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
- Mechanical and Aeronautical Engineering
- Materials Science and Metallurgical Engineering
- Mining Engineering
- Civil Engineering

GRADUATE SCHOOL OF TECHNOLOGY MANAGEMENT
- Engineering and Technology Management

SECTION II
(this publication)

SCHOOL FOR THE BUILT ENVIRONMENT
- Architecture
- Construction Economics
- Town and Regional Planning

SECTION III
(separate publication)

SCHOOL OF INFORMATION TECHNOLOGY
- Informatics
- Information Science
- 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 2014

DEAN

Prof B.T.J., Maharaj, PrEng MSc Eng(Natal) MSc(Operat. Telecomm)(Coventry) PhD(Pretoria) SMSAIEE MIEEE MIET FSAAE

CHAIRMAN

Prof. M.J. Maritz, MSc(QS) PhD(Pretoria) Cert Arb PrQS PMAQS AAArb FAIB

Department of Architecture

Fisher, R.C., MArch PhD(Pretoria) PrArch ..... Extraordinary Professor (Acting Head)
Jekot, B.P., MArch(Silesia) PhD(Wroclaw) PrArch ..... Associate Professor
Vosloo, P.T., BSc(Boukunde) BArch ML PhD(Pretoria) Pr Larch PrArch PrCPM..... Associate Professor
Le Roux, S.W., MArch PhD(Pretoria) PrArch ..... Extraordinary Professor
Barker, A.A.J., BAS BArch(Cape Town) MSc(Bartlett) PhD(Pretoria) PrArch..... Senior Lecturer
De Bruyn, T.F., MArch PrArch..... Senior Lecturer
Young, G.A., BLArch(Toronto) PrLArch..... Senior Lecturer
Botes, N., BArch MInt(Pretoria) PrArch ..... Lecturer
Breed, C.A., BLArch(Pretoria) MDes(Mex) PrLArch ..... Lecturer
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Kurusseit, C., BHome Econ(Int) MInt(Pretoria)..... Lecturer
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Mathole, B.N., BAS(Cape Town) MArch(Prof)(Pretoria) PrArch . Lecturer
Nkambule, M.E.N., MArch(Pretoria)..... Lecturer
Pieterse, J.F., BSc(LArch) ML(Prof)(Pretoria) Pr Larch ..... Lecturer
Prinsloo, J.N., BSc(LArch) BL(Hons) ML(Prof)(Pretoria) ..... Lecturer
Swart, J., MArch(Prof) MSc(Applied Science)(Pretoria)..... Lecturer
Van der Wath, E., BSc(Int) BInt(Hons) MInt(Prof)(Pretoria)..... Lecturer
Van Rensburg, R.J., BArch MArch(Pretoria) ..... Lecturer
Venter, M.J., BAS(Free State) BArch(Pretoria) ..... Lecturer
Van Rooyen, N., MArch(Prof)(Pretoria)..... Lecturer
White, G., BArch(Free State) MCPUD(Cape Town) ..... Lecturer
Wright, L.G., BCom BArch(Hons) MArch(Prof)(Pretoria) ..... Lecturer
Pienaar, L., MTech(Design)(TUT) PrArch ..... Control Instructor
Gibberd, J., PhD(Pretoria)..... Extraordinary lecturer

Department of Construction Economics

Maritz, M.J., MSc(QS) PhD(Pretoria) Cert Arb PrQS PMAQS AAArb FAIB ..... Associate Professor (Head)
Cloete, C.E., MSc DSc BA(Hons)(Pretoria) BTh MBL(Unisa) FRICS ..... Professor
Du Plessis, C., BArch MArch(Pretoria) PhD(Salford) DTech(Chalmers) ..... Associate Professor
Boshoff, D.G.B., BSc(Construction Management) MSc(Real Estate)(Pretoria) PBL(Unisa SBL) PMP(PMI USA) SACPVP PhD(Pretoria) ..... Senior Lecturer
Cruywagen, J.H.H., MSc(QS)(Pretoria) PrQS PMAQS MRICS .. Senior Lecturer
Hoffman, D.J., MSc(QS) MBA(Pretoria) PrQS PMAQS MRICS.. Senior Lecturer
Le Roux, F., MSc(Construction Management)(Pretoria) BCom STR(Free State) BCompt(Hons) HED(Unisa) ..... Senior Lecturer
Prinsloo, H.F., MSc(Real Estate)(Pretoria) PrCPM..... Senior Lecturer
Pieterse, E.I., MSc(QS) (Pretoria) PrQS PMAQS MRICS..... Senior Lecturer
Booyens, D.E., BSc(Construction Management) MSc(Project Management(Pretoria)..... Lecturer
Burger, M., MProp Real Estate(Free State) PMP (PMI) PhD(Free State) ..... Lecturer
Jansen, J.J.A., BSc(Construction Management) BCom(Pretoria) MSc(Project Management)(Pretoria) MIOB ..... Lecturer
Van Eck, E., BSc(Quantity Surveying) BSc(Hons)(Quantity Surveying)(Free State) ..... Lecturer
Van Heerden, A.H.G., BSc(Construction Management) (Pretoria) BSc (Hons)(Technology Mananagement) (Pretoria) MSc(Technology Mananagement)(Pretoria) ..... Lecturer
Wilkens, V., BA LLB Attorney, Notary and Conveyancer of the High Court ..... Lecturer

Department of Town and Regional Planning

Oranje, M.C., BT&RP MT&RP PhD(Pretoria)..... Professor (Head)
Landman, K., BArch(Free State) MCPUD(Cape Town) PhD(Newcastle) ..... Associate Professor
Coetzee, P.J van V, BA(Geography)(Stellenbosch) MT&RP PhD(Pretoria) ..... Senior Lecturer
Du Toit, J.L., BT&RP(Pretoria) MPhil DPhil(Stellenbosch) ..... Senior Lecturer

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
A restricted number of students are admitted to all undergraduate programmes.

(b) Postgraduate programmes
A restricted number of students are admitted to the following taught programmes: BArchHons, BIntHons, BLArchHons, BScHons (Applied Science), BScHons Quantity Surveying, BScHons Construction Management, MArch(Prof), MInt(Prof), ML(Prof), MSc (Applied Science), MSc Quantity Surveying, MSc Construction Management, MSc Real Estate and Master of Town and Regional Planning. Applications close on 31 October for South African students.
Admission to the MSc and PhD programmes by research is subject to approval by the Head of Department and the Dean.

(c) International students
Applications close on 31 August for international students.
International students wanting to be considered for selection must have their qualifications audited and verified by the South African Qualifications Authority (SAQA). Those candidates wanting to register for professional postgraduate degree programmes for purposes of professional registration must further have their qualifications verified by the relevant registering council as to the equivalence of the registration category. All costs are for the direct account of the applicant. All documentation must accompany the application and be submitted before the closing date.
Please Note: Contact details for the various bodies are to be found on the relevant departmental web page.

Number restrictions
If limited human resources and/or facilities are available, number restrictions will be applied.

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.

National Senior Certificate
All undergraduate candidates who enrol at the University of Pretoria for the first time must show their original National Senior Certificate at the student administration of their faculty before the end of the first semester.

Language of tuition
In conducting its general business, the University uses two official languages, namely Afrikaans and English.

In formal education the language of tuition is either English or Afrikaans, 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 module and any further level of that module 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 English or Afrikaans. Where the University has the capacity, Sepedi is used as an additional language of communication.

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 March 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, registration and start of the academic year
Details of the welcoming day to which all parents are cordially invited, and the subsequent programme for registration and start of the academic year during which all new first-year students **must** be present, are obtainable from the office of the Director: Student Affairs.

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 reserves the right to amend the regulations and to change tuition fees without prior notification.
Please note: The fees advertised and thus levied in respect of a module or study programme presentation represents a combination of the costs associated with the formal services rendered (for example lectures, practical, access to laboratories, consumables used in laboratories, etc) as well as associated indirect overheads such as the provision of library and recreation facilities, security and cleaning services, electricity and water supply, etc. Therefore the fees in respect of a module or study programme presentation cannot simply be reconciled with the visible services that are rendered in respect of such module or programme.

Leave of absence
If it is impossible for a registered student at the University of Pretoria to continue with his/her studies/research in a specific year, but he/she intends to continue in the following year, the student must apply in writing to the Dean of the relevant faculty for **leave of absence**. The application must include: full names, student number, address, reasons and period for leave of absence, for example the whole year, first semester (January to June) or second semester (July to December), name of supervisor (where applicable), and the student's intentions for the period after his/her leave of absence. However, in accordance with the policy of the University of Pretoria, leave of absence is not granted for more than two years. Any outstanding fees should be paid in full upon the student's return from his/her leave of absence.

Degree with distinction
Weighted averages (GPA), together with other faculty-specific criteria if applicable, are used at UP to calculate averages for the determination of distinctions.

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.
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.
Grade point average based on module credits: an average mark that is calculated by multiplying the final mark achieved in a module with the credit value of that module and then dividing the sum of these values by the total of the credit values of all the modules for which a student was enrolled. The result of these calculations is a weighted average based on module credits.
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 practical (contact hours), as well as for self-tuition, examination preparation and any other activity required by the study programme. **(notional hours = credits** (for a module) **x 10)**
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 practical be adapted so that active participation by students is always achieved.
syllabus: Summary of the contents of a module.

DEGREES CONFERRED IN THE SCHOOL FOR THE BUILT ENVIRONMENT

The rules for the degrees published in this Yearbook are subject to change and may be amended prior to the commencement of the academic year in 2015.

The General Regulations (G Regulations) apply to all faculties of the University of Pretoria. It is expected of each student to familiarise himself or herself well with these regulations. Ignorance concerning these regulations will not be accepted as an excuse for any transgression.

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

DEPARTMENT OF ARCHITECTURE

(i) Bachelor of Science Architecture – [BScArch] (3 years)
(ii) Bachelor of Science Interior Architecture – [BScInt] (3 years)
(iii) Bachelor of Science Landscape Architecture – [BScLarch] (3 years)
(iv) Bachelor of Architecture Honours – [BArchHons] (1 year)
(v) Bachelor of Interior Architecture Honours – [BIntHons] (1 year)
(vi) Bachelor of Landscape Architecture Honours – [BLHons] (1 year)
(vii) Bachelor of Science Honours in Applied Science – [BScHons(Applied Science)] (1 year)
(viii) Master of Architecture (Professional) – [MArch(Prof)] 1 year)
(ix) Master of Architecture – [MArch Research] (1 year)
(x) Master of Interior Architecture (Professional) – [MInt(Prof)] (1 year)
(xi) Master of Interior Architecture – [MInt Research] (1 year)
(xii) Master of Landscape Architecture (Professional) – [ML(Prof)] (1 year)
(xiii) Master of Landscape Architecture – [ML Research] (1 year)
(xiv) Masters of Science in Applied Science – [MSc(Applied Science)] (1year)
(xv) Doctor of Philosophy in Architecture, Interior Architecture or Landscape Architecture – [PhD] (1 year)

DEPARTMENT OF CONSTRUCTION ECONOMICS

(i) Bachelor of Science Quantity Surveying – [BScQS] (3 years)
(ii) Bachelor of Science Construction Management – [BSc Construction Management] (3 years)

(iii) Bachelor of Science Real Estate) – [BSc Real Estate] (3 years)
(iv) Bachelor of Science Honours Quantity Surveying – [BScHonsQS] (1 year)
(v) Bachelor of Science Honours Construction Management – [BScHons Construction Management] (1 year)
(vi) Bachelor of Science Honours Real Estate – [BScHons Real Estate] (1 year)
(vii) Master of Science Quantity Surveying – [MSc(QS)] Research (1 year)
(viii) Master of Science Construction Management – [MSc Construction Management] Research (1 year)
(ix) Master of Science Real Estate – [MSc Real Estate] Research (1 year); Coursework (2 years)
(x) Doctor of Philosophy in Quantity Surveying, Construction Management or Real Estate – [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] Research (2 years); Coursework (2 years)
(iii) Doctor of Philosophy in Town and Regional Planning – [PhD] (2 years)

REGULATIONS FOR BACHELOR'S DEGREES

Please read all faculty regulations in conjunction with the G Regulations.

B.1 Admission to degree study

The G Regulations G.1 to G.15 are applicable to all bachelor's degrees. Where the G Regulations 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 having a valid National Senior Certificate with admission for degree purposes, 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. Admission to the School for the Built Environment is based on the final matriculation examination results.

(b) The following persons may also be considered for admission:
   (i) 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.

   Abovementioned candidates are requested to contact the student administration at the faculty for more information regarding admission requirements.

   Please 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 student administration concerned in this regard.

(c) 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 G Regulations G.1.3 and G.54, 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 Admission requirements for the Faculty of Engineering, Built Environment and Information Technology for candidates with a National Senior Certificate

To be able to gain access to the faculty and specific programmes, prospective students must meet the requirements of the appropriate combinations of recognised NSC subjects as well as certain levels of achievement in the said subjects. In this regard the determination of an admission point score (APS) is explained and a summary of the faculty specific requirements, i.e. APS per programme and the specific subjects required per programme is provided.

Determination of an Admission Point Score (APS, previous M-Score)

The calculation is simple and based on a candidate's achievement in six 20-credit recognised subjects by using the NSC ratings, which is the "1 to 7 scale of achievement". Thus, the highest APS that can be achieved is 42.

Life orientation is excluded from the calculation determining the APS required for admission.

Rating code	Rating	Marks %
7	Outstanding achievement	80-100%
6	Meritorious achievement	70-79%
5	Substantial achievement	60-69%
4	Adequate achievement	50-59%
3	Moderate achievement	40-49%
2	Elementary achievement	30-39%
1	Not achieved	0-29%

Preliminary admission is based on the results obtained in the final Grade 11 examination. Final admission is based on Grade 12 results. Please note: The final Grade 12 results will be the determining factor with regard to admission.

B.2.1 Specific admission requirements for the School for the Built Environment

a) A valid National Senior Certificate with admission for degree purposes.
b) The following minimum subject and level requirements for 2015:

Minimum requirements					
Degree	**APS**	**Group A**		**Group B**	
		Two languages	**Mathematics**	**Physical Science**	**2 other subjects**
BSc Architecture 12132002 (*Applications considered only if this field of study is indicated as first choice)* (A limited number of students are selected. An interview takes place.)	27	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	4 (50-59%)	4 (50-59%)	Any two subjects
BSc Interior Architecture 12132008 *(Applications considered only if this field of study is indicated as first choice)* (A limited number of students are selected. An interview takes place.)	27	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	4 (50-59%)	4 (50-59%)	Any two subjects
BSc Landscape Architecture 12132004 (A limited number of students are selected. An interview takes place.)	27	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	4 (50-59%)	4 (50-59%) OR in any one of the following subjects: Life Sciences or Geography	Any two subjects

Minimum requirements					
Degree	**APS**	**Group A**		**Group B**	
		Two languages	**Mathematics**	**Physical science OR Accounting**	**2 other subjects**
BSc Quantity Surveying 12132013	30	Comply with NSC minimum requirements;	5 (60-69%)	4 (50-59%)	Any two subjects

(A limited number of students are selected.)		ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).			
BSc Construction Management 12132017 (A limited number of students are selected.)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	5 (60-69%)	4 (50-59%)	Any two subjects
BSc Real Estate 12132016 (A limited number of students are selected.)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 5 (60-69%).	5 (60-69%)	4 (50-59%)	Any two subjects

Minimum requirements					
Degree	**APS**	**Group A**		**Group B**	
		Two languages	**Mathematics**	**Physical science OR Accounting**	**2 other subjects**
Bachelor of Town and Regional Planning 12132022 (A limited number of students are selected.)	25	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%)	4 (50-59%)	Any three subjects	

B.3 Modules from other faculties

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, sub minima requirements for tests/examinations, supplementary examination periods, etc.

B.4 Academic information management

Academic information management (AIM 101) is presented as a compulsory module in the first semester.

B.5 Registration for a specific year

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

B.6 Registration of modules

(a) Final cut-off dates are set for the change of modules (removing or adding) for each academic year. Please consult the calendar of the University in this regard.

(b) Should a student register for second semester modules at the beginning of a year of study, and it becomes evident at the end of the first semester, that he or she does not comply with the prerequisites of the second-semester modules, the registration of such modules will be cancelled. It is also the student's responsibility to ensure at the beginning of the second semester that the cancellation has been done.

B.7 Module credits for unregistered students

There are students who attend lectures, write tests and examinations and in this manner earn marks, but have either not registered for modules or have not registered as students at all. 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.8 Examinations

8.1 Examinations, projects and mini-dissertations

(a) An examination in a module may be written and/or oral. Projects and mini-dissertations are prepared and examined as stipulated in the study guide of the module, in accordance with the regulations and procedures as described in 9.3 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.

8.2 Examination admission

A minimum semester/year mark of 40% is required in order to be admitted to the final 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.

8.3 Pass requirements

Refer to G Regulations G.11.1 (a) and G.12.2.2.

(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 such as 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 set out in the study guide of each module. 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, practical 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 containing this information (for all the modules presented in each school) will be compiled, for approval by the Dean. Refer also to G Regulation G.11.1(b).

(d) For 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 of 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 containing 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 subminimum requirements in subdivisions of certain modules. For such modules these specific requirements are given in the study guide of the module. Also, a schedule containing this information (for all such modules presented in each school) will be compiled, for approval by the Dean.

8.4 Ancillary examinations

Refer to G Regulation G.12.3.

8.4.1 No ancillary or special examinations are granted in any design modules (all ONT modules) in the Department of Architecture.

8.5 Supplementary examinations

Refer to G Regulation G.12.4.

