches to conservation. Case studies. Developing a personal approach.

#### (OML 320) Environmental Studies 320 (4 lectures/week, 7 weeks, 6 credits)

Ecosistemic thinking for the designer in terms of culture, science and environment.

The designer as critic – analysis of precedents, report writing about personal design within the context of the discipline.

### (ONT 100) Design 100 (5 studio sessions/week, 28 weeks, 48 credits)

Introduction to design. Design principles, skills and techniques. Integration with supporting modules. Small-scale design projects as illustration of design methodology, environmental influences (physical, social, cultural, historical), space requirements and creative interpretation.

Acquisition of skills in design communication through imagination, intuition and conceptual thinking. Basic design principles through spatial studies, composition, colour and texture. Light and shadows. Proportions and scale. Design of a residential interior based on the principles of optimum space use, ergonomics and universal design. Relation of internal to external space.

#### (ONT 211) Design 211 (5 studio sessions/week, 14 weeks, 18 credits)

The process of design through the integration of supporting modules. The design of simple public spaces and buildings other than domestic with the emphasis on planning, plan-making, structure and economy. Skills: programming, impact studies, site analysis, time management, advanced graphic techniques, reprographic techniques.

#### (ONT 212) Design 212 (5 studio sessions/week, 14 weeks, 18 credits)

Principles of ecological impact assessment. Site planning: understanding and application of site planning principles at neighbourhood scale. Exploration of art and landscape an spacial design.

#### (ONT 213) Design 213 (5 studio sessions/week, 14 weeks, 18 credits)

The process of design through the integration of supporting modules. The design of public spaces other than domestic with the emphasis on planning and plan-making. Scenographic design, product design and prototypes. Skills: programming, impact studies, architectural space analysis, advanced graphic and reprographic techniques.

### (ONT 220) Design 220 (6 studio sessions/week, 14 weeks, 18 credits)

The product of design through the integration of supporting modules. Design of doublestoreyed domestic and public structures, statutory and user requirements; planning and form-giving processes. Housing units within medium and high density urban blocks. Heirachy of private/communal and public space. Street/building interface, housing within
an urban design framework. Skills: setting and solving of design problems, model building, advanced colour presentation, report writing.

### (ONT 222) Design 222 (6 studio sessions/week, 14 weeks, 18 credits)

Assessment of complex and unusual environments and ecological systems. Site planning: exploration of multicomplexities at neighbourhood scale to include ecological, economic and social aspects. Design: exploration of complex and detailed spatial arrangements.

## (ONT 223) Design 223 (5 studio sessions/week, 14 weeks, 18 credits)

The product of design through the integration of supporting modules. Design of inclusive environments, re-use of architectural space, planning and form-giving processes, identity design, exhibition and installation design. Skills: setting and solving of design problems, model building, advanced colour presentation, report writing, preparation of measured drawings.

#### (ONT 310) Design 310 (5 studio sessions/week, 14 weeks, 16 credits)

The process of design through the integration of supporting modules. The design of spaces and buildings with the emphasis on lateral thinking, restoration and adaptive reuse. Interior and industrial design. Skills: technology-backed reprographic techniques, competitions and exhibitions decision making and time planning.

### (ONT 312) Design 312 (5 studio sessions/week, 14 weeks, 16 credits)

Understanding and investigating urban form, urban ecology and site ecology. Site planning: exploration of complexities at neighbourhood and regional scale including ecological, economic and social planning aspects. Design: framework and master planning at regional context.

## (ONT 313) Design 313 (5 studio sessions/week, 14 weeks, 16 credits)

The process of design through the integration of supporting modules. The design of spaces with the emphasis on lateral thinking and ritual, restoration and adaptive re-use; luminaires as product design and manufacturing a prototype.

*Skills:* technology-backed reprographic techniques, competitions and exhibitions, decision making and time management.

### (ONT 320) Design 320 (5 studio sessions/week, 14 weeks, 16 credits)

The product of design through the integration of supporting modules. The design of a mixed-use building project in an urban context with a complex program up to a full set of design and detail drawings for construction drawings and specifications in KON 321. Statutory requirements, feasibility and payability studies.

#### (ONT 322) Design 322 (5 studio sessions/week, 14 weeks, 16 credits)

Exploration of detail urban ecology, economic and social aspects, and historic and cultural environments. Site planning: Interdisciplinary problem solving with emphasis on site design and sustainable and appropriate technologies. Design: complex detail design and sketch plans with technical documentation.

Full co-ordination with KON 322.

### (ONT 323) Design 323 (5 studio sessions/week, 14 weeks, 16 credits)

The product of design through the integration of supporting modules. The design of a commercial project in an existing architectural envelope in an urban context with a complex program up to a full set of design and detail drawings for construction and

specification in KON 323. Corporate identity, statutory requirements, feasibility and payability studies, tenant mix.

