Faculty of Natural and Agricultural Sciences

Calendar 2007

Part 2: Architecture, Quantity Surveying and Construction Management and Urban and Regional Planning

Dean
Professor H.D. van Schalkwyk
9 Biology Building
Telephone: 051 401 2322
Fax: 051 401 3728
Email: dean.sci@mail.uovs.ac.za
Web address: http://www.uovs.ac.za/faculties/agrinat

Vice-Dean
Professor N.J.L. Heideman
10 Biology Building
Telephone: 051 401 9010
Fax: 051 401 3728
Email: heidemannj.sci@mail.uovs.ac.za

Faculty Manager
Ms C.H. Havemann
11 Biology Building
Telephone: 051 401 2490
Fax: 051 401 3728
Email: havemach.sci@mail.uovs.ac.za

Faculty Officers
Ms A.M.S. Liebenberg
142 George du Toit Administration Building
Telephone: 051 401 2664
Email: liebenam@rd.uovs.ac.za
Fax: 051 401 3558

Ms E. van Rooyen (Master's and Doctor's Degrees)
155 George du Toit Administration Building
Telephone: 051 401 2722
Email: vrooyene@rd.uovs.ac.za
Fax: 051 401 3558

CONTENTS

ACADEMIC STAFF

Dean	Professor H.D. van Schalkwyk

Programme Directors

Architecture	Dr P.C. le Roux
Quantity Surveying and Construction Management	Mr F.H. Berry
Urban and Regional Planning	Ms G.M. Steenkamp

(Departmental Heads / Departmental chairpersons are indicated with an asterisk)

Architecture

Professor	Prof. P.G. Raman
Associate Professor	*Prof. J.D. Smit
Senior Lecturer	Ms P. Jooste-Smit
Lecturers	Dr P.C. le Roux, Mr G. Bosman, Mr J.L. du Preez, Mr J. Laubscher, Mr J.W. Ras, Mr G.P. Swart
Junior Lecturers	Mr H.B. Pretorius, Ms A. van der Merwe

Quantity Surveying and Construction Management

Professor	*****Prof. J.J.P. Verster
Senior Lecturer	Dr H.J. Marx
Lecturers	Mr F.H. Berry, Mr B.J. Swart, Mr H.J. van Vuuren, Me B.J. Kotzé, Mr P.M. Oosthuizen, Mr C. van Zyl

Urban and Regional Planning

Professor	*Prof. J.J. Steÿn
Senior Lecturer	Dr M.M. Campbell
Lecturers	Mr P.J. Potgieter, Ms E. Barclay

FACULTY AND GENERAL REGULATIONS

For all the various degrees and options a number of regulations apply. Two sets of regulations are relevant:

General regulations of the University, which are applicable to all Faculties of this University, and consequently also apply to qualifications and programmes in this Faculty. Unless specifically stated otherwise, the general regulations which apply to bachelor's degrees, apply to all the degrees listed here.

The general regulations are set out in Part 1 of the Yearbook of the University, and contain basic information such as the following:

- Admission to the University, to degree and diploma study, and to study for non-degree purposes (separate modules).
- Student registration; module modifications; simultaneous registration; curriculum compilation; duration of study; preconditions; acknowledgement of modules passed at other institutions; etc.
- Module requirements for passing; degrees with distinction; re-admission and exclusion of a student; arrangements for examination venues; marks and final results; etc.

Faculty regulations, which specifically apply to the degree and other programmes in this Faculty, and which are described fully in this publication.

Bachelor's Degrees, Diplomas, Certificates, Honours, Master's and Doctor's Degrees

DEGREES	MINIMUM PERIOD OF STUDY	ABBREVIATION	STUDY CODE
Baccalaureus Architecturae Studiorum	3 years	B.Arch.Stud.	4310
Bachelor of Science Learning area Quantity Surveying (Residential and Open Learning)	3 years	B.Sc. Learning area Quantity Surveying	4386 4324
Bachelor of Science Learning area Construction Management (Residential and Open Learning)	3 years	B.Sc. Learning area Construction Management	4387 4392
Bachelor of Science (Quantity Surveying) (Residential)	4 years	B.Sc.(Q.S.)	4320
Bachelor of Science (Construction Management) (Residential)	4 years	B.Sc.(Construction Management)	4390
Bachelor of Science (Land and Property Development Management) (Residential)	4 years	B.L.P.M.	4321

Bachelor of Science (Quantity Surveying) (open learning)	5 years	B.Sc.(Q.S.)	4323
Bachelor of Science (Construction Management) (open learning	5 years	B.Sc.(Construction Management)	4391

DIPLOMAS

Diploma in Construction Science and Building Surveying **(Exit)**	3 years	Diploma C.S.B.S.	4005
Diploma in Land and Property Development Management **(Exit)**	3 years	Diploma L.P.M. .	4004

CERTIFICATES

Certificate in Construction Science and Building Surveying **(Exit)**	1 year	Certificate C.S.B.S.	4003
Certificate in Quantity Surveying, Construction Management and Project Management	3 years	Certificate B.K.P.	

HONOURS DEGREES

Baccalaureus Architecturae Honores	1 year	B.Arch. Hons.	4567
Bachelor of Science (Honours) Learning area Quantity Surveying (Residential and Open Learning)	1 or 2 years	B.Sc.(Hons.) Learning area Quantity Surveying	4539 4541
Bachelor of Science (Honours) Learning area Construction Management (Residential and Open Learning)	1 or 2 years	B.Sc.(Hons.) Learning area Construction Management	4540 4542
Baccalaureus in Spatial Planning (Honours)	12 and 18 months	B.(Hons. SP)	4543
Baccalaureus in Land and Property Development Management (Housing) Honours	12 and 18 months	B.(Hons. LPDM)	4544

MASTER'S DEGREE

Magister Architecturae (Professional)	1 year	M.Arch.(Prof.)	4711
Magister Architecturae.	2 years	M.Arch.	4710
M.Sc.(Q.S.)	2 years	M.Sc.(Q.S.)	4720
M.Sc.(Construction Management)	2 years	M.Sc.(Constr.)	4780
Master in Land and Property Development Management	2 years	M.L.P.M. (M.PROP.)	4797 or 4798
Master of Urban and Regional Planning)	2 yr. (full time)	M.U.R.P.	4760
	3 yr. (part time)		
Master of Urban and Regional Planning	12 and 18 months	M.U.R.P..	4762
Master of Urban and Regional Planning (Research)	12 and 18 months	M.Housing	4764

DOCTOR'S DEGREES

Doctor in Architecture		D.Arch.	4910
Philosophiae Doctor		Ph.D.	4920

BACCALAUREUS ARCHITECTURAE STUDIORUM **B.ARCH.STUD.**
Degree code 4310

INFORMATION

Applications for admission to the B.Arch.Stud. programme, on the prescribed application form, must reach the Registrar, Academic Student Services, University of the Free State, Bloemfontein, on or before 31 May of the year before intended admission. Applications received after this date will be regarded as late applications until 15 September. The selection procedure takes place before admission, (dates on request). The candidate needed to have applied for admission beforehand. Students will be notified of the results not later than January.

The aim of this programme is to teach creative designers to design a wide variety of building types and identify and solve environmental problems sustainable within a rapid changing context.

Academic requirements:
The programme involves training that extends over six semesters. The B.Arch.Stud.- degree is awarded upon successful completion of the programme. It is a full time programme.The degree B.Arch.Stud. provides access to the degree B.Arch. Hons.

Professional requirements
Upon completion of the degree B.Arch.Stud., students may register as “Candidate Senior Architectural Technologist” with the South African Council for the Architectural Profession. A Senior Architectural Technologist is a professional person that assists in practice with the responsible documentation and administration of projects as well as site management.

REGULATIONS

Reg. D20 - Entrance requirements

Subject to the provisions of Reg. A2, a student must, in order to be admitted to the B.Arch.Stud.-programme, meet certain minimum entrance requirements.

However, admission to this field of study is limited and meeting the minimum entrance requirements will not necessarily assure an applicant of a place in the programme. Admission to the programme is obtained by means of a selection procedure that is based on the following:

(i) Possession of a certificate of full matriculation exemption, as issued by the Joint Matriculation Board, indicating that the following subjects have been passed:
  (a) Mathematics higher grade or standard grade with at least a D symbol.
  (b) An additional natural science subject, preferably Physical Science at higher or standard grade.

(ii) A portfolio of creative work that must be handed in by all applicants during or prior to a selection interview organised by the Department. Information in this regard may be obtained from the department (tel. 051 401 2332).

(iii) Writing of potential tests that must be arranged by the student with Student Counselling Service (tel. 051 401 2853).

(iv) In certain meritorious cases concessions may be made in respect of the above-mentioned requirements, with the approval of the Dean.

Reg. D21 - Evaluation and Examination

(a) For the modules presented by the Departments of Architecture, Quantity Surveying and Construction Management, and Urban and Regional Planning, evaluation and examination of the academic progress of students will take place on a continuous basis by means of assignments, tests and/or design tasks. A year/semester mark will then be compiled from these marks, and this year/semester mark will be the student's examination mark. Right to appeal can be obtained in terms of regulation A27(c).

(b) In order to pass any module, a student must obtain an average mark of at least 50%. For the modules ONW100, ONW200 and ONW300, a year mark will be awarded on the basis of an oral evaluation by internal and external examiners. Only students with a minimum year mark of 45% before the commencement of the oral evaluation will be admitted to the oral evaluation at the end of the year modules (i.e. second semester). For the modules BOW106, BOW206 and BOW306 a year mark will be awarded on the basis of a written and oral evaluation by internal and external examiners. The evaluation will be based on the content of the whole module.

(c) The degree is awarded with distinction to a student who obtained a distinction (75%) in ONW300, a combined average of 75% for BOW306, OGT304 and TAR304, at least 60% in each of these modules in the first and second years of study, and completed the degree in the minimum prescribed years of study plus one year and who obtained an average of at least 70% in the minimum number of remaining modules prescribed for the degree during the third year of study.

(d) Modules presented by departments other than Architecture, Quantity Surveying and Construction Management or Urban and Regional Planning, will be subject to the evaluation regulations of the departments concerned.

(e) If a student's intended programme in any year deviates from the stipulations of Reg. D23, the composition thereof will be determined in consultation with the head of the department, taking into account the following general provisions:
   (i) The modules Design, Building Science, History of the Environment and Theory of Architecture prescribed for the year concerned, must be taken simultaneously in all three years of study. If a student fails any of these modules, the required module(s) must be passed first before the subsequent modules in Building Science, History of the Environment, Design or Theory of Architecture may be taken.
   (ii) A candidate must pass all outstanding modules before the modules Design, Building Science, History of the Environment and Theory of Architecture may be taken in a specific academic year, with the concession that outstanding modules not exceeding a total of 32 credits may be taken simultaneously with modules Design, Building Science, History of the Environment and Theory of Architecture. However, in compiling the program of each year, the prerequisites must still be met in all cases.

(f) The acknowledgement of a year/semester mark obtained will be subject to satisfactory attendance of lectures, studio periods and seminars.

(g) Compulsory student tours are undertaken each year, and may take place during short holidays and over long weekends. These tours may contribute towards module credits, as set out in the syllabuses.

Reg. D22 - Vacation Work

Students are strongly advised to work in an architect's office or other approved similar institution during holidays in order to gain practical experience.

Reg. D23 - Programme: B.Arch.Stud. Degree code 4310 (444 credits)

(a) The compulsory programme is as follows:

First year (144 credits)			**Credits**	**Prerequisite**
1.	ONW100	Design	48	-
2.	BOW106	Building Science	24	-
3.	OGT104	History of the Environment	16	-
4.	*TAR104	Theory of Architecture	16	-
5.	GRT103	Presentation Techniques	12	-
6.	GRT121	Photography	4	-
7.	GRT112	Trigonometrical Drawing	8	-
8.	FSK112	Physics	8	-
9.	WTW142	Introductory Calculus & Statics	8	-

* Theory of Architecture includes KGK122, presented by the Department of Art History, and ANT152 presented by the Department of Anthropology

Second year (156 credits)			**Credits**	**Prerequisite**
1.	ONW200	Design	48	ONW100, BOW106 OGT104, TAR106
2.	BOW206	Building Science	24	ONW100, BOW106 OGT104, TAR106
3.	OGT204	History of the Environment	16	ONW100, BOW106 OGT104, TAR106
4.	**TAR 206	Theory of Architecture	24	ONW100, BOW106 OGT104, TAR106
5.	GRT203	Computer Drafting	12	-
6.	KWE204	Construction Science	16	-
7.	SSS204	Housing	16	-

** Theory of Architecture includes VCM312 and VCS332, presented by the Department of Art History and an internal component presented by the Department of Architecture.

Third year (144credits)			**Credits**	**Prerequisite**
1.	ONW300	Design	48	ONW200, BOW206 OGT204, TAR204
2.	BOW306	Building Science	24	ONW200, BOW206 OGT204, TAR204
3.	OGT304	History of the Environment	16	ONW200, BOW206 OGT204, TAR204
4.	TAR304	Theory of Architecture	16	ONW200, BOW206 OGT204, TAR204
5.	BKR306	Building Contracts Law	24	-
6.	KWE304	Construction Science	16	-

Quantity Surveying and Construction Management

Undergraduate and Honours programmes for education in property development professions

Residential programmes

The following residential programmes are presented by the Department of Quantity Surveying and Construction Management. (See page 31 for Open Learning programmes)

1. **B.Sc.(Hons.) Quantity Surveying (152 credits):** A degree for the academic preparation of a candidate for the profession of Quantity Surveying as well as the functions of costs engineer, project manager, property development consultant and building and construction scientist.

2. **B.Sc.(Hons.) Construction Management (152 credits):** A degree for the academic preparation of a candidate for the construction management profession as well as the functions of production management, operational management, project manager, contractorship and building and construction scientist.

3. **B.Sc.(Q.S.) (512 credits):** A degree for the academic preparation of a candidate for the profession of Quantity Surveying as well as the functions of costs engineer, project manager, property development consultant and building and construction scientist.

4. **B.Sc.(Construction Management) (512 credits):** A degree for the academic preparation of a candidate for the construction management profession as well as the functions of production management, operational management, project manager, contractorship and building and construction scientist.

5. **B.L.P.M. (512 credits):** A degree for the academic preparation of a candidate for functions of a land and property development manager as well as the general management of land affairs and property concerns, property entrepreneurship and as scientist within this field.

6. **B.Sc. Learning area (Quantity Surveying) (360 credits):** A degree for the academic preparation of a candidate for the profession of Quantity Surveying at a level as well as the functions of costs engineer, project manager, property development consultant and building and construction scientist.

7. **B.Sc. Learing area (Construction Management) (360 credits):** A degree for the academic preparation of a candidate for the construction management profession at a level as well as the functions of production management, operational management, project manager, contractorship and building and construction scientist.

8. **Diploma L.P.M. (360 credits): Diploma in Land and Property Development Management (exit level):** A diploma for the academic preparation of a candidate for the functions of a land and property development manager, as well as the general management of land affairs and property concerns, property entrepreneurship and as scientist within the field.

9. **Diploma C.S.B.S. (240 credits): Diploma in Construction Science and Building Surveying (exit level):** A diploma for the preparation of a candidate for the quantity surveying profession at a certain level, and for the examinations of this profession as well as for the functions of cost management, project management and property development entrepreneurship. Further qualification is possible. This diploma is also available on application for candidates who could not complete the degrees B.Sc.(Q.S.) or B.Sc.(Construction Management). Special credits will be given for modules already passed in order to meet the requirements of the diploma.

10. **Certificate C.S.B.S. (120 credits): Certificate in Construction Science and Building Surveying (exit level):** A certificate for the basic orientation of a candidate to render assistance to professional quantity surveyors and/or construction managers.

BACHELOR OF SCIENCE IN QUANTITY SURVEYING **B.Sc.(Q.S.)**
Degree code 4320 (Residential)

AND

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT **B.Sc. (Construction Management)**
Degree code 4390 (Residential)

INFORMATION

1. Applications, on the prescribed form, for admission to the degree programme, must reach the Director, Student Administration, before or on 31 May of the year before the intended admission. Selection will take place continuously, and prospective students will be informed of the outcome.

2. All the examinations for the certificates, diplomas and Bachelor's Degrees are considered, by the Minister concerned, as recognised examinations in terms of the provisions of the Quantity Surveyors' Profession Act.

3. The Bachelor's Degrees in Quantity Surveying and Construction Management are considered for membership purposes by the Royal Institution of Chartered Surveyors of the United Kingdom, while the degree in Construction Management enjoys the same recognition by the Chartered Institute of Building of the United Kingdom and South Africa as well as the provisions of the Project- and Construction Management Professions Act.

REGULATIONS

Notwithstanding the general regulations for admission to the University (A1 and A2) the following requirements are also applicable:

Reg. D8 - Faculty entrance requirements

For entrance to and consideration for selection for any one of the degrees a student must have passed Grade-12 Mathematics on a higher grade, or with at least 50% on a standard grade and one of Physical Science, Economics, Business Economics or Accounting. Admission to both programmes is limited and compliance with the minimum requirements does not necessarily secure selection. Final selection is based strictly on merit.

Where a student, because of exceptional circumstances, does not fully meet the requirements for admission, the Dean may, in cases of exceptional merit, recommend that the requirements be partly revoked.

Reg. D9 - Evaluation and examination

(a) Where evaluation and examination of students' academic progress in respect of modules take place continuously by means of assignments, tests and tasks, a year-/semester mark will be calculated from these tasks, which will be regarded as the examination mark of the student. Right of appeal is possible in terms of university regulations. In the case of other modules, the normal examination procedure is followed.

(b) If a student's proposed curriculum, during any year, deviates from Reg. D11 in respect of Quantity Surveying and Reg. D12 in the case of Construction Management, the planning and sequence thereof must be determined by the Head of Department. The Head of Department may, in cases where a student's academic achievements require this, prescribe certain choice-options. No student may register for a total of more than 176 credits during the first three years of study, and a total of 160 credits in the fourth or fifth year of study, provided that in cases of exceptional merit, the Head of Department may relieve this limitation after written application from the concerned student. Should a student receive merits under circumstances where there is a change from another programme and/or institution the above-mentioned limits will not be applicable and the curriculum will be compiled by the Head of Department, taking into consideration the appointed maximum modules allowed per year of study.

Class contact sessions. It is expected of students to attend all lectures as set out in module guidelines and the lecture and venue timetable. Progress evaluations may take place during such contact sessions and students not present can be penalised. For some modules, however, contact lecture times are structured ad hoc or by means of lecture cramming times in order to accommodate telematic learning and students must therefore thoroughly acquaint themselves with what is expected of them during the orientation lectures for every module.

Reg. D10 - Term of Study

The degree stretches over a period of four years of study. For purposes of Reg. A19 (a), the period is six years. Planning of an extended curriculum must be undertaken in consultation with the Head of Department. It is recommended that students undertake practical work during university holidays at the offices of a quantity surveyor, construction manager or other approved institution in order to apply and expand subject knowledge and insight within a practical environment.

Entrance levels. Any credits for equivalent modules at another tertiary institution or another direction of study obtained at this university, shall be considered when determining the curriculum.

Exit levels. Students who, for some reason or another, terminated their studies and could not complete their degree programme, may, on submitting a written application, receive a certificate- or diploma if the required number of credits have been obtained. Students cannot register for this certificate or diploma in the first place. Admission and registration can only be acquired by means of the degree programme. The certificate and diploma, therefore, offer an exit level with recognition that can be used in the labour market.

BACHELOR OF SCIENCE IN QUANTITY SURVEYING **B.Sc.(Q.S.)**
Degree code 4320 (Residential)

Reg. D11 - Curriculum: B.Sc.(Q.S.) (512 credits) (4320)

First year of study (128 credits)			**Credits**
Compulsory modules			
1.	BKF104	Descriptive Quantification	16
2.	RBR104	Accounting for B.Sc.(Q.S.)- and B.Sc. Construction Management	16
3.	BOE104	Building Economics	16
4,	FSK112	Physics for students in the Building Sciences	8

5.	WTW142	Introductory calculus and statics	8
6.	OBS244	Entrepreneurship	16
7.	EKN114	Introduction to economics and microeconomics	16
8.	END104	Property Development Economics	16
Optional modules (any 16 credits)			16
9.	ANT124	Culture-understanding ourselves and others(16)	
10.	WYS112	Introduction to Philosophy and world view(8)	
11.	WYS132	The structure of experiential reality(8)	
12.	AFP122	Logic and cohesion in Afrikaans texts(8)	
13.	AFP142	Strategies for persuasion in Afrikaans(8)	
14.	EBE112	Business English(8)	
15.	EBE122	Business English(8)	
16.	ARG102	Architecture(8)	
17.	IGW102	Engineering Science(8)	

Second year of study (128 credits)			**Credits**
Compulsory modules			
1.	BKF204	Descriptive Quantification	16
2.	BOW204	Building Science	16
3.	BOE204	Building Economics	16
4.	END204	Property Development Economics	16
5.	KWE204	Construction Science	16
6.	STK114	Introduction to Statistics I	16
7.	HRG204	Commercial Law	16
Optional modules (any 16 credits)			16
8.	STK124	Introduction to Statistics II(16)	
9.	EKN124	Introduction to macroeconomics(16)	
10	OBS134	General Management(16)	
11.	ARG202	Architecture(8)	
12.	IGW202	Engineering Science(8)	

Third year of study (128 credits)			**Credits**
Compulsory modules			
1.	BKF304	Descriptive Quantification	16
2.	BOW304	Building Science	16
3.	BKR306	Building Contracts Law	24
4.	BOE304	Building Economics	16
5.	END304	Property Development Economics	16
6.	KWE304	Construction Science	16
7.	BKS302	Descriptive Quantification Project	8
Optional modules (any 16 credits)			16
8.	OBS144	Marketing(16)	
9.	OBS234	Fundamentals of financial management(16)	
10.	ABR224	Labour Law	
11.	POB304	Production and operational management(16)	

Fourth year of study (128 credits)			**Credits**	**Prere-quisites**
Compulsory modules				
1.	BKF404	Descriptive Quantification	16	BKF204

2.	BKI402	Management of Information and Communication Systems	8	
3.	BOE404	Building Economics	16	BOE204
4.	BPK404	Professional Practice	16	
5.	END404	Property Development Economics	16	END304
6.	KWE404	Construction Science	16	KWE204
7.	GPB404	Advanced Project Management	16	
8.	GIP402	Integrated Project	8	
Optional modules (16 credits)			16	
9.	EWP404	Property Valuation Practice(16)		
10.	EFB404	Property Facilities Management(16)		
11.	KOF404	Construction Finance(16)		

All options of choice for the fourth year of study shall not necessarily be on offer each year. Consequently, students must exercise their choices in consultation with the Head of Department. If a student fails a specific choice option, and it is not on offer the following year, another choice option must be selected.

Equivalent modules and modules not listed, but acceptable in context, may also be presented as against prescribed modules on condition that they are approved by the Head of Department.

Choice options in respect of other modules must be exercised in consideration of the lecture and venue timetable. Students must also carefully take note of set prerequisites before exercising choice options.

(a) Compulsory modules

A student must pass all the prescribed modules before the degree can be awarded.

(b) With distinction

The degree is awarded with distinction to a candidate who has passed all the prescribed modules in the minimum prescribed time plus 1 year, and in addition, obtained a distinction in three of the undermentioned modules in the fourth year of study, maintaining an average of at least 70% for the modules of the fourth year of study: BKF404, BPK404, BOE404, END404, KWE404 BKI402, GPB404 and GIP402.

(c) Transitional regulations

Students who registered before 2004 for the degree B.Sc.(Q.S.), follow the curriculum for which they had registered, taking into consideration the maximum period of study as set out in Reg. D10, which was applicable during first registration and the following transitional regulations:

Students can on application switch to the distance learning programme with the provision that a student must be employed in the industry for a period of three years before the degree can be awarded. An employer's declaration must be submitted to the department on the required form after each year of employment.

Credits for and recognition of "old modules" shall be given by the Head of Department in consultation with the Dean. New modules the student will have to follow in order to meet the regulations, as a result of modules in arrears, will be prescribed in the same manner.

2001, 2002, 2003 regulation	2004, 2005, 2006 and 2007 regulation
BKF308	BKF304
BKR304	BKR306
BKF408	BKF404
BKI404	BKI402
END408	END404
KWE408	KWE404
POB308	POB304
POB408	POB404
GPB424	GPB404
ENS112/ENS132	EBE112/EBE122
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
EWP424	EWP404
EFB424	EFB404
2006 regulation	**2007 regulation**
AVB112	ARG102

(d) B.Sc. Learning area Quantity Surveying (360 credits) (4386) Residential

Students can also on recommendation of the Head of Department register or change to the B.Sc. Learning area (Quantity Surveying).

The degree is awarded to a candidate who had at least received 360 credits of the first three study years of the four year B.Sc.(Q.S.) programme code 4320 and further more successfully passed the compulsory or equivalent modules.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules in the minimum prescribed time plus 1 year, and in addition, obtained a distinction in three of the under-mentioned modules in the third year of study, maintaining an average of at least 70% for the modules of the third year of study: BKF304, BOW304, BKR306, BOE304, END304, KWE304 and BKS302.

(e) B.Sc.(Honours) Learning area Quantity Surveying (152 credits) (4539) Residential

Students who have passed the B.Sc.Learning area (Quantity Surveying) (360 credits) degree successfully, or have obtained an approved qualification of equal value may register for the B.Sc.(Honours) Learning area (Quantity Surveying).

The degree is awarded to a candidate who has at least received 152 credits for the prescribed curriculum, or a curriculum approved by the Departmental Head, and successfully passed the complete fourth study year of 128 credits of the B.Sc.(Q.S.) programme degree code 4320.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules in the minimum prescribed time plus 1 year, and in addition, obtained a distinction in three of the under-mentioned modules in the fourth year of study, maintaining an average of at least 70% for the modules of the fourth year of study: BKF404, BKI402, BOE404, BPK404, END404, KWE404, GPB404 and GIP402.