Except for first-semester modules in the first year where supplementary examinations are compulsory between 40% and 49%, a supplementary examination is only granted in instances where:

(i) a final mark of between 45% and 49% was obtained;

(ii) 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 third-year modules of any of the programmes in the Department of Architecture. No supplementary examinations are granted in any year of study for the design module (ONT modules).

8.6 Special examinations (including the aegrotat)

Refer to G Regulation G.12.5.

(i) A medical certificate will not be accepted where it states that a student appeared ill or declared him/herself unfit to write the examination.

(ii) The doctor must be consulted on or before the date on which the examination was scheduled.

8.7 Other special examinations

Refer to G Regulation G.12.6.

(a) The Dean may, at the recommendation of the Head of Department concerned, grant a special examination in a module to a student who failed such a 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) In order to be considered 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. Before a student may sit the examination, the Head of Department decides when the special examination will take place and may prescribe work which should be satisfactorily completed before the examination will take place.

(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.

8.8 Re-marking of examination scripts

Refer to G Regulation G.14.

B.9 Promotion requirements

(a) Students whose academic progress is not acceptable can be suspended from further studies. Refer to the following important regulations:
G Regulation G.3
and/or
B.11(d); B.16(d) or B.21(d), Department of Architecture
or
B.28(c) and B.30(c), B.32(c) Department of Construction Economics or
B.39(c), Department of Town and Regional Planning.

(b) A student who is excluded from further studies in terms of the stipulations of the abovementioned regulations will be notified in writing by the Dean or admissions committee at the end of the relevant semester.

(c) A student who has been excluded from further studies may apply in writing to the admissions committee of the School for the Built Environment for readmission on or before 12 January.

(d) Should the student be readmitted by the admissions committee, strict conditions will be set which the student must comply with in order to proceed with studies.

(e) Should the student not be readmitted to further studies by the admissions committee, he/she will be informed in writing.
(f) Students who are not readmitted by the admissions committee have the right to appeal to the Senate Committee for Admission, Evaluation and Academic Support.
(g) Any decision taken by the Senate Committee for Admission, Evaluation and Academic Support is final.

DEGREES IN THE DEPARTMENT OF ARCHITECTURE

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 liveable 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.

BScArch is regarded as an exit level that enables the graduate to register as a candidate architectural technologist, and BArchHons as candidate senior architectural technologist, at the South African Council for the Architectural Profession. A 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, landscape 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 is 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.11 Bachelor of Science Architecture [BScArch] (Code 12132002)

(a) Admission requirements

See General information B.1, B.2 and B.3 in this publication.

Please Note: Students wishing to transfer to other programmes in the Department of Architecture must obtain written consent from the admissions committee.

(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 BArchHons (one year full-time) and thereafter the MArch(Prof) degree (one year full-time).

(c) Curriculum

Total credits: 404

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

Code	Module	Prerequisites	Credits
FIRST YEAR			
First semester			
AAL 110	Earth studies 110		10
AIM 101	Academic information management 101		6
ARC 110	Elective module 110		6
KON 111	Construction 111		8
OML 110	Environmental studies 110		6
ONT 100	Design 100		30
	Total		**66**
Second semester			
KON 121	Construction 121	KON 111 GS	8
OKU 120	Design communication 120		6
OML 120	Environmental studies 120		6
ONT 100	Design 100		30
	Total		**50**
SECOND YEAR			
First semester			
AAL 210	Earth studies 210		8
JCP 201	Community-based project 201		4
KON 210	Construction 210	KON 111, 121	8
OML 210	Environmental studies 210		6
ONT 200	Design 200	AAL 110 KON 111, 121 OML 110, 120 ONT 100	30
STU 211	Theory of structures 211		8
	Total		**64**
Second semester			
AAL 224	Earth studies 224		4
GGY 265	Geomorphology of the built environment 265		12
JCP 201	Community-based project 201		4
KON 220	Construction 220	KON 210 GS	8
OML 220	Environmental studies 220		6
ONT 200	Design 200	AAL 110 KON 111, 121 OML 110, 120 ONT 100	30
STU 221	Theory of structures 221	STU 211 GS	8
	Total		**72**

THIRD YEAR			
First semester			
BER 310	Business law 310		16
GGY 283*	Introductory GIS 283 (Capita selecta)		12
or			
OKU 313	Design communication 313		6
KON 310	Construction 310	KON 210, 220	8
OMG 310	History of the environment 310		6
OML 310	Environmental studies 310		6
ONT 300	Design 300	KON 210, 220 OML 210, 220 ONT 200	30
STU 311	Theory of structures 311	STU 211, 221	8
	Total		**80**

*If this module is chosen the total credits = 86

Second semester			
AAL 320	Earth studies 320	AAL 210	6
KON 320	Construction 320	KON 310 GS	8
OMG 320	History of the environment 320		6
OML 320	Environmental studies 320	OML 310 GS	6
ONT 300	Design 300	KON 210, 220 OML 210, 220 ONT 200	30
PJS 320	Practice management 320		8
STU 321	Theory of structures 321	STU 311 GS	8
	Total		**72**

The programme is set out below:

Year	Semester	PJS	STU	AAL	KON	ONT	OML	OMG	OKU
1	1	AIM 101	-	110	111	100	110	-	Elective module
	2		-	-	121	100	120	-	OKU 120
2	1	JCP 201	211	210	210	200	210	-	-
	2	JCP 201	221	GGY 265 AAL 224	220	200	220	-	-
3	1	BER 310	311	-	310	300	310	310	GGY 283 or OKU 313
	2	PJS 320	321	320	320	300	320	320	-

(d) Promotion requirements

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.

Please Note: Students not promoted to the next year of study must obtain the approval of the programme coordinator and the Head of Department to register for modules in the subsequent year of study. Students must re-apply for admission to the Department of Architecture in instances where:

(i) a student is not promoted to the second year of study;

(ii) a student after repeating any year of study, is not promoted to the following year of study.

(e) Concurrent presentation

In the third year of study Design, Construction, Design communication, Environmental studies and Earth studies must initially be examined in the same year.

(f) Awarding of degree

The degree is awarded to those students obtaining all the prescribed credits for the programme modules.

(g) Degree with distinction

The degree is conferred with distinction on a student who, at first registration, passes all modules of the final year of study with a weighted average of 75%. The degree must have been completed within the minimum prescribed time and no supplementary/special examinations may have been written.

B.12 Bachelor of Architecture Honours [BArchHons] (Code 12242003)

Refer to G Regulations G.16 to G.29 and G.54.

(a) Admission requirements

A candidate for the degree programme Bachelor of Architecture Honours:

(1) must be a graduate with a BScArch 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 take:

(i) an academic literacy 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 considered a record of their experience within the discipline;
(iv) are selected on merit.

Please Note: A limited number of candidates are admitted to this programme.

(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, for those students wishing to hereafter continue with the MArch(Prof) degree, the following curriculum applies:

BArchHons	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Practice component	**CPD 710** (6 credits) Systems and materials	**CPD 720** (6 credits) The idea of building	**CPD 740** (6 credits) Built environment modelling **POU 720** (2 credits)	**CPD 730** (6 credits) Professional practice
Theory component	**RFS 710** (6 credits), **RFS 720** (6 credits) & **RFS 730** (6 credits) *May run separately or concurrently over quarters 1-3*			**RFS 740** 6 credits
Project component	**RFP 711/721/731** (20 credits each) *Examined at the end of quarter 3*			**RFP 710** 20 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) Awarding of degree

The degree is awarded to those students who have 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 if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75%.

MASTER'S PROGRAMMES IN ARCHITECTURE

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 mini-dissertation. The requirements for the two options are set out below.

B.13 Master of Architecture (Professional) [MArch(Prof)] (Code 12252005)

Refer to G Regulations G.30 to G.40 and G. 50 to G.54.

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 mini-dissertation and design project and discourse.

(a) Admission requirements

A candidate for the degree programme Master of Architecture (Professional):

(1) must be a graduate with a BArchHons degree or an equivalent university degree;
or

(2) must have an appropriate recognised 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 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 considered a record of their experience within the discipline;
(iv) are selected on merit.

Please Note: A limited number of candidates are admitted to this programme.

(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 curriculum applies:

MArch(Prof)	
Practice component	**CPD 810** (10 credits) 1st quarter module Continuing practice development (The results for this module will only be made available in the 4th quarter)
Theory component	**DIT 801** (50 credits) Year module Design investigation
Project component	**DPD 801** (60 credits) Year module Mini-dissertation: Design project and discourse

(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 who have 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 mini-dissertation (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.

(h) Required publication

G Regulation G.39.12 applies.

B.14 Master of Architecture (Research) [MArch Research] (Code 12252002)

Refer to G Regulations G.30 to G.40 and G. 50 to G.54.

By virtue of a dissertation and examination.

Dissertation: ARG 890

Total credits: 180

(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, BArchHons, or equivalent;
or

(iii) a three-year degree with Design as major component and who successfully complete supplementary modules with the 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 obtained (where necessary) the approval of Senate and complying with whatever additional requirements may be prescribed are admitted for the degree Master of 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.

(e) Required publication

The G Regulation G.39.12 applies.

B.15 Doctor of Philosophy [PhD] (Code 12262002)

Refer to G Regulations G.42 to G.54.

Thesis: ARG 990 (360 credits)

(a) Candidates who have obtained a master's degree in Architecture or the UP MSc (Applied Science) 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 supplementary modules prior to commencing of 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 ARCHITECHTURE

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.
Students are advised to work in the offices of an architect or an interior architect during the university recesses to gain practical experience.
It is recommended that those graduates wishing to practice as interior designers pursue further studies, namely the one year, full-time honours degree programme in Interior Architecture.
A graduate wishing to become a professional Interior architect is advised to register for the MInt(Prof) degree programme.

B.16 Bachelor of Science Interior Architecture [BScInt] (Code 12132008)

(a) Admission requirements

Refer to General information B.1, B.2 and B.3 in this publication.
Please Note: Students wishing to transfer to other programmes in the Department of Architecture must obtain written consent from the admissions committee.

(b) Duration

The minimum period of study is three years full-time. Candidates wishing to become professional Interior architects must hereafter apply to register for the BIntHons degree (one year full-time) and the MInt(Prof) degree (one 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 [BIntHons].

(c) Curriculum

Total credits: 402

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

Code	Module	Prerequisite	Credits
FIRST YEAR			
First semester			
AAL 110	Earth studies 110		10
AIM 101	Academic information management 101		6
ARC 110	Elective module		6
KON 111	Construction 111		8
OML 110	Environmental studies 110		6
ONT 100	Design 100		30
	Total		**66**

Second semester			
KON 121	Construction 121	KON 111 GS	8
OKU 120	Design communication 120		6
OML 120	Environmental studies 120		6
ONT 100	Design 100		30
	Total		**50**
SECOND YEAR			
First semester			
AAL 210	Earth studies 210		8
JCP 201	Community-based project 201		4
KON 210	Construction 210	KON 111, 121	8
OML 210	Environmental studies 210		6
ONT 203	Design 203	AAL 110 KON 111, 121 OML 110, 120 ONT 100	30
TKS 212	Textiles 212		14
	Total		**70**
Second semester			
AAL 223	Earth studies 223		4
AAL 224	Earth studies 224		4
JCP 201	Community-based project 201		4
KON 220	Construction 220	KON 210 GS	8
OML 220	Environmental studies 220		6
ONT 203	Design 203	AAL 110 KON 111, 121 OML 110, 120 ONT 100	30
MST 223	Material Studies 223		8
	Total		**64**
THIRD YEAR			
First semester			
BER 310	Business law 310		16
KON 310	Construction 310	KON 210, 220	8
OKU 313	Design communication 313		6
OMG 310	History of the environment 310		6
OML 310	Environmental studies 310		6
ONT 303	Design 303	KON 210, 220 OML 210, 220 ONT 203	30
MST 313	Material studies 313	TKS 212, MST 223	8
	Total		**80**

Second semester			
AAL 320	Earth Studies 320	AAL 210	6
KON 320	Construction 320	KON 310 GS	8
OMG 320	History of the environment 320		6
OML 320	Environmental studies 320	OML 310 GS	6
ONT 303	Design 303	KON 210, 220 OML 210, 220 ONT 203	30
PJS 320	Practice management 320		8
MST 323	Material studies 323	MST 313	8
	Total		**72**

The programme is set out below:

Year	Semester	PJS	MST	AAL	KON	ONT	OML	OMG	OKU
1	1	AIM 101	-	110	111	100	110	-	Elective Module
	2		-	-	121	100	120	-	OKU 120
2	1	JCP 201	TKS 212	210	210	203	210	-	-
	2	JCP 201	MST223	223 224	220	203	220	-	-
3	1	BER 310	313	-	310	303	310	310	OKU 313
	2	PJS 320	323	320	320	303	320	320	-

(d) Promotion requirements

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.

Please Note: Students not promoted to the next year of study must obtain the approval of the programme coordinator and the Head of Department to register for modules in the subsequent year of study. Students must re-apply for admission to the Department of Architecture in instances where:

(i) a student is not promoted to the second year of study;
(ii) a student after repeating any year of study, is not promoted to the following year of study.

(e) Concurrent presentation

In the third year of study Design, Construction, Design communication, Environmental studies, Earth studies and Material studies must initially be examined in the same year.

(f) Awarding of degree

The degree is awarded to those students who have obtained all the prescribed credits for the programme modules.

(g) Degree with distinction

The degree is conferred with distinction on a student who, at first registration, simultaneously passes both Design 303 and Construction 320 with distinction (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 without any supplementary/special examinations.

B.17 Bachelor of Interior Architecture Honours [BIntHons] (Code 12242006)

Refer to G Regulations G.16 to G.29 and G.54.

(a) Admission requirements

A candidate for the degree programme Bachelor of Interior Architecture Honours:

(1) must be a graduate with a BScInt 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 take:

(i) an academic literacy 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 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 considered a record of their experience within the discipline;
(iv) are selected on merit.

Please 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, for those students wishing hereafter to continue with the MInt(Prof) degree, the following curriculum applies:

BIntHons	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Practice component	**CPD 710** (6 credits) Systems and materials	**CPD 720** (6 credits) The idea of building	**CPD 740 (6** credits) Built environment modelling **POU 720** (2 credits)	**CPD 730** (6 credits) Professional practice
Theory component	**RFS 710** (6 credits), **RFS 720** (6 credits) & **RFS 730** (6 credits) *May run separately or concurrently over quarters 1-3*			**RFS 740** (6 credits)
Project component	**RFP 713/723/733** (20 credits each) *Examined at the end of quarter 3*			**RFP 730** (20 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) Awarding of degree

The degree is awarded to those students who have 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 if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75%.

MASTER'S PROGRAMMES IN INTERIOR ARCHITECTURE

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 mini-dissertation. The requirements for the two options are set out below.

B.18 Master of Interior Architecture (Professional) [MInt(Prof)] (Code 12252007)

Refer to G Regulations G.30 to G.40 and G.50 to G.54.

The Master of Interior Architecture (Professional) is done by coursework, a design investigation mini-dissertation and design project and discourse.

(a) Admission requirements

Candidates for the degree programme Master of Interior Architecture (Professional):

(1) must be a graduate with a BIntHons degree or an equivalent university degree;

or

(2) must have an appropriate recognised 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 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 considered a record of their experience within the discipline;
(iv) are selected on merit.

Please Note: A limited number of candidates are admitted to this programme.

(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 curriculum applies:

MInt(Prof)	
Practice component	**CPD 810** (10 credits) 1st-quarter module Project brief development (The results for this module will only be made available in the 4th quarter)
Theory component	**DIT 803** (50 credits) Year module Design investigation
Project component	**DPD 803** (60 credits) Year module Mini-dissertation: Design project and discourse

(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 (75%) simultaneously for both the Design investigation mini-dissertation (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.

(h) Required publication
G Regulation G.39.12 applies.

B.19 Master of Interior Architecture (Research) [MInt (Research)] (Code 12252004)

Refer to G Regulations G.30 to G.40 and G.50 to G.54.

By virtue of dissertation and examination.

Dissertation: INT 890

Total credits: 180

(a) Admission requirements
Candidates who wish to research a topic within the discipline of interior architecture and who

(i) are in possession of a BInt or equivalent degree of four years or more;
or

(ii) are in possession of an honours degree in Interior architecture, BIntHons, or equivalent;
or

(iii) are 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

(iv) are deemed adequate by the Head of Department in consultation with the Dean and obtained (where necessary) the approval of Senate and complying with whatever additional requirements may be prescribed are admitted for the degree Master of 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.

(e) Required publication
The G Regulation G.39.12 applies.

B.20 Doctor of Philosophy [PhD] (Code 12262008)

Refer to G Regulations G.42 to G.54.

Thesis: INT 990 (360 credits)

(a) Candidates who have obtained a master's degree in Interior architecture or the UP MSc (Applied Science) 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 supplementary modules prior to commencing of studies.

(c) A PhD student must submit a thesis which deals with a topic from the discipline of interior 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 interior 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 LANDSCAPE ARCHITECTURE

Landscape architecture is the science and art of the design of outside areas for the use and enjoyment of people. 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.
BScLArch 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 the Act on the Landscape Architectural Profession (Act 45 of 2000).

B.21 Bachelor of Science Landscape Architecture [BScLArch] (Code 12132004)

(a) Admission requirements

Refer to General information B.1, B.2 and B.3 in this publication.

Please Note: Students wishing to transfer to other programmes in the Department of Architecture must obtain written consent from the admissions committee.

(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 BLHons degree (one year full-time), and thereafter the ML(Prof) degree (one year full-time).