#### (PAD 251) Public Administration 251 (3 lectures/week, 7 weeks, 8 credits) Organisational dynamics.

Organisation and management concepts. Theories and bureaucratisation. Organisational culture. Organisation and the external environment. Departmentalisation in the various governmental spheres. Delegation. Communication. Public service and infrastructure. Organisational change and development. Organisational behaviour. Organisational conflict. Political and organisational analysis. Group dynamics. Structural design of organisations. Organisation development.

#### (PAD 252) Public Administration 252 (3 lectures/week, 7 weeks, 8 credits) Public policy studies

Role players in public policy. Policy and programme formulation. Decision-making and problem-solving. Legislation and public policy. Policy making process. Public opinion. Policy implementation. Policy effectiveness and evaluation. Policy alternatives. The press and public policy. Decision-making analysis in the public sector. Policy making and governance. Quantitative tools for policy making. Policy analysis. Analytical policy studies. Tools of policy analysis.

# (POU 720) Practical Development Feasibility 720 (Seminar conducted over three days, 2 credits)

The feasibility of a project is investigated by groups comprising students of the various fields of study in the built environment. The projects are presented to a panel of judges comprising practitioners not connected to the University.

#### (PRF 412) Professional Practice 412 (2 lectures/week, 14 weeks, 8 credits)

Professional conduct and practice addressing issues such as ethics and accountability; overview of the planning profession and organisations; introduction to business management; practical discussion of topics such as marketing, client service, promotion, administration and time management.

### (PRS 320) Practice Management 320 (3 lectures/week, 14 weeks, 8 credits) (Offered by the Department of Construction Economics)

The structure of the built environment in South Africa; basic principles and techniques of value management, project management and financial management; methodology of measuring; building cost estimates; feasibility studies; economic design; contract administration; valuation of buildings.

# (PWT 212) Plant Science 212 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Introductory Botany; criteria for plant material selection; plant design philosophy; history and traditions of plant material application; basic principles and order systems underpinning two- and three- dimensional planting design; the plant material selection process, criteria for plant material selection and preparing plant material lists; the planting design process and graphics; functional planting design theory; plant classification; identification of genera and species.

# (PWT 222) Plant Science 222 (3 lectures + $^{1\!\!/_2}$ studio session/week, 14 weeks, 10 credits)

The morphology, physiology and taxonomy of gymnosperms, ferns, mosses, fungi and algae; plant geography; plant specifications; aesthetic principles of planting design; informal planting design, green architecture and permaculture; eco-physiology; practical considerations in planting design; field ecology.

# (PWT 312) Plant Science 312 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Plant community studies; implications and management of weeds and invaders, red-data lists and rare and endangered species; plant pathology; plant establishment techniques, transplanting and maintenance of plant material; sustainable planting and utility landscapes; planting within urban context including roof and indoor gardens, container planting and planting in finite soil volumes; field ecology.

# (PWT 322) Plant Science 322 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

Guild building and the underlying principles to natural plant combinations and associations; the recreation of forests, kloofs and river edges; conservation ecology, sustainable biodiversity and urban vegetation ecology; planting for reclamation and resettlement. Environmental management-procedure and ISO monitoring; vegetation and environmental impact assessment; veld management.

## (RES 151) Introduction to Research 151 (7 weeks, 6 credits)

The module introduces the student to basic research in the social sciences and humanities. Various approaches to research, problem solving-strategies, interpretation of results, critical reading and thinking skills and report writing are included. The focus is on practical application, gathering, analysing and synthesizing of research literature, and representation of scholarly efforts.

# (RES 261) Methods of Critical Thinking and Inquiry (2 lectures/week, 7 weeks, 0 credits)

### \* Requires RES 151

The module focuses on different basic methods of inquiry in the humanities. The purpose of this module is to equip students with the necessary competence to

- select and apply central procedures, operations and techniques;
- identify and solve well-defined problems using relevant methods of inquiry;
- critically analyse and synthesize information, and present the information using skills effectively; and
- present and communicate information coherently and reliably, using academic conventions and formats appropriately.

Students will also develop an awareness of ethically sound research using different approaches.

# (RES 361) Research Methodology and Methods 361 (2 lectures/week, 7 weeks, 15 credits)

The module is concerned to discuss epistemological questions regarding the meaning of knowledge and how to attain it. In so doing, it is based towards the social sciences and humanities, and will seek specifically to analyse the assumptions upon which scientific methods are based and to relate the latter's concrete investigations.

## (SKE 122) Introduction to Structures 122 (3 lectures/week, 14 weeks, 12 credits) (Offered by the Department of Civil and Biosystems Engineering)

Design; basics (forces, moments, equilibrium, reactions, stress, strain); materials; loads; pin-jointed trusses; tension members.

