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

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CONTENTS

NB.

- Please take note that the institutional compulsory module UFS101 will be included in ALL first year programmes. (The quantity surveying and construction management open learning students are exempted from this module.)
- ALL first year students must take note that the Faculty is busy with re-curriculation and that programmes and modules might change as from 2014.

ACADEMIC STAFF

DEAN	Professor N.J.L. Heideman
VICE-DEAN	Professor R.C. Witthuhn
PROGRAMME DIRECTORS	Ms M-M. Els (Quantity Surveying and Construction Management) Mr J.I. Olivier (Architecture) Prof. V.J. Nel (Urban and Regional Planning)

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

ARCHITECTURE (051 401 2332)

Professor	Prof. W.H. Peters
Affiliated Professor	Prof. O. Joubert
Senior Lecturer	*Ms M. Bitzer, Ms P.N. Tumubweinee
Lecturers	Mr G. Bosman, Mr J.L. du Preez, Mr J.W. Ras
Junior Lecturers	Mr R. Bitzer, Mr H.B. Pretorius, Mr J.I. Olivier, Mr J.H. Nel, Mr H. Raubenheimer

QUANTITY SURVEYING AND CONSTRUCTION MANAGEMENT (051 401 3322)

Professor	*****Prof. J.J.P. Verster, Prof. K Kajimo-Shakantu
Senior Lecturer	Mr F.H. Berry
Lecturers	Mr H.J. van Vuuren, Ms B.G. Zulch, Mr P.M. Oosthuizen, Mr C.H. van Zyl, Mr M.S. Ramabodu, Mr M Letsie, Ms E. Jacobs, Ms O.R.C. du Preez, Ms M.M. Els

URBAN AND REGIONAL PLANNING (051 401 2486)

Professor	*Prof. V.J. Nel
Senior Lecturer	Dr M.M. Campbell
Lecturers	Mr P.J. Potgieter, Ms E. Barclay, Mr Y. Mashalaba

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.(http://www.ufs.ac.za/content.aspx?id=57)

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 an 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.

Prospective postgraduate students must take notice of the following prerequisites:

Honours Degree in the subject	**Prerequisite/Requirement**
Actuarial Science	A candidate must have a BSc or BCom degree in Actuarial Science, as well as qualified for at least four exemptions of the subjects of the Faculty / Institute of Actuaries, of which at least one exemption has to be for CT1, CT4 or CT6.
Architecture	In accordance with the provisions of the general regulations, students who wish to register for the Baccalaureus Architecturae Studiorum Honores must submit proof that they have obtained the degree BArchStud at this University, with a joint average mark of 55% for BOW306, OGT304 and TAR304, as well as a subminimum of 60% for ONW300. Please consult the department for further requirements.
Agrometeorology	Agrometeorology at third year level.
Biochemistry	At least 64 credits in Biochemistry at third year level. An average of 65% in undergraduate Biochemistry modules. Admission is subject to a selection process.
Behavioural Genetics	Admittance into BScHons in Behavioural Genetics is subject to selection. A minimum of 60% in Genetics at third year level.
Botany	A minimum of 60% in Botany at third year level in consultation with the Departmental Chairperson.
Chemistry	To be considered for BScHons in Chemistry, a student must have a BSc degree. Other pre-requisites: (WTW114 or WTW134) + (WTW124 or WTW144). An average mark of 60% in (CEM314 + CEM334 + CEM324 + CEM344).
Computer Information Systems	A minimum average of 60% is required for the four third-year computer science modules (RIS314, RIS334, RIS324, RIS344) or equivalents thereof, are required. In exceptional cases admission may be allowed in consultation with the programme director or departmental chairperson.
Disaster Management	At least a recognised masters' degree and some subjects in the post graduate diploma and in the masters' degree in disaster management. It also depends on the already acquired knowledge and experience in the disaster management field.
Entomology	Entomology at third year level.
Food Science	Food Science at third year level. An average of 65% in undergraduate Food Science modules. Admission is subject to a selection process.
Forensic Genetics	Admittance into BScHons in Forensic Genetics is subject to selection. A minimum of 60% in Genetics at third year level or equivalent modules.
Genetics	Admittance into BScHons in Behavioural Genetics is subject to selection. A minimum of 60% in Genetics at third year level or equivalent modules.
Geology	For admission to the Honours degree in Geology a student must achieve a combined average pass mark of 60% in four Geology modules (64 credits) at third year level (two modules in the first semester and two in the second, including GLG314 and GLG324).
Geography and Geographic Information Systems	Geography at third year level or equivalent Geography III at another university with at least 64 credits. Average of 60% in the third year.
Geohydrology	A degree in Engineering or a BSc or a BScAgric degree.
Grassland Science	Grassland Science at third year level.
Home Economics	BSc Home Ec., B. Consumer Science or an equivalent qualification.
Limnology	A BSc or BScAgric degree with at least one of the following as major: Biochemistry, Chemistry, Zoology, Entomology, Physics, Soil Science, Microbiology, Botany, Mathematics. For further questions you must call the next number: 0514012863.
Mathematics and Applied Mathematics	Mathematics and Applied Mathematics at third year level or equivalent modules.
Mathematical Statistics	Minimum averages pass mark of 60% in (WKS314+WKS324+ WKS334+WKS344). Admission is subject to

	approval by the Departmental Chairperson.
Microbial Biotechnology	At least 64 credits in Biochemistry or Microbiology at third year level or else in consultation with the Departmental Chairperson. An average of 65% in undergraduate Microbiology or Biochemistry modules. Admission is subject to a selection process.
Microbiology	At least 64 credits in Microbiology at third year level. An average of 65% in undergraduate Microbiology modules. These include VWS344 and BOC314. Admission is subject to a selection process.
Physics	An average pass mark of 60% in (FSK314 + FSK332 + FSK352 + FSK324 + FSK342 + FSK362).
Plant Health	Plant Health or equivalent modules at third year level.
Plant Molecular Biology	A minimum of 60% in the appropriate Botany or equivalent modules at third year level in consultation with the Departmental Chairperson.
Polymer Science	A minimum of 60% average for all the Chemistry modules on third-year level is required
Soil Science	Soil Science at third year level.
Statistics	WTW114 and WTW124 as well as a minimum average pass mark of 60% in (STK216+STK226+STK316+STK326). Admission is subject to the approval by the Departmental Chairperson.
Wildlife	Grassland Science at third year level or equivalent modules in consultation with the Departmental Chairperson.
Zoology	Zoology at third year level.

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

DEGREES	MINIMUM PERIOD OF STUDY	ABBREVIATION	STUDY CODE	PAGE
Baccalaureus Architecturae Studiorum	3 years	BArchStud	4310	7, 8
Bachelor of Science Learning area (Quantity Surveying) (Residential)	3 years	BSc Learning area Quantity Surveying	4386	21, 22, 27
Bachelor of Science Learning area (Construction Management) (Residential)	3 years	BSc Learning area Construction Management	4387	22, 23, 29
Bachelor of Science Learning area (Quantity Surveying) (Distance learning)	3 years	BSc Learning area Quantity Surveying	4324	25
Bachelor of Science Learning area (Construction Management) (Distance learning)	3 years	BSc Learning area Construction Management	4392	27
Bachelor of Science Learning area (Construction Management) focus area/speciality: Endorsement (Facilities Management) (Distance learning)	3 years	BSc Learning area Construction Management	4392	27
HONOURS DEGREES	**MINIMUM PERIOD OF STUDY**	**ABBREVIATION**	**STUDY CODE**	**PAGE**
Baccalaureus Architecturae Studiorum Honores	1 year	BArchStudHons	4567	9, 10
Bachelor of Science Honores Learning area Quantity Surveying (Residential)	1 or 2 years	BSc(Hons) Learning area Quantity Surveying	4539	22, 30
Bachelor of Science Honores Learning area Construction Management (Residential)	1 or 2 years	BSc(Hons) Learning area Construction Management	4540	29, 30, 31
Bachelor of Science Honores Learning area Quantity Surveying (Distance learning)	1 or 2 years	BSc(Hons) Learning area Quantity Surveying	4541	31, 32
Bachelor of Science Honores Learning area Construction Management (Distance learning)	1 or 2 years	BSc(Hons) Learning area Construction Management	4542	32
Bachelor of Science Honores Learning area Construction Management focus area/speciality: Endorsement (Facilities Management)(Distance learning)	1 or 2 years	BSc(Hons) Learning area Construction Management	4542	32
Baccalaureus in Spatial Planning Honores	12 and 18 months	B(Hons SP)	4543	53, 60
MASTER'S DEGREES	**MINIMUM PERIOD OF STUDY**	**ABBREVIATION**	**STUDY CODE**	**PAGE**
Magister Architecturae	1 year	MArch	4710	12
Magister Architecturae (Professional)	1 year	MArch(Prof)	4711	12, 13
Magister Scientiae (Q.S.)	2 years	MSc (Q.S.)	4720	34
Magister Scientiae (Construction Management)	2 years	MSc (Constr.)	4780	34
Master In Land and Property Development Management	2 years	M.L.P.M. (M.PROP.)	4797 or 4798	34, 35
Master in Urban and Regional Planning (Professional)	12 and 18 months	M.U.R.P. (Professional)	4762	53, 56, 62
Master in Housing (Research)	12 and 18 months	M. Housing (Research)	4763	58, 60
Master in Urban and Regional Planning (Research)	12 and 18 months	M.U.R.P. (Research)	4764	58, 60
DOCTOR'S DEGREES	**MINIMUM PERIOD OF STUDY**	**ABBREVIATION**	**STUDY CODE**	**PAGE**
Doctor Architecturae		DArch	4910	15
Philosophiae Doctor		PhD	4920	15, 37, 64

Undergraduate programmes in Architecture

BACCALAUREUS ARCHITECTURAE STUDIORUM **BARCHSTUD**
Degree code 4310

INFORMATION

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.