(c) Curriculum

Total credits: 418

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

Code	Module	Prerequisite	Credits
FIRST YEAR			
First semester			
AAL 110	Earth studies 110		10
ARC 110	Elective module		6
AIM 101	Academic information management 101		6
KON 111	Construction 111		8
OML 110	Environmental studies 110		6
ONT 100	Design 100		30
	Total		**66**
Second semester			
KON 121	Construction 121	KON 111 GS	8
OKU 120	Design communication 120		6
OML 120	Environmental studies 120		6
ONT 100	Design 100		30
	Total		**50**
SECOND YEAR			
First semester			
AAL 210	Earth studies 210		8
GKD 250	Introductory soil science 250	CMY 117 GS or TDH	12
JCP 201	Community-based project 201		4
KON 210	Construction 210	KON 111, 121	8
LAN 212	Landscape architecture 212		8
OML 210	Environmental studies 210		6
ONT 202	Design 202	AAL 110 KON 111, 121 OML 110, 120 ONT 100	30
	Total		**76**

Second semester			
GGY 265	Geomorphology of the built environment 265		12
JCP 201	Community-based project 201		4
KON 220	Construction 220	KON 210 GS	8
LAN 222	Landscape architecture 222	LAN 212 GS	8
OML 220	Environmental studies 220		6
ONT 202	Design 202	AAL 110 KON 111, 121 OML 110, 120 ONT 100	30
	Total		**68**
THIRD YEAR			
First semester			
BER 310	Business law 310		16
GGY 283	Introductory GIS 283 (Capita selecta)		12
KON 310	Construction 310	KON 210, 220	8
OMG 310	History of the environment 310		6
OML 310	Environmental studies 310		6
ONT 302	Design 302	KON 210, 220 OML 210, 220 ONT 202	30
PWT 312	Plant science 312	LAN 212, 222	8
	Total		**86**
Second semester			
AAL 320	Earth studies 320	AAL 210	6
KON 320	Construction 320	KON 310 GS	8
OMG 320	History of the environment 320		6
OML 320	Environmental studies 320	OML 310 GS	6
ONT 302	Design 302	KON 210, 220 OML 210, 220 ONT 202	30
PJS 320	Practice management 320		8
PWT 322	Plant science 322	PWT 312 GS	8
	Total		**72**

The programme is set out below:

Year	Semester	PJS	LAN	AAL	KON	ONT	OML	OMG	OKU
1	1	AIM 101	-	110	111	100	110	-	Elective module
	2		-	-	121	100	120	-	OKU 120
2	1	JCP 201	212	210	210	202	210	-	-
	2	JCP 201	222	GGY 265 GKD 250	220	202	220		

3	1	BER 310	PWT 312	-	310	302	310	310	GGY 283
	2	PJS 320	PWT 322	320	320	302	320	320	-

(d) Promotion requirements

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.

Please Note: Students not promoted to the next year of study must obtain the approval of the programme co-ordinator and the head of department to register for modules in the subsequent year of study. Students must re-apply for admission to the Department of Architecture in instances where:

(i) a student is not promoted to the second year of study;

(ii) a student after repeating any year of study, is not promoted to the following year of study.

(e) Concurrent presentation

In the third year of study Design, Construction, Environmental studies, Plant science and Earth studies must be examined in the same year.

(f) Awarding of degree

The degree is awarded to those students who have obtained all the prescribed credits for the programme modules.

(g) Degree with distinction

The BScLArch degree is conferred with distinction on a student who, at first registration, simultaneously passes Design 302 and Construction 320 with distinction (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 without any supplementary/special examinations.

B.22 Bachelor of Landscape Architecture Honours [BLHons] (Code 12242004)

Refer to G Regulations G.16 to G.29 and G.54.

(a) Admission requirements

A candidate for the degree programme Bachelor of Landscape Architecture Honours:

(1) must be a graduate with a BScLArch 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 take:

(i) an academic literacy 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 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 considered a record of their experience within the discipline;

(iv) are selected on merit.

Please Note: A limited number of candidates are admitted to this programme.

(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, for those students wishing to hereafter continue with the ML(Prof) degree, the following curriculum applies:

BLHons	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Practice component	**CPD 710** (6 credits) Systems and materials	**CPD 720** (6 credits) The idea of building	**CPD 740** (6 credits) Built environment modelling **POU 720** (2 credits)	**CPD 730** (6 credits) Professional practice
Theory component	**RFS 710** (6 credits), **RFS 720** (6 credits) & **RFS 730** (6 credits) *May run separately or concurrently over quarters 1-3*			**RFS 740** (6 credits)
Project component	**RFP 712/722/732** (20 credits each) *Examined at the end of quarter 3*			**RFP 720** (20 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) Awarding of degree

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

(f) Degree with distinction

The degree is conferred with distinction if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75%.

MASTER'S AND DOCTORAL PROGRAMMES IN LANDSCAPE ARCHITECTURE

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 mini-dissertation. The requirements for the two options are set out below.

B.23 Master of Landscape Architecture (Professional) [ML(Prof)] (Code 12252008)

Refer to the G Regulations G.30 to G.40 and G.50 to G.54.

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 mini-dissertation and design project and discourse.

(a) Admission requirements

Candidates for the degree programme Master of Landscape Architecture (Professional):

(1) must be a graduate with a BLHons degree or an equivalent university degree;

or

(2) must have an appropriate recognised 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 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 the requisite level of proficiency and competency and is considered a record of their experience within the discipline;
(iv) are selected on merit.

Please Note: A limited number of candidates are admitted to this programme.

(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)	
Practice component	**CPD 810** (10 credits) 1st quarter module Project brief development (The results for this module will only be made available in the 4th quarter)
Theory component	**DIT 802** (50 credits) Year module Design investigation
Project component	**DPD 802** (60 credits) Year module Mini-dissertation: Design project and discourse

(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 who have 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 mini-dissertation (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.

(h) Required publication

G Regulation G.39.12. applies.

B.24 Master of Landscape Architecture (Research) [ML (Research)] (Code 12252003)

Refer to G Regulations G.30 to G.40 and G.50 to G.54.

By virtue of dissertation and examination.

Dissertation: LAN 890

Total credits: 180

(a) Admission requirements

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

(1) are in possession of a BL or equivalent degree of four years;
or
(2) are in possession of an Honours degree in Landscape Architecture, BLHons, or equivalent;

or

(3) are in possession of a three-year degree with Design as major component and successfully complete supplementary modules with the weighting equivalent of an honours degree as prescribed by the Head of Department;

or

(4) are deemed adequate by the Head of Department in consultation with the Dean and obtained (where necessary) the approval of Senate and complying with whatever additional requirements may be prescribed are admitted to the degree Master of Landscape Architecture by research.

(b) Duration and curriculum

After a minimum of one year of registration the student submits a dissertation for examination and takes 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 who has obtained 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.

(e) Required publication

G Regulation G.39.12 applies.

B.25 Doctor of Philosophy [PhD] (Code 12262003)

Refer to the G Regulations G.42 to G.54.

Thesis: LAN 990 (360 credits)

(a) Candidates who have obtained a master's degree in Landscape Architecture or the UP MSc (Applied Science) 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 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.

DEGREES IN APPLIED SCIENCE:
DEPARTMENT OF ARCHITECTURE

B.26 Bachelor of Science Honours in Applied Science [BScHons (Applied Science)] (Code 12242000)

Refer to G Regulations G.16 to G.29 and G.54.

Please Note: This degree is for those students intending hereafter to pursue a master's degree by research and coursework in applied science in the fields of architecture, landscape architecture or interior architecture or generally in the built environment.

Coursework in modules presented by the department: minimum 60 credits
Coursework, at honours (700) level, presented by other schools or faculties: maximum 60 credits.

Total credits: 120

(a) Admission requirements

A candidate for the degree programme Bachelor of Science Honours in Applied Science :

(1) must be a graduate with a BSc 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 Head of Department to take:
(i) an academic literacy 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 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 journal which demonstrates the requisite level of proficiency and competency and is a record of their experience within the field they intend to do research;
(iv) are selected on merit.

Please Note: A limited number of candidates are admitted to this programme.

(b) Duration

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

(c) Curriculum

A curriculum comprising of 120 credits, of which a minimum of 50% of module credits from the modules below and a maximum of 50% from modules from other honours programmes by coursework must be devised in consultation with the postgraduate programme coordinator of the department and approved by the Head of Department.

Students who follow modules presented by other schools or faculties must first obtain permission for such registration(s) from those schools or faculties and must familiarise themselves with the admission requirements of the specific module(s), and the examination rules and regulations pertaining to such a module(s).

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

BScHons Applied Science	**Duration**
Theory component (In the Department of Architecture)	**RFS 700 Year course *(20 credits)*:** A capita selecta from one of the following Research Fields: • Environment potential • Housing and urban environments • Heritage and cultural landscapes
Additional modules	Coursework modules at honours (700) level presented by other departments, schools or faculties *(max. 60 credits)* - Students may register for other honours (700) level modules presented in the Department of Architecture with the approval of the Head of Department.
Project component (Please Note: it is the students' responsibility to have their projects approved by the specific research field coordinator)	**RFP 700 Year course *(40 credits)*** A capita selecta of the various modules related to the research field that the student is advised to follow by the research field co-ordinator. Research fields: • Environment potential • Housing and urban environments • Heritage and cultural landscapes

(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 who have 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) Required publication

The G Regulation G.39.12 applies.

(g) Degree with distinction

The degree is conferred with distinction if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75%.

B.27 Master of Science in Applied Science [MSc (Applied Science)] (Code 12252006)

Refer to G Regulations G.1.2, G.30 to G.40 and G.50 to G.54.

By virtue of a curriculum with coursework and a mini-dissertation.

(a) Admission requirements

Candidates who wish to research a topic within the disciplines of architecture, landscape architecture or interior architecture and in particular related to one of the research fields of the department and who are in possession of

(i) a BScHons or equivalent degree of four years or more;

or

(ii) an honours degree in architecture, landscape architecture or interior architecture or equivalent;

or

(iii) who are deemed adequate by the Head of Department in consultation with the Dean and obtained (where necessary) the approval of Senate and complying with whatever additional requirements may be prescribed are admitted to the degree Master of Science (Applied Science).

(iv) Candidates are selected on academic merit for admission to studies for the degree.

(b) Duration and curriculum

The minimum period of study is one year.

The curriculum is compiled in consultation with the Head of Department.

It is the responsibility of students to ascertain that the lectures in the appropriate research field are on offer in the specific year of study. The attendance of lectures is compulsory.

The topic of the mini-dissertation must be approved by the Head of Department.

MSc (Applied Science)	Year modules		Credits
Coursework in the department	**RFS 890**	Research field studies	30
Mini-dissertation in the department	**ARG 895**	Mini-dissertation	100
Coursework at 800 level at other schools, faculties or departments			30
Total			**160**

(c) Pass requirements

A minimum of 50% is required in the examination of the coursework, with a minimum final mark of 50% to pass.

A minimum of 50% is required to pass the mini-dissertation.

(d) Awarding of the degree
The MSc (Applied Science) degree is conferred on students obtaining a minimum of 50% for both the coursework and the mini-dissertation.

(e) Degree with distinction
The degree is conferred with distinction on a student who obtains a weighted average of 75%, having obtained at least 75% in the mini-dissertation and a weighted average of at least 70% in the remaining coursework constituting the required credits for RFS module of the degree.

(f) Required publication
G Regulation G.39.12 applies.

DEGREES IN THE DEPARTMENT OF CONSTRUCTION ECONOMICS

DEGREES IN QUANTITY SURVEYING

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 and subcontractors.

The student could enter the building or construction industry as a candidate quantity surveyor after he/she has completed the three-year degree. Such qualification, however, would not allow the person to register as a professional quantity surveyor without acquiring additional qualifications. After completing the honours programme the opportunities become far wider, and application can be made for registration as a professional quantity surveyor with the South African Council for the Quantity Surveying Profession, after further assessment and furnishing of evidence, in compliance with the prescribed competencies. Employment opportunities in the building and construction sector, government departments, in the property sector, banks and manufacturing industry exist for such registered quantity surveyors. Most, however, work in the private sector where they become employees/ partners/ directors of quantity surveying practices, or open their own practices.

The examinations for the BScHons 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), as well as by the Royal Institution of Chartered Surveyors.

B.28 Bachelor of Science Quantity Surveying [BScQS] (Code 12132013)

(a) Admission requirements
Refer to General information B.1, B.2 and B.3 in this publication.

(b) Duration
The minimum duration of study is three years full-time.

(c) Promotion requirements

(i) **Promotion to the second semester of the first year and to the second year of study**

(a) A newly registered first-year student who failed all the prescribed modules for the programme at the end of the first semester shall not be readmitted to the School for the Built environment in the second semester.

(b) A student who complies with all the requirements of the first year of study, or has at least obtained 110 credits, is promoted to the second year of study.

(c) A student who has not obtained at least 70% of the credits of the first year of study after the November examinations must reapply for admission should he/she intend to continue with his/her studies. Written application must be submitted to the student administration of the School for the Built environment no later than 12 January. Late applications will be accepted only in exceptional circumstances after approval by the Dean and conditions of readmission as determined by the admissions committee shall apply should first-year students be readmitted.

(d) Students who have not passed all the prescribed modules of the first year of study, as well as students who are readmitted in terms of (c) must register for the outstanding modules of the first year.

(e) A student who is repeating his/her first year, may, on recommendation of the relevant head of department and with the approval of the Dean, be permitted to enrol for modules of the second year of study in addition to the first-year modules which he or she failed, providing that he or she complies with the prerequisites for the second-year modules and that no timetable clashes occur. The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

(ii) **Promotion to the third year of study**

(a) A student who complies with all the requirements of the second year of study, or has at least obtained 230 credits, is promoted to the third year of study.

(b) 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 those modules to the next or a later year.

(c) The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

(d) 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.

(e) 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) Complying to degree requirements

The degree is awarded if all the prescribed modules have been passed.

(e) Degree with distinction

The degree is conferred with distinction on a student:

(i) if no module of the second and third study year was repeated and a weighted average of at least 75% was obtained in one year in all the modules (excluding JCP 201), of the final study year;

(ii) the degree programme was completed within the prescribed three study years, and the final study year modules were passed on first registration without any supplementary or special examinations.

(f) Curriculum

The curriculum is 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.

Total number of credits required: 391

Code	Module	Prerequisites	Credits
FIRST YEAR			
First semester			
ALL 122	Academic literacy for Construction Economics 122		6
BOU 111	Building drawings 111		6
BWT 110	Building science 110		9
AIM 101	Academic information management 101		6
GBD 112	Building services 112		6
HVH 101	Quantities 101		12
SKE 110	Introduction to structures 110		9
STK 110	Statistics 110	Maths 5* (60-69%)	13
WTW 133	Precalculus 133		8
	Total		**75**

***Please Note:** Students with Maths 4, should take STK 113 and STK 123 (instead of STK 110) during their first year of study and STK 120 during their second year of study.

Second semester			
BGG 121	Building organisation 121		3
BOU 121	Building drawings 121		6
BWT 120	Building science 120	BWT 110 GS	9
GBD 122	Building services 122		6
HVH 101	Quantities 101		12
OMG 122	History of the environment 122		6
SKE 120	Structures 120	SKE 110 GS	9
STK 161	Statistics 161	STK 110 GS	6
	Total		**57**

SECOND YEAR

First semester

BWT 210	Building science 210	BWT 110 GS BWT 120 GS	9
EKN 110	Economics 110		10
FBS 110	Financial management 110		10
GBD 211	Building services 211		6
HVH 200	Quantities 200	BWT 110 GS BWT 120 GS HVH 101	12
SKE 210	Reinforced concrete structures 210	SKE 120 GS	9
TRN 213	Site surveying 213		12
	Total		**68**

Second semester

BWT 220	Building science 220		9
EKN 120	Economics 120	EKN 110 GS	10
FBS 120	Financial management 120		10
GBD 221	Building services 221		6
HVH 200	Quantities 200	BWT 110 GS BWT 120 GS HVH 101	12
OMG 224	History of the environment 224		6
SKE 220	Civil engineering services 220		9
	Total		**62**

THIRD YEAR

First semester

BER 310	Business law 310		16
BRK 300	Quantity surveying practice 300	HVH 200 GS	9
BWT 310	Building science 310		9
GBD 311	Building services 311	GBD 221 GS	6
HVH 300	Quantities 300	BWT 210 GS BWT 220 GS GBD 112 GS GBD 122 GS HVH 200	12
JCP 201	Community-based project 201		4
KIT 311	Construction information technology and communication 311	Finalists only	9
	Total		**65**

Second semester

BHU 320	Housing 320		6
BRK 300	Quantity surveying practice 300	HVH 200 GS	9
BWT 320	Building science 320		9
EOW 320	Introduction to property law 320		6
HVH 300	Quantities 300	BWT 210 GS BWT 220 GS GBD 112 GS GBD 122 GS HVH 200	12

JCP 201	Community-based project 201	4
FBV 320	Property financial mathematics 320	6
NNM 320	Research methodology 32	6
VKN 320	Sustainable construction 320	6
	Total	**64**

B.29 Bachelor of Science Honours Quantity Surveying [BScHonsQS] (Code 12242014)

Refer to G Regulations G.16 to G.29 and G.54.

(a) Admission requirements

The rules must be read together with the stipulations of the G Regulations.

Minimum admission requirements

A person shall not be admitted as a candidate for the degree unless he or she:

(a) is a graduate of the BSc in Quantity Surveying degree of this University; or

(b) is the holder of any three-year bachelor's degree of this, or any other university recognised for the purpose by the head of department as equivalent to the BSc in Quantity Surveying degree of this University; or

(c) has in any other manner attained a level of competence which in the opinion of the head of department is adequate for the purpose of admission.

Selection

Selection is based on an applicant's academic record and experience. Applicants may be required to attend an interview and/or write an entrance examination.