———————

REGULATIONS

Reg. D12 - Curriculum: B.Sc.(Construction Management) (512 credits) (4390)

First year of study (128 credits)

		Compulsory modules	**Credits**
1.	POB104	Production and Operational Management	16
2.	RBR104	Accounting for B.Sc.(Q.S.)- and B.Sc. Construction Management	16
3.	BOE104	Building Economics	16
4.	FSK112	Physics for students in the Building Sciences	8
5.	WTW142	Introductory calculus and statics	8
6.	OBS244	Entrepreneurship	16
7.	EKN114	Introduction to Economics and Microeconomics	16
8.	END104	Property Development Economy	16
		Optional modules (any 16 credits)	16
9.	ANT124	Culture - understanding ourselves and others(16)	
10.	WYS112	Introduction to Philosophy and world view (8)	
11.	WYS132	The structure of experiential reality(8)	
12.	AFP122	Logic and cohesion in Afrikaans texts(8)	
13.	AFP142	Strategies for persuasion in Afrikaans(8)	
14.	EBE112	Business English(8)	
15.	EBE122	Business English(8)	
16.	ARG102	Architecture(8)	
17.	IGW102	Engineering Science(8)	

Second year of study (128 credits)			**Credits**
Compulsory modules			
1.	POB204	Production and Operational Management	16
2.	BOW204	Building Science	16
3.	BOE204	Building Economics	16
4.	END204	Property Development Economics	16
5.	KWE204	Construction Science	16
6.	STK114	Introduction to Statistics I	16
7.	HRG204	Commercial Law	16
Optional modules (any 16 credits)			16
8.	STK124	Introduction to Statistics II(16)	
9.	EKN124	Introduction to Macroeconomics(16)	
10.	OBS134	General Management(16)	
11.	ARG202	Architecture(8)	
12.	IGW202	Engineering Science(8)	

Third year of study (128 credits)			Credits
Compulsory modules			
1.	POB304	Production and Operational Management	16
2.	BOW304	Building Science	16
3.	BKR306	Building Contracts Law	24
4.	BOE304	Building Economics	16
5.	END304	Property Development Economics	16
6.	KWE304	Construction Science	16
7.	BKS302	Descriptive Quantification Project	8
Optional modules (any combination) (16 credits)			16
8.	OBS144	Marketing(16)	
9.	OBS234	Fundamentals of financial management(16)	
10.	BKF304	Descriptive Quantification(16)	

Fourth year of study (128 credits)			Credits	Prere-quisites
Compulsory modules				
1.	POB404	Production and Operational Management	16	POB204
2.	BKI402	Management of Information and Communication Systems	8	
3.	KOF404	Construction Finances	16	BOE204
4.	ABR224	Labour Law	16	
5.	END404	Property Development Economics	16	END204
6.	KWE404	Construction Science	16	KWE204
7.	GPB404	Advanced Project Management	16	
8.	GIP402	Integrated Project	8	
Optional modules (16 credits)			16	
9.	EWP404	Property Valuation Practice(16)		
10.	EFB404	Property Facilities Management(16)		
11.	BPK404	Professional Practice(16)		

All choice options in the fourth year will not necessarily be on offer each year. Students must, therefore, exercise their options in consultation with the Head of Department. If a student fails a specific choice option and the module is not on offer in the following year, another option must be selected.

Equivalent modules and modules not listed, but acceptable in context, may also be presented as against prescribed modules on condition that they are approved by the Head of Department.

Choice options in respect of other modules must be exercised in consideration of the lecture and venue timetable. Students must also carefully take note of set prerequisites before exercising choice options.

(a) Prescribed modules

A student must pass all the prescribed modules before the degree is awarded.

(b) With Distinction

The degree is awarded with distinction to a candidate who has passed all the prescribed modules in the minimum prescribed time plus 1 year, and has also obtained a distinction in three of the under-mentioned modules in the fourth year of study, as well as maintained an average percentage of 70% for the modules of the fourth year of study: POB404, KOF404, END404, KWE404, ABR224, GPB404, GIP402 and BKI402.

(c) Transitional regulations

Students who registered before 2004 for the degree B.Sc.(Construction Management), follow the curriculum for which they registered, taking into consideration the maximum period of study as set out in Reg. D10 which was applicable during first registration and the following transitional regulations:

Students can, on application at the Department of Quantity Surveying and Construction Management, switch to the distance learning programme provided that a student must be employed in the industry for a period of three years before the degree can be awarded. An employer's declaration must be submitted to the Head of the Department on the required form after each year of employment.

Credits for and recognition of "old modules" will be given by the Head of Department in consultation with the Dean. New modules the student will have to follow in order to meet the regulations, as a result of modules in arrears, will be prescribed in the same manner.

2001, 2002, 2003 regulation	**2004, 2005, 2006 and 2007 regulation**
BKF308	BKF304
BKR304	BKR306
BKF408	BKF404
BKI404	BKI402
END408	END404
KWE408	KWE404
POB308	POB304
POB408	POB404
GPB424	GPB404
ENS112/ENS132	EBE112/EBE122
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
EWP424	EWP404
EFB424	EFB404
2006 regulation	**2007 regulation**
AVB112	ARG102

(d) B.Sc. Learning area Construction Management (360 credits) (4387) (Residential)

Students can also on recommendation of the Head of Department register or change to the B.Sc. Learning area (Construction Management).

The degree is awarded to a candidate who had at least received 360 credits of the first three study years of the four year B.Sc.(Construction Management) programme code 4390 and further more successfully passed the compulsory or equivalent modules.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules in the minimum prescribed time plus 1 year, and in addition, obtained a distinction in three of the under-mentioned modules in the third year of study, maintaining an average of at least 70% for the modules of the third year of study: POB304, BOW304, BKR306, BOE304, END304, KWE304 and BKS302.

(e) B.Sc.(Honours) Learning area Construction Management (152 credits) (4540) Residential

Students who have passed the B.Sc. Learning area (Construction Management) (360 credits) degree, or an approved qualification of equal value successfully, may register for the B.Sc.(Honours) Learning area (Construction Management).

The degree is awarded to a candidate who had at least received 152 credits of the prescribed curriculum, or a curriculum approved by the Departmental Head, and successfully passed the complete fourth study year of 128 credits of the B.Sc.(Construction Management) programme degree code 4390.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules in the minimum prescribed time plus 1 year, and in addition, obtained distinctions in three of the under-mentioned modules in the fourth year of study, maintaining an average of at least 70% for the modules of the fourth year of study: POB404, BKI402, KOF404, END404, KWE404, ABR224, GPB404 and GIP402.

INFORMATION

1. Applications, on the prescribed form, for admission to the degree-programme, must reach the Director, Student-Administration, before or on 31 May of the year before intended admission. Selection will take place continuously and prospective students will be informed of the results. The taking down of potentiality tests and/or selection interviews may be required during this period.

2. This multi-disciplinary study direction focuses on the physical developmental process as subject science within the management sciences on the one hand and developmental sciences on the other. The study is career-specific, with a thorough academic-grounding, and allows admission to several careers in the broad property business within both the public and private sectors. Elucidation in respect of requirements for admission to specific occupations and opportunities is available from the relevant Department of Quantity Surveying and Construction Management.

REGULATIONS

Reg. D13 - Faculty entrance requirements

Apart from the provisions of Reg. A2, a student must, to be considered for selection and admission to the B.L.P.M.-degree programme, have passed at least Grade 12-Mathematics and one of Geography, Physical Science, Economics, Business Economics or Accounting in the Grade 12-examination on standard grade. Admission to this direction of study is limited, and meeting the minimum requirements for admission does not necessarily assure the applicant's selection. Final selection is strictly based on merit.

Where a student, because of exceptional circumstances, does not fully meet the requirements for admission, the Dean can, in cases of exceptional merit, recommend that the requirements be partially waived.

Reg. D14 - Evaluation and examination

(a) Where evaluation and examination of students' academic progress in respect of modules take place continuously by means of assignments, tests and tasks, a year/semester mark shall be calculated from these tasks, which will be regarded as the examination mark of the student. Right of appeal is possible in terms of university regulations. In the case of other modules, the normal examination procedure is followed.

(b) If a student's proposed curriculum, during any year, deviates from Reg. D63, the planning and sequence thereof must be determined by the Head of Department. The Head of Department may, in cases where students' academic achievements require this, prescribe certain choice options. No student may register for a total of more than 176 credits during the first three years of study and 160 credits in the fourth year of study, provided that in case of exceptional merit, the Head of Department may relieve this limitation after written application from the concerned student. Should a student receive credits under circumstances where there is a change from another study programme and/or institution, the above-mentioned limitations will not be applicable and his curriculum will be compiled by the Head of Department, taking into consideration the selected maximum number of modules allowed per year of study.

(c) **Class contact sessions.** It is expected of students to attend all lectures as set out in module guidelines and the lecture and venue timetable. Progress evaluations may take place during such contact sessions and students not present can be penalised. For some modules, however, contact lecture times are structured ad hoc or by means of lecture cramming times in order to accommodate telematic learning, and students must therefore thoroughly acquaint themselves with what is expected of them during the orientation lectures for each module. In the case of choice options, taken in the curriculum, the executions of such choices is subject to accommodation in the lecture and venue timetable.

Reg. D15 - Term of study

The degree stretches over a period of four years of study. For purposes of Reg. A19(a), the period is six years. Planning of an extended curriculum must be undertaken in consultation with the Head of Department. It is recommended that students undertake practical work during university holidays at the offices of a practitioner within the property business in order to broaden subject insight within a practical context.

Entrance levels. Any credits for equivalent modules at another tertiary institution or another direction of study obtained at this university, shall be considered when determining the curriculum.

Exit levels. Students who, for some reason or another, terminated their studies and could not complete their degree programme, may, on written application, be conferred a certificate- or diploma programme in Land and Property Development Management if the required number of credits have been obtained. Students cannot register for this certificate or diploma in the first place. Admission and registration can only be acquired by means of the degree programme. The certificate and diploma, therefore, offer an exit level with recognition that can be used in the labour market.

Reg. D16 - Curriculum: B.L.P.M. (512 credits) (4321)

First year of study (128 credits)

Compulsory modules			**Credits**
1.	GAD104	Land Administration	16
2.	END104	Property Development Economics	16
3.	RBR104	Accounting for B.Sc.(QS)- and B.Sc. Construction Management	16
4.	BOE104	Building Economics	16
5.	EKN114	Introduction to economics and Micro-economics	16
6.	OBS244	Entrepreneurship	16
7.	BRS111	Basic Computer Literacy	4
8.	RIS121	Advanced Computer Usage	4
9.	ARG102	Architecture	8
Optional modules (any 16 credits)			16
10.	AFP122	Logic and cohesion in Afrikaans texts(8)	
11.	AFP142	Strategies for persuasion in Afrikaans (8)	
12.	EBE112	Business English (8)	
13.	EBE122	Business English (8)	
14.	WYS112	Introduction to Philosophy and world view(8)	
15.	WYS132	The structure of experiential reality(8)	

16.	SOS112	Individual, culture and society(8)
17.	SOS132	Inequalities in society(8)
18.	GEO124	Introduction to human geography and cartography(16)
19.	LWL134	Chemical principles in agriculture(16)
20.	LWL154	Physical and mechanised principles in agriculture(16)

Second year of study (128 credits)

Compulsory modules			**Credits**
1.	GAD204	Land Administration	16
2.	END204	Property Development Economics	16
3.	HRG204	Commercial Law	16
4.	BKF104	Descriptive Quantification	16
5.	STK114	Introduction to Statistics I	16
Optional modules (any 48 credits)			48
6.	OBS134	General Management(16)	
7.	EKN124	Introduction to macroeconomics(16)	
8.	STK124	Introduction to Statistics II(16)	
9.	WDK224	Veld as natural resource(16)	
10.	LWR214	Introduction to Agrometeorology(16)	
11.	GKD214	Soil ecology(16)	
12.	LEK124	Economic management of agricultural resources(16)	
13.	LEK214	Agricultural finance(16)	
14.	ANT112	Cultural and ethnic history of Southern Africa(8)	
15.	ANT132	Cultural and racial diversity(8)	
16.	ANT124	Culture - understanding ourselves and others(16)	

Third year of study (128 credits)

Compulsory modules			**Credits**	**Prere-quisites**
1.	GAD304	Land Administration	16	GAD104
2.	END304	Property Development Economics	16	END104
3.	BOE304	Building Economics	16	
4.	POB314	Production and Operational Management	16	
5.	BKR306	Building Contracts Law	24	
Optional modules (any 40 credits)			40	
6.	OBS144	Marketing(16)		
7.	OBS234	Fundamentals of Financial Management(16)		
8.	WDK314	Applied veld management and veld evaluation(16)		
9.	LWR314	Climate and its influence on management practices(16)		
10.	GKD314	Soil evaluation and land use planning(16)		
11.	ANT212	Cross-cultural study of social groups and marriage(8)		
12.	ANT232	Cross-cultural study of political practices(8)		
13.	ANT222	Cultural and symbolism(8)		
14.	ANT242	Cross-cultural study of religion and world-		

		view(8)		
15.	LEK314	Agricultural Marketing(16)		
16.	LEK424	Resource Economy(16)		

Fourth year of study (128 credits)				**Prere-**
Compulsory modules			**Credits**	**quisites**
1.	GAD404	Land Administration	16	GAD204
2.	END404	Property Development Economics	16	END204
3.	BPK404	Professional Practice	16	
4.	BKI402	Management of Information and Communication Systems	8	
5.	GPB404	Advanced Project Management	16	
Optional modules (any 56 credits if available)			56	
6.	EKN314	Labour economics and international economics(16)		
7.	GEO314	Applied urban development and spatial transformation(16)		
8.	GEO324	Environmental Management and Analysis (16)		
9.	WDK414	Production and utilisation ecology(16)		
10.	LWR424	Micrometeorology(16)		
11.	AGR424	Post-harvest handling and storage(16)		
12.	GKD424	Soil biology(16)		
13.	EWP424	Property Valuation Practice (16)		END304
14.	EFB424	Property Facilities Management (16)		

Note: All choice options in the fourth year are not necessarily on offer each year. Students can therefore make their choices in consultation with the Head of Department. If a student should fail a specific choice option and it is not on offer in a following year, another choice option must be selected.

(a) Prescribed modules

A student must pass all the prescribed modules before a degree can be awarded.

(b) With distinction

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, in addition, obtained a distinction in three of the under-mentioned modules in the fourth year of study, and further maintaining an average of 70% for the modules/module-pairs prescribed for the fourth year of study:

GAD404,
END404,
BPK404,
BKI402,
GPB404
One of EKN314, GEO314, GEO324
One of EWP424, EFB424

(c) Transitional regulations

Students who registered before 2004 for the degree B.L.P.M., follow the curriculum for which they registered, taking into consideration the maximum period of study as set out in Reg. D16 which was applicable during first registration and the following transitional regulations:

Students can, on application at the Department of Quantity Surveying and Construction Management, switch to the distance learning programme provided that a student must be employed in the industry for a period of three years before the degree can be awarded. An employer's declaration must be submitted to the Head of the Department on the required form after each year of employment.

Credits for and recognition of "old modules" will be given by the Head of Department in consultation with the Dean. New modules the student will have to follow in order to meet the regulations, as a result of modules in arrears, will be prescribed in the same manner.

2001, 2002, 2003 regulation	**2004, 2005, 2006 and 2007 regulation**
BKF308	BKF304
BKR304	BKR306
BKF408	BKF404
BKI404	BKI402
END408	END404
KWE408	KWE404
POB308	POB304
POB408	POB404
GPB424	GPB404
ENS112/ENS132	EBE112/EBE122
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
GEO144	GEO124
GEO322/342	GEO324
EWP424	EWP404
EFB424	EFB404
2006 regulation	**2007 regulation**
AVB112	ARG102

Open learning programmes for education in the property development professions

The following open learning programmes (distance learning) are presented by the Department of Quantity Surveying and Construction Management.

1. **Open learning programme B.Sc.(Q.S.) (512 credits):** A degree aimed at the academic preparation of a candidate for the profession of Quantity Surveying as well as the functions of costs engineer, project manager, property development consultant and building and construction scientist.

2. **Open learning programme B.Sc.(Construction Management) (512 credits):** A degree aimed at the academic preparation of a candidate for the construction management profession as well as the functions of production management, operational management, project manager, contractorship and building and construction scientist.

3. **Open learning programme - Diploma C.S.B.S. (240 credits): Diploma in Construction Science and Building Surveying (exit level)**: A diploma aimed at the preparation of a candidate for the quantity surveying profession at a certain level, and for the examinations of this profession as well as for the functions of cost management, project management and property development entrepreneurship. Further qualification is possible. This diploma is also available, on application, for candidates who could not complete the degrees B.Sc.(Q.S.) or B.Sc.(Construction Management). Special credits will be acknowledged for modules already passed in order to meet the requirements of the diploma.

4. **Open learning programme - Certificate Q.C.P. (240 credits):Certificate in Quantity Surveying, Construction Management and Project Management**: A certificate aimed at the academic preparation of a candidate for the profession of Quantity Surveying as well as the functions of construction management, project management and property development consultant and building and construction scientist. (For further information see CCE)

5. **Certificate C.S.B.S. (120 credits): Certificate in Construction Science and Building Surveying (exit level):** A certificate for the basic orientation of a candidate for the assistance of professional quantity surveyors and/or construction managers.

6. **Students can also register for the B.Sc. learning area (Quantity Surveying) (4324) or B.Sc. learning area (Construction Management) (4392) (360 credits) and after gaining the degree carry on with B.Sc.(Honours) learning area (Quantity Surveying) or B.Sc.(Honours) learning area (Construction Management) (152 credits). See Regulation D19 for further information.**

BACHELOR OF SCIENCE IN QUANTITY SURVEYING **B.Sc.(Q.S.)**
Degree code 4323 (Open learning)

AND

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT **B.Sc.(Construction Management)**
Degree code 4391 (Open learning)

INFORMATION

1. Applications, on the prescribed form, for admission to the degree programme, must reach the Director, Student Administration, before or on 31 May of the year before the intended admission. Selection will take place continuously, and prospective students will be informed of the outcome.

2. All the examinations for the certificate, diplomas and Bachelor's Degrees are considered, by the Minister concerned, as recognised examinations in terms of the provisions of the Quantity Surveyors' Profession Act.

3. The Bachelor's Degrees in Quantity Surveying and Construction Management are considered for membership purposes by the Royal Institution of Chartered Surveyors of the United Kingdom.

4. The degree programme is done over a period of five years. The certificate and the diplomas are available as exit levels per regulation. Students must apply to be awarded these qualifications. The Q.C.P. certificate is also available as a separate programme.

5. Education is provided through open learning, there are therefore only limited contact sessions between student and lecturer.

REGULATIONS

Reg. D17 - Faculty entrance requirements

Entrance requirements are the same as stated in regulation D8.

Candidates who do not comply with university admission requirements can be allowed admission to the programme by successfully competing the required bridging module. If the student passes the module the candidate will be allowed to continue with the programme during the same year. On completion of the bridging module, the University shall apply to the Matriculation Board, on behalf of the student, for provisional exemption.

Reg. D18 - Evaluation and examination (diplomas and degrees)

The evaluation and examinations are the same as outlined in regulation D9.

Reg. D19 - Prescribed study period

The degree programme is done over a period of five years. For purposes of regulation A19 the period is seven years. Planning for an extended curriculum may be done after consultation with the Head of Department. It is advised that a student must work in the industry or relevant directions in the market for a period of at least three years.

Entrance levels. Any credits for equivalent modules at another tertiary institution or another direction of study obtained at this university, shall be considered when determining the curriculum.

Exit levels. Students who, for some reason or another, terminated their studies and could not complete their degree programme, may, on submitting a written application, receive a certificate or diploma if the required number of credits have been obtained. Students cannot register for this certificate or diploma in the first place. Admission and registration can only be acquired by means of the degree programme. The certificate and diploma, therefore, offer an exit level with recognition that can be used in the labour market.

BACHELOR OF SCIENCE IN QUANTITY SURVEYING **B.Sc.(Q.S.)**
Degree code 4323 (Open learning)

Reg. D20 - Curriculum: B.Sc.(Q.S.) (512 credits) (4323)

First Year of Study (128 Credits)			**Credits**
Compulsory modules			
1.	DQF104	Descriptive Quantification	16
2.	RBR104	Accounting for B.Sc.(Q.S.)- and B.Sc.	16
	or	Construction Management)	
	BRF214	Management Accounting and finances	
3.	COE104	Building Economics	16
4.	FSK112	Physics for students in the Building Sciences	8
5.	WTW142	Introductory calculus and statics	8
6.	OBS244	Entrepreneurship	16
7.	EKN114	Introduction to Economy and Micro-economy	16
8.	PDE104	Property Development Economics	16
Optional modules (Any 16 credits)			
9.	ANT124	Culture - understanding ourselves and others (16)	
10.	WYS112	Introduction to Philosophy and world view (8)	
11.	WYS132	The structure of experiential reality (8)	
12.	AFP122	Logic and cohesion in Afrikaans tests (8)	
13.	AFP142	Strategies for persuasion in Afrikaans (8)	
14.	EBE112	Business English (8)	
15.	EBE122	Business English (8)	
16.	ARG102	Architecture(8)	
17.	EGS102	Engineering Science(8)	

Second year of study (128 credits)			**Credits**
Compulsory modules			
1.	DQF204	Descriptive Quantification	16
2.	BSC204	Building Science	16
3.	COE204	Building Economics	16
4.	PDE204	Property Development Economics	16
5.	CSC204	Construction Science	16
6.	STK114	Introduction to Statistics I	16

7.	HRG204 or HRG114 or HRG124	Commercial Law Commercial Law Commercial Law	16
Optional modules (any 16 credits)			16
8.	STK124	Introduction to Statistics II (16)	
9.	EKN124	Introduction to Macro-economics (16)	
10.	OBS134	General Management (16)	
11.	ARG202	Architecture(8)	
12.	EGS202	Engineering Science(8)	

Third year of study (128 credits)			**Credits**
Compulsory modules			
1.	DQF304	Descriptive Quantification	16
2.	BSC304	Building Science	16
3.	CCM306	Construction Contracts and Management	24
4.	COE304	Building Economics	16
5.	PDE304	Property Development Economics	16
6.	CSC304	Construction Science	16
7.	DQS302	Descriptive Quantification (Project)	8
Optional modules (any 16 credits)			16
8.	OBS144	Marketing (16)	
9.	OBS234	Fundamentals of Financial Management(16)	
10.	ABR224	Labour Law (16)	
11.	PQM304	Production and Operational Management(16)	

Fourth year of study (80 credits)			**Credits**	**Pre-requisite**
Compulsory modules				
1.	DQF404	Descriptive Quantification	16	DQF204
2.	COE404	Building Economics	16	COE204
3.	PDE404	Property Development Economics	16	PDE204
4.	CSC404	Construction Science	16	CSC204
Optional modules (any 16 credits)			16	
5.	PVP404	Property Valuation Practice(16)		
6.	PFM404	Property Facilities Management(16)		
7.	CFN404	Construction Finance(16)		

Fifth year of study (48 credits)			**Credits**
Compulsory modules			
1.	MCI402	Management of Information and Communication Systems	8
2.	PPR404	Professional Practice	16
3.	APM404	Advanced Project Management	16
4.	INP402	Integrated Project	8

Students must pay attention that the modules are not necessarily presented as open learning modules at the University of the Free State and that you can obtain these modules by means of the open learning programme or residential programme at the University of the Free State.

The following are examples of modules currently available and presented as open learning or E-degree modules at the University of the Free State. (Please note that these modules are only available in English.)

			Credits
1.	STK114	Introduction to Statistics I	16
2.	STK124	Introduction to Statistics II	16
3.	EBE112	Business English	8
4.	EBE122	Business English	8
5.	AFR122	Text logic and cohesion in Afrikaans	8
6.	AFR142	Strategies for persuasion in Afrikaans	8
7.	HRG114	Commercial Law	16
8.	HRG124	Commercial Law	16
9.	ABR224	Labour Law	16

The following modules are presently not presented as open learning modules at the University of the Free State, but may be obtained from other distance learning institutions or as part of a residential programme at the University of the Free State.

1.	FSK112	Physics for students in the Building Sciences	8
2.	WTW142	Introductory calculus and statics	8
3.	WYS112	Introduction to Philosophy and world view	8
4.	WYS132	The structure of experiential reality	8
5.	ANT124	Culture - understanding ourselves and others	16
6.	HRG204	Commercial Law	16
7.	RBR104	Accounting for B.Sc. (Q.S.) and B.Sc. (Construction Management)	16
8.	OBS244	Entrepreneurship	16
9.	OBS134	General Management	16
10.	EKN114	Introduction to economics and microeconomics	16
11.	EKN124	Introduction to macroeconomics	16
12.	OBS144	Marketing	16
13.	OBS234	Fundamentals of Financial Management	16
14.	BRF204	Management Accounting and finances	16

Equivalent modules and modules not listed, but acceptable in context, may also be presented as against prescribed modules on condition that they are approved by the Head of the Department.

All optional modules in the fourth and fifth study year will not necessarily be presented each year. Students must, therefore, discuss their module choices with the Departmental Head. Should a student fail a specific choice option subject and it is not offered the following year, another optional module will need to be chosen.

Students must also carefully check the stipulated pre-requisites before choosing optional modules.

(a) Prescribed modules

A student must pass all the prescribed modules before a degree can be awarded.

(b) With distinction

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, in addition, obtained a distinction in three of the under-mentioned modules in the fourth and fifth year of study, and further maintaining an

average of 70% for the modules prescribed for the fourth and fifth year of study: DQF404, MCI402, COE404, PPR404, PDE404, CSC404, APM404 en INP402.

(c) Transitional Regulations

Students who registered before 2004 for the degree B.Sc.(Q.S.), follow the curriculum for which they had registered, taking into consideration the maximum period of study as set out in Reg. D19, which was applicable during first registration and the following transitional regulations:

Credits for and recognition of "old modules" shall be given by the Head of Department in consultation with the Dean. New modules the student will have to follow in order to meet the regulations, as a result of modules in arrears, will be prescribed in the same manner.

2001, 2002, 2003 regulation	**2004, 2005, 2006 and 2007 regulation**
CCM102 / CCM204	CCM306
CSC104	COE104
CSC204	BSC204
DQF408	DQF404
PQM408	PQM404
BKI408	MCI402 / INP402
DQS304	DQS302
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
PVP424	PVP404
PFM424	PFM404

(d) B.Sc. Learning area Quantity Surveying (360 credits) (4324) (Open Learning)

Students can also on recommendation of the Head of Department register or change to the B.Sc. Learning area (Quantity Surveying).

The degree is awarded to a candidate who had at least received 360 credits of the first three study years of the B.Sc.(Q.S.) programme code 4323 and furthermore successfully passed the compulsory or equivalent modules.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, and in addition, obtained a distinction in three of the under-mentioned modules in the third year of study, and further maintaining an average of 70% for the modules prescribed for the third year of study: DQF304, BSC304, CCM306, COE304, PDE304, CSC304 en DQS302.

(e) B.Sc. (Honours) Learning area Quantity Surveying (152 credits) (4541) Open Learning

A student who has passed the B.Sc. Learning area (Quantity Surveying) (360 credits) degree successfully or a qualification of equal value, can register for the B.Sc.(Honours) Learning area (Quantity Surveying).

The degree is awarded to a candidate who has at least received 152 credits of the prescribed, or approved by the Departmental Head, curriculum and successfully passed the complete fourth and fifth study year (128 credits) of the B.Sc.(Q.S.) degree, degree code 4323.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, in addition, obtained a distinction in three of the under-mentioned modules in the fourth and fifth year of study and further maintaining an average of 70% for the modules prescribed for the fourth and fifth year of study: DQF404, MCI402, COE404, PPR404, PDE404, CSC404, APM404 and INP402.