Applications for admission to the BArchStud 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. 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. **A student, already registered for a programme at the University of the Free State, who wishes to change to the BArchStud-programme, must contact and supply the department with a national senior certificate before 31 May of the year before intended admission.**

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

Professional requirements
Upon completion of the degree BArchStud, 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 BArchStud- 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 national senior certificate indicating that the following have been achieved:
  (a) A minimum AP of 30, plus a performance level of 4 in an official tuition language.
  (b) Mathematics on performance level 5 (60%). Alternatively a pass mark in WTW164 is required.
  (c) Physical Sciences on performance level 4 (50%).
  (d) An AP of 34 and higher is strongly advised.

(ii) In order for a student to be invited for a selection interview, applicants have to pass a preliminary selection as determined by the department. When such a preliminary selection has been passed, the applicant will be invite to an interview at which a portfolio of creative work needs to be presented. 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
(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 the modules ONW, BOW and OGT 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) In the first two years of study the modules ONW, BOW and OGT must be presented together. In the third year of study the modules ONW, BOW, OGT and TAR must be presented together. If a student fails any of these modules, the required module(s) must be passed first before the subsequent modules of ONW, BOW and OGT, and in the third year, ONW, BOW, OGT, and TAR may be presented. See prerequisites in D23 underneath.
   (ii) In the second year outstanding modules not exceeding 32 credits in total may be presented together with ONW, BOW and OGT. In the third year outstanding modules not exceeding 32 credits may be presented with ONW, BOW, OGT, and TAR.

(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 Module Content.

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: BArchStud Degree code 4310 (432 credits)

(a) The compulsory programme is as follows:

First year (144 credits)			**Credits**	**Prerequisite**
1.	ONW100	Design	48	-
2.	BOW106	Building Science	24	-
3.	OGT106	History of the Environment	24	-
4.	GRT104	Presentation Techniques	16	-
5.	GRT122	Photography	8	-
6.	GRT112	Trigonometrical Drawing	8	-
7.	FSK112	Physics	8	-
8.	WTW142	Introductory Calculus and Statics	8	-

Second year (144 credits)			**Credits**	**Prerequisite**
1.	ONW200	Design	48	ONW100, BOW106, OGT106
2.	BOW206	Building Science	24	ONW100, BOW106, OGT106
3.	OGT206	History of the Environment	24	ONW100, BOW106, OGT106
4.	TAR224	Theory of Architecture	16	ONW100, BOW106, OGT106
5.	GRT204	Computer Drafting	16	-
6.	KWE204	Construction Science	16	-

Third year (144 credits)			**Credits**	**Prerequisite**
1.	ONW300	Design	48	ONW200, BOW206, OGT206
2.	BOW306	Building Science	24	ONW200, BOW206, OGT206
3.	OGT304	History of the Environment	16	ONW200, BOW206, OGT206
4.	TAR304	Theory of Architecture	16	ONW200, BOW206, OGT206
5.	BKR306	Building Contracts Law	24	-
6.	KWE304	Construction Science	16	-

(b) TRANSITIONAL REGULATIONS

Students that registered for their first year in 2010, the following transitional regulations will be applicable in their second year in 2012:

2010 module that needs to be recognised	**2012 module that needs to be followed**
OGT104	**OGT106**
OGT204	**OGT206**
TAR223	**TAR224**

Honours Degrees

ARCHITECTURE

BACCALAUREUS ARCHITECTURAE STUDIORUM HONORES **BARCHSTUDHONS**
Degree code 4567

INFORMATION

The Baccalaureus Architecturae Studiorum Honores [BArchStudHons] is a postgraduate degree by coursework. 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 BArchStudHons involves lectures, projects, and continuous evaluation.

The BArchStud degree precedes the BArchStudHons degree. After successful completion of the BArchStudHons degree candidates may register for the Magister Architecturae (Professional).

Application for admission to the Baccalaureus Architecturae Studiorum 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 BArchStud and the degrees BArchStudHons and MArch(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 BArchStud degree programme and the degree MArch(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 Studiorum Honores must submit proof that:

(i) They have obtained the degree BArchStud 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 BArchStud 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 BARCHSTUDHONS 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, and 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 BArchStudHons. 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 that do not comply with the prerequisite of 60% for ONW300 (or equivalent module at another institution) have to register again for ONW300 in the following year in order to get the required 60%. If the student again is not successful,

ONW300 needs to be presented a third time. If the student is still not successful, he/she will not be allowed anymore to apply for the degree BArchStudHons.

b. Students that do not comply with the prerequisite of 55% average for BOW304, OGT304 and TAR304 (or equivalent modules at another institution) together, must register in the following year for the module in which the lowest mark was received, in order to attain the required joint average of 55%. Such a repetition of registration will be allowed only for two successive years, after which the unsuccessful student will not be allowed to apply again for the degree BArchStudHons.
c. Students of (iii) a & b above still need to apply for admission to the degree BArchStudHons before 31 May of the year in which they repeat the required module(s). The application must be on the prescribed form as required by the Administration of the UFS.
d. Students are strongly advised to work at an architectural firm/office or professional office of a related discipline during the year that they repeat the modules as required in (iii) a & b above. Additional to such professional experience, a tour (overseas or local) that focuses on an investigation of buildings and spaces within an urban context (historical and contemporary), from the smallest to the biggest scale, is also strongly recommended.
e. Students from other institutions still need to go through the selection process as is set out in D27(ii) above.
f. The selection process, as a personal interview with a presentation of the required documents, is no guarantee for admission to the degree BArchStudHons. The final discretion, whether the student complies with the requisites, still lies 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 BARCHSTUDHONS. 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 one or more 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 35 students are allowed to register for the programme.

Reg. D28 - Programme BArchStudHons Degree Code 4567 (152 credits)

The compulsory programme is as follows:

		Credits	**Prerequisites**
ONW600	Design	48	-
BOW608	Building Science	32	-
OGT606	History of the Environment	24	-
TAR604	Theory of Architecture	16	-
OMA612	Design Methods in Architecture	8	-
NMA622	Research Methods in Architecture	8	-
EOK404	Property Economics	16	-

STRUCTURE of BARCHSTUDHONS PROGRAMME: 152 CREDITS

MAIN COMPONENTS	**MODULES Year**			
	Semester 1		**Semester 2**	
	Quarter 1	**Quarter 2**	**Quarter 3**	**Quarter 4**
1. Design Project 48 credits	**ONW600**			
	Themes:			
	Urbanism and urban design	Conservation	Environment Sustainability Earth Construction	Theoretical theme / Landscape
2. Building Science 32 credits	**BOW608**			
	Component 1 General - lectures, seminars, assignments, etc.			
	Component 2 Relative to design projects - Design development/documentation			
3. History of the Environment and Architectural Theory 40 credits	**OGT606 (24 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			
4. Practice 32 credits	**EOK404 (16 cr): Property Economics**			
	OMA612 (8 cr): Design methods in Architecture		**NMA622 (8 cr):** Research methods in Architecture	

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.

(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 modules BOW608 and OGT606 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 Studiorum 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, OGT606, 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, OGT606 and TAR604 should be presented simultaneously.

(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 Module Content.

ARCHITECTURE

MAGISTER ARCHITECTURAE **MARCH**
Degree code 4710

Reg. D42 - Admission requirements

Apart from the general regulations the following is applicable:

(a) Candidates must be in possession of EITHER the advanced postgraduate professional qualification, B.Arch. or equivalent thereof; OR the BArchStudHons or equivalent thereof:
    (i) Candidates that are in possession of the B.Arch. must proof that an Extended Research Essay formed part of the requirements for the conferment of such degree.
    (ii) Candidates that are in possession of the BArchStudHons must have obtained a minimum of 60% in THREE of the following modules or equivalent thereof: ONW600, BOW608, OGT604 and TAR604.
(b) Candidates must work for a period of one year under the supervision of a selected supervisor/co-supervisor from the Department of Architecture while they are registered as students for the degree of MArch

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 one year in preparation for a dissertation that shall be submitted as the only requirement for the degree.

MAGISTER ARCHITECTURAE (PROFESSIONAL) **MARCH(PROF)**
Degree code 4711

INFORMATION

The Magister Architecturae (Professional) is a master's degree by course work and involves lectures, projects, and an investigated design thesis with an advanced design project.. 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.

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. For candidates from other institutions a selection process 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 PhD(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 BArchStudHons degree precedes the MArch(Prof) degree. Upon completion of the degree MArch(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 BArchStud degree.

The evaluations and examinations for the degrees BArchStud, BArchStudHons and MArch(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 theBArchStud, BarchStudHons and the MArch(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 in Architecture (Professional) must submit proof that:

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

(ii) They have obtained the degree BArchStud[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 MArch(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 BArchStudHons. 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 MArch(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 BArchStudHons, must, after the one or two year(s), apply for admission to the degree MArch(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 MArch(Prof) Degree code 4711[180 credits]

		Credits	Prerequisites
SKR791	Extended Research Essay	100	ONW600, BOW608 OGT604, TAR604
BOW708	Building Science	32	BOW606, ONW600 OGT604, TAR604
TAR714	Theory of Architecture	16	TAR604, OGT604 BOW608, ONW600
BPK514	Professional Practice	16	-
PAK714	Professional Architect's Practice	16	-

STRUCTURE of MArch(Prof) PROGRAMME : 180 credits

MAIN COMPONENTS	**MODULES**	
	Year	
	Semester 1	**Semester 2**
	Quarter 1 **Quarter 2**	**Quarter 3** **Quarter 4**
1. Extended Research Essay 100 credits	**SKR791** **Component 1**: Research document **Component 2**: Design document and project	
2. Building Science 32 credits	**BOW708 (32 cr)**	
	Component 1: Theoretical report in relation to Design project for Extended Research Essay	**Component 2**: Design development and documentation in relation to Design project for Extended Research Essay
3. History of the Environment and Architectural Theory 16 credits	**TAR714 (16 cr)** **Component 1**: General - lectures, seminars, assignments, etc. **Component 2**: Applied research relative to design project of Extended Research Essay - Report	
4. Practice 32 credits	**BPK514 (16 cr): Professional Practice** **PAK714 (16 cr): Professional Architect's Practice**	

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, BOW708, TAR714, BPK514, and PAK714; 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. D40, the composition thereof has to be determined in consultation with the Head of Department, with the understanding that the modules SKR791, BOW708 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 BOW708:
   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.