#### (SKE 212) Structures 212 (3 lectures/week 14 weeks, 9 credits) (Offered by the Department of Civil and Biosystems Engineering)

Beams (shear force and bending moment, bending and shear stresses, design of standard beams in steel, concrete and timber, section properties, lateral restraint); compression members; combined axial and bending; deflection; torsion.

## (SKE 222) Structural Steel and Timber 222 (3 lectures/week, 14 weeks, 9 credits) (Offered by the Department of Civil and Biosystems Engineering)

Types of steel structures and steel sections; hinged and rigid joints; bracing; portal frames; industrial buildings; multi-storey steel buildings; beams; columns; column bases; connections; trusses; purlins and sheeting rails. Timber beams and columns.

# (SKE 312) Reinforced Concrete Structures 312 (3 lectures/week, 14 weeks, 9 credits )

## (Offered by the Department of Civil and Biosystems Engineering)

Properties of reinforced concrete; construction methods; slabs; beams; columns; foundations; retaining walls; placement of reinforcement in the various structural members; basic concepts of prestressed concrete; shuttering.

#### (SKE 322) Civil Engineering Services 322 (2 lectures/week, 14 weeks, 9 credits) (Offered by the Department of Civil and Biosystems Engineering)

Water reticulation; sewerage reticulation; stormwater reticulation; roads; raft foundations; piles; problem soils (clay, collapsing soil and dolomite).

#### (SLK 151) Psychological perspectives 151 (2 lectures/week, 7 weeks, 6 credits) Compulsory introduction module

This module is a general orientation to Psychology. An introduction is given to various theoretical approaches in Psychology, and the development of Psychology as a science is discussed. Selected themes from everyday life and occupational fields are explored and integrated with psychological principles.

## (SLK 152) Cognitive processes 152 (2 lectures/week, 7 weeks, 6 credits)

### Compulsory introduction module

In this module various cognitive processes are studied, including perception, memory, thinking, intelligence and creativity. Illustrations are given of various thinking processes, such as problem-solving, critical-analytic and integrative thinking.

#### (SLK 155) Environmental Psychology 155 (2 lectures/week, 7 weeks, 6 credits)

This module deals with the reciprocal relationship between people and the natural and built environment. Environment-behaviour theories are explored and evaluated, as well as environmental stressors (e.g. noise), environmental disturbances (e.g. natural disasters and air pollution), and territoriality and personal space related to crowding and high density. The urban environment is discussed, with particular emphasis on its effects on the city dweller. Attention is given to the use of design principles to create more liveable spaces. Finally, strategies that encourage environmentally responsible behaviour are outlined.

### (SOC 258) Population Studies 258 (2 lectures/week, 1 tutor, 14 weeks, 10 credits)

Sources of demographic data. Growth of the world population. Differences in the age and gender structures in the more and less developed countries and regions of the world. Determinants of mortality. Mortality trends in the world and in South Africa. Determinants of fertility. Fertility transition from a global perspective and trends in South Africa. Determinants of migration. International and internal migration. Migration trends in South Africa. Populations projections.

### (SOC 352) Social Theory 352 (2 lectures/week, 14 weeks, 15 credits)

Recent integrative developments in sociological theory, contemporary theories of modernity, structuralism, poststructuralism and postmodern social theory, as well as metatheorizing are discussed

## (SOC 355) Rural and Urban Sociology 355 (3 lectures + 1 attendance/week, 14 weeks, 15 credits)

This module offers a sociological frame of reference for the analysis of rural and urban communities, with a specific focus on selected current issues, policies and strategies to address problem areas to manage rural and urban development.

### (STK 110) Statistics 110 (3 lectures + 1 hour practical/week, 14 weeks, 13 credits) Descriptive Statistics

Sampling and the collection of data, frequency distributions and graphical representations. Descriptive measures of location and dispersion.

Probability and inference

Introductory probability theory and theoretical distributions. Sampling distributions. Estimation theory and hypothesis testing of sampling averages and proportions (one and two sample cases). Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques.

#### (STK 120) Statistics 120 (3 lectures + 1 hour practical/week, 14 weeks, 13 credits) Multivariate Statistics

Analysis of variance, categorical data analysis, distribution-free methods, curve fitting, regression and correlation, the analysis of time series and indices.

Statistical and economical applications of quantitative techniques

Systems of linear equations: drafting, matrices, solving and application. Optimization: linear functions (two and more independent variables), non-linear functions (one and two independent variables). Marginal and total functions. Stochastic and deterministic variables in statistical and economical context: producers' surplus, consumers' surplus, distribution functions, probability distributions and probability density functions. Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques.

