

# University of Pretoria Yearbook 2016

## BSc: Quantity Surveying (3Yrs) Quantity Surveying (12132013)

**Duration of study** 3 years

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### Programme information

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

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

The examinations for the BScHons degree in Quantity Surveying are approved by the Minister as prescribed examinations in terms of the stipulations of the Quantity Surveying Profession Act (Act No. 49/2000), as well as by the Royal Institution of Chartered Surveyors.

### Admission requirements

- In order to register NSC/IEB/Cambridge candidates must comply with the minimum requirements for degree studies as well as with the minimum requirements for the relevant study programme.
- Life Orientation is excluded when calculating the APS.
- Grade 11 results are used in the provisional admission of prospective students.
- A valid National Senior Certificate (NSC) with admission to degree studies is required.
- Minimum subject and achievement requirements, as set out below, are required. On first-year level a student has a choice between Afrikaans and English as language medium. In certain cases, tuition may be presented in English only, for example in electives, where the lecturer may not speak Afrikaans or in cases where it is not economically or practically viable.
- Provisional admission to the four-year programme in the School of Engineering is only guaranteed if a prospective student complies with ALL the requirements below.

#### Note



Candidates who do not comply with the minimum requirements, set out above, but who have obtained a minimum APS of 30, an achievement level of 5 for English or Afrikaans, 6 for Mathematics and 5 for Physical Science, will be considered for provisional admission to either the four-year programme or the ENGAGE programme based on the results of the compulsory NBT.

Admission to ENGAGE in the School of Engineering will be determined by the results of the NBT, NSC results, an achievement level of 5 in Mathematics and 4 in Physical Science, as well as an achievement level of 4 in Afrikaans or English, together with an APS of 25.

Students may apply directly to be considered for the ENGAGE programme.

Minimum requirements for 2016												
Achievement level												
Afrikaans or English				Mathematics				Physical Sciences				APS
NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	NSC/IEB	HIGCSE	AS-Level	A-Level	
5	3	C	C	5	3	C	C	or Accounting 4	or Accounting 3	or Accounting D	or Accounting D	30

## Other programme-specific information

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

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

## Promotion to next study year

### i. Promotion to the second semester of the first year and to the second year of study

- A newly registered first-year student who failed all the prescribed modules for the programme at the end of the first semester shall not be readmitted to the School for the Built Environment in the second semester.
- A student who complies with all the requirements of the first year of study, or has at least obtained 110 credits, is promoted to the second year of study.
- A student who has not obtained at least 70% of the credits of the first year of study after the November examinations must reapply for admission should he/she intend to continue with his/her studies. Written application must be submitted to the student administration of the School for the Built Environment no later than 12 January. Late applications will be accepted only in exceptional circumstances after approval by the Dean and conditions of readmission as determined by the admissions committee shall apply should first-year students be readmitted.
- Students who have not passed all the prescribed modules of the first year of study, as well as students who are readmitted in terms of (c) must register for the outstanding modules of the first year.
- A student who is repeating his/her first year, may, on recommendation of the relevant head of department and with the approval of the Dean, be permitted to enrol for modules of the second year of study in addition to the first-year modules which he or she failed, providing that he or she complies with the prerequisites for the second-year modules and that no timetable clashes occur. The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.

## ii. Promotion to the third year of study

- a. A student who complies with all the requirements of the second year of study, or has at least obtained 230 credits, is promoted to the third year of study.
- b. The Dean may, on the recommendation of the Head of Department, allow a student, who qualifies for promotion to a subsequent year of study, but who has not passed all the modules of that year, to carry over those modules to the next or a later year.
- c. The number of credits per semester for which a student registers may not exceed the prescribed number of credits per semester by more than 16 credits.
- d. A student who complies with all the requirements for the degree with the exception of one year module or two semester modules, in which a final mark of at least 40% has been obtained, may be admitted to a special examination in the module(s) concerned, at the start of the ensuing semester.
- e. (e) On the recommendation of the Head of Department, the Dean may in exceptional circumstances deviate from the abovementioned stipulations, provided that no timetable clashes occur.

## Pass with distinction

The degree is conferred with distinction on a student:

- i. if no module of the second and third study year was repeated and a weighted average of at least 75% was obtained in one year in all the modules (excluding JCP 201), of the final study year;
- ii. the degree programme was completed within the prescribed three study years, and the final study year modules were passed on first registration without any supplementary or special examinations.