Doctor's Degrees

ARCHITECTURE

Degree	Abbreviation code	Study code	Course
i) *Doctor Architecturae	DArch	4910	900
ii) Philosophiae Doctor	PhD	4920	900

The degree of Philosophiae Doctor is conferred in Architecture.

* Regulations as for PhD

REGULATIONS

Reg. D64 - Admission

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

MODULE CONTENT

Department of Architecture

Module Content: BArchStud; BArchStudHons; MArch(Prof)

The following modules are presented in or for the Department:

Module code	Description
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
BOW708	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)
GRT104	Presentation Techniques
GRT204	Computer Drafting
GRT112	Trigonometrical Drawing
GRT122	Photography
KWE204	Construction Science (Department of Quantity Surveying and Construction Management)
KWE304	Construction Science (Department of Quantity Surveying and Construction Management)
NMA622	Research methods in Architecture
OGT106	History of the Environment
OGT206	History of the Environment
OGT304	History of the Environment
OGT606	History of the Environment
OMA612	Design methods in Architecture
ONW100	Design
ONW200	Design
ONW300	Design
ONW600	Design
PAK714	Professional Architect's Practice
SKR791	Extended Research Essay
TAR224	Theory of Architecture
TAR304	Theory of Architecture
TAR604	Theory of Architecture
TAR714	Theory of Architecture
WTW142	Introductory Calculus & Statics (Department of Mathematics and Applied Mathematics)

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

BOW106, BOW204/206, BOW304/306, BOW608, BOW708 – 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.

BOW206 (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.

BOW306 (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 practical periods, one 1-hour theory in practice lecture and one 1-hour specification theory lecture periods [when scheduled] per week, both semesters. (BOW406).
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.

BOW708 (32 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)
These modules are for the candidates of the Department of Quantity Surveying and Construction Management. Contents as above for BOW206/BOW306 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)

GRT104 – Presentation Techniques (16 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.

GRT204 – Computer Drafting (16 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.

GRT122 – Photography (8 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)

NMA622 – Research methods in Architecture (8 credits)
Three hours per week lectures combined with seminars and tutorials. The students are introduced to a wide range of research methods in the field of Architecture. The relationship between designs and influence of research are investigated.

OGT106, OGT206, OGT304, OGT606 – History of the Environment
The course has a duration of four years, of which the first three years form part of the degree. BArchStud and the last year form part of the degree BArchStudHons. In broad terms it comprises the history of the built environment.

OGT106, OGT206, OGT304 (16 credits/24 credits)
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.

OGT606 (24 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.

OMA612 – Design Methodology (8 credits)
Three hours per week lectures combined with seminars and tutorials. The students are introduced to a wide range of design methods as well as the application thereof on the design of buildings.

ONW100, ONW200, ONW300 – Design (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 BArchStud-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)
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.

PAK714 – 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 (100 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).

TAR224 – Theory of Architecture (16 credits)
An introduction and overview of the history of Architectural Theory from classical times to the twentieth century.

TAR304 – Theory of Architecture (16 credits)
This module serves as an introduction to the theoretical content of modern and contemporary architecture. This module aims to instil in the learner an overall understanding of the development of architectural theory. The course serves as an introduction to the theoretical developments that have resulted in modern and contemporary architecture by discussing the various theoretical developments in chronological order. Content focuses specifically on Theoretical Conventions before 1800, Theoretical Principles after 1800, Theories leading up to and underlying Modernism, and contemporary South African theoretical developments.

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 – Theory of Architecture (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.)

QUANTITY SURVEYING AND CONSTRUCTION MANAGEMENT

Undergraduate programmes for education in property development professions

Residential programmes

The following residential programmes are presented by the Department of Quantity Surveying and Construction Management.

1. **BSc Hons Quantity Surveying (128 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. **BSc Hons Construction Management (128 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, contractor ship and building and construction scientist.

3. **BSc Learning area Quantity Surveying (376 credits):** A degree for the academic preparation of a candidate for the profession of Quantity Surveying at a level.

4. **BSc Learning area Construction Management (376 credits):** A degree for the academic preparation of a candidate for the construction management profession at a level.

INFORMATION

1. Applications, on the prescribed form, for admission to the degree programme, must reach the Director, Student Administration, before or on 31 July 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 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 be in possession of a certificate of full matriculation exemption with a M-score of 28 or higher and 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 or a minimum AP-score of 30 plus language of instruction on achievement level 4, Mathematics on achievement level 5, alternatively a pass mark in WTW164 is required and one of Physical Sciences, Economics, Business Studies or Accounting on achievement level 4. Admission to both programmes is limited and compliance with the minimum requirements does not necessarily secure selection. Final selection is based strictly on merit and a M-score or AP-score of 34 or higher are strongly recommended. Closing date for selection is 31 July of each year.
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. Three years for the B degree and the fourth year for honours degree. 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.

BACHELOR OF SCIENCE LEARNING AREA QUANTITY SURVEYING **BSc Learning area Quantity Surveying**
Degree code 4386 (Residential)

Reg. D11 - Curriculum: BSc Learning area Quantity Surveying (376 credits)

First study year (124 credits)Compulsory modules			**Credits**
1	BKF104	Descriptive Quantification	16
2	EACC61406	Accounting	16
	or		
	EMAC62406	Management Accounting	
3	BOE104	Building Economics	16
4	FSK112	Physics for students in the Building Sciences	8
5	WTW142	Introductory calculus and statics	8
6	EBUS51305	Business Functions	12
7	STK114	Introduction to statistics	16
8	END104	Property Development Economy	16
Optional modules (choose a minimum of 16 credits)			
9.	EBE112	Business English(8)	
10.	EBE122	Business English(8)	
11.	STK124	Introduction to statistics II (16)	
12.	IGW104	Engineering Science (16)	
13.	ENG104	English Skills (16)	
Second study year (124 credits) Compulsory modules			**Credits**
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..	EECF61306	Introduction to economics and micro-economics	12
7.	HRG204	Commercial Law	16
Optional modules (choose a minimum of 16 credits)			
8.	EBUS61406	Core Business Activities (16)	
9.	EECF62306	Introduction to macro-economics (12)	
10.	EBUS62406	General Management(16)	
11.	ABR224	Labour Law (16)	
12.	ARG204	Architecture (16)	
Third study year (128 credits) Compulsory modules			**Credits**
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)			
8.	EBUS74407	Entrepreneurship (16)	
9.	POB304	Production and operational Management (16)	

All options of choice 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) Learning area Quantity Surveying (376 credits) (4386) Residential

The degree is awarded to a candidate who had at least received 360 credits of the first three study years 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 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.

(c) BSc Honours Learning area Quantity Surveying (128 credits) (4539) Residential

Students who have passed the BSc Learning area Quantity Surveying (360 credits) degree successfully, or have obtained an approved qualification of equal value may register for the BSc Honours Learning area Quantity Surveying. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who has at least received 128 credits for the prescribed curriculum, or a curriculum approved by the Departmental Head. If the BSc Learning area Quantity Surveying (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 504 credits for both degrees.

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.

BACHELOR OF SCIENCE LEARNING AREA CONSTRUCTION MANAGEMENT BSc Learning area Construction Management Degree code 4387 (Residential)

Reg. D12 - Curriculum: BSc Learning area Construction Management (376 credits)

First year of study (124 credits)			
Compulsory modules			**Credits**
1.	POB104	Production and Operational Management	16
2.	EACC61406	Accounting	16
	or		
	EMAC62406	Management Accounting	
3.	BOE104	Building Economics	16
4.	FSK112	Physics for students in the Building Sciences	8
5.	WTW142	Introductory calculus and statics	8
6.	EBUS51305	Business Functions	12
7.	STK114	Introduction to Statistics	16
8.	END104	Property Development Economy	16
Optional modules (select a minimum of 16 credits)			
9.	EBE112	Business English (8)	
10.	EBE122	Business English (8)	
11.	ENG104	English Skills (16)	
12.	STK124	Introduction to Statistics II (16)	
13.	IGW104	Engineering Science (16)	
Second year of study (124 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.	EECF61306	Introduction to Economics	12
7.	HRG204	Commercial Law	16
Optional modules (select a minimum of 16 credits)			
8.	EBUS61406	Core Business Activities (16)	

9.	EECF62306	Introduction to Macroeconomics (12)	
10.	EBUS62406	General Management (16)	
11.	ARG204	Architecture (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 (16 credits)			
8.	EBUS74407	Entrepreneurship (16)	
9.	BKF304	Descriptive Quantification (16)	

All choice options 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) BSc Learning area Construction Management (376 credits) (4387) (Residential)

The degree is awarded to a candidate who had at least received 360 credits of the first three study years 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.

(c) BSc Honours Learning area Construction Management (128 credits)

Students who have passed the BSc Learning area Construction Management (360 credits) degree, or an approved qualification of equal value successfully, may register for the BSc Honours Learning area Construction Management. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who had at least received 128 credits of the prescribed curriculum, or a curriculum approved by the Departmental Head. If the BSc Learning area Construction Management (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 504 credits for both degrees.

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.

Distance 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. **Distance learning programme BSc Hons Learning area Quantity Surveying (128 credits):** A degree aimed at the academic preparation of a candidate for the profession of Quantity Surveying as well as the functions of cost engineer, project manager, property development consultant and building and construction scientist.

2. **Distance learning programme BSc Hons Learning area Construction Management (128 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 management, contractor ship and as building and construction scientist.

3. **Distance learning programme BSc Hons Learning area Construction Management (384 credits)**: Focus area/speciality: Endorsement (Facilities Management). A degree aimed at the academic preparation of a candidate at the level for the Facilities Management profession.

4. **Distance learning programme BSc Learning area Quantity Surveying (376 credits)**: A degree aimed at the academic preparation of a candidate at a level for the profession of Quantity Surveying.