## (STK 161) Statistics 161 (3 lectures + 1 hour practical per week, 7 weeks, 13 credits) (Third quarter)

#### Multivariate Statistics:

Analysis of variance, categorical data analysis, distribution-free methods, curve fitting, regression and correlation, the analysis of time series and indices. Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques.

# (STU 120) Theory of Structures 120 (3 lectures + 1 studio session/week, 14 weeks, 10 credits)

### (Offered by the Department of Civil and Biosystems Engineering)

Structural engineering concepts related to analysis, design safety and serviceability. The basic concepts and applications of statics, equilibrium and free body diagrams and determinacy. The application of equilibrium equations in the analysis of basic structural systems. The fundamental structural properties of structural materials, stress andstain relationships. The sectional properties of structural members. The compilation and use of beam shear force and bending moment diagrams. Basic concepts of graphical projections. Application of projections in orthographic

# (STU 211) Theory of Structures 211 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

#### (Offered by the Department of Civil and Biosystems Engineering) Concrete Element Design

Flexure: analysis and design of tension and compression reinforcement for rectangular sections. Shear: design of shear reinforcement. Serviceability: span-effective depth ratios and minimum reinforcement. Flexure and axial loads: Analysis and design of short columns.

## (STU 221) Theory of Structures 221 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

#### (Offered by the Department of Civil and Biosystems Engineering) Concrete Structures and Pre-stressed Concrete

Structural systems. Slabs supported by beams, flat slabs and punching, waffle slabs. Columns: including slender columns. Stairs. Foundations. Post-tensioned concrete. Pre-cast concrete.

## (STU 311) Theory of Structures 311 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

### (Offered by the Department of Civil and Biosystems Engineering) Load bearing brickwork

Axial loads, effective length. Bending – tension. Reinforced bending members: brick force, lintels, trusses, portals and arches, forces in the systems, connections.

## (STU 321) Theory of Structures 321 (3 lectures + $\frac{1}{2}$ studio session/week, 14 weeks, 10 credits)

### (Offered by the Department of Civil and Biosystems Engineering) Timber Design

Axially loaded element design using trusses as the structural system. Bending members, resistance and deflection. Structural systems: trusses, portals and arches, forces in the systems, connections.

## Steel Design

Axially loaded element design using trusses as the structural system. Bending members, resistance and deflection. Structural systems: trusses, portals and arches in commercial buildings, forces in the systems, connections.

## (SVC 310) Transportation Engineering 310 (2 lectures/week, 14 weeks, 6 credits) (Offered by the School of Engineering)

Introduction to transportation engineering; institutional, social, economic and environmental aspects of transport; public transport; design of pedestrian facilities;

railway engineering; airport engineering, introduction to the transportation planning process.

#### (SVC 410) Transportation Engineering 410 (2 lectures/week, 14 weeks, 6 credits)

The traditional transport study: trip generation, trip distribution, modal distribution and trip assignment; data requirements; land-use modelling; the town and regional planner's contribution to transport planning.

#### (TKS 210) Textiles 210 (3 lectures + 1 practical/week, 14 weeks, 16 credits) (Offered by the Department of Consumer Sciences) Utility aspects

Basic components of textiles, consumer decision making, utility aspects that include durability, comfort, maintenance, health/safety/protection and aesthetic aspects. *Fibres and yarns* 

Fibre structure and performance including textile chemistry, fibre morphology and formation, fibre properties, classification and identification. Yarn structure and performance (including spun yarns, filament yarns, blended yarns, compound and novelty yarns).

# (TKS 220) Textiles 220 (3 lectures + 1 practical/week, 14 weeks, 16 credits) (Offered by the Department of Consumer Sciences)

Fabric structures

Introduction to fabric structures. Woven fabric, knits, non-woven fabrics and compound fabrics.

Finishings and dyeing processes

Introduction to the finishing of fabrics. Preparatory and final finishings. Finishes for special end-purposes: durability, comfort and protection; ease of maintenance; aesthetic appeal. Dyed and printed fabrics.

## (TPA 110) Site Analysis and Assessment 110 (2 lectures + 1x3 hours practical/week, 14 weeks, 16 credits)

Analysis and assessment of sites for planning purposes. Covers the analysis of context and natural (e.g. climate, geology), man-made (e.g. zoning, potential land value, land use and activity), and sensory elements (e.g. *genius loci*) of a site to determine the appropriate use of a site as well as the character of future development. Skills and techniques to communicate the analysis and assessment graphically.

# (TPA 120) Settlement Analysis and Assessment 120 (2 lectures + 1x3 hours practical/week, 14 weeks, 16 credits)

Analysis and assessment of settlements for planning purposes in terms of normative criteria, i.e. principles of good settlement forms and processes; aspects to be taken into consideration in settlement analysis, such as urban form, land use, transportation, socioeconomic development, housing, local government; analysis instruments such as indicators, visual analysis, density analysis and citizen satisfaction surveys.