(f) Bridging Programme (24 credits)

The bridging programme must be completed during the first three months of the degree programme. The candidate must first pass this module before he/she can continue with the applicable programme. During these three months, the student is evaluated. After evaluation, approval can be given to a successful candidate to continue with the degree programme. The programme is as follows:

		Credits
1.	DQF116 Introduction to Construction Science	24

(g) Credits

Students who had successfully completed the credits in the programme B.Sc.(Q.S.), B.Sc. (Construction Management) and for B.L.P.M. can, on application, where they cannot continue with the registered degree programme, receive credits for applicable diplomas. (See diplomas)

(h) Changeover

Students who are registered or had already completed the certificate programme Q.C.P. may change over to the degree programme. Changeover can only take place if the candidate has met all the University regulations. Changeover from the residential programme to the open learning or vice versa is also possible.

Application for articulation must be done in consultation with the Head of Department who must approve the exemption of modules passed.

2001, 2002, 2003 regulation	**2004, 2005, 2006 and 2007 regulation**
CCM102 / CCM204	CCM306
CSC104	COE104
CSC204	BSC204
DQF408	DQF404
PQM408	PQM404
BKI408	MCI402 / INP402
DQS304	DQS302
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
PVP424	PVP404
PFM424	PFM404

Reg. D21 - Curriculum: B.Sc. (Construction Management) (512 credits) (4391)

First Year of Study (128 Credits)			**Credits**
Compulsory modules			
1.	PQM104	Production and Operational Management	16
2.	RBR104	Accounting for B.Sc.(Q.S.)- and B.Sc.	16
	or	Construction Management)	
	BRF214	Management Accounting and finances	
3.	COE104	Building Economics	16
4.	FSK112	Physics for students in the Building Sciences	8
5.	WTW142	Introductory calculus and statics	8
6.	OBS244	Entrepreneurship	16
7.	EKN114	Introduction to Economy and Micro-economy	16
8.	PDE104	Property Development Economics	16
Optional modules (any 16 credits)			16
9.	ANT124	Culture - understanding ourselves and others (16)	
10.	WYS112	Introduction to Philosophy and world view (8)	
11.	WYS132	The structure of experiential reality (8)	
12.	AFP122	Logic and cohesion in Afrikaans texts (8)	
13.	AFP142	Strategies for persuasion in Afrikaans (8)	
14.	EBE112	Business English (8)	
15.	EBE122	Business English (8)	
16.	ARG102	Architecture(8)	
17.	EGS102	Engineering Science(8)	

Second year of study (128 credits)			**Credits**
Compulsory modules			
1.	PQM204	Production and Operational Management	16
2.	BSC204	Building Science	16
3.	COE204	Building Economics	16
4.	PDE204	Property Development Economics	16
5.	CSC204	Construction Science	16
6.	STK114	Introduction to Statistics I	16
7.	HRG204	Commercial Law	16
	or		
	HRG114	Commercial Law	
	or		
	HRG124	Commercial Law	
Optional modules (any 16 credits)			16
8.	STK124	Introduction to Statistics II (16)	
9.	EKN124	Introduction to Macro-economics (16)	
10.	OBS134	General Management (16)	
11.	ARG202	Architecture(8)	
12.	EGS202	Engineering Science(8)	

Third year of study (128 credits)			**Credits**
Compulsory modules			
1.	PQM304	Production and Operational Management	16
2.	BSC304	Building Science	16
3.	CCM306	Construction Contracts and Management	24
4.	COE304	Building Economics	16
5.	PDE304	Property Development Economics	16
6.	CSC304	Construction Science	16
7.	DQS302	Descriptive Quantification (Project)	8
Optional modules (any 16 credits)			16
8.	OBS144	Marketing (16)	
9.	OBS234	Fundamentals of Financial Management(16)	
10.	DQF304	Destriptive Quantification(16)	

Fourth year of study (80 credits)			**Credits**	**Pre-requisite**
Compulsory modules				
1.	PQM404	Production and Operational Management	16	PQM204
2.	CFN404	Construction Finance	16	COE204
3.	PDE404	Property Development Economics	16	PDE204
4.	CSC404	Construction Science	16	CSC204
Optional modules (any 16 credits)			16	
5.	PVP404	Property Valuation Practice(16)		
6.	PFM404	Property Facilities Management(16)		
7.	PPR404	Professional Practice(16)		

Fifth year of study (48 credits)			**Credits**
Compulsory modules			
1.	MCI402	Management of Information and Communication Systems	8
2.	ABR224	Labour Law	16
3.	APM404	Advanced Project Management	16
4.	INP402	Integrated Project	8

Students must pay attention that the modules are not necessarily presented as open learning modules at the University of the Free State and that you can obtain these modules by means of the open learning programme or residential programme at the University of the Free State.

The following are examples of modules currently available and presented as open learning or E-degree modules at the University of the Free State. (Please note that these modules are only available in English.)

			Credits
1.	STK114	Introduction to Statistics I	16
2.	STK124	Introduction to Statistics II	16
3.	EBE112	Business English	8
4.	EBE122	Business English	8
5.	AFP122	Text logic and cohesion in Afrikaans	8
6.	AFP142	Strategies for persuasion in Afrikaans	8
7.	HRG114	Commercial Law	16
8.	HRG124	Commercial Law	16
9.	ABR224	Labour Law	16

The following modules are presently not presented as open learning modules at the University of the Free State, but may be obtained from other distance learning institutions or as part of a residential programme at the University of the Free State.

1.	FSK112	Physics for students in the Building Sciences	8
2.	WTW142	Introductory calculus and statics	8
3.	WYS112	Introduction to Philosophy and world view	8
4.	WYS132	The structure of experiential reality	8
5.	ANT124	Culture - understanding ourselves and others	16
6.	HRG204	Commercial Law	16
7.	RBR104	Accounting for B.Sc. (Q.S.) and B.Sc. (Construction Management)	16
8.	OBS244	Business Management and Entrepreneurship	16
9.	OBS134	General Management	16
10	EKN114	Introduction to economics and microeconomics	16
11.	EKN124	Introduction to macroeconomics	16
12.	OBS144	Marketing	16
13.	OBS234	Fundamentals of Financial Management	16
14.	BRF214	Management Accounting and finances	16

Equivalent modules and modules not listed but acceptable in context, may also be presented as against prescribed modules on condition that they are approved by the Head of the Department.

All optional modules in the fourth and fifth study year will not necessarily be presented each year. Students must, therefore, discuss their module choices with the Departmental Head. Should a student fail a specific choice option subject and it is not offered the following year, another optional module will need to be chosen.

Students must also carefully check the stipulated pre-requisites before choosing optional modules.

(a) Prescribed modules

A student must pass all the prescribed modules before a degree can be awarded.

(b) With distinction

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, in addition, obtained a distinction in three of the under-mentioned modules in the fourth and fifth year of study, and further maintaining an average of 70% for the modules prescribed for the fourth and fifth year of study: PQM404, MCI402, CFN404, ABR224, PDE404, CSC404, APM404 en INP402.

(c) Transitional Regulations

Students who registered before 2004 for the degree B.Sc.(Construction Management), follow the curriculum for which they had registered, taking into consideration the maximum period of study as set out in Reg. D19, which was applicable during first registration and the following transitional regulations:

Credits for and recognition of “old modules” shall be given by the Head of Department in consultation with the Dean. New modules the student will have to follow in order to meet the regulations, as a result of modules in arrears, will be prescribed in the same manner.

2001, 2002, 2003 regulation	2004, 2005, 2006 and 2007 regulation
CCM102 / CCM204	CCM306
CSC104	COE104
CSC204	BSC204
DQF408	DQF404
PQM408	PQM404
BKI408	MCI402 / INP402
DQS304	DQS302
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
PVP424	PVP404
PFM424	PFM404

(d) B.Sc. Learning area Construction Management (360 credits) (4392) Open Learning

Students can also on recommendation of the Head of Department register or change to the B.Sc. Learning area (Construction Management).

The degree is awarded to a candidate who had at least received 360 credits of the first three study years of the B.Sc.(Construction Management) programme code 4391 and furthermore successfully passed the compulsory or equivalent modules.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, and in addition, obtained a distinction in three of the under-mentioned modules in the third year of study, and further maintaining an average of 70% for the modules prescribed for the third year of study: PQM304, BSC304, CCM306, COE304, PDE304, CSC304 en DQS302.

(e) B.Sc. (Honours) Learning area Construction Management (152 credits) (4542) Open Learning

A student who has passed the B.Sc. Learning area (Construction Management) (360 credits) degree successfully or a qualification of equal value, can register for the B.Sc.(Honours) Learning area (Construction Management).

The degree is awarded to a candidate who has at least received 152 credits of the prescribed, or approved by the Departmental Head, curriculum and successfully passed the complete fourth and fifth study year (128 credits) of the B.Sc.(Construction Management) degree, degree code 4391.

The degree is awarded with distinction to a candidate who has passed all the prescribed modules within the minimum prescribed time plus one year, in addition, obtained a distinction in three of the under-mentioned modules in the fourth and fifth year of study and further maintaining an average of 70% for the modules prescribed for the fourth and fifth year of study: PQM404, MCI402, CNF404, ABR224, PDE404, CSC404, APM404 and INP402.

(f) Bridging Programme (24 credits)

The bridging programme must be completed during the first three months of the degree programme. The candidate must first pass this module before he/she can continue with the applicable programme. During these three months, the student is evaluated. After evaluation, approval can be given to a successful candidate to continue with the degree programme. The programme is as follows:

		Credits
1.	DQF116 Introduction to Construction Science	24

(g) Credits

Students who had successfully completed the credits in the programme B.Sc.(Q.S.), B.Sc. (Construction Management) and for B.L.P.M. can, on application, where they cannot continue with the registered degree programme, receive credits for applicable diplomas. (See diplomas)

(h) Changeover

Students who are registered or had already completed the certificate programme Q.C.P. may change over to the degree programme. Changeover can only take place if the candidate has met all the University regulations. Changeover from the residential programme to the open learning or vice versa is also possible.

Application for articulation must be done in consultation with the Head of Department who must approve the exemption of modules passed.

2001, 2002, 2003 regulation	**2004, 2005, 2006 and 2007 regulation**
CCM102 / CCM204	CCM306
CSC104	COE104
CSC204	BSC204
DQF408	DQF404
PQM408	PQM404
BKI408	MCI402 / INP402
DQS304	DQS302
OBS114	OBS244
OBS124	OBS134
OBS214	OBS144
OBS224	OBS234
PVP424	PVP404
PFM424	PFM404

OPEN LEARNING OR RESIDENTIAL: DIPLOMA IN CONSTRUCTION SCIENCE AND BUILDING SURVEYING **Diploma C.S.B.S.**
Degree code 4005

INFORMATION

This diploma is only available on request for a student who completes the prescribed and applicable modules of the first three study years of B.Sc.(Q.S.) or B.Sc.(Construction Management) degrees, or of the first three study years of the open learning programme B.Sc.(Q.S.) or the B.Sc. (Construction Management), and has completed a minimum of 240 credits, but, because of academic or other reasons cannot complete his prescribed study programme. This therefore presents a university qualification to a student in recognition of modules that have been completed which are applicable and acceptable in the labour market.

In this regard at least 240 credits are obtained by successfully passing the following **residential** modules or equivalent distance learning modules(*).

			Credits
1.	BKF104/DQF104*	Descriptive Quantification(16)	48
	BKF204/DQF204*	Descriptive Quantification(16)	
	BKF304/DQF304*	Descriptive Quantification(16)	
	or		
2.	POB104/PQM104*	Production and Operational Management(16)	48
	POB204/PQM204*	Production and Operational Management(16)	
	POB304/PQM304*	Production and Operational Management(16)	
3.	BKS302/DQS302*	Descriptive Quantification (Project)	8
4.	BOE104/COE104*	Building Economics(16)	48
	BOE204/COE204*	Building Economics(16)	
	BOE304/COE304*	Building Economics(16)	
5.	BOW204/BSC204*	Building Science(16)	32
	BOW304/BSC304*	Building Science(16)	
6.	END104/PDE104*	Property Development Economics(16)	48
	END204/PDE204*	Property Development Economics(16)	
	END304/PDE304*	Property Development Economics(16)	
7.	KWE204/CSC204*	Construction Science(16)	32
	KWE304/CSC304*	Construction Science(16)	
8.	BKR306/CCM306*	Building Contracts Law	24

A student cannot register for this diploma first-off. Registration and acceptance thereof must be for the degree course. Application to be allowed to enter and qualify for the diploma must be submitted to the Registrar, Student Academic Services.

RESIDENTIAL DIPLOMA IN LAND AND PROPERTY DEVELOPMENT MANAGEMENT **Diploma L.P.M.**
Degree code 4004

This diploma is available only on application for a student who has completed the prescribed modules for the first three years of study of the B.L.P.M.-degree, and has obtained a minimum of 360 credits, but, because of academic or other reasons, cannot continue with the prescribed direction of study. Thus it offers a university qualification to the student in recognition of modules passed, where these can be used in the labour market.

A student cannot, however, register for this diploma first off. Admission and registration must be for degree programmes. Applications for being conferred one qualification must be submitted to the Registrar, Student Academic Services. An administrative fee is payable.

OPEN LEARNING OR RESIDENTIAL: CERTIFICATE IN CONSTRUCTION SCIENCE AND BUILDING SURVEYING **Certificate C.S.B.S.**
Degree code 4003

This certificate is available only on application to the Department of Quantity Surveying and Construction Management, to a student who has successfully completed the prescribed and appropriate modules of the first two years of study of the B.Sc. (Q.S.) or B.Sc.(Construction Management) degree course, or successfully completed the first two years of study of the open learning programme B.Sc. (Q.S.) or B.Sc. (Construction Management), and gained a minimum of 120 credits, but, because of academic or other reasons, cannot follow or continue with the prescribed direction of study. Consequently, it offers a university qualification to the student in recognition of modules passed, where these can be used in the labour market.

In this regard, at lease 120 credits are obtained through successfully passing the following residential modules or the equivalent open learning modules(*).

			Credits
1.	BKF104/DQF104*	Descriptive Quantification(16)	32
	BKF204/DQF204*	Descriptive Quantification(16)	
	or		
2.	POB104/PQM104*	Production and Operational Management16)	32
	POB204/PQM204*	Production and Operational Management(16)	

Students may choose any set of the above, but are compelled to complete at least one of the sets of modules.

3.	BOE104/COE104*	Building Economy(16)	32
	BOE204/COE204*	Building Economy(16)	
4.	BOW204/BSC204*	Building Science(16)	16
5.	END104/PDE104*	Property Development Economy(16)	32
	END204/PDE204*	Property Development Economy(16)	
6.	KWE204/CSC204*	Construction Science(16)	16

A student cannot, however, register for this diploma first off. Admission and registration must be for degree programmes. Applications for being conferred one qualification must be submitted to the Registrar, Student Academic Services.

OPEN LEARNING: CERTIFICATE IN QUANTITY SURVEYING, CONSTRUCTION MANAGEMENT AND PROJECT MANAGEMENT **Q.C.P.(240 credits)**

For information, see Centre for Construction Entrepreneurs (CCE).

BACCALAUREUS ARCHITECTURAE HONORES **B.ARCH. HONS.**
Degree code 4567

INFORMATION

The Baccalaureus Architecturae Honores [B.Arch. Hons.] is a postgraduate degree by coursework that from 2005 takes the place of the first year of the previous advanced professional B.Arch. degree. The purpose of the qualification is to train candidates that may register for the degree Magister Architecturae (Professional) that will enable successful candidates to register as "Candidate Architect" with the South African Council for the Architectural Profession in terms of the provisions of the Architectural Profession Act 44 of 2000. The B.Arch. Hons. involves lectures, projects, and continuous evaluation.

The B.Arch.Stud. degree precedes the B.Arch. Hons. degree. After successful completion of the B.Arch. Hons. degree candidates may register for the Magister Architecturae (Professional).

Application for admission to the Baccalaureus Architecturae Honores degree, on the prescribed form, must reach the Director: Student Administration, UFS, Bloemfontein, on or before 31 May of the year preceding intended admission. Selection will take place, and prospective students will be informed of the outcome during December at the latest.

The minimum duration is one year full time study.

The qualified student, as Candidate Senior Architectural Technologist, will be competent to assist in providing full professional services in client liaison, the research, design, detailing, documentation, administration and supervision of the construction process and completion of any scale complex projects in the built environment.

Students are trained to creatively design a wide variety of building types and identify and solve environmental problems sustainable within a rapid changing context.

The evaluations and examinations for the degrees Barch.Stud.and the degrees B.Arch. Hons. and M.Arch.(Prof.) are recognised by the minister concerned in terms of the provisions of the Architectural Profession Act (Act 44 of 2000). Training experience after completion of the B.Arch.Stud. degree programme and the degree M.Arch.(Prof.), will be controlled by the conditions of the South African Council for the Architectural Profession. The registrar of this Council will provide information in this regard.

REGULATIONS

Reg. D27 - Entrance requirements

In accordance with the provisions of the general regulations, students who wish to register for the Baccalaureus Architecturae Honores must submit proof that:

(i) They have obtained the degree B.Arch.Stud. at this University, with a joint average mark of 55% for BOW306, OGT304 and TAR304, as well as a subminimum of 60% for ONW300.

(ii) They have obtained the degree B.Arch.Stud. or equivalent thereof at another South African university and have obtained equivalent marks as set out in D27(i), subject to the approval of the head of the department and the Dean.

a. **Students must apply for admission to the programme of the degree B.ARCH. HONS.** on the prescribed form as required by the administration of the UFS. The application must reach the UFS **before 31 May**.

b. **Selection**: after such an application is received, students will be contacted to arrange for **a personal interview at which an official and verified academic record from the institution where the student received his/her degree, as well as a portfolio** should be presented. The date(s) and time of such an interview will be determined after receipt of the application forms, and should take place at the end of November or the beginning of December.

c. The **Portfolio** should, **firstly**, consist of **sketches, drawings and other documentation** of Design and Building Technology projects/assignments from all their study years. projects done during their involvement with the specific architectural firm(s). The broader totality of each of the projects, as well as the student's particular contribution should be clearly indicated. The more complete such a contribution is indicated (sketches, drawings, documentation) the easier it is to get an idea of the student's progress during the year, and the more positive it will contribute to the student's admission to the programme. **Secondly, a letter of recommendation** from the particular Head of Department as well as the Studio Master of the last year of study, in which the time and quality of the student's contribution should be verified, must accompany the portfolio. **Thirdly, any work**/projects (sketches, drawings etc.) **done during involvement with a specific architectural firm(s)**, will be regarded as a bonus contributing positively to the student's application.

d. **The selection process**, as personal interview and presentation of all the above-mentioned, **is no guarantee that the student will (automatically) be allowed to the programme for the degree B.ARCH. HONS.** The final discretion whether the student is regarded as being ready for the programme will rest with the selection panel.

(iii) UFS students that did not comply with the prerequisite of 60% for ONW300 and an average of 55% for BOW306, OGT304, TAR304 together, as well as students from other institutions that do not comply with the requirements similar to the above:

a. Students have to **go away for at least one year** and may, **after a year, apply for admission to the degree B.ARCH. HONS.** The application must be on the prescribed form as required by the Administration of the UFS. Such an application must reach the UFS **before 31 May**.

b. The **purpose** for going away for a year is to enable students **to increase their knowledge of, and capabilities in Architecture**, especially in those areas in which the student is vulnerable, for example, design, building technology, architectural framework of reference (precedents etc.).

c. During the year away students **should be working at an architectural firm/office or professional office of a related discipline for at least six (6) months.** Additional to such practical experience, a tour (overseas and/or local) focussed on an investigation of urban spaces and buildings (historical and contemporary), from the bigger urban scale to the detail of individual buildings, are strongly recommended.

d. **Selection**: after the application has been received, the student will be contacted to arrange for a **personal interview at which a portfolio of work done during the year must be presented.** The date(s) and time of such an interview will be determined after receipt of the application forms, and should take place at the end of November or the beginning of December.

e. The **Portfolio** should, **firstly**, consist of **sketches, drawings and other documentation** of projects done during their involvement with the specific architectural firm(s). The broader totality of each of the projects, as well as the student's particular contribution should be clearly indicated. The more complete such a contribution is indicated (sketches, drawings, documentation) the easier it is to get an idea of the student's progress during the year, and the more positive it will contribute to the student's admission to the programme. **Secondly, a letter of recommendation** from the particular architectural firm / professional office, in which the time and quality of the student's contribution should be verified, must accompany the portfolio. **Thirdly,** if an academic tour has been undertaken, **a tour report** (illustrated with sketches of urban spaces, buildings in context, building details etc.) critically appraising/evaluating the particular spaces and buildings in brief written statements, will be regarded as a bonus that will only be to the advantage of the student's application.

f. **The selection process**, as personal interview and presentation of all the above-mentioned, **is no guarantee that the student will (automatically) be allowed to the programme for the degree B.ARCH. HONS.** The final discretion whether the student is regarded as being ready for the programme will rest with the selection panel.

(iv) UFS Students that comply with the prerequisites of 60% for ONW300 and an average of 55% for BOW306, OGT304, TAR304 together, but decided themselves to go away for one or two years:

a. **Students must**, **after the one or two year(s), apply for admission to the degree B.ARCH. HONS.** The application must be on the prescribed form as required by the Administration of the UFS. Such an application must reach the UFS **before 31 May**.

b. **Students that stay away for more than two years, must go through the selection process** with presentation of a portfolio at a personal interview as described in (iii) d, e, f above.

Note: Only a limited amount of students are allowed to register for the programme.

Reg. D28 - Programme B.Arch. Hons. Degree Code 4567 (152 credits)

The compulsory programme is as follows:

		Credits	Prerequisites
ONW600	Design	48	-
BOW608	Building Science	32	-
OGT604	History of the Environment	16	-
TAR604	Theory of Architecture	16	-
BMK612	Planning Methodology	8	
BNA622	Planning Research	8	
EOK404	Property Economics	16	-
(Elective)	Any module from a discipline outside architecture that may have a bearing on the practice of architecture, with a minimum credit value of 8, and as approved by the head of department.	8	-

STRUCTURE of B.ARCH. HONS. PROGRAMME : 152 CREDITS

<table>
<tr><td rowspan="3">MAIN COMPONENTS</td><td colspan="4">MODULES
Year</td></tr>
<tr><td colspan="2">Semester 1</td><td colspan="2">Semester 2</td></tr>
<tr><td>Quarter 1</td><td>Quarter 2</td><td>Quarter 3</td><td>Quarter 4</td></tr>
<tr><td rowspan="2">1. Design Project
48 credits</td><td colspan="4">ONW600</td></tr>
<tr><td>Themes:
Urbanism and urban design</td><td>Conservation</td><td>Environment
Sustainability
Earth
Construction</td><td>Theoretical theme / Landscape</td></tr>
<tr><td>2. Building Science
32 credits</td><td colspan="4">BOW608
Component 1 General - lectures, seminars, assignments, etc.
Component 2 Relative to design projects - Design development/documentation.</td></tr>
<tr><td>3. History of the Environment and Architectural Theory
32 credits</td><td colspan="4">OGT604 (16 cr)
Component 1 General - lectures, seminars, assignments, etc.
Component 2 Applied history relative to design projects - Report

TAR604 (16 cr)
Component 1 General - lectures, seminars, assignments, etc.
Component 2 Applied theory relative to design projects - Report</td></tr>
<tr><td rowspan="2">4. Practice
40 credits</td><td colspan="4">EOK404 (16cr) : Property Economics</td></tr>
<tr><td colspan="2">BMK612 (8 cr): Planning Methodology Elective (8 cr)</td><td colspan="2">BNA622 (8 cr): Planning Research</td></tr>
</table>

Reg. D29 - Evaluation and examination

(i) For all the modules presented by the Department of Architecture, Quantity Surveying/Construction Management and Urban and Regional Planning evaluation of the student's academic progress will take place on a continuous basis, by means of assignments and tests. A final mark that will be taken as the student's examination mark, will be compiled from these marks. Right to appeal may be granted in terms of Reg. A27(c).

(ii) To pass any module a student should achieve a year mark of at least 50%. The year mark for the module ONW600 will be determined by means of an oral evaluation by internal and external examiners. Only students with a minimum year mark of 45% before the start of the oral examination will be allowed to the oral evaluation at the end of the year (second semester). For the module BOW608 a year mark will be awarded on the basis of a written and oral evaluation by internal and external examiners. The evaluation will be based on the content of the whole module.

(iii) The Baccalaureus Architecturae Honores is awarded with distinction to a student who obtains a distinction (75%) in ONW600 and a combined average of 75% for the following modules, BOW608, OGT604, and TAR604; a minimum of 60% for each of the remaining modules, and completed the degree in the prescribed minimum of one year of study plus one extra study year.

(iv) Modules presented by departments other than Architecture, Quantity Surveying/Construction Management or Urban and Regional Planning will be subject to the evaluation procedure of those departments.

(v) If a student's proposed programme should differ in any year from Reg. D28, the composition thereof has to be determined in consultation with the Head of Department, with the understanding that the modules OMW600, BOW608, OGT604 and TAR604 should be presented simultaneously during the year of first registration.

(vi) Recognition of year/semester marks will be subject to the satisfactory attendance of lectures, studio sessions and seminars.

(vii) A compulsory excursion is undertaken during the first study year. This excursion can take place during a short holiday or during a long weekend. The excursion adds to the credit of the modules as determined in the syllabus.

Study code 04543

Programme in Spatial Planning: Residential and compact learning

The full-time/part-time 12-month/18-month programme culminates in the obtaining of a Bachelor's degree (Honours) in Spatial Planning.

Reg. D30 - Entrance requirements

(a) A person may be admitted to the above-mentioned programme in Spatial Planning if he/she is in possession of one of the following qualifications and has the necessary academic background:
   (i) A Bachelor's degree in Urban and Regional Planning.
   (ii) A Bachelor's degree in Commerce, Administration or Law.
   (iii) A Bachelor's degree in Architecture, Civil Engineering, Land Surveying, Quantity Surveying, Construction Management, Land and Property Development Management.
   (iv) A degree with one of the following major subjects: Agricultural Economics, Anthropology, Applied Mathematics, Botany, Business Management, Computer Information Systems, Economics, Environmental Science, Forestry, Geology, Geography, Mathematical Statistics, Psychology, Public Administration, Sociology or Statistics.

(b) If a student does not entirely meet the admission requirements, the Dean may, in consultation with the Head of the Department and the RPL office, in meritorious cases, recommend that some concessions be made in respect of the requirements. The final decision shall rest with the Dean, or shall be determined by the RPL office. Supplementary courses, as determined by the Head of the Department, may be required; or a student may be expected to undergo an extra year of study in order to complete the programme.

(c) A person in possession of one of the above-mentioned qualifications will not automatically be accepted for the programme. Selection will be applied; and the Head of the Department may require a written motivation or a personal interview.

(d) Students' proficiency in the language medium in which they wish to carry out the programme (English or Afrikaans) will be tested. Should a student not meet the required standard, an acceptable module in the use of the concerned language (for example, ENG 104), as determined by the Head of the Department, will have to be taken and passed at the students' own cost.