(b) Duration

The period of study is one year. A student is required to attend lectures diligently, but in addition it is expected of the students, to work at least 480 hours part-time in the offices of a registered quantity surveyor on tasks which meet the requirements for registration in terms of the Quantity Surveying Profession Act. It will be expected of students to keep a logbook on the prescribed template.

(c) Examination admission

A minimum semester/year mark of 40% is required in order to be admitted to the examination in a specific module. In addition, all other examination admission requirements, applicable to the relevant module, must have been met.

(d) Supplementary examinations

No supplementary examinations are granted at postgraduate level.

(e) Special examinations

No special examinations are granted at postgraduate level.

(f) Complying with degree requirements

The degree is awarded when all prescribed modules have been passed.

(g) Degree with distinction

The degree is conferred with distinction if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75% (excluding POU 700).

(h) Curriculum

The curriculum is extended over one year 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.

Total number of credits required: 152

Code	Module	Prerequisites	Credits
First semester			
BKR 700	Building cost estimation 700		12
BRK 700	Quantity surveying practice 700		6
BRK 785	Research report 785		12
EUS 710	Feasibility studies 710		9
HVH 700	Quantities 700		12
KBS 710	Construction management 710		9
KKR 730	Construction contract law 730		12
KPB 730	Construction project management 730		9
POU 700	Practical development feasibility 700		1
	Total		**82**
Second semester			
BKR 700	Building cost estimation 700		12
BRK 700	Quantity surveying practice 700		6
BRK 785	Research report 785		12
BTP 700	Management practice 700		6
EUS 720	Feasibility studies 720		9
HVH 700	Quantities 700		12
KKR 740	Construction contract law 740	KKR 730 GS	12
POU 700	Practical development feasibility 700		1
	Total		**70**

DEGREES IN CONSTRUCTION MANAGEMENT

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 subcontractors 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.

The examinations of the BScHons degree in Construction Management are recognised by the minister as prescribed examinations in terms of the stipulations as described in the Project and Construction Management Professions Act (Act No 48/2000), as well as by the Chartered Institute of Building.

B.30 Bachelor of Science Construction Management [BSc Construction Management] (Code 12132017)

(a) Admission requirements

Refer to General information B.1, B.2 and B.3 in this publication.

(b) Duration

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

(c) Promotion requirements

(i) **Promotion to the second semester of the first year and to the second year of study**

(a) A newly registered first-year student who failed all the prescribed modules for the programme at the end of the first semester shall not be readmitted to the School for the Built environment in the second semester.

(b) A student who complies with all the requirements of the first year of study, or has at least obtained 110 credits, is promoted to the second year of study.

(c) A student who has not obtained at least 70% of the credits of the first year of study after the November examinations must reapply for admission should he/she intend to continue with his/her studies. Written application must be submitted to the student administration of the School for the Built environment no later than 12 January. Late applications will be accepted only in exceptional circumstances after approval by the Dean and conditions of readmission as determined by the admissions committee shall apply should first-year students be readmitted.

(d) Students who have not passed all the prescribed modules of the first year of study, as well as students who are readmitted in terms of (c) must register for the outstanding modules of the first year.

(e) A student who is repeating his/her first year, may, on recommendation of the relevant Head of Department and with the approval of the Dean, be permitted to enrol for modules of the second year of study in addition to the first-year modules which he or she failed, providing that he or she complies with the prerequisites for the second-year modules and that no timetable clashes occur. The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

(ii) **Promotion to the third year of study**

(a) A student who complies with all the requirements of the second year of study, or has at least obtained 230 credits, is promoted to the third year of study.

(b) 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 those modules to the next or a later year provided that no timetable clashes occur.

(c) The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

(d) 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.

(e) 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) Complying to degree requirements

The degree is awarded if all the prescribed modules have been passed.

(e) Degree with distinction

The degree is conferred with distinction on a student:

(i) if no module of the second and third study year was repeated and a weighted average of at least 75% was obtained in one year in all the modules (excluding JCP 201), of the final study year;

(ii) the degree programme was completed within the prescribed three study years, and the final study year modules were passed on first registration without any supplementary or special examinations.

(f) Curriculum

The curriculum is 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.

Total number of credits required: 411

Code	Module	Prerequisites	Credits
FIRST YEAR			
First semester			
ALL 122	Academic literacy for Construction Economics 122		6
BOU 111	Building drawings 111		6
BWT 110	Building science 110		9
AIM 101	Academic information management 101		6
GBD 112	Building services 112		6
HVH 101	Quantities 101		12
SKE 110	Introduction to structures 110		9
STK 110	Statistics 110	Maths 5 (60-69%)	13
WTW 133	Precalculus 133		8
	Total		**75**

Second semester			
BGG 121	Building organisation 121		3
BOU 121	Building drawings 121		6
BWT 120	Building science 120	BWT 110 GS	9
GBD 122	Building services 122		6
HVH 101	Quantities 101		12
OMG 122	History of the environment 122		6
SKE 120	Structures 120	SKE 110 GS	9
STK 161	Statistics 161	STK 110 GS	6
	Total		**57**
SECOND YEAR			
First semester			
ABR 311	Labour law 311		20
BWT 210	Building science 210	BWT 110 GS BWT 120 GS	9
EKN 110	Economics 110		10
FBS 110	Financial management 110		10
GBD 211	Building services 211		6
KSH 201	Construction quantities 201	BWT 110 GS BWT 120 GS HVH 101	12
SKE 210	Reinforced concrete structures 210	SKE 120 GS	9
TRN 213	Site surveying 213		12
	Total		**88**
Second semester			
BWT 220	Building science 220		9
EKN 120	Economics 120	EKN 110 GS	10
FBS120	Financial management 120		10
GBD 221	Building services 221		6
KSH 201	Construction quantities 201	BWT 110 GS BWT 120 GS HVH 101	12
OMG 224	History of the environment 224		6
SKE 220	Civil engineering services 220		9
	Total		**62**
THIRD YEAR			
First semester			
BER 310	Business law 310		16
BWT 310	Building science 310		9
GBD 311	Building services 311	GBD 221 GS	6
JCP 201	Community-based project 201		4
KBS 310	Construction management 310		9
KIT 311	Construction information technology and communication 311	Finalists only	9
KSH 300	Construction quantities 300	BWT 210 GS BWT 220 GS GBD 112 GS GBD 122 GS KSH 201	12
	Total		**65**

Second semester			
BHU 320	Housing 320		6
BWT 320	Building science 320		9
EOW 320	Introduction to property law 320		6
JCP 201	Community-based project 201		4
KBS 320	Construction management 320		9
KSH 300	Construction quantities 300	BWT 210 GS BWT 220 GS GBD 112 GS GBD 122 GS KSH 201	12
FBV 320	Property financial mathematics 320		6
NNM 320	Research Methodology 320		6
VKN 320	Sustainable construction 320		6
	Total		**64**

B.31 Bachelor of Science Honours Construction Management [BScHons Construction Management)] (Code 12242015)

Refer to G Regulations G.16 to G.29 and G.54.

(a) Admission requirements

The rules must be read together with the stipulations of the G Regulations.

Minimum admission requirements

A person shall not be admitted as a candidate for the degree unless he or she:

(a) is a graduate of the BSc in Construction Management degree of this University; or

(b) is the holder of any three-year bachelor's degree of this, or any other university recognised for the purpose by the head of department as equivalent to the BSc in Construction Management degree of this University; or

(c) has in any other manner attained a level of competence which in the opinion of the head of department is adequate for the purpose of admission

Selection

Selection is based on an applicant's academic record and experience. Applicants may be required to attend an interview and/or write an entrance examination.

(b) Duration

The period of study is one year. A student is required to attend lectures diligently, but in addition it is recommended, to work at least 480 hours part-time for a suitable employer in the building/construction industry. It will be expected of students to keep a logbook on the prescribed template.

(c) Examination admission

A minimum semester/year mark of 40% is required in order to be admitted to the examination in a specific module. In addition, all other examination admission requirements, applicable to the relevant module, must have been met.

(d) Supplementary examinations
No supplementary examinations are granted at postgraduate level.

(e) Special examinations
No special examinations are granted at postgraduate level.

(f) Complying with degree requirements
The degree is awarded when all prescribed modules have been passed.

(g) Degree with distinction
The degree is conferred with distinction if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75% (excluding POU 700).

(h) Curriculum
The curriculum is extended over one year 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.

Total number of credits required: 158

Code	Module	Prerequisites	Credits
First semester			
FIN 701	Advanced management 701		15
KBS 710	Construction management 710		9
KSH 700	Construction quantities 700		12
EUS 710	Feasibility studies 710		9
KBS 785	Research report 785		12
KKR 730	Construction contract law 730		12
KPB 730	Construction project management 730		9
POU 700	Practical development feasibility		1
	Total		**79**
Second semester			
FIN 701	Advanced management 701		15
KBS 720	Construction management 720		9
KEN 740	Construction entrepreneurship 740		9
EUS 720	Feasibility studies 720		9
KBS 785	Research report 785		12
KKR 740	Construction contract law 740	KKR 730 GS	12
KSH 700	Construction quantities 700		12
POU 700	Practical development feasibility 700		1
	Total		**79**

DEGREES IN REAL ESTATE

Real estate is the study of fixed property and related aspects such as property economics, development, management, valuation, financing, investment and marketing. Apart from a future in areas such as property investment, property finance and facilities and property management, further studies to obtain an honours degree in real estate can lead to registration as a professional property valuer. Career opportunities encompass the whole spectrum of the property sector, whether as entrepreneurs in the private sector or as employees in the private, government or semi-governmental sectors.

B.32.1 Bachelor of Science Real Estate [BSc Real Estate] (Code 12132016)

(a) Admission requirements

Refer to General information B.1, B.2 and B.3 in this publication.

(b) Duration

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

(c) Promotion requirements

(i) **Promotion to the second semester of the first year and to the second year of study**

(a) A newly registered first-year student who failed all the prescribed modules for the programme at the end of the first semester shall not be readmitted to the School for the Built Environment in the second semester.

(b) A student who complies with all the requirements of the first year of study, or has at least obtained 110 credits, is promoted to the second year of study.

(c) A student who has not obtained at least 70% of the credits of the first year of study after the November examinations must reapply for admission should he/she intend to continue with his/her studies. Written application must be submitted to the Student administration of the School for the Built Environment no later than 12 January. Late applications will be accepted only in exceptional circumstances after approval by the Dean and conditions of readmission as determined by the admissions committee shall apply should first-year students be readmitted.

(d) Students who have not passed all the prescribed modules of the first year of study, as well as students who are readmitted in terms of (c) must register for the outstanding modules of the first year.

(e) A student who is repeating his/her first year, may, on recommendation of the relevant Head of Department and with the approval of the Dean, be permitted to enrol for modules of the second year of study in addition to the first-year modules which he or she failed, providing that he or she complies with the prerequisites for the second-year modules and that no timetable clashes occur. The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

(ii) **Promotion to the third year of study**

(a) A student who complies with all the requirements of the second year of study, or has at least obtained 230 credits, is promoted to the third year of study.

(b) 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 those modules to the next or a later year provided that no timetable clashes occur.

(c) The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

(d) 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.

(e) 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) Complying to degree requirements

The degree is awarded if all the prescribed modules have been passed.

(e) Degree with distinction

The degree is conferred with distinction on a student:

(i) if no module of the second and third study year was repeated and a weighted average of at least 75% was obtained in one year in all the modules (excluding JCP 201), of the final study year;

(ii) the degree programme was completed within the prescribed three study years, and the final study year modules were passed on first registration without any supplementary or special examinations.

(f) Curriculum

The curriculum is 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.

Total number of credits required: 369

Code	Module	Prerequisites	Credits
FIRST YEAR			
First semester			
ALL 122	Academic literacy for Construction Economics 122		6
BOU 111	Building drawings 111		6
BWT 110	Building science 110		9
AIM 101	Academic information management 101		6
GBD 112	Building services 112		6
HVH 101	Quantities 101		12

EKN 110	Economics 110		10
EWS 110	Real estate 110		6
WTW 133	Precalculus 133		8
	Total		**69**
Second semester			
BGG 121	Building organisation 121		3
BOU 121	Building drawings 121		6
BWT 120	Building science 120	BWT 110 GS	9
EKN 120	Economics 120	EKN 110 GS	10
EWS 120	Real estate 120	EWS 110	6
GBD 122	Building services 122		6
HVH 101	Quantities 101		12
OMG 122	History of the environment 122		6
	Total		**58**
SECOND YEAR			
First semester			
BWT 210	Building science 210	BWT 110 GS BWT 120 GS	9
EDW 200	Property valuation 200	EKN 110/120 EWS 110/120	6
EWS 210	Real Estate	EWS 110/120	12
FBS 110	Financial management 110		10
GBD 211	Building services 211		6
RES 210	Social research: Introductory methodology 210		20
STK 110	Statistics 110	Maths 5 (60-69%)	13
	Total		**76**
Second semester			
BWT 220	Building science 220		9
EDW 200	Property valuation 200	EKN 110/120 EWS 110/120	6
EWS 220	Real estate 220	EWS 110/120	6
FBS 120	Financial management 120		10
GBD 221	Building services 221		6
OMG 224	History of the environment 224		6
SKE 220	Civil engineering services 220		9
STK 161	Statistics 161	STK 110 GS	6
	Total		**58**
THIRD YEAR			
First semester			
BER 310	Business law 310		16
BWT 310	Building science 310		9
EDW 300	Property valuation 300	EDW 200	6
EWS 310	Real estate 310	EWS 210	9
GBD 311	Building services 311	GBD 221 GS	6
JCP 201	Community-based project 201		4
	Total		**50**

Second semester			
BHU 320	Housing 320		6
BWT 320	Building science 320		9
EDW 300	Property valuation 300	EDW 200	6
EOW 320	Introduction to property law 320		6
EWS 320	Real estate 320	EWS 120 EDW 200	9
JCP 201	Community-based project 201		4
FBV 320	Property financial mathematics 320		6
NNM 320	Research methodology 320		6
VKN 320	Sustainable construction 320		6
	Total		**58**

B.32.2 Bachelor of Science Honours Real Estate [BScHons in Real Estate] (Code 12242016)

Refer to G Regulations G.16 to G.29 and G.54.

(a) Admission requirements

The rules must be read together with the stipulations of the G Regulations.

Minimum admission requirements

A person shall not be admitted as a candidate for the degree unless he or she:

(a) is a graduate of the BSc in Real Estate degree of this University; or

(b) is the holder of any three-year bachelor's degree of this, or any other university recognised for the purpose by the head of department as equivalent to the BSc in Quantity Surveying degree of this University; or

(c) has in any other manner attained a level of competence which in the opinion of the head of department is adequate for the purpose of admission.

Selection

Selection is based on an applicant's academic record and experience. Applicants may be required to attend an interview and/or write an entrance examination.

(b) Duration

The period of study is one year. A student is required to attend lectures diligently, but in addition it is recommended, to work at least 480 hours part-time for a suitable employer in the building/construction industry. It will be expected of students to keep a logbook on the prescribed template.

(c) Examination admission

A minimum semester/year mark of 40% is required in order to be admitted to the examination in a specific module. In addition, all other examination admission requirements, applicable to the relevant module, must have been met.

(d) Supplementary examinations

No supplementary examinations are granted at postgraduate level.

(e) Special examinations
No special examinations are granted at postgraduate level.

(f) Complying with degree requirements
The degree is awarded when all prescribed modules have been passed.

(g) Degree with distinction
The degree is conferred with distinction if students registered for the degree for the first time, complete the degree within the minimum prescribed time and pass all modules with a weighted average of 75% (excluding POU 720).

(h) Curriculum
The curriculum is extended over one year 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.

Total number of credits required: 131

Code	Module	Prerequisites	Credits
First semester			
BKR 700	Building cost estimation 700		12
EBM 710	Property marketing 710		6
EBS 710	Facilities management 710		6
EDW 700	Property valuation 700		6
EMW 785	Research report 785		15
EOW 711	Property development 711		9
KBS 710	Construction management 710		9
POU 720	Practical development feasibility 720		1
	Total		**64**
Second semester			
BKR 700	Building cost estimation 700		12
BTP 700	Management practice 700		6
EBM 720	Market and location studies 720		6
EDW 700	Property valuation 700		6
EUS 720	Feasibility studies 720		9
EMW 785	Research report		15
HKR 720	Law of lease contracts 720		6
PMN 720	Property investment 720		6
POU 720	Practical development feasibility 720		1
	Total		**67**

MASTER'S PROGRAMMES

Refer to G Regulations G.30 to G.40 and G.50 to G.54.

Subject to the stipulations of the G Regulations G.1.3, G.30 and G.54, a BScHons 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 mini-dissertation. The requirements for the two options are set out below.

(a) By virtue of a dissertation and examination

(i) **Duration and curriculum**

(a) 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.

(b) 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 mini-dissertation

(i) **Duration and curriculum**

(a) The degree can be obtained by successfully completing a curriculum with coursework and a mini-dissertation.

(b) The modules are presented in block weeks. The attendance of block weeks is compulsory. All examinations are conducted at the Department of Construction Economics, South Campus, University of Pretoria.

(c) The minimum period of study is two years part-time.

(d) The curriculum is compiled in consultation with the Head of Department.

(ii) **Pass requirements**

(a) A minimum of 40% is required in the examination, with a minimum final mark of 50% to pass.

(b) Examination requirements are set out in the departmental study manuals.

(c) The topic of the mini-dissertation must be approved by the Head of Department and a minimum of 50% is required to pass.

(d) 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 mini-dissertation and a weighted average of at least 65% in the remaining modules, constituting the required credits for the MSc Real Estate degree.