## (TPA 220) Plan and Policy Analysis and Assessment 220 (3 lectures/week, 14 weeks, 12 credits)

Analysis and assessment of plans and policy frameworks from a planning and development perspective. Analysis and assessment of substantive and communicative content. Deconstruction of text, norms and values, planning and development approaches. The role of planners and the democratisation of planning.

#### (TPD 210) Development Planning 210 (3 lectures/week, 14 weeks, 12 credits)

Introduction to development problems, perspectives on and concepts of development. Approaches to development planning and development studies. Application of development proposals from local to national levels. International and local perspectives and case studies. Critical evaluation of development initiatives, and aspects such as culture, gender, diversity and sustainability. Role players in the development process.

# (TPD 220) Theory of Strategic Integrated Development Planning 220 (3 lectures/week, 14 weeks, 16 credits)

Theories of and processes in strategic planning, forward planning, integrated development planning; origins and intentions of these concepts. International and local perspectives and case studies. Policy framework for Integrated Development Planning in the South African context; role players in Integrated Development Planning processes, with specific reference to the role of the planner.

## (TPD 310) Participatory Planning 310 (3 lectures/week, 14 weeks, 12 credits)

Introduction to the concept, theories, aims and processes of participatory planning; participatory planning techniques and methods; democratisation of planning and the communicative nature of planning; role of the planner and other role players; evaluation, design and implementation of participatory planning processes.

(TPD 320) Local Economic Development 320 (3 lectures/week, 14 weeks, 12 credits) Local economic development strategies and instruments. Local development initiatives. The direct and indirect roles of local government, the private sector and the public in local economic development.

The role of networks, linkages, locality, marketing and technology for local areas within the global economy. Government programmes and initiatives that can influence and promote local economic development.

### (TPD 820) Integrated Development Planning 820 (3 blocks, 14 weeks, 20 credits)

Introduction to development and development planning theories; the integrated development planning process; legal, institutional and policy frameworks in which integrated planning functions in South Africa; implementation of integrated development plans; case studies of integrated development planning; simulations of integrated development planning exercises.

#### (TPE 410) Essay 410 (1 contact session/week, 14 weeks, 20 credits)

Identification and description of research problem. Literature study, research methodologies and programme. A study proposal in the prescribed format on a topic as approved by the Head of the Department.

#### (TPE 420) Essay 420 (1 contact session/week, 14 weeks, 20 credits)

Design, plan and undertake research. The collection, synthesis and interpretation of data, in terms of the study proposal in TPE 410, as well as the written and verbal communication of findings.

## (TPI 451) Planning Interventions: Metropolitan Areas 451 (2 lectures + 1x3 hours practical/week, 7 weeks, 16 credits)

Introduction to planning at metropolitan level; examples of planning interventions at metropolitan level; approaches to and examples of the delivery of housing, infrastructure and facilities; tensions in resource allocation and prioritising of development in metropolitan areas; institutional requirements and implications of planning and

management of metropolitan development; critiques and improvements on current practice; simulated planning exercise.

## (TPI 452) Planning Interventions: Urban Areas 452 (2 lectures + 1x3 hours/week, 7 weeks, 16 credits)

The drafting of urban development and design frameworks to ensure development or redevelopment of urban areas in a relevant, social and environmentally accountable way. Specific focus on rehabilitation of declining city centres, fast growing edge cities, and underdeveloped parts of urban areas. Critique on and improvements on current practice; simulated planning exercise.

## (TPI 453) Planning Interventions: Supranational, National and Provincial Scale 453 (2 lectures + 1x3 hours practical/week, 7 weeks, 16 credits)

Introduction to planning at provincial, national and supranational scale. Approaches to planning and development of regions and provinces. Past and present examples of planning on each of these scales. Planners' roles in planning exercises at these scales; institutional requirements and implications of planning at these scales. Critiques and improvements on current practice; simulated planning exercise.

# (TPI 454) Planning Interventions: Peri-Urban and Rural Areas 454 (2 lectures + 1x3 hours practical/week, 7 weeks, 16 credits)

Introduction to planning and management of small towns, rural settlements, and periurban/rural districts; examples of planning interventions in rural areas; approaches to rural development, techniques and methods for planning in rural areas. Critique on and improvements on current practice; simulated planning exercise.

## (TPI 811) Metropolitan and Urban Area-based Interventions 811 (3 blocks, 14 weeks, 20 credits)

Scope, nature and rationale of metropolitan and urban area-based interventions; unique problems in metropolitan areas, for example inner city decay, fringe development, housing, services backlog, the dysfunctional apartheid cityscape and dependency on private transport; types of intervention (inter alia institutional, spatial, economic and social) in order to accomplish restructuring and development in metropolitan areas in South Africa in a relevant, social and environmentally accountable way; policy and legislation regarding urban restructuring and development in South Africa; international and local case studies; impact of globalisation on South African metropolitan areas and major cities; simulated metropolitan and urban area-based intervention exercise.