## Curriculum: Year 1

Minimum credits: 137

### Fundamental modules

#### Academic information management 101 (AIM 101)

**Module credits** 6.00

**Service modules**

Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Economic and Management Sciences  
Faculty of Humanities  
Faculty of Law  
Faculty of Health Sciences  
Faculty of Natural and Agricultural Sciences  
Faculty of Theology  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Information Science

**Period of presentation** Semester 1

**Module content**

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

#### Academic literacy for Construction Economics 122 (ALL 122)

**Module credits** 6.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week, 1 web-based period per week

**Language of tuition** English

**Academic organisation** Unit for Academic Literacy

**Period of presentation** Semester 1

**Module content**

By the end of this module students should be able to cope more confidently and competently with the reading, writing and critical thinking demands that are characteristic of the field of Construction Economics.

## Academic orientation 112 (UPO 112)

<b>Module credits</b>	0.00
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	EBIT Dean's Office
<b>Period of presentation</b>	Year

## Core modules

### Building organisation 121 (BGG 121)

<b>Module credits</b>	3.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

#### Module content

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

### Building drawings 111 (BOU 111)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 1 lecture per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

#### Module content

Students are introduced to design aspects in the built environment by doing basic technical drawings of simple building structures with appropriate detail sketches. Assignments during the semester expose the students to building plan interpretation through the following topics: foundations; super-structure; roof structure; window and door types; plan and sectional drawings and local authority submission criteria.

### Building drawings 121 (BOU 121)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 1 lecture per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Construction Economics

**Period of presentation** Semester 2

**Module content**

Broadens the vocabulary of the technical language from BOU 111. Students are introduced to other aspects of the building industry that include the following topics: topography; symbols; ergonomic design principles; orientation of buildings; perspective drawings; waterproofing and dampcourse applications.

**Building science 110 (BWT 110)**

**Module credits** 9.00

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Construction Economics

**Period of presentation** Semester 1

**Module content**

Principles, methods and materials used in best practice in the construction of simple single-storey buildings up to wall plate height.

**Building science 120 (BWT 120)**

**Module credits** 9.00

**Prerequisites** BWT 110 GS

**Contact time** 3 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Construction Economics

**Period of presentation** Semester 2

**Module content**

Principles, methods and materials used in best practice in the construction of simple single-storey buildings from wall plate height to completion including finishes and external work. Introduction to alternative practices and materials for sustainability.

**Economics 110 (EKN 110)**

**Module credits** 10.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week, 1 discussion class per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Economics

**Period of presentation** Semester 1

### Module content

This module deals with the core principles of economics. A distinction between macroeconomics and microeconomics is made. A discussion of the market system and circular flow of goods, services and money is followed by a section dealing with microeconomic principles, including demand and supply analysis, consumer behaviour and utility maximisation, production and the costs thereof, and the different market models and firm behaviour. Labour market institutions and issues, wage determination, as well as income inequality and poverty are also addressed. A section of money, banking, interest rates and monetary policy concludes the course.

## Economics 120 (EKN 120)

**Module credits** 10.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** EKN 110 GS or EKN 113 GS and at least 4 (50-59%) in Mathematics in the Grade 12 examination or 60% in STK 113 and concurrently registered for STK 123

**Contact time** 2 lectures per week, 1 discussion class per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Economics

**Period of presentation** Semester 2

### Module content

This module deals with the core principles of economics, especially macroeconomic measurement the private and public sectors of the South African economy receive attention, while basic macroeconomic relationships and the measurement of domestic output and national income are discussed. Aggregate demand and supply analysis stands core to this course which is also used to introduce students to the analysis of economic growth, unemployment and inflation. The microeconomics of government is addressed in a separate section, followed by a section on international economics, focusing on international trade, exchange rates and the balance of payments. The economics of developing countries and South Africa in the global economy conclude the course.

## Building services 112 (GBD 112)

**Module credits** 6.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Construction Economics

**Period of presentation** Semester 1

### Module content

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

## Building services 122 (GBD 122)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

### Module content

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

## Quantities 101 (HVH 101)

<b>Module credits</b>	24.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 3 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Year

### Module content

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

## History of the environment 122 (OMG 122)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Architecture
<b>Period of presentation</b>	Semester 2



## Module content

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

## Introduction to structures 110 (SKE 110)

**Module credits** 9.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week, 1 discussion class per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Civil Eng

**Period of presentation** Semester 1

## Module content

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

## Structures 120 (SKE 120)

**Module credits** 9.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology

**Prerequisites** SKE 110 GS

**Contact time** 1 tutorial per week, 2 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Civil Eng

**Period of presentation** Semester 2

## Module content

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

## Precalculus 133 (WTW 133)

**Module credits** 8.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Economic and Management Sciences  
Faculty of Health Sciences

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<b>Prerequisites</b>	BSc and BCom students: At least 3 (40-49%) in Mathematics in the Grade 12 examination and must be taken concurrently with WTW133
<b>Contact time</b>	3 lectures per week, Foundation Course, MAMELODI, 1 practical per week
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Mathematics and Applied Maths
<b>Period of presentation</b>	Semester 1

### Module content

Real numbers, elementary set notation, exponents and radicals. Algebraic expressions, fractional expressions, linear and quadratic equations, inequalities. Coordinate geometry: lines, circles. Functions: definition, notation, piecewise defined functions, domain and range, graphs, transformations of functions, symmetry, even and odd functions, combining functions, one-to-one functions and inverses, polynomial functions and zeros.