(e) A computer literacy test will be conducted. If the student does not meet the required standard, as determined by the Head of the Department, he/she must take and pass a computer skills module at his/her own cost.

Reg. D31 - Duration, organisation and outcome of the programme

A minimum study period of one year is required in order to obtain the Honours degree in Spatial Planning. The Head of the Department determines how the modules must be distributed over the years of study; and in all of the programmes (full-time, part-time and compact learning), the modules may be spread over an extra year if a student does not have the necessary academic background.

The B HONS SP programme can also be followed through block modules (compact learning). Compact learning students must attend four workshop weeks per year, which are held at the Department, for the duration of the programme, during periods that will be determined by the Head of

the Department. During these workshop sessions, lectures, tutorials, practicals and discussions will take place. Assignments will be carried out and tests and/or examinations will also be written.

After completing the B HONS SP programme, the graduates will possess the following skills:

- A thorough knowledge of the nature and purposes of Urban and Regional Planning, as well as planning theory, philosophy and ethics.
- The capacity to undertake and carry out practical urban and regional planning projects, including township layouts and township establishment, as well as the completion and management of different types of plans and urban development management.
- The capacity to write reports in a logical and comprehensible manner, and to orally communicate proposals, including alternative recommendations, to all the stakeholders, and to apply professional management principles in practice.

Reg. D32 - Curriculum

(a) Regular curriculum

The composition of the student's curriculum and optional courses will be determined in advance, at the beginning of each year, in consultation with the Head of the Department.

For the B HONS SP programme, students must, in addition to the compulsory major modules bearing 96 credits, take semester modules worth a minimum of 48 credits, as determined by the Head of the Department according to their particular needs and background, with a total of at least 144 credits.

Major (fundamental and core) modules (80 credits)

	MODULES **Year**	
	Semester 1	**Semester 2**
Theory of URBAN PLANNING (16 credits)	**BTR604 : Theory of Urban Planning** Component 1: General lectures, seminars, assignments, etc.	
Practice of URBAN PLANNING (32 credits)	**BSP612 : Basic Practice of Urban Planning** Component 1: General lectures, seminars, assignments, etc.	**GSP622 : Advanced Practice of Urban Planning** Component 1: General lectures, seminars, assignments, etc.
	BCP612 : Basic Computer Use for Planners Component 1: Use of CAD and GIS. General lectures, seminars, assignments, etc. Component 2: Practical application relative to each urban development project	**GCP622 : Advanced Computer Use for Planners** Component 1: General lectures, seminars, assignments, etc. Component 2: Practical application relative to each urban development project
Theory of REGIONAL PLANNING (32 credits)	**BRT614 : Basic Theory of Regional Planning** Component 1: General lectures, seminars, assignments, etc.	**ATS624 : Advanced theory of Regional Planning** Component 1: General lectures, seminars, assignments, etc.

Further core learning (research) (16 credits)

Methodology (16 credits)	**BMK612 : Planning Methodology** General lectures, seminars,	**BNA622 : Planning Research** Writing of a research proposal

	assignments, etc.	

Elective modules (in consultation with the Head of the Department) (48 credits)
Three of the following subjects must be selected:

Choices (48 credits)	**BET614 (Ethics); BGO614 (Environmental Science); EVB614 (Applied Economics for Planners); CSB614/624 (Capita Selecta)**

(b) Exit curriculum

Students who have passed with 144 credits (80 credits in the major modules and 64 credits in the compulsory and optional modules) in the Master's degree in Urban and Regional Planning (programme 04760) can exit with a B Hons in Spatial Planning.

Reg. D33 - Transitional regulations

All students who registered before 2005 will follow the programme set out in previous calendars.

Reg. D34 - Pass requirements

In addition to the requirements as set out in the general regulations, the following shall also apply.

Examination

(i) For all the modules, a joint examination mark will be calculated on the basis of a year-mark/semester mark and an examination mark, as in the case of undergraduate modules.
(ii) For all modules presented by the Department of Urban and Regional Planning, the final examination will be conducted orally and no second examination opportunity will be offered, except in cases where the Head of the Department decides otherwise.
(iii) For major compulsory modules such as BSP712/GSP722, BCP712/GCP722, BRT614/ATS624 and BMK612/BNA622, which are coupled, it is required that both modules, for example BSP712 and BCP712, should be passed in the first semester, in order for the student to be able to continue with GSP722 and GCP722 in the second semester.
(iv) For elective modules, as determined by the Head of the Department, a student can be promoted with a semester mark of 65% and may thus be exempted from examination in the concerned modules.
(v) The degree will be awarded to students who obtain a minimum of 144 credits in the programme.
(vi) The degree will be awarded with distinction to a student who has obtained an average of 75% in BRT714, ATS724, BSP712, BCP712, GSP722, GCP722 and BTR604 during the prescribed minimum number of study years.

Programme in Housing: Residential and compact learning

The twelve/eighteen months' full-time/part-time programme culminates in the awarding of the Baccalaureus (Honours) degree in Land and Property Development Management.

INFORMATION

The purpose of this qualification, which forms part of the broader land and property development management programme, is to equip students with the necessary knowledge, skills and values to make a substantial contribution to the improvement of the housing environment in South Africa. Although much has already been achieved, a great deal more still needs to be done in order to improve the lives of citizens by means of managed settlements.

The qualified student will demonstrate the necessary knowledge in respect of the methodology of housing research in order to conduct appropriate research, and to assist, under supervision, with the provision of professional services in housing administration, facilitation and housing management in the housing and human settlement environment.

REGULATIONS

Reg. D35 - Entrance requirements

(a) For admission to the programme for the qualification, formal and non-formal prior learning (including experiential learning) at NQF level 6 (360 credits) is recognised. In some cases, additional course work (credits) may be a prerequisite**.** In accordance with the provisions of the general regulations, students who wish to register for the Bachelor's degree (Honours) in Land and Property Development Management (Housing) must submit proof that they have obtained a degree at NQF level 6 (360 credits), comprising one of the following qualifications:
   (i) A Bachelor's degree in Urban and Regional Planning or Development Studies.
   (ii) A Bachelor's degree in Commerce, Administration or Law.
   (iii) A Bachelor's degree in Architecture, Civil Engineering, Land Surveying, Quantity Surveying, Construction Management, Land and Property Development Management or Land Valuation.
   (iv) A degree with one of the following majors: Agricultural Economics, Anthropology, Consumer Science, Home Economics, Botany, Business Management, Computer Information Systems, Economics, Environmental Science, Forestry, Geology, Geography, Mathematical Science, Psychology, Public Administration, Sociology, Statistics or Nursing.

(b) If a student does not meet the admission requirements, the Dean may, in consultation with the Head of the Department and the RPL office, in meritorious cases, recommend that some concessions be made in respect of the requirements. The final decision shall rest with the Dean, or may be determined by the RPL office. Supplementary courses, as determined by the Head of the Department, may be required, or a student may be expected to take an extra year to complete the programme.

(c) A person in possession of one of the above-mentioned qualifications will not automatically be accepted for the programme. Selection will take place; and the Head of the Department may require a written motivation or a personal interview.

(d) Students' proficiency in the language medium (English or Afrikaans) in which they wish to follow the programme, will be tested. Should a student not meet the required standard, an acceptable module in the use of the language concerned (for example ENG 104), as determined by the Head of the Department, will have to be taken and passed by the student, at his/her own cost.

Reg. D36 - Duration, organisation and outcome of the programme

A minimum study period of one year is required in order to complete the Bachelor's degree (Honours) in Land and Property Development Management (Housing). The Head of the Department determines how the modules must be distributed over the years of study. In all programmes (full-time, part-time and compact learning), the modules may be spread over an extra year if a student does not have the necessary academic background.

The programme for the Bachelor's degree (Honours) in Land and Property Development Management (Housing) can also be taken in block modules (compact learning). Students who follow the compact learning programme must attend four workshop weeks per year, held at the Department, for the duration of the programme, during specific periods as determined by the Head of the Department. These workshops will comprise lectures, tutorials, practicals and discussions. Students will also have to complete assignments and write tests and/or examinations.

Upon completing the Bachelor's degree (Honours) in Land and Property Development Management (Housing), graduates will possess the following skills:

- The qualifying student will demonstrate an in-depth knowledge relating to the discipline, as well as the ability to apply critical, analytical thinking in order to evaluate existing knowledge regarding housing in human settlements and carry out research in this regard; and to interpret, refine and modify such knowledge where applicable.
- The student will demonstrate knowledge and skills in respect of research methods that are appropriate within a specific context, and the ability to integrate housing in human settlements with architectural research and design.
- The qualifying student will also have experience of group-work with peers.

Reg. D37 - Curriculum

Subjects are selected by students in consultation with the Head of the Department, in order to address any gaps in the student's background and experience. The total credit value of the qualification/ programme amounts to 128 credits. The programme is divided as follows:

Fundamental learning (24 credits)

Code	Description	Credits
BMK602	Methodology and Research	8
HSI604	Introduction to housing and human settlements: a theoretical perspective	16

Core learning (64 credits)
Select four modules (4 x 16 credits) from the major courses.

BEH604	Urban and regional planning principles in housing	16
HAL604	Housing administration (legislation)	16
GBE604	Urban geography of housing in human settlements	16
END604	Property economics in housing property development	16
DES604	Development studies	16
TRB604	Project management	16

Elective learning (40 credits) when offered

Code	Description	Credits
PHC602	Principles of housing construction and economics	8
ENW602	Evaluation and property management	8
FHM602	Facilitation and housing management	8
BGO602	Sustainable housing and human settlements in dry rural areas	8
AHS602	Anthropology of human settlements	8
SOB602	Sociology and housing	8
CSB602	Capita Selecta	8
RSP602	Writing of research reports	8

TOTAL: 128 credits

Reg. D38 - Pass requirements

In addition to the requirements as set out in the general regulations, the following shall also apply.

(i) For all the modules, a joint examination mark is calculated on the basis of a year-mark/semester mark and an examination mark, as in the case of undergraduate modules.
(ii) For all modules presented by the Department of Urban and Regional Planning, the final examination will be conducted orally, and no second examination opportunity will be offered, except in cases where the Head of the Department decides otherwise.
(iii) For elective modules, as determined by the Head of the Department, a student may be promoted with a semester mark of 65%, and may thus be exempted from examination in the concerned modules.
(iv) The degree will be awarded to students who obtain a minimum of 128 credits in the programme.
(v) The degree will be awarded with distinction to a student who obtains an average of 75% in HSI604, BEH604, HAL 604, GBE 604, END 604, DES 604 and TRB 604, during the prescribed minimum number of years of study.

MAGISTER ARCHITECTURAE (PROFESSIONAL) **M.Arch.(Prof.)**
Degree code 4711

INFORMATION

The Magister Architecturae (Professional) is a master's degree by coursework that from 2006 takes the place of the second year of the previous advanced professional B.Arch. degree. The purpose of the qualification is to train candidates that may register as "Candidate Architect" with the South African Council for the Architectural Profession in terms of the provisions of the Architectural Profession Act 44 of 2000, and involves lectures, projects, and an investigated design thesis with an advanced design project.

Application for admission to the Magister Architecturae (Professional), on the prescribed form, must reach the Director: Student Administration, UFS, Bloemfontein, on or before 31 May of the year preceding intended admission. Selection will take place, and prospective candidates will be informed of the outcome during December at the latest.

The minimum duration is one year full time study.

The Magister Architecturae (Professional) provides an entry point to the Ph.D.(Architecture).

As "Candidate Architect" the qualified learner will be competent to assist in providing full professional services in client liaison, the research, design, detailing, documentation, administration and supervision of the construction process and completion of any scale complex projects in the built environment.

Learners are trained to creatively design a wide variety of building types and identify and solve environmental problems sustainable within a rapid changing context.

Professional requirements
The B.Arch. Hons. degree precedes the M.Arch.(Prof.) degree. Upon completion of the degree M.Arch.(Prof.) candidates must immediately register as "Candidate Architect" with the South African Council for the Architectural Profession. The period of prescribed practical training in preparation for registration as an architect, shall commence on the date of registration.

Practical training will only be considered by the South African Council for the Architectural Profession if it follows the completion of the B.Arch.Stud. degree.

The evaluations and examinations for the degrees B.Arch.Stud., B.Arch. Hons. and M.Arch.(Prof.) are recognised by the minister concerned in terms of the provisions of the Architectural Profession Act (Act 44 of 2000). Training experience after completion of the B.Arch.Stud., B.Arch.(Hons.) and M.Arch.(Prof.) will be controlled by the conditions of the South African Council for the Architectural Profession. The registrar of this Council will provide information in this regard.

REGULATIONS

Reg. D39 - Entrance requirements

In accordance with the provisions of the general regulations, candidates who wish to register for the Magister Architecturae (Professional) must submit proof that:

(i) They have obtained the degree B.Arch. Hons. at this University.

(ii) They have obtained the degree B.Arch. Hons. or equivalent thereof at another South African tertiary education institution, subject to the approval of the head of the department and the Dean.
   a. **Candidates must apply for admission to the programme of the degree M.Arch.(Prof.)** on the prescribed form as required by the administration of the UFS. The application must reach the UFS **before 31 May**.
   b. **Selection**: after such an application is received, Candidates will be contacted to arrange for **a personal interview at which an official and verified academic record from the institution where the candidate received his/her degree, as well as a portfolio** should be presented. The date(s) and time of such an interview will be determined after receipt of the application forms, and should take place at the end of November or the beginning of December.
   c. The **Portfolio** should, **firstly**, consist of **sketches, drawings and other documentation** of Design and Building Technology projects/assignments for the equivalent of the B.Arch. Hons. **Secondly, a letter of recommendation** from the particular Head of Department as well as the Studio Master of the last year of study, in which the time and quality of the candidate's contribution should be verified, must accompany the portfolio. **Thirdly, any work**/projects (sketches, drawings etc.) **done during involvement with a specific architectural firm(s)**, will be regarded as a bonus contributing positively to the candidate's application.
   d. **The selection process**, as personal interview and presentation of all the above-mentioned, **is no guarantee that the candidate will (automatically) be allowed to the programme for the degree M.Arch(Prof.)**. The final discretion whether the candidate is regarded as being ready for the programme will rest with the selection panel.

(iii) **UFS Candidates that decided to go away for one or two years after successful completion of the B.Arch. Hons., must**, **after the one or two year(s), apply for admission to the degree M.Arch.(Prof.)**. The application must be on the prescribed form as required by the Administration of the UFS. Such an application must reach the UFS **before 31 May**. **Candidates that stay away for more than two years, must go through the selection process** with presentation of a portfolio at a personal interview as described in (ii) b, c, d above.

Note: Only a limited amount of candidates are allowed to register for the programme.

Reg. D40 - Programme M.Arch.(Prof.) Degree code 4711 [136 credits]

		Credits	Prerequisites
SKR791	Extended Research Essay	72	ONW600, BOW608 OGT604, TAR604
BOW704	Building Science	16	BOW606, ONW600 OGT604, TAR604
TAR714	Theory of Architecture	16	TAR604, OGT604 BOW608, ONW600
BPK514	Professional Practice	16	-
PAK724	Professional Architect's Practice	16	-

STRUCTURE of M.Arch.(Prof.) PROGRAMME : 136 credits

<table>
<tr><td rowspan="3">MAIN COMPONENTS</td><td colspan="4">MODULES
Year</td></tr>
<tr><td colspan="2">Semester 1</td><td colspan="2">Semester 2</td></tr>
<tr><td>Quarter 1</td><td>Quarter 2</td><td>Quarter 3</td><td>Quarter 4</td></tr>
<tr><td>1. Extended Research Essay
72 credits</td><td colspan="4">SKR791
Component 1: Research document
Component 2: Design document and project</td></tr>
<tr><td rowspan="2">2. Building Science
16 credits</td><td colspan="4">BOW704 (16 cr)</td></tr>
<tr><td colspan="2">Component 1: Theoretical report in relation to Design project for Extended Research Essay</td><td colspan="2">Component 2: Design development and documentation in relation to Design project for Extended Research Essay</td></tr>
<tr><td>3. History of the Environment and Architectural Theory
16 credits</td><td colspan="2">TAR714 (16 cr)
Component 1: General - lectures, seminars, assignments, etc.
Component 2: Applied research relative to design project of Extended Research Essay - Report</td><td colspan="2"></td></tr>
<tr><td>4. Practice
32 credits</td><td colspan="2">BPK514 (16 cr): Professional Practice</td><td colspan="2">PAK724 (16 cr): Professional Architect’s Practice</td></tr>
</table>

Reg. D41 - Evaluation and examination

(i) For all the modules presented by the Department of Architecture and Quantity Surveying/Construction Management evaluation of the student's academic progress will take place on a continuous basis, by means of assignments and tests. A final mark that will be taken as the student's examination mark, will be compiled from these marks. Right to appeal may be granted in terms of Reg. A27(c).

(ii) The BPK514 module is subject to external evaluation.

(iii) The Magister Architecturae (Professional) is awarded with distinction to a student who obtains a distinction (75%) in SKR791; a distinction (75%) for each of two of the following modules, BOW704, TAR714, BPK514, and PAK724; a minimum of 60% each for the remaining modules, and completed the degree in the prescribed minimum of one year of study plus one extra study year.

(iv) If a student's proposed programme should differ from Reg. D31, the composition thereof has to be determined in consultation with the Head of Department, with the understanding that the modules SKR791, BOW704 and TAR704 should be presented simultaneously during the first year of registration.

(v) Recognition of year/semester marks will be subject to the satisfactory attendance of lectures, studio sessions and seminars.

(vi) The following requirements apply to the module SKR791:

a. An Extended Research Essay must be submitted on a specified date at the end of the academic year concerned. The subject of the proposed Extended Research Essay must be approved before 31 May of the preceding year by the head of the department and the lecturer concerned, before the student commences work. Regular consultation with the head

of the department and other appointed staff members must take place during the preparation of the Extended Research Essay.

b. An Extended Research Essay will only be accepted if it leads to a design project. In exceptional cases, the head of the department may grant special permission that an Extended Research Essay with a mainly theoretical content be selected. Criteria for such deviation will be determined by the head of the department.

c. A candidate who obtained a minimum average mark of 45% during continuous evaluation, will be allowed to submit the Extended Research Essay and will do an oral examination conducted by internal and external examiners.

(vii) The following requirements apply to the module BOW706:
Candidates are recommended to complete the theoretical and practical investigations under guidance of a staff member of the Department. Should a student decide to do this investigation independently, the authorization of the Head of Department must first be obtained. Furthermore the specific candidate will also be required to provide sufficient proof that the work is completely his/her own.

Reg. D42 - Admission requirements

According to the provisions of the general regulations, candidates who have obtained the degree of Baccalaureus Architecturae or Baccalaureus Architecturae Honores or equivalent qualification and wants to register for the M.Arch. degree, shall submit proof that

(i) they have worked for a period of two years under the supervision of the head of the department, while they were registered as students for the degree of M.Arch.;

(ii) if they obtained the B.Arch. or B.Arch. Hons. or an equivalent degree at another university, that university would allow them as candidates for the M.Arch. degree;

(iii) if they obtained the B.Arch. or B.Arch. Hons. or an equivalent degree at another university, an Extended Research Essay formed part of the requirements for the conferment of such degree.

CURRICULUM

Reg. D43 - Requirement

Submission of a dissertation (ARG700).

A candidate must do research on an approved topic in consultation with the head of the department, for at least two years in preparation for a dissertation that shall be submitted as the only requirement for the degree.

M.Sc.(Q.S.): An advanced academic degree focused on specialization in the science of quantity surveying in preparation of candidates acting as leaders in the profession and serving as specialists in different fields.

REGULATION

Reg. D44 - Admission requirements

(a) In addition to the general regulations, the following apply:
   (i) Candidates must have worked under the supervision of the head of the department for a period of two years that may coincide with the period mentioned in (ii), while they were registered as students for the degree of M.Sc.(Q.S.) during the same period.
   (ii) Candidates must, in the period of at least two years after obtaining an approved bachelor's degree, have practised the theory and have been actively involved in Quantity Surveying.

(b) Candidates who obtained the Diploma in Quantity Surveying and who want to register for the degree of M.Sc.(Q.S.) must, in addition to the requirements set out in paragraph (a) mentioned above, submit proof that:

   (i) they obtained a Diploma in Quantity Surveying at this University, and
   (ii) if they obtained the Diploma in Quantity Surveying at another South African university, that university would have accepted them as candidates for the M.Sc.(Q.S.) degree.

CURRICULUM

Reg. D45 - Requirement

Submission of a dissertation (BOR700)

A candidate must do research on an approved topic in consultation with the head of the department for at least two years, in preparation of a dissertation that shall be submitted as the only requirement for the degree.

MASTER OF SCIENCE IN CONSTRUCTION MANAGEMENT Degree code 4780	M.Sc.(Construction Management)

M.Sc. (Construction Management): An advanced academic degree focused on specialization in the construction science in preparation of candidates acting as leaders in the profession and serving as specialists in different fields.

REGULATION

Reg. D46 - Admission requirements

(a) In addition to the general regulations, the following shall apply:
   (i) Candidates must, for a period of two years that may coincide with the period mentioned in (ii), have worked under the supervision of the head of the department, while they were registered as students for the degree of M.Sc.(Construction Management) during the same period.
   (ii) A candidate must, in the period of at least two years after obtaining an approved bachelor's degree, have been actively involved in the theory and practice of Construction Management.

Reg. D47 - Curriculum requirements

Submission of a dissertation (KOB700).

A candidate does research on an approved topic selected in consultation with the head of the department for at least two years, in preparation for a dissertation that shall be submitted as the only requirement for the degree.

MASTER OF LAND AND PROPERTY DEVELOPMENT MANGEMENT Degree code 4797 or 4798	M.L.P.M. (M.PROP.)

REGULATIONS

Reg. D48 - Admission requirements

In addition to the general regulations, the following apply:

(i) Candidates must have worked under the supervision of the Head of the Department for a period of two years that may coincide with the period mentioned in (ii), while they were registered as students for the degree M.L.P.M. (M.PROP.) during the same period.
(ii) Candidates must, in the period of at least two years after obtaining an approved bachelor's degree with in an approved discipline, have been actively involved in the theory and practice of the property sciences or relevant activities.

Reg. D49 - Curriculum requirements (4797 or 4798)

Submission of a dissertation / project (PROP700) is required or the completion of the residential or open learning programme (see elsewhere).

(a) A candidate must do research on an approved topic selected in consultation with the head of the department for at least two years, in preparation for a dissertation that shall be submitted as the only requirement for the degree.
(b) The degree is also available as a residential and/or open learning programme to be completed via research papers and a research project.

Reg. D50 - Entrance requirements: Question papers and research project

(a) The two-year part-time or full-time programme results in the student obtaining the Master's in Property Science.
(b) A person may be admitted to the aforementioned course if he/she is in possession of one the following qualifications:
    (i) A Bachelor's degree in Urban and Regional Planning
    (ii) A Bachelor's degree in Architecture, Civil Engineering, Land Surveying, Quantity Surveying, Construction Management, Land and Property Development Management.
    (iii) An approved degree with majors in one of the following relevant fields of study: Agricultural Economics, Anthropology, Applied Mathematics, Botany, Business Management, Computer Information Systems, Economics, Environmental Science, Forestry, Geology, Geography, Mathematical Statistics, Psychology, Public Administration, Sociology or Statistics, Applied Mathematics, Public Administration, Law, Physics, Tourism, Sports Management, etc.
(c) If a student does not entirely meet the admission requirements, the Dean may, in consultation with the Head of the Department, in meritorious cases, recommend that some concessions be made in respect of the requirements.
(d) A person in possession of one of the above-mentioned qualifications will not automatically be accepted for the programme. Selection is carried out and the Head of the Department may request a written motivation or personal interview.

This Master's degree does not automatically allow entrance to Ph.D. studies. Special selection is therefore necessary to continue with Ph.D. studies.

Reg. D51 - Duration, organisation and outcome of the programme

A minimum study period of two years is required to obtain the Master's Degree in Property Science. The Head of the Department determines how the modules must be distributed over the years of study if the student wants to digress from the prescribed curriculum.

The programme can also be completed by means of distance education. The programme is presented over a period of two years. Four workshops of two weeks during the two years of the programme are compulsory and these will be determined by the Head of the Department. These workshops must also be attended at the department. During these workshops, sessions will take the form of tutorials, practicals and discussions. Assignments and tests/examinations will also be required.

Reg. D52 - Curriculum (240 credits) (4798)

The composition of the student's curriculum and optional modules will be determined at the beginning of each year in consultation with the Head of the Department.

For the Master's Degree in Property Science, students must, in addition to the compulsory major modules, select semester courses according to their requirements and background.

Please note that the modules with a 9 middle digit/numeral represents a component of 50%, independent research that falls within the field of study of this module. The total research component of this program is thus 25%. A 100% of the outcomes of the module END792 however are covered through the assessment of independent research.

First year of study (120 credits)

Compulsory modules			**Credits**	
1.	END704	Property Development	16	
2.	BOE704	Building Economics	16	
3.	CCP702	Construction Contracts, Procedure and Procurement	8	
4.	GKD708	Land Evaluation	32	
5.	CIN702	Construction and Agricultural Engineering	8	
6.	BTR704	Introduction to Theory of Urban Planning	16	
7.	BSP702	Urban Planning Practice	8	
8.	LEK720	Environmental Economics	8	112

Second year of study (120 credits)

Compulsory modules				
1.	END793	Property Development	16	
2.	ENW793	Property Valuation and Management	16	
3.	NLE793	Applied Game Farm Planning	16	
4.	CIN793	Construction and Agricultural Engineering	8	
5.	END792	Research Essay: Property Development	32	
6.	ISR702	Introduction to Studies in Regional Planning	8	
7.	LEK793	Land Valuation and Business Plans	8	104

Optional modules (students select 24 credits when available)

Students must select modules from the following options for each year of study to ensure that they are registered for 120 credits per year.

			Credits
8.	PPY702*	Professional Practice*	8
9.	DPR702	Dispute Resolution	8
10.	TRB704	Applied Project Management	16
11.	BEH704	Housing	16
12.	OGG704	Development Planning	16
13.	RBT702	Tourism and Development	8
14.	VVB702	Transportation	8
15.	BGR704	Planning Management	16
16.	LSF793	Life Cycle Cost, Facility Evaluation and Management	8
17.	GSP702	Advanced Urban Planning Practice	8

*Compulsory module to register with the SA Council for Valuers.

Focus area/speciality: Endorsement (Project Management)

Candidates who register for Project Management as focus area/speciality have to enrol for PPY702, DPR702, TRB704 and LSF793 as compulsory modules while GKD708, BSP702 and LEK793 may be selected as optional modules with the selection option of 32 credits available to students.