5. **Distance learning programme BSc Learning area Construction Management (376 credits)**: A degree aimed at the academic preparation of a candidate at a level for the Construction Management profession.

6. **Distance learning programme BSc Learning area Construction Management (376 credits)**: Focus area/speciality: Endorsement (Facilities Management). A degree aimed at the academic preparation of a candidate at the level for the Facilities Management profession.

INFORMATION

1. Applications, on the prescribed form, for admission to the degree programme, must reach the Director, Student Administration, before or on 31 July 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 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.

5. Education is provided through distance learning, there are therefore only limited contact sessions between students 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 completing 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

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.

BACHELOR OF SCIENCE LEARNING AREA QUANTITY SURVEYING **BSc Learning area Quantity Surveying**
Degree code 4324 (Distance learning)

Reg. D20 - Curriculum: BSc Learning area Quantity Surveying (376 credits)

First Year of Study (124 Credits)			**Credits**
Compulsory modules			
1.	DQF104	Descriptive Quantification	16
2.	EACC61406	Accounting	16
	or		
	EMAC62406	Management Accounting	
3.	COE104	Building Economics	16
4.	FSK112	Physics for students in the Building Sciences	8
5.	WTW142	Introductory calculus and statics	8
6.	EBUS51305	Business Functions	12
7.	STK114	Introduction to Statistics	16
8.	PDE104	Property Development Economics	16
Optional modules (select a minimum of 16credits)			
9.	EBE112	Business English (8)	
10.	EBE122	Business English (8)	
11.	ENG104	English Skills (16)	
12.	EGS104	Engineering Science (16)	
13.	STK124	Introduction to Statistics II (16)	

Second year of study (124 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.	EECF61306	Introduction to Economy and Micro Economy	12
7.	HRG204	Commercial Law	16

Optional modules (select a minimum of 16 credits)			
8.	EBUS61406	Core Business Activities (16)	
9.	EECF62306	Introduction to Macro-economics (12)	
10.	EBUS62406	General Management (16)	
11.	ARG204	Architecture (16)	

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)			
8.	EBUS74407	Entrepreneurship(16)	
9.	PQM304	Production and Operational Management(16)	

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 modules at the University of the Free State.

			Credits
1.	FSK112	Physics for students in the Building Sciences	8
2.	WTW142	Introductory calculus and statics	8

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.

Contact details of UNISA registration inquiries: 051 411 0458/411 0440

University of the Free State			**UNISA**
1.	HRG204	Commercial Law	CLA1501/CLA1502/CLA1503
2.	EACC61406	Accounting	FAC1501&FAC1502
	or	or	Or
	EAAC62406	Accounting	FAC1601
3.	EBUS74407	Entrepreneurship	MNE3701
4.	EBUS51305	Business Functions	MNB1601
5.	EECF61306	Introduction to economics and micro economics	ECS1501
6.	ABR224	Labour Law	MRL3702
7.	EBUS62406	General Management	MNG2016
8.	EBUS61406	Core business activities	MNF2023
9.	STK124	Introduction to Statistics II	STA1610
10.	EBE112	Business English	ENN1504
11.	EBE122	Business English	ENN103F
12.	ENG104	English Skills	ENH101J
13.	STK114	Introduction to Statistics	STA1510
14.	EECF62306	Introduction to Macro Economics	ECS1601

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 the degree is awarded.

(b) BSc Learning area Quantity Surveying (376 credits)(4386) (Distance learning)

The degree is awarded to a candidate who had at least received 360 credits of the first three study years 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 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.

(c) BSc Honours Learning area Quantity Surveying (128 credits)

Students who have passed the BSc Learning area Quantity Surveying (360 credits) degree successfully, or have obtained an approved qualification of equal value may register for the BSc Honours Learning area Quantity Surveying. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who has at least received 128 credits for the prescribed curriculum, or a curriculum approved by the Departmental Head. If the BSc Learning area Quantity Surveying (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 512 credits for both degrees.

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.

BACHELOR OF SCIENCE LEARNING AREA CONSTRUCTION MANAGEMENT BSc Learning area Construction Management
Degree code 4392 (Distance learning)

Reg. D21 - Curriculum: BSc Learning area Construction Management (376 credits)

First Year of Study (124 Credits)			**Credits**
Compulsory modules			
1.	PQM104	Production and Operational Management	16
2.	EACC61406	Accounting	16
	or		
	EMAC62406	Management Accounting	
3.	COE104	Building Economics	16
4.	FSK112	Physics for students in the Building Sciences	8
5.	WTW142	Introductory calculus and statics	8
6.	EBUS51305	Business Functions	12
7.	STK114	Introduction to Statistics	16
8.	PDE104	Property Development Economics	16
Optional modules (select a minimum of 16 credits)			
9.	EBE112	Business English (8)	
10.	EBE122	Business English (8)	
11.	ENG104	English Skills (16)	
12.	EGS104	Engineering Science (16)	
13.	STK124	Introduction to Statistics II (16)	

Second year of study (124 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.	EECF61306	Introduction to Economy and Micro Economy	12
7.	HRG204	Commercial Law	16
Optional modules (select a minimum of 16 credits)			
8.	EBUS61406	Core Business Activities (16)	
9.	EECF62306	Introduction to Macro-economics (12)	
10.	EBUS62406	General Management (16)	
11.	ARG204	Architecture (16)	

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)			
8.	EBUS74407	Entrepreneurship (16)	
9.	DQF304	Descriptive Quantification (16)	

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.

			Credits
1.	FSK112	Physics for students in the Building Sciences	8
2.	WTW142	Introductory calculus and statics	8

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

Contact details of UNISA registration inquiries: 051 411 0458/411 0440

University of the Free State			**UNISA**
1.	HRG204	Commercial Law	CLA1501/CLA1502/CLA1503
2.	EACC61406	Accounting	FAC1501&FAC1502
	or	or	Or
	EMAC62406	Management Accounting	FAC1601
3.	EBUS74407	Entrepreneurship	MNE3701
4.	EBUS51305	Business Functions	MNB1601
5.	EECF61306	Introduction to economics and micro economics	ECS1501
6.	ABR224	Labour Law	MRL3702
7.	EBUS62406	General Management	MNG2016
8.	EBUS61406	Core business activities	
9.	STK124	Introduction to Statistics II	STA1610
10.	EBE112	Business English	ENN1504
11.	EBE122	Business English	ENN103F
12.	ENG104	Business Skills	ENH101J
13.	STK114	Introduction to Statistics	STA1501
14.	EECF62306	Introduction to Macro Economics	ECS1601

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.

Focus area/speciality: Endorsement Facilities Management (Distance Learning)
Students who register for Facilities Management as focus area/speciality have to enrol for the following compulsory modules:

First year
PFM106 and SBE104 in the place of EBUS51305, EECF61306 and PDE104. The elective modules will be increased to 24 credits and EBUS51305 and EECF61306 become elective modules in the place of EBE112 and EBE122.

Second year
PFM206 instead of COE204 and STK114 and PDE104 instead of PDE204. The elective modules will be increased to 24 credits and STK114 will be added as elective module.

Third year
PFM306 instead of CSC304 and DQS302 and COE204 instead of COE304 and PDE204 instead of PDE304.

All choice options 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) BSc Learning area Construction Management (376 credits) (4387) Distance Learning

The degree is awarded to a candidate who had at least received 360 credits of the first three study years 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: DQF304, BSC304, CCM306, COE304, PDE304, CSC304 and DQS302.

(c) BSc Honours Learning area Construction Management (128 credits) (4540) Distance Learning

Students who have passed the BSc Learning area Construction Management (360 credits) degree, or an approved qualification of equal value successfully, may register for the BSc Honours Learning area Construction Management. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who had at least received 128 credits of the prescribed curriculum, or a curriculum approved by the Departmental Head. If the BSc Learning area Construction Management (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 504 credits for both degrees.

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: PQM404, MCI402, CFN404, PDE404, CSC404, ABR224, APM404 and INP402.

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Honours Degrees

QUANTITY SURVEYING AND CONSTRUCTION MANAGEMENT

BACHELOR OF SCIENCE HONORES LEARNING AREA QUANTITY SURVEYING
BSc Hons Learning area Quantity Surveying **Degree code 4539 (Residential)**

Reg. D11 - Curriculum: BScHons Learning area Quantity Surveying (128 credits)

		Fourth year of study (128 credits)	**Credits**
Compulsory modules			
1.	BKF404	Descriptive Quantification	16
2.	BKI402	Management of Information and Communication Systems	8
3.	BOE404	Building Economics	16
4.	BPK404	Professional Practice	16
5.	END404	Property Development Economics	16
6.	KWE404	Construction Science	16
7.	GPB404	Advanced Project Management	16
8.	GIP402	Integrated Project	8
Optional modules (16 credits)			
9.	EWP404	Property Valuation Practice (16)	
10.	EFB404	Property Facilities Management (16)	
11.	KOF404	Construction Finance (16)	

All options of choice 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) BSc Honours Learning area Quantity Surveying (128 credits) (4539) Residential

Students who have passed the BSc Learning area Quantity Surveying (360 credits) degree successfully, or have obtained an approved qualification of equal value may register for the BSc Honours Learning area Quantity Surveying. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who has at least received 128 credits for the prescribed curriculum, or a curriculum approved by the Departmental Head. If the BSc Learning area Quantity Surveying (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 504 credits for both degrees.

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.

BACHELOR OF SCIENCE HONORES BSc Hons LEARNING AREA CONSTRUCTION MANAGEMENT
Construction Management **Degree code 4540 (Residential)**

Reg. D12 - Curriculum: BSc Hons Learning area Construction Management (128 credits)

		Fourth year of study (128 credits)	**Credits**
Compulsory modules			
1.	POB404	Production and Operational Management	16
2.	BKI402	Management of Information and Communication Systems	8
3.	KOF404	Construction Finances	16
4.	ABR224	Labour Law	16
5.	END404	Property Development Economics	16
6.	KWE404	Construction Science	16

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 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) BSc Honours Learning area Construction Management (128 credits) (4540) (Residential)

Students who have passed the BSc Learning area Construction Management (360 credits) degree, or an approved qualification of equal value successfully, may register for the BSc Honours Learning area Construction Management. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who had at least received 128 credits of the prescribed curriculum, or a curriculum approved by the Departmental Head. If the BSc Learning area Construction Management (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 504 credits for both degrees.