Sequences, summation notation, arithmetic, geometric sequences, infinite geometric series, annuities and instalments. Degrees and radians, unit circle, trigonometric functions, fundamental identities, trigonometric graphs, trigonometric identities, double-angle, half-angle formulae, trigonometric equations, applications.

This module is only offered in English at the Mamelodi Campus for the BSc Extended programme. At the Hatfield and Groenkloof campuses it is offered in English and Afrikaans.

## Curriculum: Year 2

Minimum credits: 130

### Core modules

#### Building science 210 (BWT 210)

<b>Module credits</b>	9.00
<b>Prerequisites</b>	BWT 110 GS and BWT 120 GS
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

##### Module content

Erection and construction of multi-storey buildings, including site management and temporary site work, building equipment and earthwork machinery, specialised foundations, bulk excavations and advanced concrete construction, including retaining walls. Timber and steel structures as construction methods.

#### Building science 220 (BWT 220)

<b>Module credits</b>	9.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

##### Module content

Material study of metals and advanced materials. Study and development of sensitivity for and the philosophy of industrial safety, accident prevention and total loss control safety risk management in the construction industry.

#### Financial management 110 (FBS 110)

<b>Module credits</b>	10.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Financial Management
<b>Period of presentation</b>	Semester 1

## Module content

\*Only for BSc (Mathematical Statistics, Construction Management, Real Estate and Quantity Surveying) and BEng (Industrial Engineering) students.

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

## Financial management 120 (FBS 120)

**Module credits** 10.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Natural and Agricultural Sciences

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** English

**Academic organisation** Financial Management

**Period of presentation** Semester 2

## Module content

\*Only for BSc (Mathematical Statistics, Construction Management, Real Estate and Quantity Surveying) students. Analysis of financial statements. Budgeting and budgetary control. Tax principles and normal income tax for individuals. Time value of money and its use for financial and investment decisions. Calculating the cost of capital and the financing of a business to maintain the optimal capital structure. Capital investment decisions and a study of the financial selection criteria in the evaluation of capital investment projects. The dividend decision and an overview of financial risk management.

## Building services 211 (GBD 211)

**Module credits** 6.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Double Medium

**Academic organisation** Construction Economics

**Period of presentation** Semester 1

## Module content

Introduction to the principles of indoor comfort. Heating, ventilation and air-conditioning systems. Installation and operation of lifts and other mechanical services. Fire detection and protection.



## Quantities 200 (HVH 200)

<b>Module credits</b>	24.00
<b>Prerequisites</b>	BWT 110 GS, BWT 120 GS and HVH 101
<b>Contact time</b>	3 lectures per week, 1 practical per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Year

### Module content

Measuring of simple buildings and simple building elements, and external works. Abstracting and billing.

## History of the environment 224 (OMG 224)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Architecture
<b>Period of presentation</b>	Semester 2

### Module content

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

## Reinforced concrete structures 210 (SKE 210)

<b>Module credits</b>	9.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	SKE 120 GS
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Civil Eng
<b>Period of presentation</b>	Semester 1

### Module content

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

## Civil engineering services 220 (SKE 220)

<b>Module credits</b>	9.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Civil Eng

**Period of presentation** Semester 2

**Module content**

Water reticulation; sewerage reticulation; stormwater reticulation; roads.

## Statistics 110 (STK 110)

**Module credits** 13.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Education  
Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** At least 5 (60-69%) in Mathematics in the Grade 12 examination. Candidates who do not qualify for STK 110 must register for STK 113 and STK 123

**Contact time** 1 tutorial per week, 1 practical per week, 3 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Statistics

**Period of presentation** Semester 1

**Module content**

Descriptive statistics:

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

Probability and inference:

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

## Statistics 161 (STK 161)

**Module credits** 6.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Natural and Agricultural Sciences

**Prerequisites** STK 110 GS or both STK 113 GS and STK 123 GS

**Contact time** 1 practical per week, 3 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Statistics

**Period of presentation** Quarter 3

### Module content

\*Offered by the Department of Statistics

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

This module is also presented as an anti-semester bilingual module.