(a) Transitional regulations

2005 regulation	**2006 regulation**
END794	END793
ENW794	ENW793
NLE794	NLE793

CIN792	CIN793
END791	END792
LEK792	LEK793
LSF792	LSF793

Reg. D53 - Pass requirements

In addition to the requirements set out in the general regulations, the following shall also apply.

Examination

(i) For all the modules, with the exception of END792, a combined examination mark is calculated from a year/semester mark and an examination mark, as in the case of undergraduate modules.
(ii) For module END792, an applied research project in Property Science of the student's choice is required and an external examiner will be responsible for the evaluation, which includes oral examination. Students start with this research in the first year but only register in the second year of study.
(iii) The degree of study is conferred with distinction on a student who obtained an average of 75% in the prescribed period.

Post-graduate Diploma in Property Science: Diploma PROP.

This diploma is on offer as an exit point on application to a student who has successfully completed the first year of study and was obtained at least 120 credits and who cannot, because of academic or other reasons, continue with the prescribed field of study. As a result, the student has the option of an exit qualification based on recognition of modules passed. The latter qualification can be used in the labour market.

However students cannot enrol for the diploma in the first instance. Admission and registration must be for the degree programme. Applications for admission and awarding of qualification must be submitted to the Head of the Department of Quantity Surveying and Construction Management.

Recognition of prior learning

Students can receive a maximum exemption of 48 credits for prior learning. The department may grant exemption on request. Alternatively a student may present other optional modules to the Head of the Department to receive recognition for credits to a maximum of 48 credits.

As from 2006, this programme will be replaced by the Bachelor's degree (Honours) in Spatial Planning (Programme code 4543) and the Master's degree in Urban and Regional Planning (Programme code 4762) for all persons registering for the first time.

Programmes in Urban and Regional Planning: Residential and compact learning

The two-year full-time or three-year part-time programme culminates in the awarding of the Master's degree in Urban and Regional Planning, which is recognised by the South African Council for Urban and Regional Planners (SACPLAN).

Reg. D54 - Entrance requirements

(a) A person may be admitted to the above-mentioned programme in Urban and Regional Planning if he/she is in possession of one of the following qualifications and has the necessary academic background:
   (i) A Bachelor's degree in Urban and Regional Planning.
   (ii) A Bachelor's degree in Commerce, Public Management, Administration or Law.
   (iii) A Bachelor's degree in Architecture, Civil Engineering, Land Surveying, Quantity Surveying, Construction Management, Land and Property Development Management.
   (iv) A degree with one of the following major subjects, *inter alia*: Agricultural Economics, Anthropology, Applied Mathematics, Botany, Business Management, Computer Information Systems, Economics, Environmental Science, Forestry, Geology, Geography, Mathematical Statistics, Psychology, Public Administration, Public Management, Sociology or Statistics.

(b) If a student does not entirely meet the admission requirements, the Dean may, in consultation with the Head of the Department and the RPL office, in meritorious cases, recommend that some concessions be made in respect of the requirements. Supplementary courses, as determined by the Head of the Department, may be required, or a student may be expected to take an extra year to complete the programme.

(c) A person in possession of one of the above-mentioned qualifications will not automatically be accepted for the programme. Selection will take place, and the Head of the Department may require a written motivation or a personal interview.

(d) Students' proficiency in the language medium in which they wish to follow the programme (English or Afrikaans) will be tested. If a student does not meet the required standard, an acceptable module in the use of the concerned language (for example, ENG104), as determined by the Head of the Department, will have to be taken and passed at the student's own cost, before he/she can begin work on his/her dissertation.

(e) A computer literacy test will also be conducted. If a student does not meet the standard as determined by the Head of the Department, he/she will have to take a computer skills module at his/her own cost, and must pass this module within the first year of study.

Reg. D55 - Duration, organisation and outcome of the programme

A minimum study period of two years is required in order to obtain the Master's degree in Urban and Regional Planning. In the case of part-time candidates, the period of study extends over three years. The Head of the Department determines how the modules must be distributed over the years of study.

In the case of all programmes (full-time, part-time and compact learning), the modules may be spread over an extra year if a student does not have the necessary academic background.

The M.U.R.P. programme can also be followed in the form of block modules (compact learning). As in the case of part-time students, the programme will also extend over a period of three years. Compact learning students must attend four work-session weeks per year at the Department, for the first two years of the programme. These are compulsory, and the dates of the sessions will be determined by the Head of the Department. During these work sessions, lectures, tutorials, practical work and discussions will take place. Assignments, as well as tests and/or examinations, will also be carried out during this period. The third year of study will be used for the dissertation.

After completing the M.U.R.P. programme, the graduates will obtain a professional degree and will possess the following skills:

- A thorough knowledge of the nature and purpose of Urban and Regional Planning, as well as planning theory, planning philosophy and ethics.
- The ability to complete practical urban and regional planning projects, including township layouts and township establishment, the completion and management of different types of plans, and urban development management.
- A thorough knowledge of environmental affairs, problematic aspects of housing and urbanisation in the country, as well as urban infrastructure and transport provision.
- A keen sensitivity for the process of public participation, and an awareness of the importance of transparency and the involvement of all role-players in the compilation of plans and policies.
- The capacity to write logical and comprehensible reports, and to orally communicate recommendations (including alternatives) to all interested and affected parties, and to apply professional management principles in practice.

After sufficient practical training, the graduate will be able to register with the South African Council for Urban and Regional Planners as an Urban and Regional Planner. Although the programme is not internationally accredited as such, graduates from this department are working in England, Ireland, the U.S.A., Canada, Australia and New Zealand, *inter alia*.

Reg. D56 - Curriculum

The composition of the student's curriculum and optional courses will be determined in advance, at the beginning of each year, in consultation with the Head of the Department. Two programmes are presented, namely:

a) Structured Master's degree (code 4765) (304 credits)

For the Master's degree in Urban and Regional Planning, students must, in addition to the compulsory major modules bearing 160 credits, take semester modules bearing a minimum of 144 credits, as determined by the Head of the Department in accordance with the students' needs and background.

Major modules (compulsory - 160 credits)

Code	Description	Credits	Prerequisites
BTR714	Basic theory of urban planning	16	
GTR724	Advanced theory of urban planning	16	BTR714
BCP712	Basic computer use for planners	8	
BSP712	Basic urban planning practice	8	
GCP722	Advanced computer use for planners	8	BCP712
GSP722	Advanced urban planning practice	8	BSP712
BRT714	Basic theory of regional planning	16	

ATS724	Advanced theory of regional planning	16	BRT714
ISR712	Introductory studies in regional planning	8	
TSP726	Research: Investigation of regional development	24	ISR712
SSS792	Dissertation or relevant publishable scientific article	32	

The dissertation or article (SSS792) must be presented after completion of at least one of the groups of major modules, i.e. BTR714, GTR724, BCP712, BSP712, GCP722 and GSP722, or BRT714, ATS724, ISR712 and TSP726. The article must be accepted by an accredited journal as a publishable scientific article before the degree can be awarded.

The major modules in Urban and Regional Planning may be presented during alternate years.

Compulsory semester modules (64 credits)

Code	Description	Credits
BET714	Planning ethics	16
BGO714	Environmental planning	16
BMK 712	Planning methodology	8
BNA722	Planning research	8
EVB714	Applied economics and entrepreneurship for planners	16

Optional modules as from 2004 (80 credits)

Code	Description	Credits
BEH712	Housing	8
BGM712	Urbanisation and metropolitan planning	8
BGR712	Planning management	8
BVG712	Planning for sustainable communities	8
CSB712	Capita selecta in planning 1	8
CSB722	Capita selecta in planning 2	8
CSB702	Capita selecta in planning 3	8
CSB704	Capita selecta in planning 4	16
END712	Property development and valuation	8
GBE712	Geography for planners	8
GIB714	Geographical information systems (GIS) for planners	16
GOB712	Integrated development planning	8
LGB712	Planning for rural areas	8
OEB712	Development economics	8
OGG712	Development planning	8
PDF712	Public participation and facilitation	8
PPB712	Professional practice and project management	8
RBT712	Spatial planning for tourism	8
RPB712	Management of the spatial plan	8
SBF712	Strategic spatial planning and financial management	8
SOB622	Sociology for planners	8
STO712	Urban design	8
TVB712	Futurology for planners	8
VVB712	Transportation planning	8

Students will have the opportunity to specialise in the following fields:

(i) Sustainable Rural Development, with the following modules:

LGB712, OGG712 and OEB 712.

(ii) Tourism and Development, with the following modules:

RBT712, OGG712 and PDF712.

(iii) Planning for Communities, with three of the following four modules:

PDF712, BVG712, STO712 and TVB712.

(iv) Integrated Development Planning, with the following modules:

GOB712, SBF712 and RPB712.

Optional modules for students before 2004

New code	Old code
BEH712/722	BEH714/724
BGM712/722	BGM714/724
BGR712/722	BGR714/724
ENB712/722	ENB714/724
GBE712/722	GBE714/724
LGB712/722	LGB714/724
OGG712/722	OGG714/724
RBT712/722	RBT714/724
SOB622	SOB625
STO712/722	STO714/724
TVB712/722	TVB714/724
VVB712/722	VVB714/724

b) Master's degree by means of research (code 4764)

Students in possession of a four-year Bachelor's degree (accredited by the SACPLAN) in Urban and Regional Planning, may obtain the M.U.R.P. degree (i) by writing a dissertation (SSS700 – 120 credits), or (ii) through the publication (or acceptance for publication) of a scientific article in an accredited journal. Supplementary studies, as determined on an individual basis by the Head of the Department, may be required.

Reg. D57 - Transitional regulations

All students who registered before 2004 will follow the programme set out in previous yearbooks.

Major modules

New code	Description	Old code
BTR714	Basic theory of urban planning	SSS701
GTR724	Advanced theory of urban planning	Coupled
BCP712	Basic computer use for planners	SSS702
BSP712	Basic urban planning practice	Coupled

GCP722	Advanced computer use for planners	Coupled
GSP722	Advanced urban planning practice	Coupled
BRT714	Basic theory of regional planning	SSS703
ATS724	Advanced theory of regional planning	Coupled
ISR712	Introductory studies in regional planning	SSS704
TSP726	Research: Investigation of regional development	Coupled
SSS798	Dissertation or relevant publishable scientific article	SSS791

Semester modules (compulsory)

New code	**Description**	**Old code**
BEH714/724	Housing	SSS721
BET714/724	Planning ethics	SSS723
EVB714/724	Economics for planners	EKB625
BMK714/724	Planning methodology	SSS722
BGO714/724	Environmental planning	SSS720

Optional modules

New code	**Description**	**Old code**
BGR714/724	Planning management	SSS733
CSB714/724	Capita selecta in planning	SSS728
GBE714/724	Geography for planners	GEO645
GIB714/724	Geographic information systems for planners	SSS732
GPU714/724	Advanced practice of urban planning	SSS731
OGG714/724	Development planning	SSS727
SIB712/722	Civil engineering for planners	SSS724
SOW 714/724	Urban development	SSS730
STO714/724	Urban design	SSS726
VER714/724	Urbanisation	SSS725
VVB712/722	Transportation planning	SSS729

Reg. D58 - Pass requirements

In addition to the requirements as set out in the general regulations, the following shall also apply.

Examination

(i) For all the modules, with the exception of SSS792, a joint examination mark will be calculated on the basis of a year-mark/semester mark and an examination mark, as in the case of undergraduate modules.

(ii) For all modules presented by the Department of Urban and Regional Planning, the final examination will be conducted orally; and no second examination opportunity will be offered, except in cases where the Head of the Department decides otherwise.

(iii) For major modules such as BSP712/GSP722 and BCP712/GCP722, which are linked, it is required that both modules, e.g. BSP712 and BCP712, should be passed in the first semester, to enable the student to continue in the second semester with GSP722 and GCP722.

(iv) For modules presented by other departments, e.g. SOB722 and others, the appointed moderator will be a staff member of the Department of Urban and Regional Planning. For non-major modules, the Head of the Department may promote a student who has a 65% semester mark, and thereby exempt the student from examination in the concerned modules.

(v) For the SSS792 course, a dissertation or relevant publishable scientific article is required. An external examiner will be responsible for the evaluation of the dissertation, which will also include an oral examination. The article must be accepted by an accredited journal for publication as a scientific article, in order to qualify as an alternative to the dissertation.
(vi) The degree will be awarded to students who obtain a minimum of 304 credits for the programme.
(vii) The degree will be awarded with distinction to a student who has obtained an average of 75% in SSS792, GTR724, BRT714, ATS724, BTR714, BSP712, BCP712, GSP722, GCP712, ISR712 and TSP726.

For persons who are in possession of a Bachelor's degree in Urban and Regional Planning and who write a dissertation, the normal requirements in order to pass, as set out in the general regulations of the university, will apply.

Programme in Urban and Regional Planning: Residential and compact learning

The one-year/eighteen-month full-time/part-time programme culminates in the obtaining of the Master's degree in Urban and Regional Planning, which is recognised by the South African Council for Urban and Regional Planners (SACPLAN).

Reg. D59 - Entrance requirements

(a) A person may be admitted to the above-mentioned programme in Urban and Regional Planning if he/she is in possession of one of the following qualifications and has the necessary academic background:
(i) An Honours degree (B Hons (SP) or a similar qualification) in Urban and Regional Planning.
(ii) A four-year Baccalaureus in Land and Property Management with specialisation in town planning, with the precondition that courses bearing 48 extra credits, namely BET614, BGO614 and EVB614, must be completed.

(b) If a student does not entirely meet the admission requirements, the Dean may, in consultation with the Head of the Department and the RPL office, in meritorious cases, recommend that some concessions be made in respect of the requirements. The final decision shall rest with the Dean, or may be determined by the RPL office. Supplementary courses may be required as determined by the Head of the Department; or a student may be expected to take an extra year in order to complete the programme.

(c) A person in possession of one of the above-mentioned qualifications will not automatically be accepted for the programme. Selection will take place; and the Head of the Department may require a written motivation or a personal interview.

(d) Students' proficiency in the language medium in which they wish to follow the programme (English or Afrikaans) will be tested. Should a student fail to meet the required standard, an acceptable module in the use of the concerned language (for example, ENG 104), as determined by the Head of the Department, must be taken and passed at the student's own cost, before he/she can begin work on his/her dissertation.

(e) A computer literacy test will be conducted. If the student does not meet the required standard, as determined by the Head of the Department, he/she will have to take and pass a computer skills module at his/her own cost during the first year of study.

Reg. D60 - Duration, organisation and outcome of the programme

To obtain the Master's degree in Urban and Regional Planning, a minimum period of one year is required. The Head of the Department determines how the modules must be distributed over the years of study; and in all the programmes (full-time, part-time and compact learning), the modules may be spread over an extra year if a student does not have the necessary academic background.

The M.U.R.P. programme can also be followed in the form of block modules (compact learning). As in the case of part-time students, the programme is distributed over two years. Compact learning students must attend four workshop weeks per year at the Department for the duration of the programme, during periods that will be determined by the Head of the Department. During these workshops, lectures, tutorials, practicals and discussions will take place. Assignments, as well as tests

and/or examinations, will also be carried out. The second year of study will be used for the dissertation.

After completing the M.U.R.P. programme, the graduates will obtain a professional degree and will possess the following skills:

- A thorough knowledge of the nature and purpose of Urban and Regional Planning, as well as planning theory, planning philosophy and ethics.
- The capacity to undertake and carry out practical urban and regional planning projects, including township layout and township establishment, the compilation and management of different types of plans, and urban development management.
- A thorough knowledge of environmental aspects, problems relating to housing and urbanisation in the country, urban infrastructure and transport provision.
- A keen sensitivity for the process of public participation and the importance of transparency and of the involvement of all role-players in the compilation of plans and policies.
- The capacity to write reports in a logical and comprehensible way, and to orally communicate recommendations (including alternatives) to all the stakeholders, and to apply professional planning principles in practice.

After sufficient practical training, the graduate will be able to register with the South African Council for Urban and Regional Planners as an Urban and Regional Planner. Although the programme is not internationally accredited as such, graduates from this department are working in England, Ireland, the U.S.A., Canada, Australia and New Zealand, *inter alia*.

Reg. D61 - Curriculum

The composition of the student's curriculum and optional courses will be determined in advance, at the beginning of each year, in consultation with the Head of the Department. Two programmes are presented, namely:

Taught Master's degree (200 credits)

For the Master's degree in Urban and Regional Planning, students must, in addition to the compulsory major modules bearing 136 credits, take semester modules bearing a total minimum of 64 credits, as determined by the Head of the Department according to the students' particular needs and background.

Major (fundamental and core) modules (136 credits)

Module	Description	Module type	Credits
GTR793	Advanced research in urban planning	Fundamental	16
TSP792	Applied regional planning programme	Fundamental	32
SSS791	Extended research essay or publishable scientific article	Core	88

Elective modules (64 credits)

Any choice of modules, as selected in consultation with the Head of the Department.

Code	Description	Credits
BEH752	Housing	8
BGM752	Urbanisation and metropolitan planning	8
BGR752	Planning management	8

BVG752	Planning for sustainable communities	8
CSB752	Capita selecta in planning 1	8
CSB762	Capita selecta in planning 2	8
CSB702	Capita selecta in planning 3	8
CSB704	Capita selecta in planning 4	16
ENB752	Property development and valuation	8
GBE752	Geography for planners	8
GIB754	Geographic information systems for planners	16
GOB752	Integrated development planning	8
LGB752	Planning for rural areas	8
OEB752	Development economics	8
OGG752	Development planning	8
PDF752	Public participation and facilitation	8
PPB752	Professional practice and project management	8
RBT752	Spatial planning for tourism	8
RPB752	Control of the spatial plan	8
SBF752	Strategic spatial planning and financial management	8
SOB662	Sociology for planners	8
STO752	Urban design	8
TVB752	Futurology for planners	8
VVB752	Transportation planning	8

Students receive the opportunity to specialise in the following fields:

(i) Sustainable Rural Development, with the following modules:
LGB712, OGG712 and OEB712.
(ii) Tourism and Development, with the following modules:
RBT712, OGG712 and PDF712.
(iii) Planning for Communities, with three of the following four modules:
PDF712, BVG712, STO712 and TVB712.
(iv) Integrated Development Planning, with the following modules:
GOB712, SBF712 and RPB712.

Reg. D62 - Transitional regulations

All students who registered before 2005 will follow the programme set out in previous calendars.

Reg. D63 - Pass requirements

In addition to the requirements as set out in the general regulations, the following shall also apply.

Examination

(i) For all the modules, with the exception of SSS791, a joint examination mark will be calculated on the basis of a year-mark/semester mark and an examination mark, as in the case of undergraduate modules.
(ii) For all modules presented by the Department of Urban and Regional Planning, the final examination will be conducted orally, and no second examination opportunity will be offered, except in cases where the Head of the Department decides otherwise.

(iii) For modules presented by other departments, e.g. SOB625 and others, a moderator will be appointed from the Department of Urban and Regional Planning.
For elective modules, as determined by the Head of the Department, a student can be promoted with a semester mark of 65% and may thus be exempted from examination in the concerned modules.

(iv) For the SSS791 module, an extended research essay or relevant article is required. An external examiner will be appointed for the evaluation of the research essay, which will include an oral examination. The article must have been accepted as a scientific article by an accredited journal, in order to qualify as an alternative to the extended research essay.

(v) The degree will be awarded to students who obtain a minimum of 200 credits in the programme.

(vi) The degree will be awarded with distinction to a student who has obtained an average of 75% in SSS791, GTR793 and TSP792 during the prescribed minimum number of study years.

MASTER'S DEGREE IN URBAN AND REGIONAL PLANNING (Research) M.U.R.P.
Study code 4764

This programme culminates in the obtaining of the Master's degree in Urban and Regional Planning.

Students in possession of a four-year Bachelor's degree (accredited by the SACPLAN) in Urban and Regional Planning, may obtain the M.U.R.P. degree (i) by writing a dissertation (SSS700 - 180 credits), or (ii) through the publication (or acceptance for publication) of an article in an accredited journal. Supplementary studies, as determined on an individual basis by the Head of the Department, may be required.

For persons who are in possession of a Bachelor's degree in Urban and Regional Planning and who write a dissertation, the normal requirements in order to pass, as set out in the general regulations of the University, will apply.

Doctor's Degrees

Degree		Abbreviation code	Study code	Course
(i)	*Doctor Architecturae	D.Arch.	4910	900
(ii)	Philosophiae Doctor	Ph.D.	4920	900
(iii)	Philosophiae Doctor (Property Science)	Ph.D.	4921	900

The degree of Philosophiae Doctor is conferred in Architecture, Quantity Surveying and Construction Management, Property Science and Urban and Regional Planning.

* Regulations as for Ph.D.

REGULATIONS

Reg. D64 - Admission

The general regulations regarding doctor's degrees apply to this Faculty mutatis mutandis.

DOCTOR ARCHITECTURAE
Degree code 4910

Reg. D65 - Regulations as for Ph.D.

Syllabuses

Department of Architecture

Syllabuses: B.Arch.Stud.; B.Arch. Hons.; M.Arch.(Prof.)

The following modules are presented in or for the Department:

Module code	Description
ANT152	Indigenous Settlement Patterns (Department of Anthropology)
BMK612	Planning Methodology (Department of Urban and Regional Planning)
BNA622	Planning Research (Department of Urban and Regional Planning)
BKR306	Building Contracts Law (Department of Quantity Surveying and Construction Management)
BOW106	Building Science
BOW204/BOW206	Building Science
BOW304/BOW306	Building Science
BOW608	Building Science
BOW704	Building Science
BPK514	Professional Practice (Department of Quantity Surveying and Construction Management)
EOK404	Property Economics (Department of Quantity Surveying and Construction Management)
FSK112	Physics (Department of Physics)
GRT103	Presentation Techniques
GRT203	Computer Drafting
GRT112	Trigonometrical Drawing
GRT121	Photography
KWE204	Construction Science (Department of Quantity Surveying and Construction Management)
KWE304	Construction Science (Department of Quantity Surveying and Construction Management)
OGT104	History of the Environment
OGT204	History of the Environment
OGT304	History of the Environment
OGT604	History of the Environment
ONW100	Design
ONW200	Design
ONW300	Design
ONW600	Design
PAK724	Professional Architect's Practice
SKR791	Extended Research Essay
SSS204	Housing (Department of Urban and Regional Planning)
TAR104	Theory of Architecture
TAR206	Theory of Architecture
TAR304	Theory of Architecture
TAR604	Theory of Architecture
TAR714	Theory of Architecture
KGK122	History of Art for students in Architecture (Department of Art History)
VCM312	The Art Museum: A History of the reception of modern art (Department of Art History)

VCS332 Modern Art and the Industrial City (Department of Art History)
WTW142 Introductory Calculus & Statics (Department of Mathematics and Applied Mathematics)

ANT152 - Indigenous Settlement Patterns (8 credits)
(See information under Department of Anthropology)

BMK612 - Planning Methodology (8 credits): for B.Arch. Hons. candidates only
(See information under Department of Urban and Regional Planning)

BNA622 - Planning Research (8 credits): for B.Arch. Hons. candidates only
(See information under Department of Urban and Regional Planning)

BKR306 - Building Contracts Law (24 credits)
(See information under Department of Quantity Surveying and Construction Management)

BOW106, BOW204/206, BOW304/306, BOW608, BOW704 - Building Science
The module consists of theoretical and practical instruction, combined with visits to sites, manufacturers and trade shows as well as the completion of a bricklaying course.

BOW106 (24 credits)
Two 1-hour theory lecture periods, three 1-hour practical periods and one 1-hour theory in practice lecture per week, both semesters.
Theory: The complete construction of a simple single-storey structure, introduction to materials.
Working drawings: Single-storey structure.
Site visits: Illustration of theory.
Assignments and seminars: The relationship between design and structure.

BOW204/BOW206 (16 credits/24 credits)
Two 1-hour theory lecture periods and one 1-hour theory in practice lecture per week, both semesters. Practical exercises in own time (BOW204).
Two 1-hour theory lecture periods, three 1-hour practical periods and one 1-hour theory in practice lecture per week, both semesters. (BOW206).
Theory: National building regulations and SABS 0400.
Complete construction of a double-storey structure.
Materials: soil, cement, masonry, concrete, wood, glass and metals.
Working drawings: Double-storey building with basement.
Site visits: A complete building project.
Assignments and seminars: Adopt-a-site: the complete construction process.

BOW304/BOW306 (16 credits/24 credits)
Two 1-hour theory lecture periods and one 1-hour theory in practice lecture per week, both semesters. Practical exercises in own time (BOW304).
Two 1-hour theory lecture periods, three 1-hour practical periods, one 1-hour theory in practice lecture and two 1-hour specification theory lecture periods [when scheduled] per week, both semesters. (BOW306).
Theory: National building regulations and SABS 0400.
Construction within industrial economics.
Context of buildings- time, place, scale and user-type.
Fundamental and physical principles of construction.
Influence of erection methods on building form.
Principles of climate-orientated design.
Materials, finishes and construction methods.

Working drawings: A set of drawings enabling the candidate to be employable.
Site visits: A complete building project.
Assignments and seminars: The relationship between design and structure within the South-African context.

BOW608 (32 credits)
COMPONENT 1
Two 1-hour theory lecture periods, three 1-hour periods, one 1-hour theory in practice lecture and one 1-hour specification specification theory lecture periods (when scheduled) per week, both semesters.
Theory: Develop the students' approach and position to the making of buildings, against a "thinking hand in construction"-theme.
The positioning of building science within architecture is investigated both historically and philosophically.
Building materials, technology and structural characteristics.
Working drawings: Sophisticated and detailed working drawings to support the Design course and to stimulate the integration of construction with design.
Site visits: A complete building project.
Assignments and seminars: Research for publication on selected topics.
COMPONENT 2: is derived from the design projects of ONW600, and involves the further development of structural and technological aspects of the specific design project that leads to an appropriate structural design with reference to theoretical premises, material and method, detailing and documentation.

BOW704 (16 credits)
This module takes place parallel to the Extended Research Essay (SKR791), but is examined separately.
COMPONENT 1: is presented in the first semester, and involves a theoretical and technical investigation of the chosen structure (method and material) as well as the structural design for the chosen design project, that should be set out in a report.
COMPONENT 2: is presented in the second semester, and involves the further structural design development of the Extended Research Essay design with reference to detailing, and a fully set out documentation.

BOW204, BOW304 (16 credits each)
Contents as above, but only theoretical instruction and site visits. Practical exercises in own time.

BPK514 - Professional practice (16 credits)
(See information under Department of Quantity Surveying and Construction Management)

EOK404 - Property economics (16 credits)
(See information under Department of Quantity and Construction Management)

FSK112 - Physics (8 credits)
(See information under Department of Physics)

GRT103 - Presentation Techniques (12 credits)
Three one-hour practical periods per week. Both semesters. The introduction of graphic representation techniques, form studies and the utilisation of different media, e.g. free hand sketches.

GRT203 - Computer Drafting (12 credits)
Three one-hour practical periods per week. The theory and practice of computer-assisted graphic methods.