(iii) **Admission requirements**

A candidate for the degree Master of Science Real Estate by means of coursework and a mini-dissertation must:

(a) be a graduate with a BScHons Real Estate degree or an equivalent university degree;

or

(b) have an appropriate recognised tertiary qualification at honours degree level and show sufficient past experience, or additional education in the discipline of real estate to the satisfaction of the Head of Department (refer also to G Regulation G.54).

B.33 Master of Science Quantity Surveying
[MScQS] by means of a dissertation and examination (Code 12252010)
MSc (Applied Science) (Code 12252018)

(a) Dissertation: BRK 890

B.34 Master of Science Construction Management
[MSc Construction Management] by means of a dissertation and examination
(Code 12252012)
[MSc (Applied Science)] (Code 12252019)

(a) Dissertation: KBS 891

B.35 Master of Science Real Estate
[MSc Real Estate] by means of a dissertation and examination (Code 12252020)
[MSc Real Estate] by means of coursework and a mini-dissertation (Code 12252015)
[MSc (Applied Science)] (Code 12252017)

(a) Dissertation: EMW 890 (180 credits)
(b) Mini-dissertation: EMW 892 (60 credits)

With reference to paragraph (b)(i)(d) above, the curricula for MSc Real Estate degree per coursework and mini-dissertation are compiled from the modules listed below.
In order to be considered for the MSc Real Estate degree by coursework to be awarded, a candidate should have obtained a minimum of 120 credits for modules and in addition, have submitted and passed an applicable mini-dissertation (60 credits), i.e. a total of 180 credits.

MSc Real Estate		
Compulsory modules		**Credits**
EBS 801	Property management 801	20
EDW 801	Property valuation 801	20
EDW 802	Property valuation 802	20
EMW 892	Mini-dissertation 892	60
EOW 801	Property development 801	20
EOW 822	Property development 822	10
FAM 822	Facilities management 822	10

NNM 820	Research methodology 820	10
PMN 820	Property investment 820	10
Total credits:		**180**

The above curriculum will be presented for the last time during 2015. The following new curriculum will be presented from 2016. Transitional regulations will then be published.

New curriculum from 2016

(a) Dissertation: EMW 890 (180 credits)
(b) Mini-dissertation: EMW 892 (120 credits)

With reference to paragraph (b)(i)(d) above, the curricula for MSc Real Estate degree per coursework and mini-dissertation are compiled from the modules listed below.
In order to be considered for the MSc Real Estate degree by coursework to be awarded, a candidate should have obtained a minimum of 60 credits for modules and in addition, have submitted and passed an applicable mini-dissertation (120 credits), i.e. a total of 180 credits.

MSc Real Estate		
Compulsory modules		**Credits**
EMW 892	Mini-dissertation 892	120
NNM 820	Research methodology 820	10
Total credits:		**130**
Electives		**Credits**
EDW 801	Advanced property valuation 801	20
EOW 801	Advanced property development 801	10
PMN 820	Advanced property investment 820	10
EWS 810	International real estate 810	10
EDR 820	Public real estate 820	10
EUS 801	Sustainability in the built environment 801	20
Total credits:		**180**

The Head of Department may, at own discretion, allow for any other module that is deemed appropriate for an individual student's circumstances, to be taken elsewhere as elective in lieu of the abovementioned elective modules.

Total credits: 180

DOCTORAL PROGRAMMES

Refer to G Regulations G.42 to G.54.

(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.36 Doctor of Philosophy [PhD] (Code 12262014)

Thesis: BRK 990

B.37 Doctor of Philosophy [PhD] (Code 12262015)

Thesis: KBS 990

B.38 Doctor of Philosophy [PhD] (Code 12262016)

Thesis: EMW 990

DEGREES IN THE DEPARTMENT OF TOWN AND REGIONAL PLANNING

Town and regional planning is primarily concerned with 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.39 Bachelor of Town and Regional Planning [BT&RP] (Code 12132022)

(a) Admission requirements
Refer to General information B.1, B.2 and B.3 in this publication.

(b) Duration
The minimum duration of study is four years full-time.

(c) Promotion requirements

(i) **Promotion to the second semester of the first year and to the second year of study**

(a) A new first-year student who fails all the prescribed modules for the programme at the end of the first semester shall not be readmitted to the School for the Built Environment in the second semester.

(b) A student is promoted to the second year provided the student (1) has obtained at least 100 credits; and (2) is not repeating more than one first-year Town and Regional planning module per semester.

(c) A student who is not promoted to the second year of study in terms of (b) may not register for second-year Town and Regional planning modules.

(d) Students who have not obtained at least 100 credits of the first year of study after the November examinations must apply for re-admission should they intend to proceed with their studies. Written application must be submitted to the student administration for the School for the Built Environment no later than 12 January. Late applications will only be accepted under exceptional circumstances and with approval by the Dean. If first year students are readmitted, conditions of readmission will be set by the admissions committee.

(e) Students who have not passed all the prescribed modules of the first year of study, as well as students who are readmitted in terms of (d) must register for the outstanding modules of the first year.

(ii) **Promotion to the third year of study**

(a) A student is promoted to the third year provided the student (1) has obtained at least 210 credits; (2) is not repeating more than one second-year town and regional planning module per semester; and (3) is not repeating any first-year Town and regional planning module.

(b) A student who is not promoted to the third year of study in terms of (a) may not register for third-year Town and regional planning modules.

(iii) **Promotion to the fourth year of study**

(a) A student is promoted to the fourth year provided the student (1) has obtained at least 310 credits; (2) is not repeating more than one third-year Town and regional planning module per semester; and (3) is not repeating any second-year Town and Regional planning module.

(b) A student who is not promoted to the fourth year of study in terms of (a) may not register for fourth-year Town and Regional planning modules.

(c) 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.

(d) The degree is awarded if all the prescribed modules have been passed.

(d) Degree with distinction

The degree is conferred with distinction on a student who, at first registration passes all modules of the final year with a weighted average of 75%. The degree must have been completed within the minimum prescribed time. Exceptional cases will be considered by the Dean.

(e) Curriculum

Total credits 512

Code	Module	Prerequisites	Credits
FIRST YEAR			
First semester			
ALL 123	Academic literacy for Town and Regional Planning 123		6
TPA 110	Site analysis and assessment 110		16
TPH 110	Planning and settlement histories before the Industrial Revolution 110		12
TRP 110	Introduction to planning 110		12
AIM 101	Academic information management 101		6
EKN 110	Economics 110		10
SOC 110	Sociology 110		12
STK 110	Statistics 110	Maths 5 (60-69%)	13
	Total		**87**
Second semester			
TPA 120	Settlement analysis and assessment 120		16
TPH 120	Planning and settlement histories since the Industrial Revolution 120		12
TPS 120	Principles of settlement design 120		12
EKN 120	Economics 120	EKN 110 GS	10
SOC 120	Sociology 120		12
STK 120	Statistics 120	STK 110 GS	13
	Total		**75**
SECOND YEAR			
First semester			
TPA 210	Plan and policy analysis and assessment 210		12
TPD 210	Introduction to development planning 210		12
TPS 210	Settlement design concepts 210		16
TPU 210	Land use management theory 210		12
JCP 201	Community-based project 201		4
And one module of choice between either Economics OR Sociology:			
EKN 214	Economics 214	EKN 110 GS EKN 120 STK 110 GS STK 120 GS	16
SOC 210	Sociology 210	SOC 110 GS SOC 120 GS	20
	Total		**72**

Second semester			
TPD 220	Municipal development planning 220		12
TPS 220	Settlement establishment and housing delivery 220		16
TPU 261	Urban land development economics 261		6
TPU 262	Land use management practice 262		6
JCP 201	Community-based project 201		4
And one module of choice between either Economics OR Sociology:			
EKN 234	Economics 234	EKN 214 STK 110	16
SOC 220	Sociology 220	SOC 110 SOC 120 GS	20
	Total		**60**

THIRD YEAR			
First semester			
TPD 310	Regional development planning 310		12
TPS 310	Spatial concepts 310		16
TPW 310	Institutional and legal structures for planning 310		12
And one module of choice between either Economics OR Sociology:			
EKN 310	Economics 310	STK 120 EKN 214 EKN 234	20
SOC 310	Sociology 310	SOC 120 SOC 210 GS SOC 220 GS	30
	Total		**60**

Second semester			
TMS 320	Transport planning and municipal services provision 320		16
TPD 320	Rural development planning 320		12
TRP 320	Planning prospects 320		12
And one module of choice between either Economics OR Sociology:			
EKN 320	Economics 320	EKN 310 GS	20
SOC 320	Sociology 320	SOC 210 SOC 220 GS	30
	Total		**60**

FOURTH YEAR			
First semester			
TPE 410	Research methodology 410		12
TPI 454	Planning interventions: Supranational, national and provincial scale 454		12
TPI 452	Planning interventions: Peri-urban and rural scale 452		12
TRP 412	Professional practice 412		6
	Total		**42**

Second semester			
POU 720	Practical development feasibility 720	Final year only	2
TPE 420	Research report 420	TPE 410	30
TPI 453	Planning interventions: Metropolitan scale 453		12
TPI 451	Planning interventions: Precinct scale 451		12
	Total		**56**

MASTER'S AND DOCTORAL PROGRAMMES

B.40 Master of Town and Regional Planning [MT&RP]

Refer to the G Regulations G.30 to G.44 and G.57 to G.62.

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

Subject to the stipulations of G Regulations G.30, G.35 en G.36 the BT&RP degree or an acceptable qualification, as well as practical experience deemed adequate by the Head of 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 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 pass mark 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.

Dissertation: SSB 890 (180 credits)

(b) Code 12252023: By virtue of coursework and a mini-dissertation

Subject to the stipulations of G Regulations G.30, G.35 and G.36, a relevant four-year degree, or a relevant three-year degree plus honours degree, or a relevant three-year degree plus a minimum of five 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 mini-dissertation. 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 mini-dissertation. A minimum semester/year mark of 40% is required in order to be admitted to the final examination in a specific module. In addition, all other examination admission requirements, applicable to the relevant module, must be met. A minimum pass mark of 40% is required in the examination, with a minimum final mark of 50% to pass.

(c) Duration

The minimum duration of study is two years.

(d) Curriculum

Total credits: 240

Code	Module	Prerequisites	Credits
FIRST YEAR			
First semester			
TPI 811	Metropolitan and urban area-based interventions 811		20
TPS 810	Sustainable settlement planning and design 810		20
TRP 810	An overview of planning theory and practice 810		20
	Total		**60**
Second semester			
TPD 820	Integrated development planning 820		20
TPI 821	Regional interventions 821		20
TPS 820	Introduction to urban design 820		20
	Total		**60**
SECOND YEAR			
First Semester			
TPE 810	Research methodology 810		20
TPU 810	Land use management and land development 810		20
TPW 810	Institutional and legal structures for planning 810		20
	Total		**60**
Second Semester			
TPE 820*	Mini-dissertation 820	TPE 810	60
	Total		**60**

*The topic of the mini-dissertation must be approved by the Head of Department.

B.41 Doctor of Philosophy [PhD] (Code 12262022)

Refer to G Regulations G.42 to G.54.

(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.

Thesis: SSB 990 (360 credits)

ALPHABETICAL LIST OF MODULES IN THE SCHOOL FOR BUILT ENVIRONMENT

 # = Concurrent registration
() = Examination admission
dpw = discussions per week
GS = combined (final) mark (semester/year mark plus examination mark) of at least 40% - 49%
hpw = hours per week
LP = Lecturer's permission
lpw = lectures per week
ppw = practicals per week
spw = seminars per week
TDH = Permission by head of department
tpw = tutorials per week
opw = other mode of presentation per week

AAL 110 Earth studies 110
Academic organisation: Architecture
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 10
Module content:
Introduction to the basic concepts of ecology, natural resources and stress on the environment; systems thinking; earth as system; changing paradigms and values; ecological design principles.

AAL 210 Earth studies 210
Academic organisation: Architecture
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
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
Academic organisation: Architecture
Contact time: 3 lpw
Period of presentation: Quarter 3
Language of tuition: Both Afr and Eng **Credits:** 4
Module content:
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 224 Earth studies 224
Academic organisation: Architecture
Contact time: 3 lpw
Period of presentation: Quarter 4
Language of tuition: Both Afr and Eng **Credits:** 4
Module content:
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.

AAL 320 Earth studies 320
Academic organisation: Architecture
Prerequisite: AAL 210
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
Ecosystemic thinking for the designer in terms of culture, science and environment. The designer as critic; analysis of precedents. Application of principles of sustainable development and ecological design including energy demand and efficiency and energy dissipation.

ARC 110 Elective module 110
Academic organisation: Architecture
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 6

ARG 890 Dissertation: Architecture 890
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 180

ARG 895 Mini-dissertation 895
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 100

ARG 990 Thesis: Architecture 990
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 360

BGG 121 Building organisation 121
Academic organisation: Construction Economics
Contact time: 1 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 3
Module content:
The structure of the building industry and the role of building disciplines and related parties.

BHU 320 Housing 320
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
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
Academic organisation: Construction Economics
Contact time: 4 lpw
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 24
Module content:
Estimation of building costs – principles and process; elements of a price; rough quantities and inclusive quantities (elemental and builders' quantities) for estimating; estimating methods; pricing of various trades and preliminaries; analysis of building cost; building cost escalation; design cost management.

BOU 111 Building drawings 111
Academic organisation: Construction Economics
Contact time: 1 lpw 1 ppw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Students are introduced to design aspects in the built environment by doing basic technical drawings of simple building structures with appropriate detail sketches. Assignments during the semester expose the students to building plan interpretation through the following topics: foundations; super-structure; roof structure; window and door types; plan and sectional drawings and local authority submission criteria.

BOU 121 Building drawings 121
Academic organisation: Construction Economics
Contact time: 1 lpw 1 ppw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Broadens the vocabulary of the technical language from BOU 111. Students are introduced to other aspects of the building industry that include the following topics: topography; symbols; ergonomic design principles; orientation of buildings; perspective drawings; waterproofing and damp course applications.

BRK 300 Quantity surveying practice 300
Academic organisation: Construction Economics
Prerequisite: HVH 200 GS
Contact time: 3 lpw
Period of presentation: Year

Language of tuition: Double Medium **Credits:** 18
Module content:
Management theory; basic principles of production management, lists of materials; pricing; payment certificates; final accounts; contract price adjustments; application of computer-based measuring programmes.

BRK 700 Quantity surveying practice 700
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 12
Module content:
Construction Procurement Guidelines; standards for uniformity; contract administration; project administration; conditions of appointment and fee accounts; consortiums; tendering for professional services; professional indemnity; Public Private Partnerships; Quantity Surveying Professions Act; Council for the Built Environment Act; CIDB Act. Construction Industry Development Board Act (CIDB Act), Public Finance Management Act (PFMA), Municipal Finance Management Act (MFMA) and Preferential Procurement Policy Framework Act (PPPFA).

BRK 785 Research report 785
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 24
Module content:
An essay on a subject approved by the head of department should be handed in during the final year of study.

BRK 890 Dissertation: Quantity Surveying 890
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 180

BRK 895 Mini-dissertation: Quantity surveying 895
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 180

BRK 990 Thesis: Quantity surveying 990
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 360

BTP 700 Management practice 700
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
A study of effective business management with reference to various organisational functions. Attention is paid to the built environment practitioner within this context.

BWT 110 Building science 110
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Principles, methods and materials used in best practice in the construction of simple single-storey buildings up to wall plate height.

BWT 120 Building science 120
Academic organisation: Construction Economics
Prerequisite: BWT 110 GS
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Principles, methods and materials used in best practice in the construction of simple single-storey buildings from wall plate height to completion including finishes and external work. Introduction to alternative practices and materials for sustainability.

BWT 210 Building science 210
Academic organisation: Construction Economics
Prerequisite: BWT 110 GS and BWT 120 GS
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Erection and construction of multi-storey buildings, including site management and temporary site work, building equipment and earthwork machinery, specialised foundations, bulk excavations and advanced concrete construction including retaining walls. Timber and steel structures as construction methods**.**

BWT 220 Building science 220
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 9
Module content:
Material study of metals and advanced materials. Study and development of sensitivity for and the philosophy of industrial safety, accident prevention and total loss control safety risk management in the construction industry.

BWT 310 Building science 310
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Erection and construction of specialised building components and finishes. Acoustics. Material study of plastics, glues, rubber, mastics, bonding agents, fibre cement, bituminous products, sealers, epoxies and waterproofing.

BWT 320 Building science 320
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 9
Module content:
Thermal properties of insulation systems and construction materials. Critical review of current development and construction practice; alternative construction technologies; innovation in construction; technical evaluation of innovative construction materials and methods; life cycle costing and life cycle analysis; the National Building Regulations.

CPD 710 Continuing practice development 710
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 1
Language of tuition: English **Credits:** 6

CPD 720 Continuing practice development 720
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 2
Language of tuition: English **Credits:** 6

CPD 730 Continuing practice development 730
Academic organisation: Architecture
Contact time: 20 lpw
Period of presentation: Quarter 4
Language of tuition: English **Credits:** 6

CPD 740 Continuing practice development 740
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 3
Language of tuition: English **Credits:** 6

CPD 810 Continuing practice development 810
Academic organisation: Architecture
Contact time: 20 lpw
Period of presentation: Quarter 1
Language of tuition: English **Credits:** 10

DIT 801 Design investigation 801
Academic organisation: Architecture
Contact time: 1 spw 10 lpw
Period of presentation: Year
Language of tuition: English **Credits:** 50

DIT 802 Design investigation 802
Academic organisation: Architecture
Contact time: 1 spw 10 lpw
Period of presentation: Year
Language of tuition: English **Credits:** 50

DIT 803 Design investigation 803
Academic organisation: Architecture
Contact time: 1 spw 10 lpw
Period of presentation: Year
Language of tuition: English **Credits:** 50

DPD 801 Mini-dissertation: Design project and discourse 801
Academic organisation: Architecture
Contact time: 6 spw
Period of presentation: Year
Language of tuition: English **Credits:** 60

DPD 802 Mini-dissertation: Design project and discourse 802
Academic organisation: Architecture
Contact time: 6 spw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60

DPD 803 Mini-dissertation: Design project and discourse 803
Academic organisation: Architecture
Contact time: 6 spw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60

EBM 710 Property marketing 710
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Marketing of professional services in the property industry. Marketing of large scale property developments. Marketing of specialized property services, i.e. shopping centre activities, hotels and hospitality properties, etc. Marketing of equity capital structures.