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.

BACHELOR OF SCIENCE HONORES LEARNING AREA QUANTITY SURVEYING BScHons Learning area Quantity Surveying Degree code 4541 (Distance learning)

Reg. D20 - Curriculum: BScHons Learning area Quantity Surveying

Fourth year of study (80 credits)			**Credits**
Compulsory modules			
1.	DQF404	Descriptive Quantification	16
2.	COE404	Building Economics	16
3.	PDE404	Property Development Economics	16
4.	CSC404	Construction Science	16
Optional modules (any 16 credits)			
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

All optional modules 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.

Equivalent modules and modules not listed, but which are acceptable in context, against prescribed modules, is subject to the Head of Departments approval.

Selection of optional modules must be taken in accordance with the class and time table. 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) BSc Honours Learning area Quantity Surveying (128 credits) (4541) (Distance Learning)

A student who has passed the BSc Learning area Quantity Surveying (360 credits) degree successfully or a qualification of equal value, can register for the BSc Honours Learning area Quantity Surveying. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who has at least received 128 credits of the prescribed curriculum, or approved by the Departmental Head.

If the BSc Learning area Quantity Surveying (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of the study to complete a total of 504 credits for both degrees.

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.

BACHELOR OF SCIENCE HONORES LEARNING AREA CONSTRUCTION MANAGEMENT
BScHons Learning area Construction Management **Degree code 4542 (Distance learning)**

Reg. D21 - Curriculum: BScHons Learning area Construction Management (128 credits)

Fourth year of study (80 credits)			**Credits**
Compulsory modules			
1.	PQM404	Production and Operational Management	16
2.	CFN404	Construction Finance	16
3.	PDE404	Property Development Economics	16
4.	CSC404	Construction Science	16
Optional modules (any 16 credits)			
5.	PVP404	Property Valuation Practice (16)	
6.	PFM404	Property Facilities Management (16)	
7.	PPR404	Professional Practice (16)	
Fifth year of study (48 credits)			
Compulsory modules			**Credits**
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

All choice options 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 a degree can be awarded.

(b) BSc Honours Learning area Construction Management (128 credits) (4542) (Distance Learning)

A student who has passed the BSc Learning area Construction Management (360 credits) degree successfully or a qualification of equal value, can register for the BSc Honours Learning area Construction Management. Subject to selection and a special curriculum arising from the qualification obtained.

The degree is awarded to a candidate who has at least received 128 credits of the prescribed curriculum, or approved by the Departmental Head. If the BSc Learning area Construction Management (360 credits) degree is awarded, the candidate must offer the balance of 24 credits in the honours year of study to complete a total of 504 credits for both degrees.

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.

Focus area/speciality: Endorsement (Facilities Management) (Distance Learning)

Students who register for honours in Facilities Management as focus area/speciality have to enrol for the following compulsory module:

Fourth study year
PFM494 instead of PDE404, CSC304 instead of CSC404. As elective module PDE304 instead of PPR404.

QUANTITY SURVEYING AND CONSTRUCTION MANAGEMENT

MASTER OF SCIENCE IN QUANTITY SURVEYING **MSc (Q.S.)**
Degree code 4720

MSc (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 MSc(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.

CURRICULUM

Reg. D45 – Requirements

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 **MSc (Construction Management)**
Degree code 4780

MSc (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 MSc(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 MANAGEMENT **M.L.P.M. (M.PROP.)**
Degree code 4797 or 4798

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. (MProp) during the same period.
(ii) Candidates must, in the period of at least two years after obtaining an approved honours 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

Submission of a dissertation / project (PRO700) degree code 4797 is required or the completion of the residential or distance 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 PhD studies. Special selection is therefore necessary to continue with PhD 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 per year of one week 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) Degree code 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 represent 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

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

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.	RBT702	Tourism and Development	8
13.	VVB702	Transportation	8
14.	BGR704	Planning Management	16
15.	LSF793	Life Cycle Cost, Facility Evaluation and Management	8
16.	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.

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.

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Doctor's Degrees

QUANTITY SURVEYING AND CONSTRUCTION MANAGEMENT

Degree	Abbreviation code	Study code	Course
Philosophiae Doctor	PhD	4920	900

The degree of Philosophiae Doctor is conferred in Quantity Surveying (BOR900), Construction Management (KOB900) and Property Science (PRO900).

* Regulations as for PhD

REGULATIONS

Reg. D64 - Admission

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

Department Quantity Surveying and Construction Management

Module Content Residential: BSc(Q.S.), BSc(Construction Management)

Distance Learning modules are marked with an *(asterisk)

ABR224 – Labour Law (16 credits)
(See Yearbook, Faculty of Law)

ARG204* – Architecture (16 credits)
Part 1
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

Part 2
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. Processing 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)
During the year, on instruction by the Departmental Head, each learner must do an Integrated 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 1
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 2
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 lead 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 Module Content under Architecture.)

BOW304 (16 credits)
(See Module Content 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 Module Content, 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 architect practice
- understand the principle of joint-ownership
- understand time-planning and handle the schedule from a professional's point of view.

Module Content 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.

ENG104 (16 Credits), EBE112 and EBE122 – Business English (8 credits each)
See Yearbook, Faculty of Humanities)

EECF61306 and EECF62406 – Economics
(See Yearbook, Faculty of Economics and Management Sciences)

EBUS51305, EBUS61406, EBUS62406 and EBUS74407
(See Yearbook, Faculty of Economics and Management Sciences)

EACC61406 and EMAC62406 – Accounting, Management Accounting
(See Yearbook, Faculty of Economics and Management Sciences)

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.

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 and 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 emblements, 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 Yearbook - Part 1)

GIP402/INP402* – Integrated Project (8 credits)
An Integrated 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.

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.

HRG204 – Commercial Law (16 credits)
(See Yearbook, Faculty of Law)

IGW104/EGS104*– Engineering Science

IGW104/EGS104* (16 credits)
Part 1
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.

Part 2
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.

PFM106 – Facilities Management (24 credits)
Introduction to facilities management and practice: An introduction and overview of the practice of facilities management, how its development takes place and how it fits into the knowledge areas of asset management, property development and property management
Management fundamentals: Contextualization of facilities management, general management, project management and strategic management in pursuit of facilities management as a profession.
Managerial imperatives for facilities management: Management tasks to be fulfilled by the facilities manager regarding human resources, law, contractual arrangements, finance, total quality management, service level agreements and information technology.
After successful completion of this module, a learner should be able to:

- understand the practice of facilities management
- apply scientific management principles
- apply various management tasks with a facilities management orientation.

PFM206 – Facilities Management (24 credits)
Maintenance management: An introduction to maintenance management and the categorization of building maintenance.
Operational maintenance management: Planning, programming and execution of maintenance management and pest control.
Operational maintenance finance: Financial management of maintenance work.
Construction works: Technical principles regarding construction, renovation and maintenance work.
After successful completion of this module, a learner should be able to:

- execute a maintenance strategy
- manage the financial planning and application regarding maintenance
- understand the basic construction and services technology regarding buildings and the maintenance imperatives thereof.

PFM306 – Facilities Management (24 credits)
Structure of facilities management enterprises: Creation of organisational structures to serve different types of facilities management organisations, procurement and outsourcing imperatives.
Client and/or user needs: Evaluation client/user needs, space management and general services.
Capital planning and life cycle costing: Planning of capital expenses, application of life cycle costing thereto.
Risk management, post occupancy evaluation and benchmarking: Development and application of the necessary tools and techniques.
Occupational Health and Safety Act and Regulations/ Application of National Building Regulations: The contents, implications and application of the relevant regulations.
After successful completion of this module, a learner should be able to:

- develop organisational structures for different types of facilities management enterprises, specifically discounting procurement and outsourcing imperatives
- evaluate client needs, plan and execute space and general services implications
- determine best practice capital expenditure and other financial implications in view of life cycle costing
- execute risk management, post occupancy evaluation and benchmarking as managerial tools
- interpret and apply the pertinent acts and regulations applicable to the built environment.

PFM494 – Facilities Management (16 credits)
An Integrated 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 Facilities Management
- have achieved a definite professional level in his/her understanding and approach to the full spectrum of Facilities Management

SBE104 – Structure of the Built environment (16 credits)
A General overview: An overview of the built environment, statistical data, production process, contracts and the procurement process.
Employers, contractors and subcontractors: The structure of the relationships between the parties and their functioning in the built environment.
Professional consultants and others: Description of statutory and non-statutory bodies. The services offered and the duties of the various professions and others in support of the professions, that serve the built environment.
Organisations in the built environment: The most prominent of the numerous organisations that represent role players, suppliers, trade organisations, employers and employees in the construction industry.
After successful completion of this module, a learner should be able to:

- understand the diverse nature and structure of the built environment and the processes that are applied in the procurement of the products of construction and development
- describe the roles played by the multitude of professional practitioners, contractors and other support structures
- identify the various procurement options available and the contractual arrangements in support thereof.

POB104/PQM104*, POB204/PQM204*, POB304/PQM304* and POB404/PQM404* –Production and Operational Management

POB104/PQM104* (16 credits each)
(See Module Content BKF104/DQF104*)

POB204/PQM204* (16 credits each)
See Module Content BKF204/DQF204*)

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.

