

# University of Pretoria Yearbook 2020

## BSc Quantity Surveying (12132023)

**Minimum duration of study** 3 years

**Total credits** 371

**NQF level** 07

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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

- The following persons will be considered for admission: candidates who are in possession of a certificate that is deemed by the University to be equivalent to the required Grade 12 certificate with university endorsement; candidates who are graduates from another tertiary institution or have been granted the status of a graduate of such an institution; and candidates who are graduates of another faculty at the University of Pretoria.
- Life Orientation is excluded when calculating the APS.
- Grade 11 results are used in the conditional admission of prospective students.
- A valid qualification with admission to degree studies is required.
- Minimum subject and achievement requirements, as set out below, are required.
- BSc (Quantity Surveying) is a selection programme.
- Tuition will be presented in English only.

#### Minimum requirements

## Achievement level

### English Home

### Language or

### English First

### Additional

### Language

NSC/IEB

AS Level

### Mathematics

NSC/IEB

AS Level

### Physical Science or Accounting

NSC/IEB

AS Level

**APS**

5

C

5

C

4

D

**30**

\* Cambridge A level candidates who obtained at least a D in the required subjects, will be considered for admission. International Baccalaureate (IB) HL candidates who obtained at least a 4 in the required subjects, will be considered for admission.

## 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

### 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.

### Promotion to the third year of study

- 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 provided that no first year module(s) are outstanding.
- 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.
- 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 and the prerequisites must be met.

- d. A student who complies with all the requirements for the degree with the exception of one year module or two semester modules, in which a final mark of at least 40% has been obtained, may be admitted to a special examination in the module(s) concerned, at the start of the ensuing semester.
- e. On the recommendation of the Head of Department, in exceptional circumstances deviation from the abovementioned stipulations, may be approved by the Faculty Executive Committee, 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: 126

### Fundamental modules

#### Academic information management 111 (AIM 111)

**Module credits** 4.00

**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 and Religion

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Information Science

**Period of presentation** Semester 1

**Module content**

Find, evaluate, process, manage and present information resources for academic purposes using appropriate technology.

#### Academic information management 121 (AIM 121)

**Module credits** 4.00

**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 and Religion  
Faculty of Veterinary Science

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** Informatics

**Period of presentation** Semester 2



### Module content

Apply effective search strategies in different technological environments. Demonstrate the ethical and fair use of information resources. Integrate 21st-century communications into the management of academic information.

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

<b>Module credits</b>	6.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 web-based period per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Unit for Academic Literacy
<b>Period of presentation</b>	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>	Module is presented in English
<b>Department</b>	EBIT Deans Office
<b>Period of presentation</b>	Year

## Core modules

### Building organisation 121 (BGG 121)

<b>Module credits</b>	4.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

### Module content

The structure of the building industry and the role of building disciplines and related parties. Content from Humanities and social sciences 120 to introduce students to a variety of texts and encouraged them to understand themselves as products of – and participants in – different traditions, ideas and values.

### Building drawings 111 (BOU 111)

<b>Module credits</b>	4.00
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<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 lecture per week, 1 practical per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</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.

### Building science 110 (BWT 110)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

#### Module content

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

### Building science 120 (BWT 120)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	BWT 110
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

#### Module content

Principles, methods and materials used in best practice in the construction of 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)

<b>Module credits</b>	10.00
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<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology Faculty of Education Faculty of Humanities Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Economics
<b>Period of presentation</b>	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

<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology Faculty of Education Faculty of Humanities Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	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
<b>Contact time</b>	1 discussion class per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Economics
<b>Period of presentation</b>	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

<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics
<b>Period of presentation</b>	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>	Module is presented in English
<b>Department</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>	Module is presented in English
<b>Department</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.

### Introduction to structures 110 (SKE 110)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 2 lectures per week



**Language of tuition** Module is presented in English

**Department** Civil Engineering

**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** 8.00

**Prerequisites** SKE 110

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

**Language of tuition** Module is presented in English

**Department** Civil Engineering

**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.

### Mathematics 134 (WTW 134)

**Module credits** 16.00

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

**Prerequisites** 50% for Mathematics in Grade 12

**Contact time** 1 tutorial per week, 4 lectures per week

**Language of tuition** Module is presented in English

**Department** Mathematics and Applied Mathematics

**Period of presentation** Semester 1



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## Module content

*\*Students will not be credited for more than one of the following modules for their degree: WTW 134, WTW 165, WTW 114, WTW 158. WTW 134 does not lead to admission to Mathematics at 200 level and is intended for students who require Mathematics at 100 level only. WTW 134 is offered as WTW 165 in the second semester only to students who have applied in the first semester of the current year for the approximately 65 MBChB, or the 5-6 BChD places becoming available in the second semester and who were therefore enrolled for MGW 112 in the first semester of the current year.*

Functions, derivatives, interpretation of the derivative, rules of differentiation, applications of differentiation, integration, interpretation of the definite integral, applications of integration. Matrices, solutions of systems of equations. All topics are studied in the context of applications.

## Curriculum: Year 2

Minimum credits: 121

### Core modules

#### Building science 210 (BWT 210)

<b>Module credits</b>	12.00
<b>Prerequisites</b>	BWT 110 and BWT 120
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics
<b>Period of presentation</b>	Semester 1

##### Module content

Advanced application of construction technology for the erection of multi-storey, steel reinforced concrete structures as well as steel portal frame construction. Bulk excavations for the creation of deep basements including lateral support through piling systems and other retaining wall structures to prevent embankment failure. Introduction to construction management principles and the effect thereof on the construction process in terms of time, cost and quality. Management of temporary site works, applying formwork design principles, building equipment and earth moving machinery required in advanced construction technology.