### (TPI 821) Regional Interventions 821 (3 blocks, 14 weeks, 20 credits)

Scope, nature and rationale of regional interventions on both a supra-national and subnational scale; approaches to planning and development on continental, macro-regional, provincial and district scales; types of intervention (inter alia institutional, spatial, economic and social) in order to accomplish restructuring and development in regions in a relevant, social and environmentally accountable way, past and present examples of planning on each of these scales; planners' roles in planning exercises at these scales; critiques and improvements on current practice; rural urban linkages and their significance for regional interventions; debates around the way by which problems facing rural settlements (such as the absence of an economic base and necessary infrastructure, lack of access to land and conflicting demands on natural resources) in regions can be addressed; international and local case studies; simulated regional intervention exercise.

# (TPS 120) Principles of Settlement Design 120 (2 lectures + 1x3 hours practical/week, 14 weeks, 12 credits)

Introduction to the goals and principles of settlement design. Characteristics and measures of a good living-environment; the design elements of a good livingenvironment; settlement design within both urban and rural contexts. Aspects that will be covered include settlement structure (open space and movement systems), sense, symbolism and legibility, accessibility, diversity and opportunity, sustainability, safety, justice and equity.

## (TPS 210) Settlement Design Concepts 210 (2 lectures + 1x3 hours practical/week, 14 weeks, 16 credits)

The skills and techniques to design a layout of a new settlements, or part of an existing settlement. It includes design for the provision of housing for both high and low income groups, as well as commercial and social facilities, open space systems, transportation systems and services. Design sustainable and equitable areas. Site analysis and assessment; development of alternative concepts; the detail design including the division of erven, infrastructure network, land development control and design guidelines.

# (TPS 220) Settlement Establishment and Housing Delivery 220 (2 lectures + 1x3 hours practical/week, 14 weeks, 16 credits)

Institutional and legal frameworks in which township establishment and housing provision takes place; user and site requirements; housing typologies and densities; engineering services; role players; financing; township establishment in terms of current legislation; simulated exercise; the detail design including the division of erven, infrastructure network, land development control and design guidelines.

#### (TPS 310) Spatial Concepts 310 (2 lectures + 1x3 hours practical/week, 14 credits)

Spatial concepts regarding the development and planning of settlements. Morphological development processes such as decentralisation, counter urbanisation, residential infill and succession, urban sprawl. Spatial structuring elements, e.g. corridors, nodes, compact cities, mixed use.

# (TPS 320) Metropolitan, District and Local Area Spatial Planning 310 (2 lectures + 1x3 hours practical/week, 16 credits)

Practice of strategic and integrated spatial planning and design; design and plan an integrated development planning process; components of an integrated development plan such as vision, situational analysis, goals and objectives, strategies and projects, spatial framework, monitoring framework; role of public participation, communication and geographic information systems within spatial planning processes; simulated exercise of spatial planning on metropolitan, district and local level.

# (TPS 810) Sustainable Settlement Planning and Design 810 (3 blocks, 14 weeks, 20 credits)

Normative principles for sustainable settlement planning and design; design theory; planning and design processes; simulated urban and rural settlement planning and design exercise.

## (TPS 820) Design of Safety 820 (3 blocks, 14 weeks, 10 credits)

Normative principles for the planning and design for safety in the built environment; environmental crimonology, the role of design in the prevention of crime; design principles for safer buildings, streets and areas. Case studies and design exercise.

# (TPU 210) Land Use Management Theory 210 (3 lectures/week, 14 weeks, 16 credits)

A brief history of land use management in South Africa; critiques of land use management; rationales for land use management; the link between land use management and integrated urban development management; the characteristics of an appropriate land use management system for present-day South Africa; the current land use management system in the Gauteng province; the land use management; the future of land use management systems.

# (TPU 261) Economics of Urban Land Development 261 (3 lectures/week, 7 weeks, 8 credits)

The economics of settlements, including issues such as economic advantages; locational choices of urban land uses; density and intensity of development; the effects of densities, location and transportation economics on land values; implications of zoning; the cost of urban growth, whether by densification or sprawl.

The property market; the functioning of the property market; the key role players; how decisions are taken; urban planning, local government and the property market.

### (TPU 262) Land Use Management Practice 262 (3 lectures/week, 7 weeks, 8 credits)

Generic components of land use applications and land development related applications and application procedures; practical exercises in the lodging, processing and evaluation of land use management applications, policy-preparation in terms of land use management systems; appeals.