SIB712 – Civil Engineering for planners (16 credits)
(See information under Urban and Rural Planning)

STK114 – Introduction to Statistics (16 credits)
(See Yearbook Part 1)

STK124 – Introduction to Statistics (16 credits)
(See Yearbook Part 1)

WTW142 –Introductory Calculus and Statics (8 credits)
(See Yearbook Part 1)

Module Content

Department of Quantity Surveying and Construction Management

Module Content Distance 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. (MProp) 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)
Advances in building and construction economics cost design and cost planning of physical developmental projects, cost control interim valuations and certification. Estimating techniques and quantification of elements of structures and projects.
After successful completion of this module, learners should be able to:

- apply advanced cost estimates and cost controls
- execute design economy and cost behaviour of building elements
- understand life-cycle cost and understand normative planning.

BSP702 – Basic Urban Planning Practice (8 credits)
Block classes as determined by program for M.L.P.M. (MProp) 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. (MProp)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)
Property investment, acquisition and establishment of property rights, ownership, tenure, possession, expropriation, insolvencies and contracts.
The law of property valuation, case studies on the role of the property valuers.
After successful completion of this module, learners should be able to:

- Identify the various types of property, its rights and limitations
- Identify the factors and laws influencing the valuation of property

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 including an article 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. (MProp) 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.

PPY702 – Professional Practice (8 credits)
Professional service as a business. Law and regulations that affect the profession. Ethics and codes of conduct, communication between professionals, the client and the society.
Advanced project procurement methods and procurement management. Alternative procedures and processes in respect of contract documentation.
The qualification, compilation and management of documentation. Different contract types and contract forms. Construction contract analysis.
After successful completion of this module a learner should be able to:

- Act professionally and understand the role of professional practice in society
- Understand practice forms
- Submit a proposal to clients on the most acceptable method of procurement
- Co-ordinate a complete contract procurement process and procedure
- Analyse and interpret advanced construction contracts
- Understand the role of professional acts and constitutions
- Deal with inter-professional and institutional communication and participate in respect of professional interaction

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. (MProp)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.

Honours Degrees

URBAN AND REGIONAL PLANNING

BACCALAUREUS HONOURS IN SPATIAL PLANNING **B.HONS.SP**	**Study code 4543** **144 credits (NQF level 8)**

Programmes in Spatial Planning: Residential and Compact Learning

Reg. D30 – Duration and organization of programme

Full Time	Twelve (12) months
Part Time	Eighteen (18) months
Compact Learning (block modules)	18 months Four (4) workshop weeks per year

(a) To obtain the Honours in Spatial Planning a minimum study 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 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.

(b) Compact learning students must attend compulsory workshop weeks at the department for the duration of the program at times as determined by the Head of Department. During these workshop lectures, tutorials, practicals and discussions will take place. Assignments will be done and tests and examinations will also be written.

(c) With first registration it will be required from students to attend orientation at the Department of Urban and Regional Planning.

Clarifying information
The programme results in the awarding of a Bachelors Honours degree in Spatial Planning. To register as a Professional Town and Regional Planner you need the BHonsSp **as well as** the Magister in Urban and Regional Planning (Professional – study code 4762).

Reg. D31 – Admission requirements

(a) A person may be admitted to the aforementioned program in Spatial Planning if he/she is in possession of one of the following qualifications and has the necessary academic background:

Bachelor's degree in:	**A degree with the following majors:**
Administration	Agricultural economics
Architecture	Anthropology
Civil Engineering	Botany
Commerce	Business Management
Construction management	Computer Information Systems
Land and property development management	Economy
Land surveying	Environmental Science
Quantity surveying	Geology
Urban and Regional Planning	Geography
	Public Administration
	Sociology
OR	
An equivalent qualification to a NQF level 7[#]	

[#]SAQA certificate must accompany the qualification

(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.

Reg. D32 – Selection requirements

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

(b) A candidate must have an average of at least 60% in previous qualifications to be considered for selection.

(c) Language skills in language medium that students want to do the programme (English or Afrikaans) will be tested as part of selection. An acceptable module in the use of 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 should he/she not comply with the required standard.

(d) A test for computer literacy may be conducted. If the student does not comply with the standard as determined by the Head of the Department, he/she has to take and pass a computer skills module at the students own cost.

Reg. D33 – Outcome of the program

After completing the BHonsSp-programme, the graduates will possess the following skills:

- A thorough knowledge of the nature and goal of Urban and Regional planning as well as planning theory, philosophy and ethics.
- The ability to practically apply theory in urban planning projects e.g. spatial frameworks and development and layout plans. The capacity to analyse issues from a theoretical and/or empirical perspective and to recommend suitable alternatives.
- The capacity to communicate clearly and logically, write good planning and research reports and debate these with stakeholders.

Reg. D34 – Curriculum

(a) Regular curriculum

- The composition of the student's curriculum and optional courses will be determined at the beginning of each year in consultation with the Head of the Department.
- A minimum of 144 credits must be presented for the BHonsSp programme.
- The 144 credits are composed as follows:

Compulsory (Fundamental and Core) Modules (112 credits)

	CREDITS	MODULES YEAR
Theory of urban planning	**20**	**BTR605** General lecturers, seminars, assignments, etc.
Practice of urban planning (16 credits)	**32**	**GSP604** General lecturers, seminars, assignments, etc.
Computer use for planners (16 credits)		**GCP604** Component 1: Use of CAD and GIS. General lecturers, seminars, assignments, etc. Component 2: Practical application in site and township layouts
Research in regional planning theory	**24**	**ATS691**General lecturers, seminars, assignments, research project, etc.
Urban development theory	**16**	**UDT604** General lecturers, seminars, assignments, etc.
Applied economics research for planners	**20**	**EVB691** General lecturers, seminars, assignments, research project, etc.

Further Core learning (research) (32 credits)

	CREDITS	MODULES SEMESTER First semester	Second semester
Environmental Planning	**16**	**BGO614** General lecturers, seminars, assignments, etc.	
Promotion modules:			
Housing for Planners	**8**		**BEH612**
Cultural Consciousness for Planners	**8**		**ATB612** General lecturers, seminars, assignments, etc.

(b) Supplementary studies (additional 64 credits)

Students that need supplementary studies can do the following modules:

			Credits
National diplomas	Land Administration	GAD504	16
	Land Administration	GAD604	16
	Introduction to Creative Innovation	KIB614	16
	Introduction to Futurology	TVB614	16
Non-applicable degrees	Civilization Development	BOB614	16
	Land Administration	GAD104	16
	Land Administration	GAD204	16
	Urbanization	VMB614	16

Reg. D35 – Transitional Regulations

(a) All students who registered before 2012: Follow the programme set out in the 2011 yearbooks.
(b) If a student presents BSP602 and GSP622, BCP602 and GCP622, exemption will be granted for GSP604 and GCP604.
(c) If a student presents BRT614 and ATS624, exemption will be granted for ATS608.

Reg. D36 – Pass requirements

In addition to the requirements as set out in the general regulations and the study guides, the following shall also apply:

(i) Refer to study guide for assessment method and calculation.
(ii) For selected modules, as determined by the Head of the Department, a student can be promoted with a semester mark of 65% and thus be exempted from examination in those modules.
(iii) The degree is awarded to a student who obtains a minimum of 144 credits in the programme.
(iv) The degree is awarded with distinction if an average of 75% is obtained in modules ATS691, GSP604, BTR605, UDT604, EVB691 and if the degree is completed in the prescribed minimum study years.

MASTER'S DEGREE IN URBAN AND REGIONAL PLANNING (Professional)	**M.U.R.P.**
Study code 4762	**200 credits (NQF level 9)**

Programme in Urban and Regional Planning: Residential and Compact Learning

Reg. D59 Duration and organization of program

Full Time	Twelve (12) months
Part Time	Eighteen (18) months
Compact learning (Block modules)	Eighteen (18) months, Four (4) workshop weeks per year

(a) To obtain the Master's degree in Urban and Regional Planning 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 programmes (Full time, Part time and Compact Learning). The modules may be spread over an additional year if a student does not have the necessary academic background.
(b) Compact learning students must attend compulsory workshop weeks at the department for the duration of the program at times as determined by the Head of Department. During these workshop lectures, tutorials, practicals and discussions will take place. Assignments will be done and tests and examinations will also be written.
(c) The second year will be dedicated to the extended research essay.

Clarifying information

The programme results in the awarding of a Master's Degree in Urban and Regional Planning, which is recognized by the South African Council for Urban and Regional Planners (SACPLAN).

Reg. D60 – Entrance requirements

(a) A person may be admitted to the aforementioned program in Urban and Regional Planning if he/she is in possession of one of the following qualifications and has the necessary academic background:

	Conditions
Baccalaureus Honours in Urban and Regional Planning	
A degree similar to a Baccalaureus Honours in Urban and Regional Planning	Missing modules for the Baccalaureus Honours in Spatial Planning must be completed
Baccalaureus in Land and Property Development Management	Missing modules for the Baccalaureus Honours in Spatial Planning must be completed

.
(b) A candidate must have an average of at least 60% for previous qualifications to be considered for selection.
(c) 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.
(d) 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 if a student does not entirely meet the admission requirements.

Reg. D61 – Selection requirements

(a) A person in possession of one of the abovementioned qualifications will not automatically be accepted for the programme. Selection takes place and the Head of the Department could require a written motivation or personal interview.
(b) Language skills in language medium that students want to do the programme (English or Afrikaans) may be tested. An acceptable module in the use of 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 should he/she not comply with the required standard before the dissertation can be started.
(c) A test for computer literacy will be conducted. If the student does not comply with the standards, as determined by the Head of the Department, he/she has to take and pass a computer skills module at the students own cost during the first year.

Reg. D62 – Outcome of the program

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 goal of Urban and Regional Planning as well as Planning Theory, Philosophy and Ethics.
- The capacity to complete practical urban and regional planning projects including spatial frameworks, development plans and layouts.
- The capacity to analyse issues from a theoretical and/or empirical perspective and to recommend suitable alternatives.
- The capacity to communicate clearly and logically, write good planning and research reports and debate these with stakeholders.
- The ability to critically evaluate information and theories and to apply relevant concepts from different disciplines in innovative approaches to planning issues.

Clarifying information

After sufficient practical training the graduate will be able to register as Urban and Regional Planner at the South African Council for Urban and Regional Planners (SACPLAN). Even though the program is not internationally accredited as such, graduates from this department are working in the U.K. Ireland, U.S.A., Canada, Australia and New Zealand.

