

# University of Pretoria Yearbook 2022

## BSc (Real Estate) (12132024)

**Department** Construction Economics

**Minimum duration of study** 3 years

**Total credits** 367

**NQF level** 07

## Programme information

Real estate is the study of fixed property and related aspects such as property economics, development, management, valuation, financing, investment and marketing.

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

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

## Admission requirements

### Important information for all prospective students for 2022

- The admission requirements apply to students who apply for admission to the University of Pretoria with a **National Senior Certificate (NSC) and Independent Examination Board (IEB) qualifications.**
- **Applicants with qualifications other than the abovementioned** should refer to:
  - **Brochure:** Undergraduate Programme Information 2022: Qualifications other than the NSC and IEB, available at [click here](#).
- **Citizens from countries other than South Africa (applicants who are not South African citizens)** should also refer to:
  - **Brochure:** Newcomer's Guide 2021, available at [click here](#).
  - **Website:** [click here](#).
- **School of Tomorrow (SOT), Accelerated Christian Education (ACE) and General Education Development Test (GED):** The University of Pretoria no longer accepts qualifications awarded by these institutions.
- **National Certificate (Vocational) (NCV) Level 4:** The University of Pretoria may consider NCV candidates, provided they meet the exemption for bachelor's status criteria and the programme requirements.

### Transferring students

A transferring student is a student who, at the time of application for a degree programme at the University of Pretoria (UP) –

- is a registered student at another tertiary institution, **or** was previously registered at another tertiary institution and did not complete the programme enrolled for at that institution, and is not currently enrolled at a tertiary

institution, **or** has completed studies at another tertiary institution, but is not currently enrolled at a tertiary institution, **or** has started with tertiary studies at UP, then moved to another tertiary institution and wants to be readmitted at UP.

A transferring student will be considered for admission based on

- an NSC or equivalent qualification with exemption to bachelor's or diploma studies (whichever is applicable); **and** meeting the minimum faculty-specific subject requirements at NSC or tertiary level; **or** having completed a higher certificate at a tertiary institution with faculty-specific subjects/modules passed (equal to or more than 50%), as well as complying with faculty rules on admission;
- previous academic performance (must have passed all modules registered for up to the closing date of application ) or as per faculty regulation/promotion requirements;
- a certificate of good conduct.

**Note:** Students who have been dismissed at the previous institution due to poor academic performance, will not be considered for admission to UP.

### Returning students

A returning student is a student who, at the time of application for a degree programme -

- is a registered student at UP, and wants to transfer to another degree at UP, **or** was previously registered at UP and did not complete the programme enrolled for, and did not enrol at another tertiary institution in the meantime (including students who applied for leave of absence), **or** has completed studies at UP, but is not currently enrolled or was not enrolled at another tertiary institution after graduation.

A returning student will be considered for admission based on

- an NSC or equivalent qualification with exemption to bachelor's or diploma studies (whichever is applicable); **and** meeting the minimum faculty-specific subject requirements at NSC or tertiary level; **or** previous academic performance (should have a cumulative weighted average of at least 50% for the programme enrolled for);
- having applied for and was granted leave of absence.

**Note:** Students who have been excluded/dismissed from a faculty due to poor academic performance may be considered for admission to another programme at UP. The Admissions Committee may consider such students if they were not dismissed more than twice. Only ONE transfer between UP faculties will be allowed, and a maximum of two (2) transfers within a faculty.

### Important faculty-specific information on undergraduate programmes for 2022

- The closing date is an administrative admission guideline for non-selection programmes. Once a non-selection programme is full and has reached the institutional targets, then that programme will be closed for further admissions, irrespective of the closing date. However, if the institutional targets have not been met by the closing date, then that programme will remain open for admissions until the institutional targets are met.
- The following persons will be considered for admission: Candidates who have a certificate that is deemed by the University to be equivalent to the required National Senior Certificate (NSC) 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 for 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.
- All modules will be presented in English, as English is the language of tuition, communication and correspondence.

University of Pretoria website: [click here](#)

### Minimum requirements

#### Achievement level

#### English Home

#### Language or

#### English First

#### Additional

#### Language

NSC/IEB

5

#### Mathematics

NSC/IEB

5

#### Physical Sciences or Accounting

NSC/IEB

4

**APS**

**30**

## Promotion to next study year

Refer also to G5.

### 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 must pass all the prescribed modules at first-year level (level 100) before he or she is admitted to any module at third-year level (level 300).
- 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.
- 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 Chancellor's examination in the module(s) concerned, at the start of the ensuing semester.
- 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% (not rounded) was obtained in one year in all the modules, 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**

Please note: Students registered for this programme must please register for STK 161 in Quarter 3.