GRT112 - Trigonometrical Drawing (8 credits)
Three one-hour periods per week. Orthographical projection, scale, isometry, axonometry, sections through solid bodies, development, horizontal projection. Theoretical instruction coupled with practical exercises.

GRT121 - Photography (4 credits)
Two one-hour practical periods per week. Types of cameras, lenses, adjustment, light measurement, types of photographs, enlargements, duplicating, model photography, building photography, prints and enlargements.

KWE204, KWE304 - Construction science (16 credits each)
(See information under Department of Quantity Surveying and Construction Management)

OGT104, OGT204, OGT304, OGT604 - History of the environment
The course has a duration of four years, of which the first three years form part of the degree. B.Arch.Stud. and the last year form part of the degree B.Arch. Hons. In broad terms it comprises the history of the built environment.

OGT104, OGT204, OGT304 (16 credits each)
Two to four one-hour periods per week. Both semesters. The course begins with an introduction to the history of architecture, human settlements and the arts as universal cultural phenomena. The interaction between the three components and their occurrence internationally, in an African context and locally, from pre-historical times to the present, is addressed over a period of three years.

OGT604 (16 credits)
Three one-hour lecture periods per week. Both semesters.
COMPONENT 1: The history, theory and practice of urban design and public arts are addressed in a similar integrated manner as in the previous three years.
COMPONENT 2: is derived from the design projects of ONW600, and involves a critical investigation of the historical aspects of the specific design theme and project. Critical analyses of relevant precedents (historical and contemporary) are an important part of this research and are set out in a report.

ONW100, ONW200, ONW300: (48 credits each)
One one-hour lecture per week and fifteen to eighteen practical periods per week. Both semesters.
ONW100/200/300 constitutes a part of the B.Arch.Stud.-programme. The modules are aimed at developing the student's ability to identify and creatively solve problems concerning man's interaction with his physical environment. The design process is learnt by the completion of prescribed projects in the studio. This process involves the creation of spaces and artefacts (landscapes, cities, buildings, utility objects), to make the environment (natural, social and cultural) friendly and functional. Aspects such as functional planning, structural integrity and meaningful shaping is emphasised during this course, where the spectrum of design theories, a wide variety of project types and architectural history is utilised in varying combinations in order to integrate all the fields of study into the curriculum.
During the three years of study all the above-mentioned aspects of design, taking into consideration the variety of courses presented in each year, are addressed in an even more complex form. Compulsory excursions will form part of the Design courses of each year.

ONW600: (48 credits)
As for B.Arch. candidates (ONW400) but with a revised structure: four themes, one per quarter, are critically researched and exploited through a specific design project as identified by each candidate individually. The four themes involve aspects such as urban design, sustainability (environmental impact, earth construction/alternative technologies, etc.), conservation, contemporary theoretical philosophical issues, housing and landscape. Group research precedes the critical investigation of

each theme, which then extends to individual reports and design projects. Building Science, Environmental History and Theory of Architecture are thus meaningfully integrated with reference to each theme in every specific design project.

PAK724 - Professional Architect's Practice (16 credits)
Two one hour periods per week in the second semester.
This module involves aspects pertaining to the professional running of an architect's practice. It includes aspects such as office administration and finances, professional service to clients, communication, presentation of projects, marketing, liaison with consultants, etc.

SKR791 - Extended Research Essay (72 credits)
Twenty practical periods per week, both semesters.
This module comprises an Extended Research Essay, the theme of which has been approved by the head of the department and the dissertation lecturer. The Extended Research Essay must lead to a design project and deliver proof that the student has mastered construction techniques and architectural theory on a high level. In exceptional cases, the head of the department may grant special approval that an Extended Research Essay with a mostly theoretical content may be presented. Criteria for such deviation will be determined by the head of the department.
This module consists of two components both extending to the whole year:
COMPONENT 1: involves investigative research and critical judgement of all aspects (historical, theoretical, contextual, etc.) pertaining to the chosen design subject and project, and is set out in an academically rigorous document.
COMPONENT 2: takes place parallel to component 1. It involves the development of the chosen design project with reference to concept development, development and setting out of programme (list of accommodation and spatial parameters), the integration of all aspects involved (precedent studies, historical and theoretical premises, contextual and environmental/urban determinants, development of structure and technical issues, services, etc.) in an appropriate design solution and the presentation thereof in a document with the necessary illustrations, sketches, drawings and model(s).

SSS204 - Housing (16 credits)
(See information under Department of Urban and Regional Planning)

TAR206 - Theory of Architecture (24 credits)
This module consists of three components:
COMPONENT 1: the history of Architectural Theory from classical times to the twentieth century.
COMPONENTS 2 & 3: is presented by the Department of Art History, and consist of the following: **VCM312,** entitled **The Art Museum: A History of the reception of modern art,** and **VCS332** entitled **Modern Art and the Industrial City.** Refer to their Yearbook for further information.

TAR304 - Theory of Architecture (16 credits)
This module serves as an introduction to the theoretical content of modern and contemporary architecture.

TAR604 - Theory of Architecture (16 credits)
This module consists of two components:
COMPONENT 1: entails an in-depth study of the so-called post-modern critique of contemporary architecture. The primary objective is to enable the student during their final year of study to motivate their own designs in light of internationally acknowledged theoretical discourse.
COMPONENT 2: is derived from the design projects of ONW600, and entails a critical investigation of the theoretical aspects involved with the specific design theme and project. Critical analyses of relevant contemporary premises, as well as applicable theoretical aspects with reference to the specific design theme and project form an important part of this investigation and are set out in an academically rigorous report.

TAR714 (16 credits)
Two one-hour lectures/seminars per week, first semester.
This module consists of two components:
COMPONENT 1: Aspects of the theory of architecture, urban design and landscape design are investigated at an advanced level.
COMPONENT 2: is derived from the Extended Research Essay design subject and project (SKR791). It involves a critical investigation of the theoretical aspects of the specific design subject and project. Critical analyses of relevant contemporary theoretical premises, as well as applicable theoretical issues pertaining to the specific design subject and project form an important part of this investigation and are set out in an academically rigorous report.

WTW142 - Introduction to Calculus & Statics (8 credits)
(For information look under Department of Mathematics and Applied Mathematics.)

Department Quantity Surveying and Construction Management

Syllabuses Residential: B.Sc.(Q.S.), B.Sc.(Construction Management) and B.L.P.M.
Open Learning modules are marked with an *(asterisk)

ABR224 - Labour Law (16 credits)
(See Calendar, Faculty of Law)

AFP122 and AFP142 - Afrikaans (8 credits each)
(See Calendar, Faculty of the Humanities)

AGR424 - Agronomy (16 credits)
(See Calendar, Part 4)

ANT112, ANT132, ANT124, ANT212, ANT232, ANT222 and ANT242 - Anthropology (8 credits each)
(See Calendar, Faculty of the Humanities)

ARG102* and ARG202* - Architecture (8 credits)

ARG102* (8 credits)
The history of architecture in respect of the art of building from antique civilisation till the 21st century. Philosophy of Architecture; a surveyable view; the connection between the historical art of building, culture environment and philosophy. The economy's impact on architecture.
After successful completion of this module, a learner should be able to:
- appreciate the built environment
- have a basic knowledge of style and character in architecture
- identify and critically appraise different styles of architecture

ARG202* (8 credits)
Aspects of architecture theory and philosophy which affect modern man and development. Built-up areas, city planning and design fundamentals. Housing design and construction, the approach to creating salubrious environments for communities. The design and documentation of a home/dwelling in practice.
After successful completion of this module, a learner should be able to:

- have a good grounding in the basic philosophy of architecture
- have knowledge and acceptance for good design and construction
- do basic design documentation for a simple building
- understand design fundamentals.

BKF104/DQF104*, BKF204/DQF204*, BKF304/DQF304* and BKF404/DQF404* - Descriptive Quantification

BKF104/DQF104* (16 credits)
Introductory perspective: Introduction to the building and construction industry, structure, functioning, services, interest. Orientation within the real estate industry. Professional consultants, contractor and investor. Professional orientation and inter-professional liaison. Introduction to documentation procurement: types, purpose, compilation and methodology. Introduction to financial service. Introduction to construction management.
Documentation procedures: Introduction to documentation procedure and method for inviting or preparing tenders, elements, arrangement and compilation.
Construction drawings: Interpretation of construction drawings. Three-dimensional insight and perspective.
Descriptive quantification: Introduction to descriptive quantification; style, explanation, reference and arrangement. Dissecting of small, medium and complex building structures in terms of sections, subsections, elements and components, specification and quantification thereof, processing and compiling of lists.
Computerised quantification systems: Introductory synopsis of computerised quantification systems; taking off, working up and list production. Introductory synopsis of computerised drawing systems; three-dimensional insight, procedure and working up. Integration of measuring- and drawing systems; general conceptual approach and documentation.
Small, medium and complex constructions: Dissecting, specification, quantification and composition of process items in terms of elemental level- and component level item definition with regards to foundation work, lower structures for framed and load-bearing constructions, simple concrete floors, -frameworks and -steps, walls, waterproofing of flat roofs, flat and pitched roof constructions, windows and doors, finishes, ceilings and -systems, fittings and services. Processings of quantities, abstracting in elements and components and compiling of lists.
After successful completion of this module a learner should be able to:

- understand the basic principles of construction as well as the purpose of documentation procedures and method of tender/contract procurement
- understand the composition and construction of projects through dissecting, specification, quantification and composition of process items in terms of the element- and component level, item-defining with regard to small-, medium- and complex constructions and be able to basically execute the function.

BKF204/DQF204* (16 credits)
Simple constructions: Dissecting, specification, quantification and composition of process items in terms of trade item definition with regard to foundation work, lower structures, wall constructions, roof constructions and finishes, finishes, windows, doors. Working up of quantities, abstracting in trades, compiling of draft trade lists of integrated examples.

Complex constructions: Dissecting, specification and quantification and composition of process items in terms of trade item definition with regards to wooden floors, special windows and doors. Working up of quantities, abstracting in trades, compiling of draft trade lists of integrated examples.
After successful completion of this module a learners should be able to:

- understand the underlying reasons why a quantity surveyor should execute his work in a systematic and meticulous manner and cultivate specific behavioural patterns that are characteristic of a professional quantity surveyor/construction manager
- understand the dissecting, specification and quantification of process items in terms of trade item definition in respect of simple- and complex constructions and be able to basically execute the function.

BKF304/DQF304* (16 credits)
Simple constructions: Dissecting, specification and quantification of process items in terms of trade item definition with regard to: foundation work, lower structures, concrete frames, intermediate floors and steps, wall constructions, roof constructions and finishing, finishing, windows, doors, fittings and sanitary services. Processing of quantities, abstracting in trades, draft lists and integrated examples.
Complex constructions: Dissecting, specification and quantification of process items in terms of trade item definition with regard to: foundation work on sloping sites; concrete floor slabs; complex masonry constructions, such as haunches, fins, arches, domes, special bonding, etc. and structures; long-span roofs, patent roof trusses, steel structures, special patents and non-patent fittings; sanitary fittings and complex pipe systems; etc. Processing of quantities, abstracting in trades, draft lists and integrated examples.
After successful completion of this module a learner should be able to:

- demonstrate the necessary skills in dissecting, specification and quantification of process items and have considerably broadened their understanding and approach towards the quantity surveyor
- exhibit clear behavioural patterns that are characteristic of the professional quantity surveyor
- demonstrate a critical approach to the quality of information required for working drawings.

BKF404/DQF404* (16 credits)
Complex items: Dissecting, specification and quantification of process items in terms of trade item definition regarding: alterations, piling, ground anchoring, special foundation constructions; false ground floor constructions of wood and concrete; complex basement constructions, underpinning and shoring; compound short and long-span structures of in situ concrete, troughed-, ribbed and hollow block slabs, pre-cast concrete, steel, wood, etc.; concrete shell, arched, dome and circular constructions; special long-span, arched and dome-roofed constructions; stress structures; stonework, waterproofing and basement construction, curtain walling and special cladding; special ceilings, finishes, doors, windows and fittings; electrical work; mechanical work; site work and site services.
Practice systems: Theoretical basis, compiling and utilisation of quantification systems for small and large constructions. Guidelines for interpreting their use, with some examples as illustration. Theoretical frame of reference for system management.
Documentation: Theory of documentation regarding taking off systems, abstracting and billing under the different taking off systems. Preliminaries, specifications and integrated documentation procurement. Computer-supported documentation, abstracting, billing, item data banks, taking off procedures, three-dimensional perspective and computerised taking off procedures. Drawing documentation; computer systems, functioning and standardised data bases. Integrated documentation networks, file and data base systems. Integrated documentation by means of computerised systems. Architectural documentation. Engineering documentation and quantity surveying systems. Future documentation perspective.
After successful completion of this module a learner should be able to:

- reveal the necessary skills in the dissecting, specification and quantification of buildings and also reveal the behavioural patterns expected of a quantity surveyor

- demonstrate an understanding and approach in attaining a definite professional level in quantity surveying in general.

BKI402/MCI402* - Management of Information and Communication systems (8 credits)
Research methodology: Field of research, role and place of research, types of research, research methodology, sources and reports. The compilation of a research report on an approved topic of the learner's own choice.
Information management: Information, data and data communication. Data base theory, independence of data, models of data. Physical aspects of a data base. Operating systems, hardware, software and micro-codes. Principles of processes, asynchronous, concurrent processes and programming. Organisation of virtual memory, task and processing scheduling. File and data base systems. The data base administrator and functions, the utilisation of data base systems, repair, distributed systems and security. Integrated networks, computer communication and information management. Future trends, development and possibilities. Fourth generation languages, artificial intelligence and business expert systems. Computer graphics and abilities. Future computer development and user perspective.
Communication: Theory and principles of communication. Verbal communication. Written communication and documentation. Electronic communication and communication satellites. Negotiating techniques. Industrial communication, visual communication, integrated network systems and information management in the construction and property industries. Future trends, development and possibilities.
After successful completion of the module, a learner should be able to:
- independently research and investigate problems with the aim of solving them
- compose a research report, make findings known and suggest recommendations
- administer and manage a data base
- use different facilities in a professional manner for effective communication purposes.

BKR306/CCM306* - Building Contracts Law (24 credits)
Introduction to Building Law: Foundations of contracts law and commercial law in the construction industry: Building contracts, leases, purchase-deeds, agencies, contracts of service.
Building contracts: Parties to the building contract; types of building contracts; structure and forms, sureties, interpretation of building contracts, general conditions of building contracts in use and deeper study of standard clauses, terms and conditions in building contracts, the interpretation and implication thereof. Utilisation of standard building contracts.
After successful completion of the module a learner should be able to:
- understand the basic building contract Law
- know the fundamental theory of building contract Law
- be able to interpret building contracts
- lead the parties to the closure of a sensible building contract
- implement different types of building contracts
- handle the administrative process of a building contract.

BKS302/DQS302* - Descriptive Quantification (Project) (8 Credits)
BKS302/DQS302* (8 credits)
During the year, on instruction by the Departmental Head, each learner must do an Integrated Quantity Surveying project. Year-end evaluation is handled and applied in an integrated manner.
After successful completion of this module, a learner should be able to:
- have mastered the necessary skills of organising, quantifying, documentation and pricing of bills of quantities for buildings
- draw up final accounts
- produce neat reports etc.

BOE104/COE104*, BOE204/COE204*, BOE304/COE304* and BOE404/COE404* - Building Economics

BOE104/COE104* (16 credits)

Part I

The architect and architecture: Historical perspective, man and his immediate surroundings, natural environment, urban environment. Review of architectural philosophy.

Fundamentals of design: Three-dimensional concepts of spatial planning, conceptual understanding of structure, integration of structural techniques in the design process, form construction, management of environmental factors, graphic **Construction**: Historical perspective, natural building materials, building construction, structural elements, finishing, doors and windows, services. Construction plans: types of drawings and series, number and reference systems, titles, headings, scale, specification notes, detail and captions. Drawing techniques: media, style, lettering, lines and diagrams. Lay-out of drawings: site plans methods of representation, form studies and the use of different media, such as free-hand drawings, theory and application of principles of perspective in architectural presentations; water-colour, pasting methods, photography.

Design process: The analysis of consumer needs, spatial planning, form and perspective, draft plans, scheme plans, detail planning and documentation drawings, the influence on building costs.

Part II

The principals of building cost and prices. The theory of cost planning, cost comparisons and competitiveness. Contracts and building economical basis.

After successful completion of this module, a learner should be able to:

- understand the basic principles of construction and design
- specify the basic materials for a single story building
- interpret the consumer requirements in terms of construction and economy
- make recommendations with regard to the use of different building materials
- draw basic construction plans with construction details
- understand the fundamental principles of building costs, prices, planning and control.

BOE204/COE204* (16 credits)

Introduction to Building Economics: The extent and development of building economics as discipline, the structure and functioning of the building industry. The effect on and composition of building costs and factors which have an influence on it, the theory of cost planning and cost control, inter-professional liaison and the designing process with special reference to the optimal application of financial resources.

Building Price Economics: General concept of building prices and their composition. Calculation of running expenses. The calculation of labour and material expenses of construction items, components and elements. The concept of profit, productivity, utilisation of material and equipment and the unit cost. The concept "market price" and implication. The usage of unit price in construction. Computerised data banks and application. Quotations, sources and their use. Practical work.

After successful completion of this module a learner should be able to:

- understand the basic principles of building economy and the building environment
- do basic estimates
- price elementary bills of quantities
- assist in the process of building cost management.

BOE304/COE304* (16 credits)

The development, methodology and application of historical and current cost estimating methods as applied to different phases of a project.

The practical application of cost data sources and computerized data as required for cost estimating purposes.

The financial implications and use of different contract price adjustment provisions and their indices. Contract management, payment procedures and certification. The composition of final accounts.

The development, methodology and implementation of historical and modern cost planning methods used during the different phases of project implementation. The practical utilisation of price schedules and computerised data bank statements, which are necessary for cost planning.
After successful completion of this module, the learner should be able to:

- implement the different cost estimating methods
- utilise available data and price schedules
- do cost planning, cost-management, cost control certification and payment procedures
- compile final accounts.

BOE404/COE404* (16 credits)
Cost studies and normative planning
Cost studies of building morphology, elemental cost studies and the cost behaviour of the major building elements. Factors which influence the economic design planning. Building cost analysis and the cost-spread between building elements and components. Normative planning and the implementation of the principles of economical design planning to keep inside space- and cost norms.
Life cycle costs and building-cost indexes
The execution of comparing cost studies of design alternatives through life cycle cost analysis. The factors which determine accuracy of analyses. Improvement of the dependability of live cycle cost results through sensitivity analyses. The characteristic of and aspects to take into consideration while composing different building cost indexes. The different applications of indexes in the analysis of time sequences and escalation of planning till contract completion. The use of electronic index data bases.
Risk management
The analysis, planning, management and monetary value of risks. Monte Carlo simulations and other sensitivity analyses which enable project managers to determine the mathematical probability of success with regard to the proposed decisions liability towards uncertainty and risks. Factors which ead to the most favourable and profitable outcomes. Decision making analyses and the use of computer programmes for risk management.
After successful completion of this module, a learner should be able to:

- have the ability to identify possible savings on the architect's sketch plan
- understand the purpose and implement normative planning and be able to use this to create an economical designs
- understand the necessity of life cycle cost analysis (whole life appraisal) and apply this to improve the objectivity in the decision making process
- analyse and manage risks.

BOW204 and BOW304 - Building Science

BOW204 (16 credits)
(See syllabus under Architecture.)

BOW304 (16 credits)
(See syllabus under Architecture.)

BPK404/PPR404* and BPK514 - Professional Practice

BPK404/PPR404* (16 credits)
Law of procedure and procedures: Introduction to law of procedure; law of criminal procedure, civil procedure and law of evidence. The SA courts of law: magistrate's court, supreme court and small claims court. Court procedures and representation. Law of evidence in the magistrate's court and supreme court. General principles of civil procedure in the small claims court, magistrate's court and supreme court. Practical work with regard to court procedure.

Mediation and arbitration: Mediation as legal process. Alternative procedures for settling disputes. Arbitration: Principles and law applicable to arbitration, parties, trial, awards, publication and cost. Practical work with regard to arbitration and mediation.
Documentation: The standard building contract and tender documentation. Integration of different documents and relationship. Special documents and clauses. Signing of contracts. Methodology associated with amendments and additions to clauses. Procedures for the composition of special types and conditions of contracts. Practical work. Special types of building contracts for specific uses. Case studies.
Practice: The organisation of the practice, legislation, statutory councils and powers, professional societies and composition. Code of conduct, remuneration, restrictive practices, entering the profession and forms of enterprise. Future orientation. Problems.
Office administration: Extent of office administration and functions in practice. General management functions, leadership and style of management. Practice production, cost, income and administrative procedures. Control and regulatory functions. Office facilities. Liaison, marketing of services and service contracts. Professional accountability and insurance. Case studies. Future orientation and integration of services.
The architect in practice. Management and administration in the architect's works and projects. Documentation and principles.
After successful completion of this module, a learner should be able to:

- understand the role of procedural law in the building industry
- advise clients on the procedures in respect of disputes and differences
- understand the process of mediation
- contribute to the successful administration and management of a firm
- keep record of, collect data and administrate a professional office
- understand the practice of a professional firm
- understand the principle of joint-ownership
- understand time-planning and handle the schedule from a professional's point of view.

BPK514 (16 credits)
(For syllabus, see BPK404)
Communication: Theory and principles of communication. Verbal communication. Written communication and documentation. Electronic communication and communication satellites. Negotiating techniques. Industrial communication, visual communication, integrated network systems and information management in the construction and property industries. Future trends, development and possibilities.
After successful completion of this module, a learner should be able to:

- understand the role of procedural law in the building industry
- advise clients on the procedures in respect of disputes and differences
- mediation
- contribute to the successful administration and management of a professional firm
- keep record of, collect data and administrate a professional office
- understand the practice of an architects practice
- understand the principle of joint-ownership
- understand time-planning and handle the schedule from a professional's point of view.

BRF214 - Management Accounting
(See syllabus under Economy and Management Sciences)

BRS111 - Basic Computer Literacy (4 credits)
(See Calendar, Part 1)

BSC204* and BSC304* - Building Science

BSC204* (16 credits)
The complete construction of a single or multi-story building: Foundations and sub-structures for a load bearing and skeleton/framed structures; basic concrete frames; walls; flat and pitched roofs; floors, waterproofing of floors, steps; window ranges, door types; uses of locks, patented fittings and metalwork, service design for single and multi-story structures.
Principles for climate oriented design.
Working drawings: Double storey buildings with basements.
Advanced building science: Advanced construction problems; integration of different systems; restoration and general construction problems.
Complex building projects, tall buildings, long-span structures, complex façade designs i.e. curtain walls, upkeep and life cycles, design and construction of internal partitioning, considerations, structural implications and problems, special roofing constructions and roofing finishes, materials, waterproofing, patents and non-patent fixtures, material choices, special uses, etc.
After successful completion of this module, a learner should be able to:

- compile a detailed set of working drawings for a basic building
- orientate buildings in terms of climate
- solve advanced construction problems and convey the solution through drawings and explanations
- understand and be able to implement more complex construction solutions
- propose and communicate different construction- and material usage and solutions.

BSC304* (16 credits)
Multi-story structures; shoring, sub-structure building and basement constructions, structural steel work, joined structures.
Material science: wood, cement, glass, metals, plastic, petro-chemicals and paints, building components, e.g. roof lights, retaining walls, low cost housing.
Working drawings: multi-story structures.
After successful completion of this module, learners should be able to:

- understand and compile the specification of a building project as well as do certain working drawings on this level.

(BRIDGING MODULES)
DQF116* - Introduction to Construction Science

DQF116* (24 credits)
Introduction to construction science, aimed at the following broad subject areas:
Construction Science: General principles of materials and construction of simple buildings.
Quantity Surveying: The theory and principles of descriptive quantification and contract documentation.
Terrain management: General theory and principles of terrain administration and management. Labour-, equipment- and material-handling.
Building contracts and procedures: Basic principles of building contracts and procedures.
Building- and construction economy: Basic principles of planning, prices and certification.
Introduction: Introduction to property development.
After successful completion of this module, a learner should be able to:

- understand the basic principles of building
- interpret elementary drawings
- calculate areas, lengths and volumes
- price simple items and elements of a building.

EBE112 and EBE122 - Business English (8 credits each)
See Calendar, Faculty of Humanities)

EFB404/PFM404* - Property Facilities Management (16 credits)
Extent, function, techniques, procedures. Financial previews and budgets. Leases, lessee composition, valuations and market evaluation. Re-developments, capital application and trusts, risks, valuations and trusts, risks, valuations and evaluation.
After successful completion of this module, a learner should be able to:

- understand facilities management in respect of scope, function, techniques and procedures
- do and control financial budgets
- understand lease contracts, tenants and rental mix, valuations and market valuation
- understand redevelopments and capital utilisation.

EKN114, EKN124 and EKN314 - Economics (16 credits each)
(See Calendar, Faculty of Economics and Management Sciences)

END104/PDE104*, END204/PDE204*, END304/PDE304* and END404/PDE404* - Property Development Economics

END104/PDE104* (16 credits)
Introduction perspective on project development and management: The functions and elements of management within the project environment and -scope.
Introduction perspective: Defining property, fixed property, land, land-ownership, development and the development process. The science of property development economics. The property market, composition, functioning and occupational orientation. Property development management, career opportunities, subject view and curriculum planning, study and learning methods.
Historic development perspective: Development concepts and fixed property. Historic perspective of the development process. Man and development; physical, technological, social, economic and government development.
History of development of Africa and South Africa: Prehistoric en early civilizations, colonial era, liberation era. Cultural heritage, development standard and fixed property.
Fixed property and development: Role and place of fixed property in the development history; prehistoric and antique civilizations, early Christian and Mediaeval period, the Renaissance to the 20th century. Architectural art, construction materials, methods and development systems.
Property development economy- Professional scientific perspective: Role of fixed property in development and economy. Subject branching.
After successful completion of this module, a learner should be able to:

- know and understand the basic principles and functions of management and project management
- understand the basic theory of property development
- comprehend property as an investment alternative
- know and understand the development course and role of property in previous/historical years
- understand the role of property for the economy.

END204/PDE204* (16 credits)
Land Development Economics:
Introductory perspective: Property Economics as discipline. Introductory synopsis of property, the process of property development, land ownership and administration.
National developmental perspective: Introduction to the theory of settlement, the origin and growth of towns, cities and regions, development problems, political theory and development, government control of the development process; land ownership and administration, regional and community development. International perspective. Problems.