Reg. D63 - Curriculum

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

Compulsory major modules	168 credits	
Semester modules	64 credits	According to their needs and background

Compulsory (Fundamental and Core) Modules (168 credits)

Module	Semester	Description	Module type	Credits
GTR793	Year module	Advanced Research in Urban Planning	Core	16
TSP793	Year module	Applied Regional Planning Programme	Core	24
SBF793	Year module	Urban research project	Core	24
GIB704	Year module	Geographic Information System for Planners	Fundamental	16
SSS793	Year module	Extended research essay or publishable article	Core	64
BMK793	1st Semester	Research investigation	Core	16
BNA712	1st Semester	Research proposal	Core	8

Elective Modules (Promotional modules) (64 credits)

Any elective modules as determined by the Head of Department
NB. Not all elective modules are available each year.

Code	Semester*	Description	Credits
BEH752	1st or 2nd	Housing	8
BGM752	1st or 2nd	Urbanization and Metropolitan Planning	8
BGR752	1st or 2nd	Planning law	8
BVG752	1st or 2nd	Planning for sustainable communities	8
CSB752	1st or 2nd	*Capita selecta* in planning 1	8
CSB762	1st or 2nd	*Capita selecta* in planning 2	8
CSB702	Year module	*Capita selecta* in planning 3	8
CSB704	Year module	*Capita selecta* in planning 4	16
DGP752	1st or 2nd	Demography for planning	8
ENB752	1st or 2nd	Property development & Valuation	8
GBE752	1st or 2nd	Geography for planners	8
GND752	1st or 2nd	Gender in Planning	8
GOB752	1st or 2nd	Integrated Development Planning	8
IHB752	1st or 2nd	Indigenous Knowledge for Planners	8
KIB752	1st or 2nd	Creative innovation for planning	8
LGB752	1st or 2nd	Planning of Rural Areas	8
PPB752	1st or 2nd	Project management	8
RBT752	1st or 2nd	Planning for tourism	8
RPB752	1st or 2nd	Professional practice	8
SOB752	1st or 2nd	Sociology for planners	8
STO752	1st or 2nd	Urban design	8
TVB752	1st or 2nd	Futurology for planners	8
VVB752	1st or 2nd	Transportation planning	8

* Module can be presented during the first or second semester depending on availability of lecturers.

Clarifying information
Exemption for GIB704: Students will be tested for skills in GIS in order to be exempted from the module.

Reg. D64 – Transitional Regulations

All students who registered before 2012: Follow the programme set out in 2011 yearbook.

Reg. D65 – Pass requirements

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

(i) Refer to study guide for assessment method and calculation.
(ii) For modules presented by other departments, e.g. SOB752 *inter alia,* a moderator will be appointed from the Department of Urban and Regional Planning.

(iii) For elective modules, as determined by the Head of the Department, a student can be promoted with a semester mark of 65% and thus be exempted from examination in those modules
(iv) For the module SSS793 an extended research essay or article is required and an external examiner will be appointed for the evaluation. The article must have been accepted as a scientific article or be considered publishable by the examiners in an accredited journal, in order to serve as an alternative for the extended research essay.
(v) The degree is awarded to a student who obtains a minimum of 200 credits in the programme.
(vi) The degree is awarded with distinction to a student who obtained an average of 75% in modules SSS793, GTR793, TSP793 and SBF793, and if the programme was completed in the prescribed minimum study years.

MASTER'S DEGREE IN LAND AND PROPERTY DEVELOPMENT MANAGEMENT (HOUSING)
HOUSING (Research) M.Housing
Study code 4763 **180 credits (NQF level 9)**

This programme culminates in the obtaining of the Master's degree in Housing (Research).

Students in possession of a Baccalaureus Honours in Housing may obtain the Magister in Housing:
(i) by writing a dissertation (HSS700) or
(ii) through the publication of an article in an appropriate accredited journal. The article must be accepted by an accredited journal as a scientific article before it will be accepted as an alternative to the dissertation.

Clarifying information
Supplementary studies as determined by the Head of Department may be required.

Reg. 66 – Pass requirements

The general regulations will apply.

MASTER'S DEGREE IN URBAN AND REGIONAL PLANNING (Research) **M.U.R.P.**
Study code 4764 **180 credits (NQF level 9)**

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 in Urban and Regional Planning or a Honours degree in Urban and Regional Planning or an acceptable alternative qualification (equivalent to NQF level 8) may obtain the M.U.R.P. degree by:
(i) writing a dissertation (SSS700) or
(ii) through the publication (or acceptance for publication) of an article in an accredited journal. The article must be accepted by an accredited journal as a scientific article before it will be accepted as an alternative to the script.

Clarifying information
Supplementary studies, as determined on an individual basis by the Head of the Department, may be required.

Reg. 67 – Pass requirements

The general regulations will apply.

URBAN AND REGIONAL PLANNING

PHILOSOPHIAE DOCTOR	**Study Code 4920**
PhD	**240 credits (NQF level 10)**

The degree of Philosophiae Doctor is conferred in Urban and Regional Planning (SSS900).

Reg. D68 – Admission Requirements

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

Reg. D69 – Pass Requirements

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

Module Content

Urban and Regional Planning

Note: Study codes 4763 and 4764 are research based and no syllabuses are applicable.

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

Baccalaureus Honours in Spatial Planning (4543)
Major (fundamental and core) modules

ATS691 (24 credits)
A minimum of 16 hours contact time in lectures and discussions, seminars, simulations and field trips, Continuous evaluation: assignments, essays and tests. Purpose of regional planning, Classic theories of regional development, Development paradigms and the implications for regional planning, Urban- rural relationships, Globalisation and connectivity, Competitiveness and high technology, Regional development strategies, Sustainable development, Regional systems, Trans-national planning, Regional spatial planning. After completion of the module: Knowledge and application of regional development theory, Understand the relationship between regional, national and global development and to evaluate how philosophical and theoretical values influence it, Creative problem-solving individually and in a group, Ability to conduct research on regional development concepts and strategies, Effective communication of concepts and proposals using a diverse range of media.

ATS624 – Advanced Theory of Regional Planning (16 credits) (For recognition purposes only)
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 should 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.

BTR605 – Basic Theory of Urban planning (20 credits)
A minimum of 16 hours contact time in lectures and discussions. Continuous evaluation: assignments, essays and tests. Values in planning, Ethics and planning, Development of planning thought, Community participation in planning, Who benefits from planning?, Systems thinking, Value of planning theory.
After completion of the module:
Identify and debate the role of values and norms in planning, Know the main moral theories and concepts applicable to urban and regional planning, Appreciate the types of ethical dilemmas facing planners and the profession, Apply the guidelines for ethical behaviour and planning practice , Assess the changing approach towards urban and regional planning in practice and thought, Assess the implications of various paradigms on planning theory, Evaluate approaches and apply planning theory in practice, Be able to critically examine planning theory literature and communicate the analysis in various forms.

EVB614 – Economics and entrepreneurship (16 credits) (For recognition purposes only)
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, macroeconomics, 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.

GCP604 – Computer Use for Planners (16 credits)
General lectures, seminars, practicals, field work. Tests, assignments and exams. Practical use of ArchiCAD. After completion of the module: Practical use of CAD, Virtual design of township layouts.

GCP622 – Advanced Computer Use for Planners (8 credits) (For recognition purposes only)
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.

GSP604 – Practice of Urban Planning (16 credits)
Lectures and practical classes. Practical and oral examination. Introduction to planning practice.
Land use surveys, cadastral information, Site evaluation and design, Layout planning ,Preparation and evaluation of applications, Practical projects and fieldwork (land use and zoning) related to the theory of urban planning. After completion of the module: Understand and apply urban planning principles, standards and techniques, Undertake site evaluation and do site design, and layouts, Prepare and evaluate land development applications.

GSP622 – Advanced Urban Planning Practice (8 credits) (For recognition purposes only)
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

UDT604 – Urban Development Theory (16 credits)
16 hours in lectures, seminars and practicals. Assignments, tests and an examination. The structure of the modern city, Residential component of the city, The productive city (retail, office and manufacturing), The connected city, The African City – past and present. After completion of the module: Understanding of the function of urban areas, Ability to evaluate the impact of policy decisions on the structure and function of the city, Ability to plan for urban development at various scales.

Further core learning (research)

ATB612 – Anthropology for Planners (8 Credits)
A minimum of 8 hours contact time in lectures and discussions. Assignments and a test. Different worldviews, cultures and traditions, Indigenous knowledge, Different priorities and customs. After completion of the module: Appreciation of different customs and worldviews, Understanding of indigenous knowledge, Respect for different traditions.

BEH612 – Housing for Planners (8 credits)
A minimum of 8 hours contact time in lectures and discussions. Assignments, tests and a written exam. Course overview, Housing legislation, Housing theory, Housing programmes and practice, the implementation of housing projects. After completion of the module: be able to transform housing needs to spatial needs, be able to develop a Housing Chapter of an IDP, be able to work in teams.

BGO614 – Environmental Planning (16 credits)
A minimum of 16 hours contact time in lectures discussions and presentations. Assignments, tests and a written exam. Environmental awareness, Sustainable development, Planning with the environment, Sustainable planning, Environmental impact assessment.
After the successful completion of the module the student should have an:

- Understanding of the interaction between development and the environment
- The ability to plan for sustainable development.
- The ability to evaluate development proposals regarding the impact on the environment

Supplementary studies (additional 64 credits)

BOB614 – Civilization Development (16 credits)
12 x 1 hour. Continuous evaluation. The history of urban development from the dawn of civilizations to modern cities; how the culture and values of civilizations influences the location and form of settlements. After completion of the module: Be able to recognize the influences of civilizations on settlements, Be able to analyse the effects of beliefs, values and environment on the location and form of settlements, Understand the relationships between cultures and human settlements.