### Fundamental modules

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

<b>Module credits</b>	4.00
<b>NQF Level</b>	05
<b>Service modules</b>	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
<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>	Information Science
<b>Period of presentation</b>	Semester 1

#### Module content

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

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

<b>Module credits</b>	4.00
<b>NQF Level</b>	05
<b>Service modules</b>	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
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 lectures per week



<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Informatics
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<b>Period of presentation</b>	Semester 2
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#### 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
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<b>NQF Level</b>	05
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<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
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<b>Prerequisites</b>	No prerequisites.
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<b>Contact time</b>	1 web-based period per week, 2 lectures per week
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Unit for Academic Literacy
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<b>Period of presentation</b>	Semester 1
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#### 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
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<b>NQF Level</b>	00
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	EBIT Deans Office
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<b>Period of presentation</b>	Year
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### Core modules

#### Building organisation 121 (BGG 121)

<b>Module credits</b>	4.00
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<b>NQF Level</b>	05
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<b>Prerequisites</b>	No prerequisites.
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<b>Contact time</b>	1 lecture per week
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Construction Economics
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**Period of presentation** 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)**

**Module credits** 4.00

**NQF Level** 05

**Prerequisites** No prerequisites.

**Contact time** 1 lecture per week, 1 practical per week

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

**Department** Construction Economics

**Period of presentation** 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)**

**Module credits** 8.00

**NQF Level** 05

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

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

**Department** Construction Economics

**Period of presentation** 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)**

**Module credits** 8.00

**NQF Level** 05

**Prerequisites** BWT 110

**Contact time** 3 lectures per week

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

**Department** Construction Economics

**Period of presentation** 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)

**Module credits** 10.00

**NQF Level** 05

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

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

**Department** 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

**NQF Level** 05

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

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

**Department** Economics





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<b>Period of presentation</b>	Semester 2
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### 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.

### Real estate 110 (EWS 110)

<b>Module credits</b>	8.00
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<b>NQF Level</b>	07
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<b>Prerequisites</b>	No prerequisites.
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<b>Contact time</b>	2 lectures per week
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Construction Economics
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<b>Period of presentation</b>	Semester 1
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### Module content

An introduction to real estate which aims to develop an understanding of real property: characteristics and functions of the real property market; pricing of land and resources. Welfare and economic efficiency and includes economic efficiency through the price system. Urban land use: land use and land values; pattern of urban land use; growth of urban land areas; quality of urban environment; housing, regional policy. The government and land resources: impact of government economic policy on land resources; theory of urban public finance; taxation and land resources; recent developments.

### Real estate 120 (EWS 120)

<b>Module credits</b>	8.00
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<b>NQF Level</b>	05
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<b>Prerequisites</b>	EWS 110
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<b>Contact time</b>	2 lectures per week
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<b>Language of tuition</b>	Module is presented in English
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<b>Department</b>	Construction Economics
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<b>Period of presentation</b>	Semester 2
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### Module content

An introduction to property development which aims to develop an understanding of property development including: a study of the principles of property development including the relevant statutes and ordinances; urban development; control of land in South Africa; town planning; overview of property development. Development: timing and rate of development, redevelopment, public sector development, economics and planning controls, the construction industry.

### Building services 112 (GBD 112)

<b>Module credits</b>	6.00
<b>NQF Level</b>	05
<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>NQF Level</b>	05
<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>NQF Level</b>	05
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	1 practical per week, 3 lectures per week

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

**Department** Construction Economics

**Period of presentation** Year

### Module content

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

## Mathematics 134 (WTW 134)

**Module credits** 16.00

**NQF Level** 05

**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

### 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>NQF Level</b>	06
<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>NQF Level</b>	06
<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>NQF Level</b>	06
<b>Prerequisites</b>	No prerequisites.

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

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

**Department** 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.

### Real estate 210 (EWS 210)

**Module credits** 12.00

**NQF Level** 06

**Prerequisites** EWS 110 and 120

**Contact time** 3 lectures per week

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

**Department** Construction Economics

**Period of presentation** Semester 1

#### Module content

An introduction to property management which aims to develop an understanding of the role of the property manager, functions of property management, the management contract, the owner/manager relationship. Maintenance of the long-term property acquisition/lease programme; purchase of land and buildings; leasing and insurance; law of leases, leasing non-owned premises; marketing and leasing of owned premises; lease management; management of residential, group housing, sectional title, office, shopping centre and industrial developments. Marketing of management services. The property cycle. Operational property/asset management . Financial control and budgets. Tenant relations. Risk management.