#### Building science 220 (BWT 220)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics
<b>Period of presentation</b>	Semester 2

##### Module content

Material study of metals and 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.

#### Property law 222 (EOW 222)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 discussion class per week, 2 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Construction Economics

**Period of presentation** Semester 2

### Module content

The development of an understanding of the South African Law of Property and statutes relating to immovable and real rights; the acquisition of rights over land in South Africa; forms of land tenure; possession and occupation of immovable property, survey of land, registration of rights over immovable property, servitudes, real and personal securities, subdivision of land zoning regulations.

## Financial management 110 (FBS 110)

**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** Module is presented in English

**Department** Financial Management

**Period of presentation** 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.

## Building services 211 (GBD 211)

**Module credits** 6.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** 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.

## 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>	Module is presented in English
<b>Department</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.

## Quantities 200 (HVH 200)

<b>Module credits</b>	24.00
<b>Prerequisites</b>	BWT 110 ,BWT 120 and HVH 101
<b>Contact time</b>	1 practical per week, 3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</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.

## 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>	Module is presented in English
<b>Department</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.

## Civil engineering services 220 (SKE 220)

<b>Module credits</b>	8.00
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Civil Engineering
<b>Period of presentation</b>	Semester 2

## Module content

Water reticulation; sewerage reticulation; stormwater reticulation; roads.

## Statistics 110 (STK 110)

<b>Module credits</b>	13.00
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology Faculty of Education Faculty of Humanities Faculty of Natural and Agricultural Sciences
<b>Prerequisites</b>	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
<b>Contact time</b>	1 practical per week, 1 tutorial per week, 3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Statistics
<b>Period of presentation</b>	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). Supporting mathematical concepts. Statistical concepts are demonstrated and interpreted through practical coding and simulation within a data science framework.

## Statistics 161 (STK 161)

**Module credits** 6.00

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

**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** Module is presented in English

**Department** Statistics

**Period of presentation** Quarter 2 and 3

## Module content

Students can only get credit for one of the following modules: STK 120 or STK 121 or STK 161.

Analysis of variance, categorical data analysis, distribution-free methods, curve fitting, regression and correlation, the analysis of time series and indices. Supporting mathematical concepts. Statistical concepts are illustrated using simulation within a data science framework.

This module is also presented as an anti-semester (quarter 2) module. This is a terminating module.

## Site surveying 213 (TRN 213)

**Module credits** 12.00

**Prerequisites** No prerequisites.

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

**Language of tuition** Module is presented in English

**Department** Geography Geoinformatics and Meteorology

**Period of presentation** 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.

## Curriculum: Final year

Minimum credits: 124

### Core modules

#### Business law 310 (BER 310)

<b>Module credits</b>	10.00
<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>	Separate classes for Afrikaans and English
<b>Department</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.

#### 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>	Afrikaans and English are used in one class
<b>Department</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
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Afrikaans and English are used in one class
<b>Department</b>	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** 10.00

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Afrikaans and English are used in one class

**Department** 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** 8.00

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Afrikaans and English are used in one class

**Department** Construction Economics

**Period of presentation** Semester 2

**Module content**

Thermal properties of insulation systems and construction materials. 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.

**Financial management 210 (FBS 210)**

**Module credits** 16.00

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

**Prerequisites** BCom Financial Sciences, Investment Management and Law: FRK111 and FRK121 (or FRK100 or 101), STK110, 120 or FBS121, and simultaneously registered for FRK211; BSc Construction Management, Quantity Surveying and Real Estate: FBS110, STK110 and STK161

**Contact time** 3 lectures per week

**Language of tuition** Module is presented in English

**Department** Financial Management

**Period of presentation** Semester 1

**Module content**

\*Only for BCom (Financial Sciences, Investment Management and Law) and BSc (Construction Management , Quantity Surveying and Real Estate) students.

Framework and purpose of financial management; understanding financial statements; analysis of financial statements for decision making; time value of money; risk and return relationships; business valuation; short-term planning; current asset management.

### Financial management 361 (FBS 361)

**Module credits** 10.00

**Prerequisites** FBS 210; only for BSc (Construction Management), BSc (Quantity Surveying) and BSc (Real Estate) students.

**Contact time** 3 lectures per week

**Language of tuition** Module is presented in English

**Department** Financial Management

**Period of presentation** Quarter 3

**Module content**

Cash flow calculations; the investment decision and the study of financial selection criteria in the evaluation of capital investment projects; the cost of capital; determination of capital requirements and the financing of a business to maintain the optimal capital structure.

### Building services 311 (GBD 311)

**Module credits** 6.00

**Prerequisites** GBD 221

**Contact time** 2 lectures per week

**Language of tuition** Afrikaans and English are used in one class

**Department** Construction Economics

**Period of presentation** Semester 1

**Module content**

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

### Quantities 300 (HVH 300)

**Module credits** 24.00

**Prerequisites** BWT 210, BWT 220, GBD 112, GBD 122 and HVH 200

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

**Language of tuition** Afrikaans and English are used in one class

**Department** Construction Economics

**Period of presentation** 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.

## Introduction to construction contract law 322 (KKR 322)

**Module credits** 8.00

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

**Language of tuition** Module is presented in English

**Department** Construction Economics

**Period of presentation** Semester 2

### Module content

An introduction to the principles of construction contract law and an overview of standardised conditions of contract for the built environment.

## Sustainable construction 320 (VKN 320)

**Module credits** 8.00

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

**Language of tuition** Module is presented in English

**Department** 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. Introduction to the principles of lean construction and BIM.

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.