EBM 720 Market- and location studies 720
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
Market- and marketability analysis, the influence of location on the marketability and cost of ownership of property, different location models.

EBS 710 Facilities management 710
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Management of different types of facilities and portfolios of assets. Principles of outsourcing and the outsourcing decision. Contractual relationships in facilities- and asset management.

EBS 801 Property management 801
Academic organisation: Construction Economics
Prerequisite: EOW 801
Contact time: 40 contact hours per semester
Period of presentation: Year
Language of tuition: English **Credits:** 20

EDW 200 Property valuation 200
Academic organisation: Construction Economics
Prerequisite: EKN 110/120, EWS 110/120
Contact time: 2 lpw
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 12
Module content:
Property economics and -finance, welfare and economic efficiency: economic efficiency through the price system. Real property: characteristics and functions of the real property market; pricing of land and resources. Development: the development process; timing and rate of development; finance for development; redevelopment; public sector development; economics of planning controls; the construction industry. Urban land use: land use and land values; pattern of urban land use; growth of urban areas; quality of urban environment; housing; regional policy. The government and land resources: impact of government economic policy on land resources; theory of urban public finance; taxation and land resources; recent developments.

EDW 300 Property valuation 300
Academic organisation: Construction Economics
Prerequisite: EDW 200
Contact time: 2 lpw
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 12
Module content:
The concept of value, the valuer, standard of valuations, the Surveyor-general, local authorities, land use planning, town planning regulations, calculation of areas, records of the valuer. Factors affecting the value of different types of properties, appreciation and depreciation, different approaches to valuation, the value of improvements, the valuation report.

EDW 700 Property valuation 700
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 12
Module content:
Valuation of income-producing properties, commercial properties, lease agreements, land with development potential, mass valuation techniques and jurisprudence regarding property valuation.

EDW 801 Property valuation 801
Academic organisation: Construction Economics
Contact time: 40 contact hours per semester
Period of presentation: Year
Language of tuition: English **Credits:** 20

EDW 802 Property valuation 802
Academic organisation: Construction Economics
Contact time: 40 contact hours per semester
Period of presentation: Year
Language of tuition: English **Credits:** 20

EMW 785 Research report 785
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 30
Module content:
A research report on a subject approved by the head of department has to be completed during the final year of study.

EMW 890 Dissertation: Real estate 890
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 180

EMW 892 Mini-dissertation: Real estate 892
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 60

EMW 990 Thesis: Real estate 990
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 360

EOW 320 Introduction to property law 320
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
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.

EOW 711 Property development 711
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Principles of various types of residential, commercial and industrial property developments.

EOW 801 Property development 801
Academic organisation: Construction Economics
Contact time: 40 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20

EOW 822 Property development 822
Academic organisation: Construction Economics
Contact time: 10 lpw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 10

EUS 710 Feasibility studies 710
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Overview of factors affecting the feasibility of proposed property developments, including a brief introduction to town planning, valuation, financing, marketing and investment principles.

EUS 720 Feasibility studies 720
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 9
Module content:
Detailed financial viability studies of different types of property developments; value management and life-cycle costing.

EWS 110 Real estate 110
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Introduction to real estate. Different stakeholders in the property industry and the relationship to other industries. Fields of specialization in the property industry and the role and interaction of each.

EWS 120 Real estate 120
Academic organisation: Construction Economics
Prerequisite: EWS 110
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Introduction to property development. A study of the principles of property development including the relevant statutes and ordinances: Urban development, control of land in South Africa. Town planning.

EWS 210 Real estate 210
Academic organisation: Construction Economics
Prerequisite: EWS 110/120
Contact time: 4 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 12

Module content:
Property Management. The role of the property manager, functions of property management, the management contract, the owner/manager relationship, principles of property maintenance, principles of energy management, principles of risk management, fire prevention and control, emergency management, environmental impact and pollution aspects, and management budgets.

EWS 220 Real estate 220
Academic organisation: Construction Economics
Prerequisite: EWS 110/120
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Property marketing. The role of property marketing in the real estate industry. Marketing principles and objectives. Methods of marketing of different types of property to obtain optimum results.

EWS 310 Real estate 310
Academic organisation: Construction Economics
Prerequisite: EWS 210
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Property investment. The nature and scope of real estate investment, objectives of property investors, participants in the property investment process, the investment decision process, investment criteria, investment time horizons, decision-making approaches, different taxes applicable to property investment and -development.

EWS 320 Real estate 320
Academic organisation: Construction Economics
Prerequisite: EWS 120, EDW 200
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Overview of property development: the establishment of townships, types of dwelling units and housing types, principles of medium and high density residential developments, sectional title and group housing, development of retirement centres, introduction to commercial property development.

FAM 822 Facilities management 822
Academic organisation: Construction Economics
Contact time: 10 lpw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 10

FBV 320 Property financial mathematics 320
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2

Language of tuition: Double Medium **Credits:** 6
Module content:
Application of the principles of interest calculations on the property industry; more specifically the time value of money, introduction to financial return techniques, net present values and internal rate of return.

FMT 700 Financial management 700
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 18
Module content:
Budget estimates, cash-flow schedules, financial statements and construction financial management calculations and accounting.

GBD 112 Building services 112
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
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.

GBD 122 Building services 122
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
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; water and energy saving.

GBD 211 Building services 211
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 6
Module content:
Introduction to the principles of indoor comfort. Heating, ventilation and air-conditioning systems. Installation and operation of lifts and other mechanical services. Fire detection and protection.

GBD 221 Building services 221
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
Theory of electricity; regulations of electricity-supply authorities; electrical installations; distribution of electricity.

GBD 311 Building services 311
Academic organisation: Construction Economics
Prerequisite: GBD 221 GS
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 6
Module content:
Principles of illumination; illumination installations; lightning security; security systems; communication systems. Multimedia installations.

HKR 720 Law of lease contracts 720
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
Principles of the contractual relationship between tenant and landlord for different types of properties, general clauses that should be included in leases and the legal consequences for parties involved.

HVH 101 Quantities 101
Academic organisation: Construction Economics
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 24
Module content:
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
Academic organisation: Construction Economics
Prerequisite: BWT 110 GS, BWT 120 GS and HVH 101
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 24
Module content:
Measuring of simple buildings and simple building elements, and external works. Abstracting and billing.

HVH 300 Quantities 300
Academic organisation: Construction Economics
Prerequisite: BWT 210 GS, BWT 220 GS, GBD 112 GS, GBD 122 GS and HVH 200
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 24
Module content:
Measuring of concrete structures, precast concrete, structural steelwork, waterproofing, advanced brickwork, rubble walling, stone masonry, plumbing and drainage and electrical work. Theory of monetary allowances in bills of quantities. Abstracting and billing.

HVH 700 Quantities 700
Academic organisation: Construction Economics
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 24
Module content:
Measuring of demolitions, alterations, advanced earthworks and mechanical services. Preliminaries, types of bills of quantities and compilation of bills of quantities including the application of the procurement prescripts of the Construction Industry Development Board in the Public Sector. Geotechnical and civil engineering works.

INT 890 Dissertation: Interior design 890
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: English **Credits:** 180

INT 990 Thesis: Interior architecture 990
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 360

JCP 201 Community-based project 201
Academic organisation: Informatics
Contact time: 1 other per week
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
This project-orientated module is a form of applied learning which is directed at specific community needs and is integrated into all undergraduate academic programmes offered by the Faculty of Engineering, Built Environment and Information Technology. The main objectives with the module are as follows:
(1) The execution of a community related project aimed at achieving a beneficial impact on a chosen section of society, preferably but not exclusively, by engagement with a section of society which is different from the student's own social background.
(2) The development of an awareness of personal, social and cultural values, an attitude to be of service, and an understanding of social issues, for the purpose of being a responsible professional.
(3) The development of important multidisciplinary and life skills, such as communication, interpersonal and leadership skills.
Assessment in the module will include all or most of the following components: evaluation and approval of project proposal, assessment of oral and/or written progress reports, peer assessment in the event of team projects, written report back by those at which the project was aimed at, and final assessment on grounds of the submission of a portfolio and a written report.

KBS 310 Construction management 310
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9

Module content:
General functions and techniques of management. Office administration.

KBS 320 Construction management 320
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 9
Module content:
Purchasing and Supply management and handling of building materials.

KBS 710 Construction management 710
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Operational management techniques, productivity, work study and effect on price determination. Construction programming techniques.

KBS 720 Construction management 720
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 9
Module content:
Human resource management. An approved certificate in first aid has to be submitted before this module will be awarded.

KBS 785 Research report 785
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 24
Module content:
An essay on a subject approved by the head of department has to be completed during the final year of study.

KBS 803 Construction management 803
Academic organisation: Construction Economics
Contact time: 10 lpw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 16

KBS 804 Construction management 804
Academic organisation: Construction Economics
Contact time: 20 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 16

KBS 805 Construction management 805
Academic organisation: Construction Economics
Contact time: 20 contact hours per semester
Period of presentation: Semester 2
Language of tuition: English **Credits:** 16

KBS 891 Dissertation: Construction management 891
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: English **Credits:** 180

KBS 990 Thesis: Construction management 990
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 360

KEN 740 Construction entrepreneurship 740
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 9
Module content:
Entrepreneurship, strategic management and marketing. Business ethics.

KIT 311 Construction information technology and communication 311
Academic organisation: Construction Economics
Prerequisite: Final year only
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Orientation in the use of electronic technologies and aids in the construction industry. Confident group communication. Effective communication in organisations: the process of communication, formal meetings, the interview, planning and organising messages, intercultural communication.

KKR 730 Construction contract law 730
Academic organisation: Construction Economics
Contact time: 4 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
Construction law and law of delict – an overview; history of building contracts in South Africa; JBCC principal building and nominated/selected subcontract agreements: interpretation, insurance and security, execution, completion, payment, suspension and termination, dispute resolution; JBCC minor works agreement; case studies.

KKR 740 Construction contract law 740
Academic organisation: Construction Economics
Prerequisite: KKR 730 GS
Contact time: 4 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12
Module content:
Application and terms of CIDB endorsed standard construction contracts other than JBCC (GCC, NEC and FIDIC); case studies. Alternative dispute resolution: mediation, adjudication and arbitration; litigation – an overview; law of delict; negligence and damage to property.

KON 111 Construction 111
Academic organisation: Architecture
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 8
Module content:
Drawing conventions. Typical city site: city block, shape, title, services. Single-storeyed buildings: preparation for building work. Setting out, foundations, foundation walls, filling. Damp proofing. Surface beds, steps, level differences, stoeps. Superstructure 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 121 Construction 121
Academic organisation: Architecture
Prerequisite: KON 111 GS
Contact time: 1 ppw 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 8
Module content:
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. Storm water. Introduction to materials: properties, movement, binding, thermal properties, water resistance, durability, appearance, production, economy. Concrete, clay bricks, mortar, bond. Concrete blocks, modular coordination. Building stone. Timber. Steel. Fasteners.

KON 210 Construction 210
Academic organisation: Architecture
Prerequisite: KON 111 and KON 121
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
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 220 Construction 220
Academic organisation: Architecture
Prerequisite: KON 210 GS
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
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 310 Construction 310
Academic organisation: Architecture
Prerequisite: KON 210 and KON 220
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 8
Module content:
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 and gas. Electrical lighting: light, lamp types, luminaires; lighting requirements. Design application.

KON 320 Construction 320
Academic organisation: Architecture
Prerequisite: KON 310 GS
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
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/landscape/interior space (in DESIGN) and the preparation of its construction drawings.

KPB 730 Construction project management 730
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 9
Module content:
Introduction to project management in the building and property industry. Key processes, knowledge areas and techniques are covered.

KSH 201 Construction quantities 201
Academic organisation: Construction Economics
Prerequisite: BWT 110 GS, BWT 120 GS and HVH 101
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 24
Module content:
Measuring of simple buildings and simple building elements and external works. Abstracting and billing.

KSH 300 Construction quantities 300
Academic organisation: Construction Economics
Prerequisite: BWT 210 GS, BWT 220 GS, GBD 112 GS, GBD 122 GS and KSH 201
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 24

Module content:
Measuring of simple concrete structures, structural steelwork, plumbing and drainage, and alterations. Material lists, analysis of building costs, certificates, contract price adjustment provisions (CPAP) and final accounts.

KSH 700 Construction quantities 700
Academic organisation: Construction Economics
Contact time: 1 ppw 3 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 24
Module content:
Preliminaries and pricing thereof, different types of bills of quantities, tender documentation, economical designs, builder's quantities and building cost estimates, analysis of building costs, calculation of professional fees. Practical contractor's administration and internal and external cost management. Project and Construction Management Professions Act; Council for the Built Environment Act (CBE Act); Construction Industry Development Board Act (CIDB Act). Geotechnical and civil engineering works.

LAN 212 Landscape architecture 212
Academic organisation: Architecture
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 8
Module content:
Introductory Botany and plant diversity; plant design philosophy; criteria and process for plant material selection and preparing plant material lists; plant classification; identification of genera and species.

LAN 222 Landscape architecture 222
Academic organisation: Architecture
Prerequisite: LAN 212 GS
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 8
Module content:
The role of plant geography in plant selection and the identification of plant species specific to their natural environment; practical considerations in plant selection.

LAN 890 Dissertation: Landscape architecture 890
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: English **Credits:** 180

LAN 990 Thesis: Landscape architecture 990
Academic organisation: Architecture
Period of presentation: Year
Language of tuition: English **Credits:** 360

MST 223 Material studies 223
Academic organisation: Architecture
Contact time: 3 lpw

Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 8
Module content:
Introduction to materials with applications in the field of interior design: material families, basic properties and selection. Wall (partition), ceiling and floor finishes. Window treatments. Ceramics as architectural finishes. Surface theory 1 (including colour and interior paint applications).

MST 313 Material studies 313
Academic organisation: Materials Science and Metallurgical Engineering
Prerequisite: TKS 212 and MST 223
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 16
Module content:
Unconventional construction materials: properties, applications.

MST 323 Material studies 323
Academic organisation: Architecture
Prerequisite: MST 313
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 8
Module content:
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 303) and construction (KON 320)

NNM 320 Research methodology 320
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
Introduction to scientific research. Planning and preparation of a research project. Different research methods.

NNM 820 Research methodology 820
Academic organisation: Construction Economics
Contact time: 10 lpw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 10

OKU 120 Design communication 120
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6

Module content:
Quarter 3: Introduction to basic computer aided design.
Quarter 4: Introduction to the theory of structures: Forces, moments, stresses, strains, Young's Modulus, Structural components: beams, columns and trusses.

OKU 313 Design communication 313
Academic organisation: Architecture
Contact time: 2 lpw 2 studio hours per week
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 6
Module content:
Advanced graphic and presentation techniques.

OMG 122 History of the environment 122
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
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. Buddhism and Shintoism in the East.

OMG 224 History of the environment 224
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
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
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
History of the environment of African societies between the tropics within global context until the present.

OMG 320 History of the environment 320
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
History of the environment of Southern African societies from the old Stone Age until the present.

OML 110 Environmental theory 110
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 6
Module content:
Introductory contextualisation of twentieth century artefacts within the framework of history from Antiquity to Modernity. Building types as artefacts of material culture. Approaches and guidelines to the study of history of the environment. Understanding of the process of endemic construction and its monumentalisation, settlement and urbanisation of various ages and environments. An interdisciplinary investigation of living spaces as shapers of social interaction. The history of the environment of the Mediterranean Antique, Bronze Age, Classical and Biblical societies.

OML 120 Environmental studies 120
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
The history of the environment of and the link between North-Europe and the Mediterranean area, the Arabic peninsula and the Indies, from the fall of Jerusalem up until the fall of Constantinople in 1453 AD. Tao, Shinto and the landscape of the Far East.

OML 210 Environmental theory 210
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
The history of the environment and the link between North-Europe and a newly discovered world from the time of the circumnavigation of the southernmost Cape Point of Africa till the Industrial Revolution.

OML 220 Environmental studies 220
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
History of the environment of Western societies and their dominions from the Industrial Revolution up to the intellectual questioning of Modernism. Southern African housing typologies and Western artefacts as manifestation of socio-political realities since 1488 AD.

OML 310 Environmental studies 310
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 6

Module content:
Normative positions: Normative positions that guide design thinking: Surface features, broad inclinations and differentiating features. Problems of substantiation. Theory and practise.
Theory of design disciplines: A hermeneutic appraisal of contemporary philosophical directions defining the current intellectual context in which the design disciplines are practised and appraised. Contextualising culture, philosophy and science as the ecosystem of the designer.
Housing studies: Contemporary theory, approaches and projects in housing. Developing a personal approach.

OML 320 Environmental studies 320
Academic organisation: Architecture
Prerequisite: OML 310 GS
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
The relationship between global intellectual movements and the local debate. Appraising the state of current design production and the establishment of identity through design. Presentation is programme specific.