Local developmental perspective: Urban morphology, lay-out, structure, structural changes, growth paths, informal structures, development problems and local government control. National trends. Regional governments, local governments, urbanisation and township establishment. First World, Third World and African cities. Future development trends, problems, control and planning.
Property economics: Property values, the value concept, theory of emblements, property production and the economic cycle. Property ownership, types of ownership rights and establishment thereof. The property market; structure, functioning, the price mechanism, market cycles, market prices and values. Property financing; financing of sources, form and markets. Introduction to property investment, financial mathematics and the process of investment. The role of property production in the national economy; patterns of market behaviour, construction markets and industry, development of land and government control. Macro-property development perspective. Synopsis of critical field analysis and scheduling.
After successful completion of this module, a learner should be able to:

- understand the importance of property in the local and national economy
- understand the place and role of local development in the national economy
- understand property value, return, price, investment, production, financing and functioning
- know the role of property law in the property industry
- understand the influence of time and planning of time on property production and returns.

END304/PDE304* (16 credits)
Investment economics: Introduction to the theory of investment, investment markets; investment in stock; fundamental and technical analyses. Investment in real estate; Investment options, characteristics and behaviour. Financial mathematics, techniques for measuring investment return and applications. Capital, income, expenditure and the composition of simple and complex financial feasibility studies. Quantification and evaluation of returns. The concept market value, types of valuations and valuation techniques. Valuation problems complexities. Investment evaluation; risk and risk evaluation. Utilisation and application of computerised databanks and user software for investment evaluation of and decision-making. Case studies.
After successful completion of this module, a learner should be able to:

- evaluate investments of several alternatives and exercise a viable selection
- have basic knowledge of financial property-mathematics as well as be able to apply this in comparison with alternatives.

END404/PDE404* (16 credits)
Development economics:
Introductory perspective: Scope of development economics. Macro-development, micro-development and the property package.
Viability studies: Purpose, types, methodology and application. Methodology of market research, procedures, financial studies, residual land valuations, theory of emblement, scale of development and evaluation of viability. Development budgets.
Project planning: Planning studies, stages and procedures. Economic and value studies. Financial design criteria and cost economy.
Project management: Scope, organisation, functions and techniques. Case studies. Management of computerised software. Problems.
Development: Development characteristics, procedures, techniques, risks and case studies in respect of commercial, non-commercial and large-scale developments. Town planning and development. Third world developments. International tendencies and case studies. Problematic and market tendencies. Computerised data banks and program handling.
Development economic perspective: Micro-development, macro-development, authorities, political systems, international tendencies and -markets. Problems. African studies. Future tendencies and challenges. Integrated computer systems, -graphics and decision-making.

After successful completion of this module, a learner should be able to:

- comprehensively document the financial viability of projects and make an informed decision based on the assessment
- understand the property development process
- differentiate between the different commercial property prospects and the difference between commercial and non-commercial development possibilities.

EWP404/PVP404* - Property Valuation Practice (16 credits)

Types of valuations and how they can be applied in practice. Method of compiling each type valuation, law towards registration, methods of properties, share titles, time sharing, share block development and housing developments.

The theory of valuations, valuation practices and techniques. The principles of property valuations and techniques, valuation systems, data and information services.

After successful completion of this module, a learner should be able to:

- value property by using different methods
- know and understand the legal aspects of determining property value
- know and understand the theory of valuation
- know and be able to use the information sources in respect of valuation in valuation practice.

EOK404 - Property Economics (16 credits)

Introduction to the process of property development, the extent and historical development of construction economics as discipline, the composition of building costs, building cost estimates, cost data and indices, planning and control of costs during all stages of a building project, design economics, cost modelling and quantity surveying practice. Introduction to property investment, the property market, proprietary rights and sectional title rights, property financing, markets and financial mathematics, financial feasibility studies, project viability studies, budgets, planning and management, project planning and control techniques, planning efficiency and development characteristics of the major property sub-markets. The role and place of real estate in the national economy.

After successful completion of this module, a learner should be able to:

- understand the property development process
- understand the financial mathematical process to compare alternatives
- understand different estimate methods
- understand financial and project viability studies
- understand the risks of investment.

FSK112 - Physics (8 credits)

(See Calendar - Part 1)

GAD104, GAD204, GAD304 and GAD404 - Land Administration

GAD104 - Land Administration (16 credits)

Introductory perspective: Land administration as subject science; role and function within the property market; occupational orientation.

Land and physical relationships: The universe, planetary system, earth, sea, air and land. Geo-morphological characteristics of land. Continents, ocean currents, and atmospheric influences on land.

Land and man: Land and man; physical relationship. Settling of land on earth, settling patterns, world zones, states and nations. Spatial interaction: rural environment, areas and cities. Demographic characteristics of world population: concentrations, density, urbanization.

Land administration: Land, land ownership and political science. International law and law control. National land ownership institutions, government control and political science. Government law and levels of control. Land administrative process, system, problems and challenges on a national and international level. Land usage planning, ownership and control as interactive system.

Mapping: Land maps, mapping and interpretation.

After completion of this module, a learner should be able to have a ground knowledge of:

- the universe, planetary system, earth, sea, air and land
- the physical relationship between land and man
- land maps,-mapping and interpretation.

GAD204 - Land Administration(16 credits)

Land administration on central level: Historical evolution of land ownership in South Africa. The State, land and constitutional arrangements. The State and private land ownership. State control over land usage, national land applicational policy, statutes and administrative procedures. Policy in respect of transfer of land ownership.

Land control systems: Surveying, practice, maps, charting and procedures. The office of the Surveyor-General. Deeds, Deeds Office, The Registrar of Deeds, control systems. The land planning and control system at central level, in perspective. Problems around land ownership, land rights and expropriation.

After completion of this module a learner should be able to:

- implement knowledge of the law in administration situations
- work effectively as a member of a team in a multi-disciplinary environment associated with the creation of the built and environment.

GAD304 - Land Administration (16 credits)

Land administration on regional and provincial level: Statutory powers of regional governments in respect of land and the use of land. Functional relationships between the central and regional governments. The functions of the state in respect of land ownership and control on regional level. Definition of regional-, urban and non-urban transitional areas. Regional planning, principles and procedures. Stipulations and procedures under statutes. The economic challenges in respect of regional planning. Establishment of towns and town planning procedures on regional level. Land planning and control system at regional level in perspective.

After completion of this module a learner should be able to:

- apply fundamental and specialised knowledge of regional planning and development to solve regional planning problems, reasoning about and evaluate alternatives
- assess the impacts, risks and benefits of regional development proposals; exercise judgement commensurate with knowledge and perform management tasks.

GAD404 - Land administration (16 credits)

Land administration on local level: The extent and definition of urban use of land. Principles and procedures with reference to urban land use and town development. Land use zones, density, planning and control. The administration of urban plans. Statutory planning requirements. The implication of national and regional planning requirements on local governments. The extent of local administration with reference to land and property. Problems and challenges with reference to urban development and administration; urban dynamics, urbanization, urban decay and renewal, urban beautification, services, taxes, traffic, pollution, social dynamics, etc. Functional relationships of local government with central and regional governments with reference to state land and property, community development, housing and financial policy. The land planning and control system on local level in perspective.

Land administrative system development: Integration of land administrative systems on central, regional and local level. Computerized data-banks and information management. Problems, tendencies, and development in respect of land, land administration, land reformation, land development, control, finances and government policy. Perspective on international land usage and administrative patterns. Practical project work.

After completion of this module a learner should be able to:

- have a thorough knowledge of land use sones and statutory planning requirements
- have the ability to apply the various techniques necessary for land development projects.

GEO124, GEO314 and GEO324 - Geography (16 credits each)
(See Calendar Part 1)

GIP402/INP402* - Integrated Project (8 credits)
An integrated Quantity Surveying project should be done during the year by the learner on the instruction of the Departmental Head. End of year evaluation is handled on a integrated manner.
After successful completion of this module, a learner should be able to:

- master advanced skills in the full spectrum of Quantity Surveying / Construction Management
- have achieved a definite professional level in his/her understanding and approach to the full spectrum of Quantity Surveying / Construction Management.

GKD214, GKD314 and GKD424 - Soil Science (16 credits each)
(See Calendar Part 4)

GPB404/APM404* - Advanced Project Management (16 credits)
Project management functions and principles. Management of time, time scheduling and programming, time management techniques and time controlling systems. Management of project costs, cost report rendering and cost planning and control. Auditing of cost results. Interpretation of finances and financial reports and data. The planning and organizing of scope decision making and -design norm determination. The management of design planning and specification. The representation of quality norms, quality management and handling quality as a product, communication and communication techniques in respect of advanced project management and project administration.
After successful completion of this module, a learner should be able to:

- know and be able to implement project management theory from inspection to completion of the project
- know, understand and co-ordinate the role of different functions in a project development
- know and understand the management functions in respect of successful project outcomes
- do risk analysis for a project proposal and especially in respect of dimension, time, price, return, resources, relative quality, construction techniques and procurement methods
- operate as a project manager within practical limits.

HRG114, HRG124 and HRG204 - Commercial Law (16 credits)
(See Calendar, Faculty of Law)

HRG204 - Commercial Law (16 credits)
Law of Contracts: Nature and functions of the law; general principles of the Law of Contracts, Law of Obligations and Law of Delict.
Commercial Law: The scope of commercial law; the relationship between commerce and industry; the general legal principles regarding one-man businesses, partnerships, companies, close corporations and broad aspects of commercial trusts and tax law. General principles of law of currency and account settlement, law of insolvency, insurance law and service contracts.
After successful completion of this module, a learner should be able to:

- understand the general principles of contract law
- understand the scope of commercial law
- understand the general principles of account settlement law.

IGW102/EGS102* and IGW202/EGS202* - Engineering Science

IGW102/EGS102* (8 credits)
Historical review and perspective of structures:
The creation of engineering solutions such as dams, bridges, canals, silos, railway lines, roads and buildings from the earliest historical times till the 21st century, to fulfil the necessities of man in his/her natural environment.

After successful completion of this module, a learner should be able to:

- comprehend historical engineering and thereby have developed a perspective which will enable him/her to speak with insight to engineers.

IGW202/EGS202* (8 credits)

The explanation of basic structural principles as applied in the solving of complex structural problems with respect to historical cases.

The use of services in buildings and other structures e.g. electricity, air conditioners and personal and goods movement with regard to historical cases.

After successful completion of this module, a learner should be able to:

- implement the basic structural principles in solving complex structural problems
- understand and evaluate the use of services and buildings.

KOF404/CFN404* - Construction Finance (16 credits)

Cost control systems: Cost control systems, general and specific cost control, standard cost and control systems. Cost allocation, accounting and accounting cycle. The concept of standard cost, cost planning and control of labour, material, equipment, subcontractors, diverse direct and indirect costs at activity and process level.

Income and cash control: Preparation of income claims, contract price adjustment clauses, certification and income control statements. Final accounts and contractual claims. Cash flow, progress and planning.

Integrated cost and budget control: Cost statements and project costs, income and cost reconciliation, cost and cash budgets and control. Debtors, creditors and cost control. Accounting dates and responsible cost management. Reporting: preparation, interpretation and decision-making.

After successful completion of this module a learner should be able to:

- implement a suitable cost planning and -control system on a construction site
- to handle the financial administration of a project during the construction phase and manage cash flow.

KWE204/CSC204*, KWE304/CSC304* and KWE404/CSC404* - Construction Science

KWE204/CSC204* (Part I) (8 credits)

Land surveying

Introduction to land surveying: The Land Survey Act, the land surveyor and the Surveyor-General.

Mapping and map series: Mapping procedures and map series: international, national, regions an local areas. Trigonometry, beacons and references. Storing, deeds and registration of land.

Stands: References, maps, stakes, building lines and servitudes.

Surveying: Planimetry and principles; measuring-tape measurements, levelling, plumb levels and contours. Theodolite: Directional distances and co-ordination. Traverses: Calculations and junctions. Tachymetric surveys, sizes and volumes.

Plotting of construction: Site plans, points of reference, boundary distances, floor-plans, vertical measurements, control systems.

The land surveyor: Functions, application, modern equipment, technology and computerised data banks.

After successful completion of this part of this module, a learner should be able to:

- able to do basic site measurements as well as survey levels and set out buildings for construction work.

KWE204/CSC204* - (Part II) (8 credits)

Study of Structure: Introductory study of structure: Purpose and function of structures, principles of design, approach to design, materials, study of materials and behaviour.

Structural behaviour: Stresses, tensions, shearing forces, bending moments, centres of gravity, moments of inertia and resistance. Objectives of design, approach, principles, structural failure.

Specialised materials: In situ concrete, reinforced concrete, pre- and post-stressed concrete, steel, wood, plastic, metal and alloys.
Structural types, parts and utilisation of materials: Application of construction material, principles of design, empirical rules for determinating the sizes of parts and economical boundaries of application.
Design procedures: Approach, guide-line design, detailed design, design codes, safety and quality control. Design examples of specific structural elements. The structural engineer and his services.
After successful completion of this part of this module a learner should be able to:

- comprehend the function and importance of reinforced concrete in the construction of a building or large construction project
- identify and quantify the elements of a reinforced concrete construction.

KWE304/CSC304* - (Part I) For Quantity Surveying and Construction Management students and Architecture students (8 credits)
Sanitation
Serviceability of buildings: Role of local governments with regard to plot serviceability; supply services, drainage services and functional planning.
Sanitary fittings: Types, quality, placement, norms and design codes for determining type and quantity.
Water supply: Types of pipes, piping systems, components of pipes, route-planning for hot and cold-water systems, empirical rules for determination pipe sizes, design norms and codes.
Sanitary drainage: Types of pipes, piping systems, components of pipes, route-planning, empirical rules for determination pipe sizes, design norms and codes.
Fire service: Fittings, pipes, lay-out, routes, design norms and codes.
Site services: Reticulation and lay-out, pipes, types of pipes, fittings, design norms and codes, connections and determining connection fees with regard to water drainage, sanitation and water supply. Integration of water drainage systems: rainwater, storm water and road canals.
Local government systems: Storm-water systems, water-supply systems, sewage systems and purification. First and third-world planning systems. The sanitary engineer and his services.
After successful completion of this part of this module a learner should be able to:

- develop insight into the importance of building services in the construction of projects
- identify and quantify the elements of building services and how they fit into the building.

KWE304/CSC304* - (Part II) For Quantity Surveying and Construction Management students and Architecture students (8 credits)
Electrical and mechanical services
Electrical services: Power and lighting as user service.
Lighting: planning of buildings, orientation, intensity of light and light fittings. Types of light fittings, placement and intensity requirements. Wiring, design codes, principles and procedures of design.
Power supply: Supply requirements for specific uses, wiring, design codes, principles and procedures.
Circuits: Internal distribution networks, conductors and conduits, distribution boards, fittings, empirical rules for determining supply requirements, conductor sizes, norms and codes of design, quality standards, safety and design procedures.
Telecommunication: Communication system, fittings, placement, wiring, norms and codes of design.
Consumption of power: Empirical rules for determining consumption, measures for conservation of energy. Utilisation of solar energy and solar heating systems.
Drawings: Lay-out, symbols, integration with architectural drawings; interpretation and specifications. The electrical engineer and his services.
Mechanical services
Natural ventilation, forced ventilation and climate control: General requirements, codes and procedures of design. Types of ventilation and air purification systems; placement, routes, central control equipment, allotment of space, empirical rules for determining air volumes, shaft sizes and

propulsion systems. Evaluation of different systems with regard to capacity, cost, energy consumption and installation.
Heating systems: Types of systems, equipment, central propulsion, pipe routes and systems.
Transport: Lifts, elevators, conveyor belts, etc. Types of systems, capacity, energy consumption, design procedures and empirical rules for determining units, size, capacity, placement and energy consumption.
Refrigeration: Refrigeration and freezing-rooms; construction, capacity, utilisation, requirements and norms of design, empirical rules for determining requirements.
Other: Utilisation, construction, principles and norms of design with regard to kitchen and other specialised fittings.
Drawings: lay-out, symbols, integration with architectural drawings, interpretation and specifications. The mechanical engineer and his services.
After successful completion of this part of this module, a learner should be able to:

- develop insight into the importance of building services in the construction of projects
- identify and quantify the elements of building services and how they fit into the building.

KWE404/CSC404* (16 credits)
Heavy engineering constructions and procedures: General principles of construction, design procedures, applied-materials science, drawings, general principles regarding itemisation and quantification as applicable to the disciplines below:

A. **Civil**: Roads and bridges, railway lines, dams, harbour walls, tunnel and shaft constructions, sewage and water plants, treatment of industrial waste, construction works at mines, energy-generating installations and other engineering structures.
B. **Mechanical**: Pipe-plants, shaft-work and supporting structures, installations for handling materials, installations for heating, refrigeration and ventilation, isolations, process-engineering equipment, fire-fighting systems, oil and gas-plant platforms, related building and construction works.
C. **Electrical**: Power-generators, high- medium- and low-tension distributions and connections, lighting and power-supply installations, instrumentation, fire-detection, communication and heating systems, associated building and construction works.

Engineering practice: Introduction to engineering practice. The interpretation of engineering drawings, specifications and contracts. Engineering design procedures, codes, cost evaluation and standards of quality. Procedures and conveying of documentation, tender procedures, project administration, management, supervision and control. Inter-professional liaison.
After successful completion of this module, a learner should be able to:

- compile the necessary contract documents for engineering projects and evaluate engineering contract costs in all the engineering disciplines
- Analyse large engineering projects in terms of elements in order to compose a cost estimate for large projects
- manage the administrative processes of an engineering project.

LEK124, LEK214, LEK314 and LEK424 - Agricultural Economics (16 credits each)
(See Calendar Part 4)

LWL134 and LWL154 - Agriculture Science (16 credits each)
(See Calendar Part 4)

LWR214, LWR314 and LWR424 - Agrometeorology (16 credits each)
(See Calendar Part 4)

OBS244, OBS134, OBS144 and OBS234 - Business Management (16 credits each)
(See Calendar Part 2, Faculty of Economic and Management Science.)

POB104/PQM104*, POB204/PQM204*. POB314, POB304/PQM304* and POB404/PQM404* - Production and Operational Management

POB104/PQM104* (16 credits each)

(See syllabus BKF104/DQF104*)

POB204/PQM204* (16 credits each)

See syllabus BKF204/DQF204*)

POB314 as for POB304 - Site Management (16 credits)

POB304/PQM304*
Site Management:
Introduction to construction management. General management functions regarding construction projects.
Site management and organisation. Planning supervision and control techniques regarding building projects.
Manpower application on the building site. Scheduling, controlling, cost and productivity compensation, maintenance communication and by-laws.
Application of material. Time-scheduling, site applications, management, control and administration, management, control and administration quality control and measurement of material strengths selection, application and safety requirements of equipment.
Computer. Computer and aided building management.
Builders quantities. Measurement of complexed steel/concrete- and floor structures. Foundation, services and site works.
After successful completion of this module a learner should be able to:

- manage and organise a building project on site in respect of labour, material, safety and security and control, and organise the use of equipment.

POB404/PQM404* (16 credits)
Corporate management. Organisation of the construction industry, employer organisation, restrictive and stimulating practices organisation of the construction enterprise, forms of structure, task distribution, line and staff functions, responsibilities of top, middle and executive management.
Project selection and market evaluation. The planning and control of production portfolios including labour application and scheduling.
Purchase and control of material and equipment.
Personnel management and administration within a contractors enterprise. The formulation of policies strategies and tactical planning on corporate and middle management level. Development and orientation due to changing, technological economic and political changes. The position and role of the contractor within the organised building environment.
Computer-aided building management.
After successful completion of this module a learner should be able to:

- manage a construction firm in respect of production and operations
- understand the forms of business in the building and construction industry
- handle the purchase and administration of labour, material and equipment.

RBR104 - Accounting for B.Sc.(Q.S.)- and B.Sc. (Construction Management) (16 credits)
(See Calendar, Faculty of Economic and Management Sciences)

RIS121 - Advanced Computer Usage (4 credits)
(See Calendar, Part 1 - Computer Science.)

SIB712 - Civil Engineering for planners (16 credits)
(See information under Urban and Regional Planning)

SOS112 and SOS132 - Sociology (8 credits each)
(See Calendar, Faculty of the Humanities)

STK114 - Introduction to Statistics (16 credits)
(See Calendar Part 1)

STK124 - Introduction to Statistics (16 credits)
(See Calendar Part 1)

WDK224, WDK314 en WDK414 - Grassland science (16 credits each)
(See Calendar Part 4)

WTW142 - Introductory Calculus and Statics (8 credits)
(See Calendar Part 1)

WYS112 and WYS132 - Philosophy (8 credits each)
(See Calendar - Faculty of Humanities)

Department of Quantity Surveying and Construction Management

Syllabuses Open Learning Land and Property Development Management: M.L.P.M. (M.PROP.)

BEH704 - Housing (16 credits)
Lectures and practical as determined by the chairperson of the department to coincide with research projects of the department. Continuous evaluation.
Addressing basic concepts, models, policies, market influences and implementation frameworks. Housing history. World trends and the South African housing need. The relationship between types of housing and land values; as well as the influence of location factors on housing. Types of housing schemes: site and service, in situ upgrading and enablement approaches.
After successful completion of this module learners must:
- be capable to prepare a housing project proposal
- be able to explain the human settlement development system as well as its interaction with urban and regional planning.

BGR704 - Planning Management (8 credits)
Block classes as determined by program for M.L.P.M. (M.Prop.) No examination, only continuous evaluation.
Elements of legislation regarding physical planning, on national, provincial and local level with emphasis on the compiling, implementation and management of different plans and legal documents.
After successful completion of this module, learners must:
- demonstrate firm knowledge on aspects giving form to Urban Areas, clustering of functional areas and planning tools used to arrange them in space
- demonstrate firm knowledge on policies, plans, and statutory control measures applicable to land use and its management in order to provide sustainable development.

BOE704 - Building Economics (16 credits)
Building and construction economy, cost estimating techniques and cost control of projects. Economic design planning and normative planning.
After completion

- do not estimates and apply cost control during the development of a project
- understand the cost behaviour of building elements and how it influences design economy
- apply normative planning to establish the project budget.

BSP702 - Basic Urban Planning Practice (8 credits)
Block classes as determined by program for M.L.P.M. (M.Prop.) No examination, only continuous evaluation.
Land use surveys, cadastral information - related studio - and fieldwork. Computer use. Practical projects and fieldwork (land use and zoning) related to the theory of urban planning. Coupled to GSP722.
After successful completion of this module, learners should: be able to:

- explain and apply the basic planning concepts
- apply urban planning theory on projects as development projects differs from each other in problematic nature.

BTR704 - Basic Town Planning Theory (16 credits)
Block classes as determined by program for M.L.P.M. (M.Prop.) No examination, only continuous evaluation.
Introduction to the nature of town planning theory. The role of values and norms in the theory of town planning as well as the change in theoretical thinking from product to process to normative thought. The influence of theory on the development of the city and environment.
After successful completion of this module learners should be able to:

- point out the role of values and norms in the theory of town planning
- show the change in thought over the nature of planning
- differentiate between the different inclinations in the theory of planning
- understand the interaction between the theory of town planning and the powers that influences the property market.

CCP702 - Construction Contracts, Procedures and Procurement (8 credits)
Advanced project procurement methods and procurement management. Alternative procedures and processes in respect of contract documentation.
The qualification, compile and management of documentation. Different contract types and contract forms. Construction contract analysis. Property investment, acquisition and establishment of property rights, ownership, tenure, possession expropriation, insolvencies and contracts.
After successful completion of this module, learners should be able to:

- analyse and interpret advanced construction contracts
- submit a proposal to clients on the most acceptable method of contract procurement
- co-ordinate a complete contract procurement process and procedure.

CIN702 - Construction- and Agricultural Engineering (8 credits)
Advanced conceptual development i.r.o. the role, design, construction methods, management and procurement of civil, structural, mechanical and electrical services i.r.o. building projects and agricultural services.
After successful completion of this module, learners should be able to:

- understand the importance of timely design of engineering services and be able to take the necessary steps for the timeous design of services
- identify and manage the engineering services necessary for a project.

CIN793 - Construction- and Agricultural Engineering (8 credits)
Project procurement and development in civil, mechanical, electrical and agricultural projects. Cost planning and financing. Documentation and advanced cost contracts and project management.
After successful completion of this module, learners should be able to:

- handle the management and procurement of engineering contracts
- manage the cost planning, documentation and finance of engineering projects.

DPR702 - Dispute Resolution (8 credits)
Clauses that handle breach of contract and are aimed at dispute resolution as object. Different dispute-settlement methods, courts, arbitration, mediation, peace-making, communication and management of disputes.
After successful completion of this module learners should be able to:

- act as arbitrator, mediator and dispute administrator and resolutionist
- compile and interpret clauses that address disputes
- advise institutions locked in contract disputes.

END704 - Property Development (16 credits)
Advanced property development economics.
The theory of property development, property development as science, property value, property valuation as element of property development and selection the property development process. The theory of property valuation, property law and property economics.
After successful completion of this module, learners should be able to:

- understand, know and apply the theory of property development
- understand, know and apply the property valuation theory and practice
- understand the property valuation process and the influence of property valuation on property economics.

END793 - Property Development (16 credits)
Property development economics, financing, marketing and physical development of projects. Project selection, viability and feasibility studies. Advanced property development calculations, arithmetic and financial mathematics.
After successful completion of this module, learners should be able to:

- execute and document financial feasibility of projects and apply an informative decision
- understand the property development process and theoretically apply the process through all its faces
- distinguish between the different commercial property development possibilities and the difference commercial and non-commercial developments.

END792 - Research essay: Property Development (32 credits)
An integrate research and practical project of the student choice based on compulsory modules.
After successful completion of this module learners should be able to:

- execute specialised property valuation
- understand, interpret and evaluate the theory and practice of property valuation
- interpret, calculate and implement property data
- use different valuation methods.

ENW793 - Property Valuation and Management (16 credits)
Specialised valuation applied in practice. Legal aspects in respect of registration methods in the property science.
The theory and principles of advanced valuation, data, data-banks, information services, etc.
After successful completion of this module learners should be able to:

- apply advanced property valuations practically
- understand the influence of property law on property economics and understand and interpret property valuation

GKD708 - Land Evaluation (32 credits)
Soil and climate plays a role in the environment. The quality, pollution and classification of soil and climate. Climatic regions and indices (including ENSO). Impact of urban activities on the quality of the soil and atmosphere. Urban agriculture. Evaluation of the environment (soil and climate). Data bases (maps, reports and memoirs).
After successful completion of this module a learner should be able to:

- apply the main theories of Soil Science and Agrometeorology
- interpret the land type data base to evaluate the suitability of a site or region for property development.

GSP702 - Advanced Urban Planning Practice (8 credits)
Block classes as determined by program for M.L.P.M. (M.Prop.) No examination, only continuous evaluation.
Types of plans and the drawing up of urban planning proposals. Plan evaluation and submission of development applications. Coupled to BSP712.
After successful completion of this module learners will be able to:

- explain and use basic urban planning principles and techniques
- apply urban planning theory on development problems as it varies from project to project
- apply modern trends in urban planning practice.

ISR702 - Introduction Studies in Regional Planning (8 credits)
Lectures and practical as determined by the chairperson of the department to coincide with research projects of the department. Continuous evaluation.
Introduction regional planning. History of regional planning, internationally as applicable in South Africa.
After successful completion of this module a learner should be able to:

- have a thorough understanding of regional development initiatives and have the ability to apply this knowledge in a variety of settings.