### Real estate 220 (EWS 220)

**Module credits** 12.00

**NQF Level** 06

**Prerequisites** EWS 210, EKN 110, EKN 120

**Contact time** 3 lectures per week

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

**Department** Construction Economics

**Period of presentation** Semester 2

## Module content

Overview of economic principles as it applies specifically to the property market sector. The role of government and other stakeholders. Introductory marketing concepts and the role of utility, productivity and value with regard to property price setting and the supply/demand balance. The nature of property as an economic product and the economic constraints of the property market. South African demographics and the impact on property development. The role of urbanisation as the main driver for market and location studies pertaining to urban development. The influence of the economy on property development and the challenge of residential markets to improve living standards. Retail trends influencing shopping behavior and shopping centre development. The economic drivers that influence manufacturing and industrial markets. The economics of real estate and business services as it applies to office markets.

## Financial management 110 (FBS 110)

<b>Module credits</b>	10.00
<b>NQF Level</b>	05
<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>	Module is presented in English
<b>Department</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.

## Building services 211 (GBD 211)

<b>Module credits</b>	6.00
<b>NQF Level</b>	06
<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

**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)**

**Module credits** 6.00

**NQF Level** 06

**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**

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

**Community-based project 201 (JCP 201)**

**Module credits** 8.00

**NQF Level** 06

**Prerequisites** No prerequisites.

**Contact time** 1 other contact session per week

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

**Department** Informatics

**Period of presentation** Year

**Module content**

This module is integrated into all undergraduate academic programmes offered by the Faculty of Engineering, Built Environment and Information Technology. Main objectives: execution of a community project aimed at achieving a beneficial impact on a section of a socio-economically underprivileged community located in socio-economically deprived areas our society; awareness of personal, social and cultural values and an understanding of social issues; and development of life skills.

**Civil engineering services 220 (SKE 220)**

**Module credits** 8.00

**NQF Level** 06

**Prerequisites** No prerequisites.

**Contact time** 3 lectures per week

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

**Department** Civil Engineering

**Period of presentation** Semester 2

### Module content

Water reticulation; sewerage reticulation; stormwater reticulation; roads.

## Statistics 110 (STK 110)

**Module credits** 13.00

**NQF Level** 05

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

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

**Department** 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). 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

**NQF Level** 05

**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

**NQF Level** 06

**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 2

## 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: 120

### Core modules

#### Business law 310 (BER 310)

<b>Module credits</b>	10.00
<b>NQF Level</b>	07
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	Admission to the relevant programme.
<b>Contact time</b>	4 lectures per week
<b>Language of tuition</b>	Module is presented in 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>NQF Level</b>	07
<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

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.

#### Building science 310 (BWT 310)

<b>Module credits</b>	10.00
<b>NQF Level</b>	07
<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

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)

<b>Module credits</b>	8.00
<b>NQF Level</b>	07
<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

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.

### Property valuation 300 (EDW 300)

<b>Module credits</b>	24.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	EWS 210, EWS 220
<b>Contact time</b>	4 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

This course aims to develop an understanding of the Valuation Profession and includes concepts of value, classification of value and accuracy of valuations, the Surveyor-General; the Registrar of Deeds; records of the valuer. Factors affecting the value of different types of properties; appreciation and depreciation, different approaches to valuation, the value of improvement, the valuation report. An introduction to the statutes and ordinances (relevant sections) affecting valuation including the Property Valuers Profession Act. Case law relating to the valuation of fixed property; property valuation, highest and best use of property, influence of the “wrong” development on market value; influences of leases on values; leases and rentals; theory of the income, residual, cost and accounts methods of valuation

## Real estate 310 (EWS 310)

<b>Module credits</b>	12.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	EWS 210, EWS 220
<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

An introduction to property investment with the aim to develop an understanding of the nature and scope of investment. It includes the nature and scope of real estate investment, objectives of property investors, participants in the property investment process, the investment decision process, investment criteria, investment time horizons, decision-making approaches, different taxes applicable to property investment and development; asset classes; investment strategies; investment principles; investment lifecycle; Time value of money. Listed vehicles and REIT's. The international market and investment standards, international investment strategy and risk in international investments.

## Real estate 320 (EWS 320)

<b>Module credits</b>	12.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	EWS 310
<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

The establishment of townships; types of dwelling units and housing types; principles of medium and high density residential development; development of sectional title and group housing; development of retirement centres; introduction to commercial property development; development of office buildings, parking garages, shopping centres, industrial parks; and rehabilitation and conversion of buildings; Green Building; Development life-cycle; risk assessment; management and marketing of property developments; environmental impact assessment.

## Financial management 210 (FBS 210)

<b>Module credits</b>	16.00
<b>NQF Level</b>	06
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	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
<b>Contact time</b>	3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Financial Management
<b>Period of presentation</b>	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.

## Building services 311 (GBD 311)

<b>Module credits</b>	6.00
<b>NQF Level</b>	07
<b>Prerequisites</b>	GBD 221
<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

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

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

<b>Module credits</b>	8.00
<b>NQF Level</b>	07
<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

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)

<b>Module credits</b>	8.00
<b>NQF Level</b>	07
<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

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.

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The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

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