### Site surveying 213 (TRN 213)

<b>Module credits</b>	12.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 2 lectures per week
<b>Language of tuition</b>	English
<b>Academic organisation</b>	Geography, Geoinf + Meteor
<b>Period of presentation</b>	Semester 1

### Module content

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

### Building services 221 (GBD 221)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

### Module content

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

## Curriculum: Final year

Minimum credits: 129

### Core modules

#### Business law 310 (BER 310)

<b>Module credits</b>	16.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	4 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Mercantile Law
<b>Period of presentation</b>	Semester 1

##### Module content

Introduction to law. General principles of the law of contract. Specific contracts: purchase contracts; letting and hiring of work; employment contracts. Agency. General aspects of entrepreneurial law. Dispute resolution – mediation and arbitration.

#### Housing 320 (BHU 320)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

##### Module content

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

#### Quantity surveying practice 300 (BRK 300)

<b>Module credits</b>	18.00
<b>Prerequisites</b>	HVH 200 GS
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Double Medium



**Academic organisation** Construction Economics

**Period of presentation** Year

**Module content**

Management theory; basic principles of production management, lists of materials; pricing; payment certificates; final accounts; contract price adjustments; application of computer-based measuring programmes.

**Building science 310 (BWT 310)**

**Module credits** 9.00

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Double Medium

**Academic organisation** Construction Economics

**Period of presentation** Semester 1

**Module content**

Erection and construction of specialised building components and finishes. Acoustics. Material study of plastics, glues, rubber, mastics, bonding agents, fibre cement, bituminous products, sealers, epoxies and waterproofing.

**Building science 320 (BWT 320)**

**Module credits** 9.00

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Double Medium

**Academic organisation** Construction Economics

**Period of presentation** Semester 2

**Module content**

Thermal properties of insulation systems and construction materials. Critical review of current development and construction practice; alternative construction technologies; innovation in construction; technical evaluation of innovative construction materials and methods; life cycle costing and life cycle analysis; the National Building Regulations.

**Introduction to property law 320 (EOW 320)**

**Module credits** 6.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Construction Economics

**Period of presentation** Semester 2

## Module content

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

## Quantities 300 (HVH 300)

<b>Module credits</b>	24.00
<b>Prerequisites</b>	BWT 210 GS, BWT 220 GS, GBD 112 GS, GBD 122 GS and HVH 200
<b>Contact time</b>	3 lectures per week, 1 practical per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Year

## Module content

Measuring of concrete structures, precast concrete, structural steelwork, waterproofing, advanced brickwork, rubble walling, stone masonry, plumbing and drainage and electrical work. Theory of monetary allowances in bills of quantities. Abstracting and billing.

## Community-based project 201 (JCP 201)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 other contact session per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Informatics
<b>Period of presentation</b>	Year

## Module content

This project-orientated module is a form of applied learning which is directed at specific community needs and is integrated into all undergraduate academic programmes offered by the Faculty of Engineering, Built Environment and Information Technology. The main objectives with the module are as follows:

- (1) The execution of a community related project aimed at achieving a beneficial impact on a chosen section of society, preferably but not exclusively, by engagement with a section of society which is different from the student's own social background.
- (2) The development of an awareness of personal, social and cultural values, an attitude to be of service, and an understanding of social issues, for the purpose of being a responsible professional.
- (3) The development of important multidisciplinary and life skills, such as communication, interpersonal and leadership skills.

Assessment in the module will include all or most of the following components: evaluation and approval of project proposal, assessment of oral and/or written progress reports, peer assessment in the event of team projects, written reportback by those at which the project was aimed at, and final assessment on grounds of the submission of a portfolio and a written report.

## Construction information technology and communication 311 (KIT 311)

<b>Module credits</b>	9.00
<b>Prerequisites</b>	Final year only
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

### Module content

Orientation in the use of electronic technologies and aids in the construction industry. Confident group communication. Effective communication in organisations: the process of communication, formal meetings, the interview, planning and organising messages, intercultural communication.

## Property financial mathematics 320 (FBV 320)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

### Module content

Application of the principles of interest calculations on the property industry; more specifically the time value of money, introduction to financial return techniques, net present values and internal rate of return.

## Building services 311 (GBD 311)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	GBD 221 GS
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Double Medium
<b>Academic organisation</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

### Module content

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

## Sustainable construction 320 (VKN 320)

<b>Module credits</b>	6.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Double Medium

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**Academic organisation** Construction Economics

**Period of presentation** Semester 2

**Module content**

Introduction to sustainable development and general sustainable construction principles, processes and technology. Sustainable practices on the construction site. Relevant regulations and voluntary programmes, including an introduction to 'Green Star' rating.

**Research methodology 320 (NNM 320)**

**Module credits** 6.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Both Afr and Eng

**Academic organisation** Construction Economics

**Period of presentation** Semester 2

**Module content**

Introduction to scientific research. Planning and preparation of a research project. Different research methods.

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The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.