# (TPU 810) Land Use Management and Land Development 810 (3 blocks, 14 weeks, 20 credits)

Definition and rationale of land use management; typology of land use management systems; international and South African examples of land use management systems, including the relevant institutional and legal frameworks; preparation, submission, processing and evaluation of land use and township establishment applications in terms of present legislation; guidelines for decision making in land use and township establishment applications.

#### (TRN 213) Site Surveying 213 (2 lectures + 1 practical)

General surveying; instruments, their handling and adjusting; surveying systems and simple calculations; determining of levels; setting out of the works; tacheometry and plotting; scales, planimetry; areas and volumes; construction surveying; aerial photography.

#### (TRP 110) Introduction to Planning 110 (3 lectures/week, 14 weeks, 12 credits)

Definitions of planning; rationales for planning; focus areas of planning; planning processes; planners' roles and work places; the institutional framework for planning; planning legislation; values and ethics of planners; the future of planning.

# (TRP 111) Planning and Settlement Histories before the Industrial Revolution 111 (3 lectures/week, 14 weeks, 12 credits)

An in-depth analysis of city building and urban and regional planning in pre-modern times. The influence on settlement design and planning within the social, political and economic context of the Pre-historic; Classic (Roman and Greek); Feudal and Mercantile eras. Aspects such as visions of ideal cities, settlement patterns, the treatment of public space, the development of the edge of the settlement, functional zones and segregation

are covered. Attention is given to the function, role, character, practice and beneficiaries of planning and the role of planners.

## (TRP 121) Planning and Settlement Histories since the Industrial Revolution 121 (3 lectures/week, 14 weeks, 12 credits)

An in-depth analysis of city building and urban and regional planning in modern and postmodern times with special emphasis on the South African example. The influence on settlement design and planning within the social, political and economic context of Industrial and Post-industrial eras. Aspects such as visions of ideal cities, settlement patterns, the treatment of public space, the development of the edge of the settlement, functional zones and segregation are covered. Attention is given to the function, role, character, practice and beneficiaries of planning and the role of planners.

## (TRP 300) Planning Futures 300 (2 lectures/week, 14 weeks, 18 credits)

The future as a concept: the importance of thinking about, and planning for the future. The multiplicity of futures and the relation between the past, the present and the future. The practice of exploring and thinking about the future: past and present perspectives on the future. Techniques/methods of predicting and/or shaping the future: application of these techniques/methods.

## (TRP 310) Institutional and Legal Structures for Planning 310 (3 lectures/week, 14 weeks, 20 credits)

Overview of South African institutional and legal structures for planning and development, on national and provincial scale. Relevant legislation and policies that influence planning. Specific reference to the legal frameworks guiding land development, the environment, municipal management and development, housing, transport, water, and Human Rights.

### (TRP 400) The Future of Planning 400 (2 lectures/week, 14 weeks, 20 credits)

Planning in the future: definitions, rationales, focus areas, processes and systems. Future planners' roles and work places, values and ethics.

# (TRP 800) An overview of planning theory and practice 800 (3 blocks, 14 weeks, 20 credits)

Definitions of planning; rationales for planning; focus areas of planning; planning processes; planners' roles and work places; the institutional framework for planning; the role, impact and evolution of planning legislation; values and ethics of planners; the future of planning. The future as a concept: the importance of thinking about, and planning for the future. Techniques/methods of predicting and/or shaping in the future. Overview of past and present planning theories.



Name	Donor	Award
Department of Archited	ture	
Archneer Prize	Archneer CC	Best final mark in any Environmental Studies module
Protea Prize	Protea Bookshop	Best final mark in any History of the Environment module
Cowin, Glennie and Jury Prize	Cowin, Glennie and Jury Architects	Best documentation of a project submitted for the MArch(Prof)
David Haddon Prize	The Institute of South African Architects	Student in the School for the Built Environment with the highest average in the pract- ice modules of the profession- al postgraduate programmes in the Dept of Architecture 800 series modules; in the Department of Construction Economics 700 series modules in Contract Law
Sheila Kirtley McIntosh Prize	The late William Gordon McIntosh	Student in the architecture programme with the highest average in all the prescribed modules for a particular year of the undergraduate programme
Holm Jordaan Group Prize	Holm Jordaan Group	The highest distinction aver- age in 3 <sup>rd</sup> year Environmental Studies and History of the Environment in the undergraduate programmes
Foundation Prize	Tshwane Building and Heritage Society	Most environmentally conscious design in the undergraduate and post- graduate programmes
Environomics Prize	Environomics	Most ecologically responsible work in all programmes
Concrete Society Prize	Concrete Society	Best use of concrete in design in the undergraduate and post-graduate programmes
Steel Institute Prize	Steel Institute	Best use of steel in design in the undergraduate and post- graduate programmes
Grinaker Pre-Cast Prize	Grinaker	Best final-year technical student in BSc(LArch)
Johan Barnard Book Prize	Johan Barnard	Best student in a Planting Design module in BSc(LArch) programme