GAD104 – Land administration (16 credits)
16 x 1 hour. Continuous evaluation. Map-work, Understanding the earth environment, Sustainable settlements, SA developmental , Principles and processes of property development, Site evaluation. After completion of the module: Be able to read and interpret a map, Understand the influence of the atmosphere and the earth on our lives, Know the history behind property development in South Africa Understand basic concepts relating to property, Be able to evaluate a site for development potential.

GAD204 – Land administration (16 credits)
16 x 1 hour. Continuous evaluation. History of national planning, National development legislation, SA land tenure and property registration, Principles of sustainable development. After completion of the module: Have a clear understanding of national planning policies and legislation affecting land and development, Know how South African land tenure and registration processes function. Understand and apply the concepts of sustainable development in land and property development.

GAD504 – Land administration (16 credits)
6 x 2 hour. Continuous evaluation. Worldviews and how they influence city building.
The rise of urban settlements, Visions of utopia – past and future. After completion the module: Have a thorough knowledge and understanding of the origin of cities, Be able to analyse and compare historical concepts of the ideal city in relation to prevalent worldviews, Be able to analyse motives, worldviews and various forms of power (religious, economic and security/ supremacy) that have influenced city building, Be able to develop scenarios or a model for an ideal city of the future, Be able to source academic literature in the form of books and journal articles, Be able to communicate ideas through class debates, oral presentations and written assignments.

GAD604 – Land administration (16 credits)
6 x 2 hour. Continuous evaluation. Introduction to systems, engaging with systems Complex adaptive systems and planning. After completion of the module: Be able to describe and compare the concepts and characteristics of simple and complex systems, deterministic chaos and complex adaptive systems, Be able to describe and map a system, Comprehend the complexity of systems in urban and regional planning, Be able to use a systems approach to discuss and analyse systemic problems, particularly those relating to urban and regional planning.

KIB614 – Introduction to Creative Innovation (16 credits)
12 x 1 hour. Continuous evaluation. Introduction to creativity, How to generate new ideas, Using multiple viewpoints to reach new perspectives on issues, Application of the techniques to problem solving. After completion of the module: Be able to use various techniques to generate innovative ideas, apply multiple perspectives to solving a problem, Explore unusual solutions and approaches to problems.

TVB614 – Introduction to Futurology (16 credits)
12 x 1 hour. Continuous evaluation. Future thinking, Scenario building. After completion of the module: Understand the factors that influence future planning. Creatively explore possible futures, Develop scenarios for the future based on current trends and possible events and technologies.

VMB614 – Urbanization (16 credits)
Workshops, lectures, presentation. Continuous evaluation, tests, assignments, presentation. Theory relating to urbanisation, Policy and implementation of projects, Case studies. After completion of the module: Be able to understand strategic planning in urbanization projects, Be able to have an understanding of the collaboration between the physical urban environment and the functions of the city.

CSB614/624 – *Capita Selecta* in Planning (16 credits) (For recognition purposes only)
Further research in any M.U.R.P. subject already taken, or complementary work.

BRT614 – Basic Theory of Regional Planning (16 credits) (For recognition purposes only)
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 should 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.

BET614 –Planning Ethics (16 credits) (For recognition purposes only)
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.

Master's Degree in Urban and Regional Planning (Professional) (4762)
Major (fundamental and core) modules

BMK793 – Planning Methodology (16 credits)
At least 8 hours and seminars. Continuous evaluation.
After the successful completion of the module: Prepare a literature study, Prepare and conduct surveys, Evaluate research results.

BNA712 – Planning Research (8 credits)
At least 8 hours of lectures. Continuous evaluation. Research methodologies.
After the successful completion of the module: ability to prepare a research proposal

GIB704 – Geographic Information Systems for Planners (16 credits)
At least 12 hours of lectures and practicals. Continuous evaluation. After completion of the module: The application of Geographical Information Systems (GIS) technologies in preparing maps and plans, undertaking spatial analysis.

GTR793 – Advanced Research in urban planning (16 credits)
Lectures and seminar classes as determined by the head of the department. Seminars and oral examination. Theory of planning, Modernist and post-modernist perspectives. Students are expected to evaluate advanced theoretical and philosophical approaches and hold seminars.
After the successful completion of the module: Evaluate and apply the knowledge of the most important theoretical and philosophical trends in planning. Develop and defend arguments regarding the nature of planning practice.

SBF793 – Strategic spatial planning and financial management (8 credits)
At least 16 hours in lectures and practicals. Project and examination.

SSS793 – Research essay or scientific article (64 credits)
Contact as per agreement between student and study supervisor. After completion of the module: The ability to conduct independent research.

SSS791 – Extended research essay or publishable article (88 credits)
Contact as per agreement between student and study supervisor. Independent research on planning. After completion of the module: The ability to conduct independent research

TSP792 – Applied Regional Planning Project (24 credits)
At least 16 hours in lectures and field trips. Seminars, assignments and oral exams. Regional development theory and policy, Regional development research. After the successful completion of the module:

- Accessing of impacts, risks and advantages of development proposals, including analysing 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.
- Creative and innovative identification, assessment and formulation of regional planning problems.
- Compilation of a regional planning project framework.

TSP793 – Applied Regional Planning Programme (24 credits)
At least 16 hours in lectures and field trips. Seminars, assignments, oral exams. Regional development theory and policy, Regional development research. After completion of the module:
Creative and innovative identification, assessment and formulation of regional planning problems.
Compilation of a regional planning project framework. Access impacts, risks and advantages of development proposals, including analysing 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, Apply the necessary techniques to plan and undertake a regional planning project and to be able to explain how it should be executed it.

Elective modules (Promotional modules (64 credits)

BEH614/712/752 – Housing (8 credits)
At least 8x 1 hour lectures. Assignments and a test. The role of housing in development, Housing policy, 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:

- Understanding of the role of housing in settlements
- Knowledge of housing policies and their implications for development
- 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

BGM712/752 – 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 should:

- 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

BGR712/752 – 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 should:

- Know the basis of planning and development legislation
- Understand the relationship between the various rights in the constitution, land development and administrative justice
- Understand the origins of the South African legal systems regarding land registration, tenure and land use management
- Have an overview of key pieces of South African town planning legislation and be able to apply these principles in solving development problems

BVG712/752 – 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 should 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.

CSB702/762 – *Capita Selecta* in Planning (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 should 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 (16 credits)
Extended assignment or essay. Further research in any M.U.R.P. subject already taken, or complementary work.

DGP752 – Demography for planning (8 credits)
Lectures and seminar classes as determined by the head of the department. Test if not promoted. After completion of the module: To determine factors which leads to changes in the population; to determine the influence population changes have on development. To create and analyse population predictions.

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 completion of the module: 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.

GBE712/752 – 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.
After completion of the module: Understanding of the function of urban areas, Knowledge of urban morphology , Appreciation of the economic role different parts of the city have in the effective function of cities, Ability to evaluate the impact of policy decisions on the structure and function of the city.

GND752 – Gender in Planning (8 credits)
Lectures and seminar classes as determined by the head of the department.

GOB712/752 – Integrated Development planning (8 credits)
The principles of the Integrated Development Planning (IDP) process, Strategic planning processes, Development paradigms and implications for planning.
After successful completion of this module students will be able to: Critically evaluate statutory strategic planning processes in South Africa and internationally, Know and apply strategic planning methods, techniques and tools, Be able to prepare a strategic plan, Be able to critically evaluate a strategic plan.

IHB752 – Indigenous Knowledge for Planners (8 credits)
Lectures and seminar classes as determined by the head of the department.

KIB752 – Creative Innovation for Planning (8 credits)
Lectures and seminar classes as determined by the head of the department. Continuous evaluation. Introduction to creativity, How to generate new ideas, Using multiple viewpoints to reach new perspectives on issues, Application of the techniques to problem solving. Be able to use various techniques to generate innovative ideas, Apply multiple perspectives to solving a problem, Explore unusual solutions and approaches to problems.

LGB712/752 – Planning of Rural Areas (8 credits)
Lectures and seminar classes as determined by the head of the department. Description of rural area. Planning without loss of character. Conservation and development of rural areas. After completion of the module: To understand rural development theory and apply it in rural areas. To develop a rural development strategy, Ability to critically evaluate the rural development policy.

PPB712/752 – Professional Practice and Project Management (8 credits)
Lectures and seminar classes as determined by the head of the department. 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.

RBT712/752 – 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.

RPB712/752 – 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.

SOB712/752 – 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.

STO712/752 – 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 should 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.

TVB712/752 – 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 should be able to:
- Show thorough knowledge of the main factors that influence future planning.
- Make projections and built future scenarios.

VVB712/752 – 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.

BCP712 – Basic Computer Use for Planners (8 credits) (For recognition purposes)
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.

GCP722 – Advanced Computer Use for Planners (8 credits) (For recognition purposes only)
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 – Advanced Urban Planning Practice (8 credits) (For recognition purposes only)
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 – Basic Theory of Regional Planning (16 credits) (For recognition purposes only)
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 should 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 – Advanced Theory of Regional Planning (16 credits) (For recognition purposes only)
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 should 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) (For recognition purposes only)
Lectures and practical as determined by the chairperson 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 should:

- Have the knowledge to evaluate and apply the most important theoretical 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.

BET714 – Planning Ethics (16 credits) (For recognition purposes only)
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 – Environmental Planning (16 credits) (For recognition purposes only)
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 give 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.

EVB714 – Economics and entrepreneurship (16 credits) (For recognition purposes only)
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, macroeconomics, 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.

OEB712/752 – Development Economics (8 credits) (For recognition purposes only)
Lectures and practical as determent by the chairperson of the department to co-ordinate with research of the department. The chairperson 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 should:

- 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.

OGG704 – Development planning (16 credits) (For recognition purposes only)
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 with community participation.

OGG712/752 – Development planning (8 credits) (For recognition purposes only)
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 worldwide. Application of the above-mentioned methods in the unique South African context. Case Studies.
After the successful completion of the module students should:

- 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.

PDF712/752 – Public participation and facilitation (8 credits) (For recognition purposes only)
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