ONT 100 Design 100
Academic organisation: Architecture
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60
Module content:
Introduction to design and integration with supporting modules. Design principles, skills and techniques. Small-scale design projects and environmental influences (physical, social, cultural, historical), space requirements and creative interpretation. Acquisition of skills in design communication through imagination, intuition and conceptual thinking. Relation of internal to external space. Anthropometry and ergonomics; visual literacy (visual media, analysis and interpretation) and criticism. The designer as visual thinker. Perception; ideograms. Development of a vocabulary to describe and illustrate the discipline of design. Pertinent theory that informs and supports the design process.

ONT 200 Design 200
Academic organisation: Architecture
Prerequisite: AAL 110, KON 111, KON 121, OML 110, OML 120 and ONT 100
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60
Module content:
The process and product of design through the integration of supporting modules. Spatial design as response to tectonic and contextual influences. The production of space and the reading of place as central concerns in the design disciplines. The design of residential and simple public spaces and buildings with the emphasis on planning, plan-making, structure and economy as design determinants. Skills: programming, site analysis, time management, advanced graphic and reprographic techniques. Pertinent theory that informs and supports the design process in architecture.

ONT 202 Design 202
Academic organisation: Architecture
Prerequisite: AAL 110, KON 111, KON 121, OML 110, OML 120 and ONT 100
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 60
Module content:
The process and product of design through the integration of supporting modules. Site planning and design; design determinants. Exploration of meaning and integrity in landscape design. Skills: programming, site analysis, creative design, time management, advanced graphic techniques, reprographic techniques. Pertinent theory that informs and supports the design process in landscape architecture.

ONT 203 Design 203
Academic organisation: Architecture
Prerequisite: AAL 110, KON 111, KON 121, OML 110, OML 120 and ONT 100
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60
Module content:
The process and product of design through the integration of supporting modules. Spatial design as response to user. Design of inclusive environments, reuse of architectural space, planning and form-giving processes, production and identity as design determinants. The influence of perception, ergonomics and the tectonics on space making. Scenographic, product, exhibition or installation design. Skills: programming, architectural space analysis, time management, advanced graphic and reprographic techniques.
Pertinent theory that informs and supports the design process in interior architecture.

ONT 300 Design 300
Academic organisation: Architecture
Prerequisite: KON 210, KON 220, OML 210, OML 220 and ONT 200
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60
Module content:
Semester 1
The process of design through the integration of supporting modules. The design of spaces and buildings with the emphasis on lateral thinking and ritual. Skills: technology-backed reprographic techniques, competitions and exhibitions, decision making and time planning.
Semester 2
The product of design through the integration of supporting modules. The design of a mixed-use project in an urban context with a complex program developed to construction drawings in KON 320. Statutory requirements, feasibility and payability studies.

ONT 302 Design 302
Academic organisation: Architecture
Prerequisite: KON 210, KON 220, OML 210, OML 220 and ONT 202
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year

Language of tuition: Double Medium **Credits:** 60
Module content:
Semester 1
The process of design through the integration of supporting modules. 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. Skills: technology-backed reprographic techniques, competitions and *exhibitions*, decision making and time planning.
Semester 2
The product of design through the integration of supporting modules. 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 developed to construction drawings in KON 320.

ONT 303 Design 303
Academic organisation: Architecture
Prerequisite: KON 210, KON 220,OML 210, OML 220 and ONT 203
Contact time: 17 studio hours per week 2 lpw
Period of presentation: Year
Language of tuition: Double Medium **Credits:** 60
Module content:
Semester 1
The process of design through the integration of supporting modules. The design of spaces with the emphasis on lateral thinking and ritual through adaptive reuse. Skills: technology-backed reprographic techniques, competitions and exhibitions, decision making and time management.
Semester 2
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 developed to construction drawings in KON 320. Corporate identity, statutory requirements, feasibility and payability studies, tenant mix.

PJS 320 Practice management 320
Academic organisation: Construction Economics
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
The structure of the built environment in South Africa; basic principles and techniques of project management and financial management; methodology of measuring; building cost estimates; feasibility studies; economic design; contract administration; valuation of buildings.

PMN 720 Property investment 720
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6

Module content:
The nature and scope of real estate investment, objectives of property developers, participants in the property investment process, the investment decision process, investment criteria, investment time horizons, decision making approaches

PMN 820 Property investment 820
Academic organisation: Construction Economics
Contact time: : 20 contact hours per semester
Period of presentation: Semester 2
Language of tuition: English **Credits:** 10

POU 700 Practical development feasibility 700
Academic organisation: Construction Economics
Contact time: 20 contact hours
Period of presentation: Semester 1 and Semester 2
Language of tuition: Double Medium **Credits:** 2

POU 720 Practical development feasibility 720
Academic organisation: Construction Economics
Contact time: 3 days excursion
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 2
Module content:
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.

PRB 892 Essay: Project management 892
Academic organisation: Construction Economics
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 60

PWT 312 Plant science 312
Academic organisation: Architecture
Prerequisite: LAN 212 and LAN 222
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 8
Module content:
Plant community studies and conservation within the context of urban open space; implications and management of weeds and invaders, red-data lists and rare and endangered species.
Technical aspects regarding the establishment of plants and the maintenance thereof. Approaches to the establishment of planting in complex urban environments.

PWT 322 Plant science 322
Academic organisation: Architecture
Prerequisite: PWT 312 GS
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 8

Module content:
Ecological principles for planting in reclamation and resettlement. Environmental legislation with reference to environmental management and monitoring.

RFP 700 Project component (Capita selecta) 700
Academic organisation: Architecture
Contact time: 1 spw
Period of presentation: Year
Language of tuition: English **Credits:** 40
Module content:
A capita selecta of the various modules related to the research field that the student is advised to follow by the research field coordinator. Research fields:
- Environment potential
- Housing and urban environments
- Heritage and cultural landscapes.

RFP 710 Research project 710
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 4
Language of tuition: English **Credits:** 20

RFP 711 Research project 711
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 1
Language of tuition: Double Medium **Credits:** 20

RFP 712 Research project 712
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 2
Language of tuition: Double Medium **Credits:** 20

RFP 713 Research project 713
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 3
Language of tuition: Double Medium **Credits:** 20

RFP 720 Research project 720
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 4
Language of tuition: English **Credits:** 20

RFP 721 Research project 721
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 2
Language of tuition: Double Medium **Credits:** 20

RFP 722 Research project 722
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 2
Language of tuition: Double Medium **Credits:** 20

RFP 723 Research project 723
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 2
Language of tuition: Double Medium **Credits:** 20

RFP 730 Research project 730
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 4
Language of tuition: English **Credits:** 6

RFP 731 Research project 731
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 3
Language of tuition: Double Medium **Credits:** 20

RFP 732 Research project 732
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 1
Language of tuition: Double Medium **Credits:** 20

RFP 733 Research project 733
Academic organisation: Architecture
Contact time: 7 ppw
Period of presentation: Quarter 1
Language of tuition: Double Medium **Credits:** 20

RFS 700 Theory component (Capita selecta) 700
Academic organisation: Architecture
Contact time: 1 dpw 2 lpw
Period of presentation: Year
Language of tuition: English **Credits:** 20
Module content:
A capita selecta from one of the following departmental research fields:
- Environment potential
- Housing and urban environments
- Heritage and cultural landscapes.

RFS 710 Theory component 710
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 1
Language of tuition: Double Medium **Credits:** 6

RFS 720 Theory component 720
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 2
Language of tuition: Double Medium **Credits:** 6

RFS 730 Theory component 730
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 3
Language of tuition: Double Medium **Credits:** 6

RFS 740 Theory component 740
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Quarter 4
Language of tuition: Double Medium **Credits:** 6

RFS 890 Research field studies 890
Academic organisation: Architecture
Contact time: 2 lpw
Period of presentation: Year
Language of tuition: English **Credits:** 30

SKE 110 Introduction to structures 110
Academic organisation: Civil Engineering
Contact time: 1 dpw 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Design; basics (forces, moments, equilibrium, reactions, stress, strain); materials; loads; pin-jointed trusses; tension members.

SKE 120 Structures 120
Academic organisation: Civil Engineering
Prerequisite: SKE 110 GS
Contact time: 2 lpw 1 tpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
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.

SKE 210 Reinforced concrete structures 210
Academic organisation: Civil Engineering
Prerequisite: SKE 120 GS
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Properties of reinforced concrete; construction methods; slabs; beams; columns; foundations; retaining walls; placement of reinforcement in the various structural members; basic concepts of pre-stressed concrete.

SKE 220 Civil engineering services 220
Academic organisation: Civil Engineering
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 9
Module content:
Water reticulation; sewerage reticulation; storm water reticulation; roads.

SSB 890 Dissertation: Town and regional planning 890
Academic organisation: Town and Regional Planning
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 180

SSB 990 Thesis: Town and regional planning 990
Academic organisation: Town and Regional Planning
Period of presentation: Year
Language of tuition: Both Afr and Eng **Credits:** 360

STU 211 Theory of structures 211
Academic organisation: Civil Engineering
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
Introduction to structural engineering concepts like design, analysis, sizing and planning of structures. Introduction to Newton's laws, equilibrium, free body diagrams. The application of equilibrium in solving reactions of statically determinate structures. The principles of determinacy and stability of structures. The application of Newton's laws in determining the internal forces in common structural systems like cable structures, trusses, frames and beams. The fundamental principles of weight and forces and how forces are transmitted through structural members and load tracing.

STU 221 Theory of structures 221
Academic organisation: Civil Engineering
Prerequisite: STU 211 GS
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
Introduction to material science in structural engineering. Concepts like stress, strain, elasticity, stress-strain diagrams, elasticity modules, strength and deformation as applied in structural engineering. Cross-sectional properties of structural elements. Types of stresses, and their transmission in structural elements. Introduction to the relationship between stress and strain (deflection) in beams by Coulomb's theory. Introduction to the analysis of compressive structural elements by means of Euler's theory.

STU 311 Theory of structures 311
Academic organisation: Civil Engineering
Prerequisites: STU 211 and STU 221
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 8

Module content:
1. Concrete Structures.
- Loads on concrete structures, Limit-states design principles.
- Bending, shear and punching: Design of beams, slabs and footings.
- Compression members: Design of columns.

2. Load bearing brickwork.
- Limit-states design principles. Effective length and width of compression members.

STU 321 Theory of structures 321
Academic organisation: Civil Engineering
Prerequisite: STU 311 GS
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 8
Module content:
1. Timber structures
- Loads on typical timber structures, Limit-states design principles
- Bending, shear and deflection: Design of flexural members without and with axial loads
- Tension members: Tension members in roof trusses
- Compression members: Design of compression members in trusses and as support members for trusses
- Bracing systems

2. Steel Structures
Loads on typical steel structures, Limit-states design principles
- Bending, shear and deflection: Design of flexural members without and with axial loads
- Tension members: Tension members in roof trusses
- Compression members: Design of compression members in trusses and as support members for trusses
- Bracing systems

TMS 320 Transport planning and municipal services provision 320
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 16
Module content:
Section A – Transport planning: environmental, economic and social impact of transport; transport planning process; introduction to transport studies and evaluation; public transport; functional road hierarchy; geometric road layout; road reserve dimensions; parking; preparation of a layout.
Section B – Municipal services provision: water supply; sanitation; stormwater disposal; energy supply; public lighting; solid waste removal; inclusion of municipal services in the layout.

TPA 110 Site analysis and assessment 110
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 16

Module content:
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
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 16
Module content:
Theoretical component: South African cities in a global economic and national context; a framework for settlement analysis; overview and discussion of important demographic, social, economic, environmental and local government features of selected South African cities. Practical component: basic writing and presentation skills for planners; field methods; participatory methods; surveys; secondary sources; settlement analysis in a political context; analysis of a suburb in the Pretoria area.

TPA 210 Plan and policy analysis and assessment 210
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
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 Introduction to development planning 210
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
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 Municipal development planning 220
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12

Module content:
Theories and processes of strategic, forward, and integrated development planning; origins and intentions of these concepts; international and local perspectives and case studies; policy framework for development planning in the South African context; role players in development planning processes, with specific reference to the role of the planner and the community; introduction to the concept, theory, aims, processes and practise of participatory planning.

TPD 310 Regional development planning 310
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
Theory and practice of regional development planning; strategic regional development analysis and thinking; preparation and implementation of regional development frameworks, and plans and strategies on supranational, national, provincial and metropolitan levels.

TPD 320 Rural development planning 320
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
Rural development in historical, political, ideological, social, economical, geographical and institutional context; theoretical perspectives on and approaches to rural development; case studies of rural development planning and plans in different developmental contexts; preparation, implementation and evaluation of rural development frameworks, strategies and plans.

TPD 820 Integrated development planning 820
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 20
Module content:
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 Research methodology 410
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
Defining research; research paradigms; research ethics; research problems/questions; literature reviews; research design; selected qualitative and quantitative methods for data collection, analysis and interpretation; reporting research; formulation of a research proposal.

TPE 420 Research report 420
Academic organisation: Town and Regional Planning
Prerequisite: TPE 410
Contact time: 1 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 30
Module content:
Contextualisation of a research problem/question; literature review; research design and methods; undertake empirical research in line with an approved research proposal; collection, analysis and interpretation of data; writing up of research findings.

TPE 810 Research methodology 810
Academic organisation: Town and Regional Planning
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20
Module content:
Defining research; research paradigms; research ethics; research problems/questions; literature reviews; research design; selected qualitative and quantitative methods for data collection, analysis and interpretation; reporting research; formulation of a research proposal.

TPE 820 Mini-dissertation 820
Academic organisation: Town and Regional Planning
Prerequisite: TPE 810
Period of presentation: Semester 2
Language of tuition: English **Credits:** 60
Module content:
Contextualisation of a research problem/question; literature review; research design and methods; undertake empirical research in line with an approved research proposal; collection, analysis and interpretation of data; writing up of research findings.

TPH 110 Planning and settlement histories before the Industrial Revolution 110
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
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.

TPH 120 Planning and settlement histories since the Industrial Revolution 120
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12

Module content:
An in-depth analysis of city building and urban and regional planning in modern and post-modern times with special emphasis on the South African situation. 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.

TPI 451 Planning interventions: Precinct scale 451
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12
Module content:
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 of current practice; simulated planning exercise.

TPI 452 Planning interventions: Peri-urban and rural scale 452
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
Introduction to planning and management of small towns, rural settlements, and peri-urban/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 453 Planning interventions: Metropolitan scale 453
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12
Module content:
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 454 Planning interventions: Supranational, national and provincial scale 454
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12

Module content:
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 811 Metropolitan and urban area-based interventions 811
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20
Module content:
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
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 20
Module content:
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 in 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
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12
Module content:
Introduction to the goals and principles of settlement design. Characteristics and measures as well as the design elements of a good living-environment; 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
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 16
Module content:
The skills and techniques to design a layout of a new settlement 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
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 16
Module content:
Institutional and legal frameworks in which settlement 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
Academic organisation: Town and Regional Planning
Contact time: 1 ppw 2 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 16
Module content:
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 810 Sustainable settlement planning and design 810
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20
Module content:
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 Introduction to urban design 820
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 2
Language of tuition: English **Credits:** 20
Module content:
Theory of urban design and its relation to town and regional planning; urban design principles for well-performing settlements; urban design process; urban design frameworks and precinct plans; simulated urban design exercise at neighbourhood level.

TPU 210 Land use management theory 210
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
A brief history of land use management in South Africa; rationale for land use management; principles of good land use management in the context of transformation and development imperatives in post-apartheid South Africa, global environmental change, new economic geography, procedural, substantive and intergenerational justice and development economics; critique of land use management; ethics of land use management; the characteristics of an appropriate land use management system that advances transformation, sustainability, resilience, equity, inclusiveness and integration in South Africa; the link between land use management and strategic spatial planning; international and South African examples of land use management systems; the future of land use management.

TPU 261 Urban land development economics 261
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Quarter 3
Language of tuition: Double Medium **Credits:** 6
Module content:
The economics of settlements, including aspects such as economic advantages, transformation, equity, integration and inclusiveness; 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; implications for sustainability and risk reduction; the cost of urban growth, whether by densification or sprawl. The functioning of the property market, e.g. how the property market works for the urban poor; key role players and decision-making in the property market; the role of urban planning as well as local government and their financial viability in the property market.

TPU 262 Land use management practice 262
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Quarter 4
Language of tuition: Double Medium **Credits:** 6
Module content:
Generic components of land use and land development applications and procedures; practical exercises in the preparation, submission, processing and evaluation of land

use management applications; policy preparation in terms of land use management systems that advance equity, resilience, inclusiveness, sustainability and integration; appeals; introduction to Environmental Impact Studies (EIAs).

TPU 810 Land use management and land development 810
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20
Module content:
A brief history of land use management in South Africa; rationale for land use management; principles of good land use management in the context of transformation and development imperatives in post-apartheid South Africa, global environmental change, new economic geography, procedural, substantive and intergenerational justice and development economics; critique of land use management; ethics of land use management; the characteristics of an appropriate land use management system that advances transformation, sustainability, resilience, equity, inclusiveness and integration in South Africa; the link between land use management and strategic spatial planning; international and South African examples of land use management systems; the future of land use management. Generic components of land use and land development applications and procedures; practical exercises in the preparation, submission, processing and evaluation of land use management applications; policy preparation in terms of land use management systems that advance the principles of effective, efficient and sustainable land use management; appeals; introduction to Environmental Impact Studies (EIAs).

TPW 310 Institutional and legal structures for planning 310
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
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.

TPW 810 Institutional and legal structures for planning 810
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20
Module content:
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 110 Introduction to planning 110
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 12
Module content:
Definitions of planning; rationale 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 320 Planning prospects 320
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 12
Module content:
Critical reflections on planning as construct, activity and profession. Case study-based exploration of innovative planning practices.