LEK720 - Environmental Economics (8 credits)
After completion of the course the learner should be able to evaluate economically the environmental impact of developmental projects. Aspects addressed in the course include: Property rights, externalities and environmental problems, market and government failures and optimal use/management of natural resources and the environment.
After successful completion of this module a learner should be able to:

- explain and demonstrate theoretical concepts, methods and techniques relevant to determine the economic and environmental impact of development on the sustainability of natural resource use and the environment
- apply environmental and natural resource economic techniques and skills in solving practical problems in the property development industry.

LEK793 - Land Valuation and Business Plans (8 credits)
After completion of the course the learner will understand the different ways of estimating the value of land. Factors influencing land prices and the reasons will be discussed. Different types of land value and reasons for the differences will also be addressed. Learners will obtain knowledge in the compilation of business plans for development projects.
After successful completion of this module a learner should be able to demonstrate the following skills:
- identify the factors influencing the price of land;
- apply different methods/ways in valuation of land (agricultural & industrial);
- to compile, interpret and present a business plan for a business venture of choice.

LSF793 - Life Cycle Cost, Facility Evaluation and Management (8 credits)
The theory of life cycle costing. Calculation in respect of life cycle costing, evaluation and analysis of cost- and price determinants. The management of the effect of operating cost and financing cost on the life cycle of a property project. Facility evaluation, planning, management and control in respect of all property facilities. The influence of maintenance, labour, material and resources.
After successful completion of this module a learner should be able to demonstrate the following skills:
- be able to draw up maintenance inspection reports and plan maintenance programs for different buildings
- be able to use life-cycle cost analyses as a tool for effective design and maintenance planning

NLE793 - Applied Game Farm Planning (16 credits)
Basic ecological, physiological and phenological knowledge of the vegetation, knowledge of game species, their social behaviour, habitat and feeding preferences. Techniques to evaluate the resource (habitat). Identification of management units and the determination of grazing capacity. Requirements regarding fencing and infrastructure.
After successful completion of this module a learner should be able to:
- have knowledge of ecological game ranching areas and ecosystem/habit characteristics
- be familiar with population dynamics of game, including knowledge of game species, their social behaviour, reproduction, habitat preferences and diet selection
- have a basic knowledge of techniques to determine primary production, veld condition and grazing capacity of the grass and tree layer
- have knowledge of physical game ranch planning like fencing requirements, handling facilities, minimum farm sizes, water provision to game and aspects of consumptive and non-consumptive game utilization.

OGG704 - Development Planning (16 credits)
Block classes as determined by program for M.L.P.M. (M.Prop.) No examination, only continuous evaluation.
Study of the problems of developing communities and the different development methods as applied worldwide. Application of the above-mentioned methods in the unique South African context. Case Studies.
After successful completion of this module a learner should be able to:
- understand the relationship between national, regional and local development planning and control to evaluate how philosophical and theoretical values influence it.
- convey concepts, ideas, theories, communicate effectively with individuals, and audiences and furthermore provide information for use by other disciplines as an individual or as a team member.

PPY702 - Professional Practice (8 credits)
Professional rendering of service as business law and regulations that affect the profession. Ethics and code of conduct, communication between professionals, the client and the society.
The law on property valuation, case studies on the role of the property valuers.
After successful completion of this module a learner should be able to:

- compile a maintenance inspection report and design the maintenance program for different buildings
- analyse life-cycle cost as an aid for effective design for maintenance planning.
- identify the various types of property, its rights and liminations
- identify the factors and laws influencing the valuation of property.

RBT702 - Tourism and development (8 credits)
Introduction to the definitions, components and impact of tourism. New forms of tourism (sustainable, alternative, soft, green and eco-tourism). General tourism development and policy. General tourism management, planning and development concepts and instruments.
After successful completion of this module a learner should be able to:

- understand and interpret the character, extent and necessity of management and planning for tourism; as well as tourism in global context and new tourism forms
- assess the impacts, risks and benefits of tourism development proposals
- demonstrate awareness of the interpersonal and personal needs in terms of investment, sociological, social, cultural values and other requirements of all those associated with the creation of the tourism environment.

TRB704 - Applied Project Management (16 credits)
Identify the project. Different development methods for instance “RIBA plan of work”. The element of project management. The management of scope, cost, price, time, communication and quality. Contract procurement and management. Reports and audits.
After successful completion of this module a learner should be able to:

- co-ordinate project form inceptions to completion
- understand project management function and apply the functions integrated
- understand and apply contract procurement methods
- understand, interpret and implement all the elements of project management.

VVB702 - Transportation (8 credits)
Block classes as determined by program for M.L.P.M. (M.Prop.) No examination, only continuous evaluation.
The study of the application of transport impact studies. The role of trip generation and land use on traffic patterns. Focus on transport policy, automobile travel, pedestrians, public transport and transport applications.
After successful completion of this module a learner should be able to:

- understand, interpret and apply the nature, extent and necessity of transport planning
- Do assessment of impacts, risks and benefits of transport development and policy proposals
- understand the relationship between regional, national and global transportation trends and development
- apply the role of trip generation and land use on traffic patterns.

Urban and Regional Planning

The following courses are presented in the Department of Urban and Regional Planning:

Major modules (compulsory)

BTR714/604 - Basic Theory of Urban planning (16 credits)
Introduction to the theory and modern theoretical approaches to urban planning. The nature and purpose of planning; values, needs and means. The planning process; research, alternatives, implementation. Different planning systems (social economic, ecological). Scale and time factors; evaluation and choice of priorities. The change in theoretical thinking from product to process to normative thought. The influence of theory on the development of the city and environment.
After the successful completion of the module students must be able to:

- point out the role of values and norms in the theory of town planning
- show the change in thought over the nature of planning
- differentiate between the different inclinations in the theory of planning
- Understand the interaction between the theory of and practice of Town planning.
- To relay practical problems to the theory and recommend solutions.

GTR724/704 - Advanced Theory of Urban planning (16 credits)
Lectures and seminar classes as determined by the head of the department to coincide with research projects of the department. Oral examination.
Students are expected to evaluate advanced theoretical and philosophical approaches and hold seminars.
After the successful completion of the module students must be able to:

- Evaluate and apply the knowledge of the most important theoretical and philosophical trends.
- Assume a position with regard to evaluating the material of this course and defend it.

BCP712/612 - Basic Computer Use for Planners (8 credits)
Lectures and practicum as determined by the head of the Department to coincide with research projects of the department. Practical and oral examination
Basic drawing skills (CAD) and use of the computer in the planning context. Coupled to GCP722.

BSP712/612 - Basic Urban Planning Practice (8 credits)
Lectures and practicum as determined by the head of the department to coincide with research projects of the department. Practical and oral examination
Land use surveys, cadastral information - related studio - and fieldwork. Computer use. Practical projects and fieldwork (land use and zoning) related to the theory of urban planning. Coupled to GSP722.
After successful completion of this module students will be able to

- explain and use basic urban planning principles and techniques
- apply urban planning theory on development problems as it varies from project to project

GCP722/622 - Advanced Computer Use for Planners (8 credits)
Lectures and practicum as determined by the head of the department to coincide with research projects of the department. Practical and oral examination
Advanced use of the computer (CAD) in township layout and establishment; rezoning, subdivision and consolidation. Coupled to BCP712.

GSP722/622 - Advanced Urban Planning Practice (8 credits)
Lectures and seminar classes as determined by the head of the department to coincide with research projects of the department. Practical and oral examination
Types of plans and the drawing up of urban planning proposals. Plan evaluation and submission of development applications. Coupled to BSP712.
After successful completion of this module students will be able to

- explain and use basic urban planning principles and techniques
- apply urban planning theory on development problems as it varies from project to project
- apply modern trends in urban planning practice

BRT714/614 - Basic Theory of Regional Planning (16 credits)
Lectures and seminar classes as determined by the head of the department to coincide with research projects of the department. Oral examination.
What is regional Planning? Where does Regional planning come from and what is its purpose? Different theoretical approaches to regional planning. Techniques of Regional Planning. The Urban/rural relationship. Policy and strategy from national to regional level
After the successful completion of the module students must be able to:

- explain and use the basic regional theory ideas and techniques
- Adapt regional planning theory as to be appropriate to the different development problematic to each region.
- Differentiate between modern tendencies in regional planning.

ATS724/624 - Advanced Theory of Regional Planning (16 credits)
Lectures and seminar classes as determined by the head of the department to coincide with research projects of the department. Oral examination.
Theoretical analyses of development paradigms worldwide that influences the planning of regions. The role of globalization and information technology on regions. Applications of theoretical viewpoints on local or other region.
After successful completion of the module students must be able to:

- Creative and innovative identification, assessing, formulating and solving convergent and divergent problems that arise in the day-today work of the regional planning profession.
- the transfer of ideas, concepts and theories; to communicate effectively - both oral and written communication - with individuals, audiences and the wider community, by making use of applicable media; the application of methods to make information available for use by other disciplines, as individuals or as a team member.
- Understand the relationship between regional, national and global development and to evaluate how philosophical and theoretical values influence it.

ISR712 - Introductory studies in Regional Planning (8 credits)
Lectures and practical as determined by the chair person of the department to coincide with research projects of the department. Oral examination.
History of regional planning, internationally as applicable in South Africa. Metropolitan planning as a bridge between urban and regional planning. Coupled to TSP726.
After the successful completion of the module students must:

- Have the knowledge to evaluate and apply the most important theore tical and philosophical trends in urban planning theory.
- Be able to take a stand with regards to the evaluation course material and to defend that point of view.

TSP726/628 - Applied Regional Planning Project (24 credits)
Lectures and practical as determined by the chair person of the department to coincide with research projects of the department. Oral examination.
An applied regional planning project is undertaken, involving research, group work and report writing. Related to Advanced Theory of Regional Planning. Professional practice. Coupled to ISR712.
After the successful completion of the module students must have:

- Accessing of impacts, risks and advantages of development proposals, including analyzing and evaluating alternative solutions for problems.
- Working effectively as a member of a team in multi-disciplinary environments, demonstrating leadership, management skills and initiative while performing professional functions which are critical to the success of any project.
- The ability to apply the necessary techniques to plan and undertake a regional planning project and to be able to explain how it should be executed it.

SSS798 - Research essay or scientific article (32 credits)
Independent indepth research on planning topic integrating the knowledge acquired from the four major modules (BTR712 and GTR724 or BRT714 and ATS724 or BSP712. BCP712, GSP712 and GCP712 or ISR712 and TSP726). The student may choose between:
(a) A feasible planning scheme; OR
(b) A theoretical study based on research.
Only in special cases would students be allowed to use the article option with permission from the study leader and head of department.
The departmental evaluation committee can decide not to accept a dissertation for examination at the last date for the concept dissertation as determined by the head of Department.
The article must be accepted as a scientific article for publication in an accredited journal.

Compulsory Semester Modules (64 credits)

BET714/724/614/624 - **Planning Ethics (16 credits)**
General philosophical theories and the ethics involved in Urban and Regional planning are explained. The implications of planners' decisions for the profession as well as for planning in the country are pointed out to students. The need for planners to uphold an unimpeachable ethical code is stressed
Lectures and practicum as determined by the head of the department to coincide with research projects of the department. Oral examination if the module is not promoted.

BGO714/724/614/624 - Environmental Planning (16 credits)
Lectures and practicals as determined by the head of department according to departmental research. Oral exam if module not promoted.
The role of human society in nature. Influence of development on nature.
Background of environmental planning. Environmental problems, local, national, international & global.
After the successful completion of the module the student should have:

- A thorough knowledge of the factors that influence the environment
- The ability to do planning sensitive to the environment
- The ability to gave measures to conserve and protect the natural and cultural environment
- The ability to educate consultants, developers and the public on the advantage to accommodate the environment into plans.

BMK712/612 - Planning Methodology (8 credits)
Lectures and practical as determined by the chair person of the department to coincide with research projects of the department.
The students are introduced to source reference methodology. Computer assistance with research. Coupled to BNA722.

After the successful completion of the module students must have a thorough knowledge of, and the ability to apply the practical techniques to, the following:

- the correct way of reference
- the correct way of drawing up a bibliography
- how to use statistical data to draw tables and diagrams

BNA722/622 - Planning Research (8 credits)

Lectures and practical as determined by the chair person of the department to coincide with research projects of the department.

The students are introduced to different approaches to research, as well as the methodology of research urban and regional planners are currently busy with. Practical applications of one or more of the research techniques or a contribution to its elaboration. The nature of the product investigated. Coupled to BMK712. After the successful completion of the module students must have a thorough knowledge of and the ability to apply to practical techniques to, the following:

- what research is and the identification of a research topic
- planning of the research, qualitative and quantitative methodologies
- compilation of questionnaires
- sampling methods
- The ability to evaluate a research problem and to plan, to address and to execute it.

EVB714/724/614/624 - Economics and entrepreneurship (16 credits)

Lectures as determined by the departmental chairperson, corresponding with departmental research. Oral examination if the student does not promote the module.

Introduction to economics in general, macro economics, micro economics, development economics and public policy. Different economic systems and concepts, as well as global economic status quo, patterns and processes that is of consideration in urban and regional planning. Sustainable development in South Africa.

After completion of the module the student should be able:

- To understand and interpret the nature, composition and dynamics of economics.
- To undertake the assessment of impacts, risks and benefits of development proposals based on the application of economic principles.
- To understand the relationship between regional, national and global development and to evaluate how philosophical and theoretical values with economics as base influence it.

Optional modules (80 credits)

BEH714/724 - Housing (16 credits)

Addressing basic concepts, models, policies, market influences and implementation frameworks. Housing history. World trends and the South African housing need. Types of housing schemes: site and service, in situ upgrading and enablement approaches.

BEH712/722/752/762: HOUSING (8 credits)

Lectures and practical as determined by the chairperson of the department to coincide with research projects of the department. Oral examination for students that are not promoted.

Addressing basic concepts, policies, market influences and implementation frameworks. World trends. The influence of housing types on land uses as well as density and zoning. Types of housing schemes: site and service, in situ upgrading and enablement approaches.

After the successful completion of the module students must:

- be capable to prepare a housing project proposal
- be capable to bring the relationship of land use and zoning in association with the type of housing
- be capable to transform housing needs to spatial needs

BGM714/724 - Metropolitan Planning (16 credits)
Lectures and practical as determined by the chairperson of the department to coincide with research projects of the department. Oral examinations for students that are not promoted.
What metropolitan planning means. Size, character and function of the metropolis.
After the successful completion of the module students must:

- be capable to understand strategic planning and metropolitan projects
- be able to have an understanding of the collaboration between the urban physical environment and the functions of the metropolis

BGM712/722/752/762: URBANIZATION AND METROPOLITAN PLANNING (8 credits)
Lectures and practical as determined by the chairperson of the department to coincide with research projects of the department. Oral examinations for students that are not promoted.
The patterns of urbanization as well as its advantages and disadvantages. Urbanization as it is taking place in Southern Africa, with special reference to future problems and possible solutions. Socio-economical and cultural factors.
What metropolitan planning means. Size, character and function of the metropolis.
After the successful completion of the module students must:

- be capable to understand strategic planning and metropolitan projects
- be able to have an understanding of the collaboration between the urban physical environment and the functions of the metropolis

BGR714/724 - Planning Management (16 credits)
Elements of legislation regarding physical planning, on national, provincial and local level with emphasis on the compiling, implementation and management of different plans and legal documents.

BGR712/722/752/762 - Planning Management (8 credits)
Lectures and practical as determined by the chairperson of the department to coincide with research of the department. Oral examination for students that are not promoted.
Elements of legislation regarding physical planning, on national, provincial and local level with emphasis on the compiling, implementation and management of different plans and legal documents.
After the successful completion of the module students must:

- Demonstrate firm knowledge on aspects giving form to Urban Areas, clustering of functional areas and planning tools used to arrange them in space.
- Policies, plans, and statutory control measures applicable to land use and its management in order to provide sustainable development.

BVG712/722/752/762 - Planning for Sustainable Communities (8 credits)
Lectures and seminar classes as determined by the head of the department to coincide with research projects of the department. Oral examination for students that are not promoted.
What do sustainable communities mean? The influence of the aim of sustainability on the practice, theory and ideological thinking of people. Sustainability that starts at family and home level up to communities in an urban complex.
After the successful completion of the module students must be able to:

- Have a thorough knowledge of the factors that influence sustainability.
- Adapt or change plans or policies to make communities in urban complexes more sustainable.

CSB712/752 - Capita Selecta in Planning 1 (8 credits)
Research is done by students as determined by study leader. Oral examination for students that are not promoted.
Further research in any M.U.R.P. subject already taken, or complementary work.

After the successful completion of the module students must be able to:
- Show a thorough knowledge of the specific study area.
- Apply the acquired knowledge in the urban and regional planning practice.

CSB722/762 - Capita Selecta for planners 2 (8 credits)
Research is done by students as determined by study leader. Oral examination for students that are not promoted.
Further research in any M.U.R.P. subject already taken, or complementary work.
After the successful completion of the module students must be able to:
- Show a thorough knowledge of the specific study area.
- Apply the acquired knowledge in the urban and regional planning practice.

CSB702 Capita Selecta in planning 3 (8 credits)
Research is done by students as determined by study leader. Oral examination for students that are not promoted.
Further research in any M.U.R.P. subject already taken, or complementary work.
After the successful completion of the module students must be able to:
- Show a thorough knowledge of the specific study area.
- Apply the acquired knowledge in the urban and regional planning practice.

CSB704 - Capita Selecta in planning 4 (16 credits)
Further research in any M.U.R.P. subject already taken, or complementary work.

ENB714/724 - Property Development (16 credits)
Lectures and seminar classes as determined by the head of the department to coincide with research projects of the department. Oral examination for students that are not promoted.
Introduction to the property development process. Property value, the value concept. The theories of land yield, property production and the economic cycle. Property law, types of rights and the establishment of right of ownership. The real estate market: structure, functioning, the price mechanism, market cycles, market prices and market values. Real estate financing, financing sources, forms and markets. Introduction to property investment and the process of investment. The role of property production in the national economy; patterns of market establish-ment, construction markets and industry, land development and governmental control. Macro property development perspective.
After the successful completion of the module students must be able to:
- Understand the development potential of property.
- Evaluate and make suggestions for zoning or the expansion of development projects.
- Understand the property and know what factors influence it.

ENB712/722/752/762 - Property Development and Valuation (8 credits)
Lectures and practices as determined by the head of the department to coincide with research projects of the department. Oral examination for students that are not promoted.
Introduction to the nature of Property Development. The relationship between planning, zoning and property value. Property market and the factors influence it, as well as the price of the property or the probability of a planned development. The role of valuations and the property and development market.
After the successful completion of the module students must be able to:
- Understand the nature of the property market and use it in planning as for zoning or new development.
- Make suggestions about the development of property.
- Evaluate and recommend the probability of development proposals.

GBE714/724 - Geography for Planners (16 credits)
Urban Geography: Physiographic stand factors, functional user occupations, the Central Business District, urban service areas, problems of urban pollution and climatic factors. Mapping and surveying techniques important to planners. Case studies.

GBE712/722752/762 - Geography for Planners (8 credits)
Urban Geography: Physiographic stand factors, functional user occupations, the Central Business District, urban service areas, problems of urban pollution and climatic factors. Mapping and surveying techniques important to planners. Case studies.

GIB714/724 - Geographic Information Systems for Planners (16 credits)
Lectures and practicum as determined by the head of the department to coincide with research projects of the department. Practical examination
The use of Geographical Information Systems in the execution of Urban and Regional Planning assignments at all levels.

GOB712/722/752/762 - Integrated Development planning (8 credits)
The principles of the Integrated Development Planning (IDP) process. What are the elements of integrated development planning and how it is applied in Urban and Regional Planning context on National, Provincial and Local level?
After successful completion of this module students will be able to:

- Draw up, evaluate and review Integrated Development Plans.

LGB714/724 - Planning of Rural Areas (16 credits)
Description of rural area. Planning without loss of character. Conservation and development of rural areas.

LGB712/722/752/762 - Planning of Rural Areas (8 credits)
Description of rural area. Planning without loss of character. Conservation and development of rural areas.

OEB712/722/752/762 - Development Economics (8 credits)
Lectures and practical as determent by the chairperson of the department to co-ordinate with research of the department. The chair person of the department can promote a student with a semester mark of 65% and above.
Study of the problems of developing communities and the different development methods as applied worldwide. Application of the above-mentioned methods in the unique South African context. Case Studies.
After the successful completion of the module students must:

- Understand the relationship between national, regional and local development planning and control to evaluate how philosophical and theoretical values influence it.
- Convey concepts, ideas, theories, communicate effectively with individuals, audiences, providing information for use by other disciplines as an individual or as a team member.

OGG714/724 - Development planning (16 credits
Study of the problems of developing communities and the different development methods as applied world wide. Application of the above-mentioned methods in the unique South African context. Case Studies with community participation.

OGG712/722/752/762 - Development planning (8 credits)
Lectures and practical as determined by the chairperson of the department to coincide with research of the department. Oral examination for students that are not promoted.

Study of the problems of developing communities and the different development methods as applied world wide. Application of the above-mentioned methods in the unique South African context. Case Studies.
After the successful completion of the module students must:

- Understand the relationship between national, regional and local development planning and control to evaluate how philosophical and theoretical values influence it.
- Convey concepts, ideas, theories, communicate effectively with individuals, audiences, providing information for use by other disciplines as an individual or as a team member.

PDF712/722/752/762 - Public participation and facilitation (8 credits)
Lectures as determined by the departmental chairperson, corresponding with departmental research. Oral examination if the student does not promote the module.
History of public participation and facilitation. Models, theories, practices and legislation of public participation and facilitation in urban and regional planning.
After completion of the module the student should be able:

- To understand the necessity and history of public participation and facilitation.
- To understand and apply the models, theories, practices and legislation regarding public participation and facilitation

PPB712/722/752/762 - Professional Practice and Project Management (8 credits)
Professional rendering of service as business law and regulations that affect the profession. Ethics and code of conduct, communicate between professionals, the client and the society.
After completion of the module the student should be able:

- To understand the basic principles and requirements of running a professional practice.

RBT714/724 - Planning for Tourism (16 credits)
The character, extent and necessity of planning for tourism. Tourism in global context. Ecotourism and planning.

RBT712/722/752/762 - Planning for Tourism (8 credits)
Lectures as determined by the departmental chairperson, corresponding with departmental research. Oral examination if the student does not promote the module.
Introduction to the definitions, components and impact of tourism. New forms of tourism (sustainable, alternative, soft, green and eco-tourism). General tourism development and policy. General tourism planning concepts and instruments. National, regional and local tourism planning on national, regional and local level.
After completion of the module the student should be able:

- To understand and interpret the character, extent and necessity of planning for tourism; as well as tourism in global context and new tourism forms.
- To assess the impacts, risks and benefits of tourism development proposals.
- To demonstrate awareness of the interpersonal and personal needs in terms of investment, sociological, social, cultural values and other requirements of all those associated with the creation of the tourism environment.
- To understand the relationship between regional, national and global tourism development and to evaluate how philosophical and theoretical values influence it

RPB712/722/752/762 - Management of the Spatial plan (8 credits)
A Key component of Integrated Development Planning is the preparation of a Spatial Development Framework together with a Land Use Management system.
After successful completion of this module students will be able to:

- Compile and assess spatial plans.
- Implement and manage aspects set out in spatial development frameworks.

SBF712/722/752/762 - Strategic spatial planning and financial management (8 credits)
The principles of strategic spatial planning. What is strategic fiscal planning; municipal integrated development planning; budgeting principles and integrated financial management systems.
After successful completion of this module students will be able to:

- evaluate and review an Integrated (Spatial) Development Plan as well as
- The financial management thereof.

SOB624 - Sociology for planners (16 credits)
Introduction to exposition of basic concepts with regard to Sociology and Planning. Analysis of relevant variables with regard to the South African society. Some theoretical frameworks in Sociology and the application thereof in planning. Group dynamic principles, social research and surveys important to planners.

SOB622/662 - Sociology for Planners (8 credits)
Lectures as determined by the departmental chairperson, corresponding with departmental research. Oral examination if the student does not promote the module.
Introduction to exposition of basic concepts with regard to Sociology and Planning. Analysis of relevant variables with regard to the South African society. Some theoretical frameworks in Sociology and the application thereof in planning. Group dynamic principles, social research and surveys important to planners.
After completion of the module the student should be able:

- to apply the various sociological perspectives on the community,
- to answer epistemological and ontological questions,
- demonstrate knowledge and insight with regards to a research topic and be able to conduct a basic research project

SSS204 - Housing Study (for Architecture students) (16 credits)
Lectures as determined by the departmental chairperson, corresponding with departmental research. Evaluation will be on a continuous basis and the compiled year mark will be the student's examination mark.
Housing requirements of people and the problems of design. The influence of culture, density and type of dwelling on plan development and the composition of the community. The role of housing in community development
After completion of the module the student should be able:

- To understand and use the knowledge on the theoretical aspects of housing, to evaluate it and to implement it.
- To integrate the knowledge into the design of housing

STO714/724 - Urban Design (16 credits)
Design elements like form, scale, volume, texture, harmony and contrast. The history of the spatial city. Conservation of town, city, street and landscape. The pedestrian. Thinking three dimensionally and practical projects. Field work and the laboratory.

STO712/722/752/762 - Urban Design (8 credits)
Lectures and practices as determined by the head of the department to coincide with research projects of the department. Oral examination for students that are not promoted.
Understanding of basic design elements that influences urban form. Introduction to Urban design. The interaction between architecture and town planning as well as the nature of public spaces. Three dimensional thinking and practical projects;

After the successful completion of the module students must be able to:

- Understand two dimensional planning proposals and its implication on the spatial formation of the city.
- Evaluate the character of urban open space.
- Make a contribution to urban space.

TVB712/722/752/762 - Futurology for Planning (8 credits)

Lectures and practices as determined by the head of the department to coincide with research projects of the department. Oral examination for students that are not promoted.

A theoretical approach as to what the future is and how planners must handle the uncertainty, the quantitative and the qualitative aspects of spatial ordering in a world of different future scenario's and the application on South Africa.

After the successful completion of the module students must be able to:

- Show thorough knowledge of the main factors that influence future planning.
- Make projections and built future scenarios.

VVB712/722/752/762 - Transportation (8 credits)

Lectures as determined by the departmental chairperson, corresponding with departmental research. Oral examination if the student does not promote the module.

Understanding of the application of transport impact studies, the role of trip generation and land use on traffic patterns. Focus on transport policy, automobile travel, pedestrians, public transport and transport applications.

After completion of the module the student should be able:

- To understand, interpret and apply the nature, extent and necessity of transport planning.
- Assessment of impacts, risks and benefits of transport development and policy proposals.
- To understand the relationship between regional, national and global transportation trends and development.
- To apply the role of trip generation and land use on traffic patterns.