## MEDALS AND PRIZES IN THE SCHOOL FOR THE BUILT ENVIRONMENT

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Name	Donor	Award
DLV Structures Prize	DLV	The highest distinction average in all the Structures modules presented in the undergraduate programme in architecture
Robert Gustav Schmikl Prize	Family Schmikl	Best progress with post- graduate studies by research
Neill Powell Neill Post- graduate Bursary	Neill Powell Neill	Best completed postgraduate study by research
KWP Prize	KWP Architects and Landscape Architects	Best overall academic student in first year (best average in all required modules)
Louis Mook Design Bursary	Family Mook and Department of Architecture	Best progress towards a distinction in Design at first- year level
Uys and White Prize	Uys and White Landscape Architects	Best academic student in second year BSc(LArch). (best average in all required modules)
Cave Klapwijk Prize	Cave Klapwijk Landscape Architects	Best academic student in third year BSc(LArch) (best average in all required modules)
Most Innovative Student Prize	Gwen Breedlove	Most innovative student in any Landscape Architecture degree programme
Inspace Prototype Prize	Inscape	Most successful product design prototype in any programme
ILASA Book Prize	Institute of Landscape Architects in South Africa	Best Design student in 2 <sup>nd</sup> and 3 <sup>rd</sup> year BSc(LArch), BL(Hons) and ML(Prof)
PIA Prize	Pretoria Institute for Architecture	Best Design students in 2 <sup>nd</sup> and 3 <sup>rd</sup> year BSc(Arch), BArch(Hons) and MArch(Prof)
Twllce International Prize	Twllce International	For student with best final Design Project in the BSc(Int) programme
Corobrick Award	Corobrick	For student with best final Design Project in MArch(Prof)
SAIA Prize	South African Institute of Architecture	Student in the professional programme of postgraduate studies in Architecture with the highest average in all the 700 and 800 modules
Johanna Muller Trophy	Johanna Muller	Student in the professional programme of postgraduate studies in Interior Architecture with the highest average in all the 700 and 800 modules

Name	Donor	Award
Erica van den Bergh Prize	Erica van den Bergh	Student in the professional programme of postgraduate studies in Landscape Architecture with the highest average in all the 700 and 800 modules
Department of Constru	ction Economics	
Gold Medal of the Association	The Association of South African Quantity Surveyors	Best final-year student in Quantity Surveying in the Republic of South Africa
DEM Rouse Prize	Davis Langdon Farrow Laing Quantity Surveyors	Student in Quantity Surveying at any university in South Africa who achieved exceptionally in Construction Contract Law
Bell John Prize	The Association of South African Quantity Surveyors	Quantity Surveying student with the best academic achievement in any year of study
David Haddon Prize	The South African Institute of Architects	Student in the School for the Built Environment with the highest average in the practice modules of the professional post-graduate programmes in the Department of Architecture 800 series modules; in the Department of Construction Economies, 700 series Contract Law
D J Laing Memorial Prize	The Association of South African Quantity Surveyors	Student in Quantity Surveying at any university in South Africa who achieved exceptionally and participated in student activities in the first year of study
Royal Institution of Chartered Surveyors Prize	Royal Institution of Chartered Surveyors	Outstanding student in any year of study in Quantity Surveying
Royal Institution of Chartered Surveyors Prize	Royal Institution of Chartered Surveyors	Outstanding student in any year of study in Construction Management
Presidents Medal of Gauteng Master Builders Association	Gauteng Master Builders Association	Final-year student in Construction Management with the best average mark in all subjects
Chartered Institute of Building Prize	Chartered Institute of Building	Best final-year student in Construction Management in South Africa who achieves the degree with distinction

Name	Donor	Award			
Other available prizes are determined annually departmentally. Enquiries about this can be directed to the department					
Department of Town ar	Department of Town and Regional Planning				
Prize of the S A Planning Institution	S A Planning Institution	Best final-year student in Town and Regional Planning			
PLAN Prize	PLAN	Final-year student with the best essay (TPE) 420 for the BT&RP degree			
Not limited to the Faculty of Engineering, Built Environment and Information Technology					
S <sub>2</sub> A <sub>3</sub> Bronz Medal	The South African Society for the Promotion of Science	The medal is awarded to a student who has completed an exceptionally meritous master's study in a field traditionally linked to the activity of the S A Society for the Promotion of Science $S_2 A_3$			
Medal of the Vice Chancellor and Principal	University of Pretoria	The award consists of a silver medal as well as a cash prize and is awarded to candidates for outstanding academic achievement during the undergraduate years of study for any first bachelor's degree in a faculty.			