TRP 412 Professional practice 412
Academic organisation: Town and Regional Planning
Contact time: 3 lpw
Period of presentation: Quarter 2
Language of tuition: Double Medium **Credits:** 6
Module content:
Starting a career in the planning profession (including issues such as public vs. private sector employment, essential skills required, applying for vacancies, interaction with co-workers and other parties, company culture, client relationships, workplace ethics); developing a career in the planning profession (including issues such as essential communication-, management- and political-skills, typical mistakes to avoid in practice, setting a career path); introduction to project management; an overview of professional planning organisations in South Africa; remaining issues for class discussion, such as marketing, client service, promotion and time management.

TRP 810 An overview of planning theory and practice 810
Academic organisation: Town and Regional Planning
Contact time: 40 contact hours per semester
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20

VKN 320 Sustainable construction 320
Academic organisation: Construction Economics
Contact time: 2 lpw
Period of presentation: Semester 2
Language of tuition: Double Medium **Credits:** 6
Module content:
Introduction to sustainable development and general sustainable construction principles, processes and technology. Sustainable practices on the construction site. Relevant regulations and voluntary programmes, including an introduction to 'Green Star' rating.

List of modules presented by other faculties

Faculty of Humanities

ALL 122 Academic literacy for Construction Economics 122
Academic organisation: Unit for Academic Literacy
Contact time: 2 lpw 1 wbppw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 6
Module content:
By the end of this module students should be able to cope more confidently and competently with the reading, writing and critical thinking demands that are characteristic of the field of Construction Economics.

ALL 123 Academic literacy for Town and Regional Planning 123
Academic organisation: Unit for Academic Literacy
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 6
Module content:
By the end of this module students should be able to cope more confidently and competently with the reading, writing and critical thinking demands that are characteristic of the field of Town and Regional Planning.

RES 210 Social research: Introductory methodology 210
Academic organisation: Psychology
Contact time: 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 20
Module content:
The module introduces methods of inquiry in the social sciences and humanities. The purpose of this module is to introduce students to the research process in order to equip them with the necessary competence to:
- identify social problems, formulate research questions and hypotheses;
- have a basic understanding of writing the literature review and research proposal;
- know and select relevant methods of inquiry;
- be aware of the necessity of conducting ethically sound research; and
- interpret and present data graphically.

SOC 110 Sociology 110
Academic organisation: Sociology
Contact time: 3 lpw 1 tpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 12
Module content:
Part 1: The individual and society
An introduction to sociology, the sociological paradigm and the principles of sociological research.
Part 2: The sociology of institutions
A focus on the social dynamics of the institutions of society such as the family, the

economy, religion, education, the polity and civil society, with a specific focus on the Southern African problematic.

SOC 120 Sociology 120
Academic organisation: Sociology
Contact time: 3 lpw 1 tpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 12
Module content:
Part 1: Race, class and gender
The nature and dynamics of social inequality. Race, gender and class are the foci of the module. The South African reality in this regard is highlighted.
Part 2: Group dynamics diversity and social identity
Micro sociological theories and methods such as interaction process analysis, social impact analysis, situational analysis and communication flow analysis. The cultural processes of the formation of social identities and diversity will be introduced.

SOC 210 Sociology 210
Academic organisation: Sociology
Prerequisite: SOC 110(GS), 120(GS)
Contact time: 3 lpw 1 tpw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 20
Module content:
Part 1: Social change, development and globalisation
The study of societal change and development is fundamental to sociological analysis. Moreover the contemporary process of globalisation at a world level impacts on the process of change. This section will review some classical and contemporary debates on issues such as progress, modernisation, development and underdevelopment, dependency, post-development and globalisation.
Part 2: Households, family and gender
This section focuses on theories and issues relevant to the understanding of gender, households and family life at a general level but with a particular emphasis on the Southern African context. This part will address issues such as poverty, survival strategies of rural and urban households, domestic violence and its effects on family life.

SOC 220 Sociology 220
Academic organisation: Sociology
Prerequisite: SOC 110, SOC 120(GS)
Contact time: 3 lpw 1 tpw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 20
Module content:
Part 1: Demography, health and society
The substantial increase in world population during the past century compounds key issues faced by contemporary societies. Interplay between demographic processes such as morbidity, mortality, fertility and mobility impact on the size of a population and in turn to an extent is shaped by the structure of a population as well as the cultural context of a society. Central to this are also concerns around health and disease. Any infectious disease, its aetiology and epidemiology should be understood in the historical and social context within which it exists. In addition, concerns such as

food security, utilisation of natural resources, environmental impact and unemployment should be considered in conjunction with population processes. An awareness of demographic processes plays a key role in developing population policies and programmes to address key societal challenges.
Part 2: Culture, consumption and identity
This module explores the history of and social meanings attached to processes of consumption, with specific reference to the ways in which acts of desiring, purchasing, consuming and displaying commodities are linked to social identity formation, subcultural formations and social stratification. We will explore the work of some of the key social theorists in this area and examine the link between consumption, individualism and the politics (or anti- politics) of identity in contemporary society.

SOC 310 Sociology 310
Academic organisation: Sociology
Prerequisite: SOC 120, SOC 210(GS), SOC 220(GS)
Contact time: 3 lpw 1 ppw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 30
Module content:
Part 1: Rural and urban sociology
This section 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 linked to rural and urban development.
Part 2: Religion, secularism and social movements.
This section looks at religion and secularism in social context. Specific emphasis is placed on religion and secularism as forces for social change, and how social movements draw on religious repertoires to frame demands.

SOC 320 Sociology 320
Academic organisation: Sociology
Prerequisite: SOC 210, SOC 220(GS)
Contact time: 3 lpw 1 ppw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 30
Module content:
Part 1: Social theory.
Students are taught the work of a number of social theorists such as Marx, Engels, Durkheim, Giddens, Weber, Habermas and Foucault.
Part 2: The sociology of work and industry.
The section addresses sociological approaches to the workplace. It will critically assess labour market policy and examine issues such as management practice, employment and unemployment, and discrimination and flexibility in the labour market in South Africa.

Faculty of Natural and Agricultural Sciences

GGY 265 Geomorphology of the built environment 265
Academic organisation: Geography, Geoinformatics and Meteorology
Contact time: 4 lpw
Period of presentation: Quarter 3

Language of tuition: Double Medium **Credits:** 12
Module content:
*This module is for Architecture and Landscape Architecture students only. The theory component covers geomorphological aspects of the built environment including landscape identification; weathering or deterioration of natural stone and application to design and preservation of buildings and monuments; slope hydrology and stability conditions; soil erosion processes and construction impacts; drainage modification in urban areas; wetland identification, human impacts and rehabilitation; recreational impacts and management. In addition to the theory a field-based project is undertaken.

GGY 283 Introductory geographic information systems 283
Academic organisation: Geography, Geoinformatics and Meteorology
Contact time: 2 lpw 1 ppw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 12
Module content:
*This is a closed module, only available to students studying [BTandRP] (12132022), [BSc(Arch)] (12132002), [BSc(LArch)] (12132004), BSc Meteorology (02133312), BSc Geoinformatics (02133383), BSc Environmental Science (02133361), BSc Earth Sciences (02133012), BSc Geography (02133385), BEd Further Education and Training (General) (09133040), BSecEdSci (02135001), BA (01130001) or as approved by the head of department. The content of this module is the same as GIS 221 and students are not allowed to earn credits for both GGY 283 and GIS 221. Introduction to Geographic Information Systems (GIS), theoretical concepts and applications of GIS. The focus will be on the GIS process of data input, data analysis, data output and associated technologies.

GKD 250 Introductory soil science 250
Academic organisation: Plant production and soil science
Prerequisite: CMY 117 GS or TDH
Contact time: 3 lpw 1 ppw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 12
Module content:
Origin and development of soil, weathering and soil formation processes. Profile differentiation and morphology. Physical characteristics: texture, structure, soil water, atmosphere and temperature. Chemical characteristics: clay minerals, ion exchange, pH, buffer action, soil acidification and salinisation of soil. Soil fertility and fertilisation. Soil classification. Practical work: Laboratory evaluation of simple soil characteristics. Field practicals on soil formation in the Pretoria area.

TKS 212 Textiles: utility, fibres and yarns 212
Academic organisation: Consumer Science
Contact time: 1 ppw 3 lpw
Period of presentation: Semester 1
Language of tuition: Double Medium **Credits:** 14
Module content:
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, compound and novelty yarns).

WTW 133 Precalculus 133
Academic organisation: Mathematics and Applied Mathematics
Prerequisite: As for BSc Four-year programme
Contact time: 1 ppw 1 tpw 5 lpw Foundation Course
Period of presentation: Semester 1
Language of tuition: English **Credits:** 8
Module content:
Real numbers, elementary set notation, exponents and radicals. Algebraic expressions, fractional expressions, linear and quadratic equations, inequalities. Coordinate geometry: lines, circles. Functions: definition, notation, piecewise defined functions, absolute value, domain and range, graphs, transformations of functions, symmetry, even and odd functions, combining functions, one-to-one functions and inverses, polynomial functions and zeros.
Sequences, summation notation, arithmetic, geometric sequences, infinite geometric series, annuities and instalments. Degrees and radians, unit circle, trigonometric functions, fundamental identities, trigonometric graphs, trigonometric identities, double-angle, half-angle formulae, inverse trigonometric functions, trigonometric equations, applications.

Faculty of Law

ABR 311 Labour Law 311
Academic organisation: Mercantile Law
Contact time: 2 lpw 1 tutorial every second week
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 20
Module content:
Basic principles of the employment contract. Collective labour law. Statutory conditions of employment. Individual labour disputes. Collective labour disputes. Settlement procedures.

BER 310 Business Law 310
Academic organisation: Mercantile Law
Contact time: 4 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 16
Module content:
Introduction to law. General principles of the law of contract. Specific contracts: purchase contracts; letting and hiring of work; employment contracts. Agency. General aspects of entrepreneurial law. Dispute resolution – mediation and arbitration.

Faculty of Economic and Management Sciences

EKN 110 Economics 110
Academic organisation: Economics
Contact time: 1 dpw 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 10
Module content:
This course deals with the core principles of economics. A distinction between macroeconomics and microeconomics is made. A discussion of the market system and circular flow of goods, services and money is followed by a section dealing with microeconomic principles, including demand and supply analysis, consumer behaviour and utility maximisation, production and the costs thereof, and the different market models and firm behaviour. Labour market institutions and issues, wage determination, as well as income inequality and poverty are also addressed. A section of money, banking, interest rates and monetary policy concludes the course.

EKN 120 Economics 120
Academic organisation: Economics
Prerequisite: EKN 110 GS or EKN 113 GS and at least 4 (50-59%) in Mathematics in the Grade 12 examination or 60% in STK 113 and concurrently registered for STK 123
Contact time: 1 dpw 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 10
Module content:
This course deals with the core principles of economics, especially macroeconomic measurement the private and public sectors of the South African economy receive attention, while basic macroeconomic relationships and the measurement of domestic output and national income are discussed. Aggregate demand and supply analysis stands core to this course which is also used to introduce students to the analysis of economic growth, unemployment and inflation. The microeconomics of government is addressed in a separate section, followed by a section on international economics, focusing on international trade, exchange rates and the balance of payments. The economics of developing countries and South Africa in the global economy conclude the course

EKN 214 Economics 214
Academic organisation: Economics
Prerequisite: EKN 110 GS and EKN 120 or EKN 113 GS and EKN 123 and STK 110 GS and STK 120 GS
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 16
Module content:
Macroeconomics
From Wall and Bay Street to Diagonal Street: a thorough understanding of the mechanisms and theories explaining the workings of the economy is essential. Macroeconomic insight is provided on the real market, the money market, two market equilibrium, monetarism, growth theory, cyclical analysis, inflation, Keynesian general equilibrium analysis and fiscal and monetary policy issues.

EKN 234 Economics 234
Academic organisation: Economics
Prerequisite: EKN 214, STK 120
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 16
Module content:
Macroeconomics
Application of the principles learned in EKN 214 on the world we live in. We look at international markets and dynamic macroeconomic models, and familiarise the students with the current macroeconomic policy debates. We also take a look at the latest macroeconomic research in the world. The course includes topics of the mathematical and econometric analysis of macroeconomic issues.

EKN 310 Economics 310
Academic organisation: Economics
Prerequisite: EKN 214, EKN 234
Contact time: 1 dpw 2 lpw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 20
Module content:
Public finance
Role of government in the economy. Welfare economics and theory of optimality. Ways of correcting market failures. Government expenditure theories, models and programmes. Government revenue. Models on taxation, effects of taxation on the economy. Assessment of taxation from an optimality and efficiency point of view. South African perspective on public finance.

EKN 320 Economics 320
Academic organisation: Economics
Prerequisite: EKN 310 GS
Contact time: 1 dpw 2 lpw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 20
Module content:
Economic analyses
Identification, collection and interpretation process of relevant economic data; the national accounts (i.e. income and production accounts, the national financial account, the balance of payments and input-output tables); economic growth; inflation; employment, unemployment, wages, productivity and income distribution; business cycles; financial indicators; fiscal indicators; social indicators; international comparisons; relationships between economic time series - regression analysis; long-term future studies and scenario analysis; overall assessment of the South African economy from 1994 onwards.

FBS 110 Financial management 110
Academic organisation: Financial Management
Contact time: 3 lpw
Period of presentation: Semester 1
Language of tuition: English **Credits:** 10
Module content:
*Only for BSc (Mathematical Statistics. Construction Management, Real Estate and

Quantity Surveying) and BEng (Industrial Engineering) students. Purpose and functioning of financial management. Basic financial management concepts. Accounting concepts and the use of the basic accounting equation to describe the financial position of a business. Recording of financial transactions. Relationship between cash and accounting profit. Internal control and the management of cash. Debtors and short-term investments. Stock valuation models. Depreciation. Financial statements of a business. Distinguishing characteristics of the different forms of businesses. Overview of financial markets and the role of financial institutions. Risk and return characteristics of various financial instruments. Issuing ordinary shares and debt instruments.

FBS 120 Financial management 120
Academic organisation: Financial Management
Contact time: 3 lpw
Period of presentation: Semester 2
Language of tuition: English **Credits:** 10
Module content:
*Only for BSc (Mathematical Statistics, Construction Management, Real Estate and Quantity Surveying) students.
Analysis of financial statements. Budgeting and budgetary control. Tax principles and normal income tax for individuals. Time value of money and its use for financial and investment decisions. Calculating the cost of capital and the financing of a business to maintain the optimal capital structure. Capital investment decisions and a study of the financial selection criteria in the evaluation of capital investment projects. The dividend decision and an overview of financial risk management.

FIN 701 Advanced corporate finance 701
Academic organisation: Financial Management
Contact time: 1 lpw
Period of presentation: Year
Language of tuition: English **Credits:** 30
Only for BComHons (Financial Management Sciences) and (Investment Management) and BScHons (Construction Management) students.
Objectives of financial management; Risk and return; Required rate of return and the cost of capital; Capital structure theory; Valuation; Capital investment decisions; Leasing; Dividend decision and long-term financing; Economic value added; Sustainable growth; Convertible bonds; Financial analysis; Financial planning and control; Mergers and acquisitions; Working capital management; Foreign trade and foreign exchange; International investments and International treasury; Aspects of behavioural corporate finance.

STK 110 Statistics 110
Academic organisation: Statistics
Prerequisite: At least 5 (60-69%) in Mathematics in the Grade 12 examination. Candidates who do not qualify for STK 110 must register for STK 113
Contact time: 3 lpw 1 ppw
Period of presentation: Semester 1
Language of tuition: Both Afr and Eng **Credits:** 13
Module content:
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
Academic organisation: Statistics
Prerequisite: STK 110 GS or both STK 113 GS and STK 123 GS or both WST 133 and WST 143
Contact time: 3 lpw 1 ppw
Period of presentation: Semester 2
Language of tuition: Both Afr and Eng **Credits:** 13
Module content:
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 economic applications of quantitative techniques:
Systems of linear equations: drafting, matrices, solving and application. Optimisation; 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 economic context: producers' and consumers' surplus, distribution functions, probability distributions, probability density functions. Identification, use, evaluation, interpretation of statistical computer packages and statistical techniques.
This module is also presented as an anti-semester bilingual module.

STK 161 Statistics 161
Academic organisation: Statistics
Prerequisite: STK 110 GS or both STK 113 GS and STK 123 GS
Contact time: 3 lpw 1 ppw
Period of presentation: Quarter 3
Language of tuition: Both Afr and Eng **Credits:** 6
Module content:
*Offered by the Department of Statistics
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.
This module is also presented as an anti-semester bilingual module.

School of Information Technology

AIM 101 Academic information management 101
Academic organisation: School of Information Technology
Contact time: 2 ppw
Period of presentation: Semester 1 or Semester 2
Language of tuition: Both Eng and Afr **Credits:** 6

Module content:
Find, evaluate, process, manage and present information resources for academic purposes using appropriate technology. Apply effective search strategies in different technological environments. Demonstrate the ethical and fair use of information resources. Integrate 21st-century communications into the management of academic information.

AIM 111 Academic information management 111
Academic organisation: School of Information Technology
Contact time: 2 ppw
Period of presentation: Semester 1
Language of tuition: Both Eng and Afr **Credits:** 4
Module content:
Find, evaluate, process, manage and present information resources for academic purposes using appropriate technology.

AIM 121 Academic information management 121
Academic organisation: School of Information Technology
Contact time: 2 ppw
Period of presentation: Semester 2
Language of tuition: Both Eng and Afr **Credits:** 4
Module content:
Apply effective search strategies in different technological environments. Demonstrate the ethical and fair use of information resources. Integrate 21st-century communications into the management of academic information.

E&OE