



# University of Pretoria Yearbook 2020

## BCom Informatics Information Systems (07130173)

**Minimum duration of study** 3 years

**Total credits** 412

**NQF level** 07

### Programme information

Informatics studies the application and use of the computer and information systems within the organisation. Our students' strength lies in their broad background of the economic and management sciences, which implies that the world of business is nothing sinister to them. The use of information technology by organisations is growing exponentially and new, more complex and challenging applications are explored and developed on a daily basis. It has the benefit that, in addition to the work of informatics specialists being extremely interesting, there will only be a very small chance that they will ever be without work.

The Informatics specialist has the knowledge to analyse the information needs of organisations, be that businesses, government departments, non-profit organisations or any other group where information is crucial. They not only analyse the needs but then address those needs by designing and implementing information systems. Information systems nowadays refer to computer-based systems (including mobile applications) which store and manipulate data such that people can understand, use, interpret and make decisions based on the information.

The BCom (Informatics) programme at UP is the only degree in South Africa that is internationally accredited by the Accreditation Board for Engineering and Technology (ABET) of the USA.

### 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.

#### Minimum requirements

##### Achievement level

##### English Home Language or English First Additional Language

|         |          |         |          |
|---------|----------|---------|----------|
| NSC/IEB | AS Level | NSC/IEB | AS Level |
| 5       | C        | 4       | D        |

##### APS

**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:

- Elective modules can only be taken if they can be accommodated in the class, test and examination timetables. At year-level two students select two 14-week modules or the equivalent (at least 32 credits) of the same subject and continue with this subject on year-level three by selecting two 14-week modules or the equivalent (at least 40 credits).

## Promotion to next study year

*According to General Regulation G.3 students have to comply with certain requirements as set by the Faculty Board.*

- a. A student must pass at least 4 core semester or 2 core year modules to be admitted to the subsequent year of study.
- b. If a student has passed less than the required minimum of 4 core semester or 2 core year modules, he/she will not be readmitted to the Faculty of Economic and Management Sciences. Such a student may apply in writing to the Faculty's Admissions Committee to be readmitted conditionally – with the proviso that the Admissions Committee may set further conditions with regards to the student's academic progress. The Faculty's Admissions Committee may deny a student's application for readmission.
- c. If a student has been readmitted conditionally, his/her academic progress will be monitored after the first semester examinations to determine whether he/she has complied with the requirements set by the Admissions Committee. If not, his/her studies will be suspended.
- d. A student whose studies have been suspended because of his/her poor academic performance has the right to appeal against the decision of the Faculty's Admissions Committee.
- e. A student may be refused promotion to a subsequent year of study if the prescribed tuition fees are not paid.
- f. A student may be refused admission to the examination, or promotion to a subsequent year of study or promotion in a module (if applicable) if he/ she fails to fulfil the attendance requirements. Class attendance in all modules and for the full duration of all programmes is compulsory for all students.

## Pass with distinction

- a. A degree may be awarded with distinction provided the candidate meets the following criteria:
  - i. Completes the degree within three years;
  - ii. Obtains a Cumulative Grade Point Average (CGPA) of 75%;
  - iii. Repeated passed modules will not be considered. The initial pass mark of module will be used when calculating the GPA.
- b. A degree will only be awarded with distinction to transferees from other degrees in the Faculty of Economic and Management Sciences, other faculties and from other universities who still complete their bachelor degrees within three years (including the years registered for the other degree and credits transferred and recognised).
- c. The GPA will be not be rounded up to a whole number.
- d. Exceptional cases will be considered by the Dean.



## Curriculum: Year 1

**Minimum credits: 163**

### Core modules

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

**Module content:**

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

**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

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

**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.

**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

## Academic literacy for Information Technology 121 (ALL 121)

### 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 Information Technology.

**Module credits** 6.00

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

**Prerequisites** No prerequisites.

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

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

**Department** Unit for Academic Literacy

**Period of presentation** Semester 2

## Economics 110 (EKN 110)

### 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.

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

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

**Department** Economics

**Period of presentation** Semester 1



## Economics 120 (EKN 120)

### 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.

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

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

**Department** Economics

**Period of presentation** Semester 2

## Financial accounting 111 (FRK 111)

### Module content:

The nature and function of accounting; the development of accounting; financial position; financial result; the recording process; processing of accounting data; treatment of VAT; elementary income statement and balance sheet; flow of documents; accounting systems; introduction to internal control and internal control measures; bank reconciliations; control accounts; adjustments; financial statements of a sole proprietorship; the accounting framework.

**Module credits** 10.00

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

**Prerequisites** No prerequisites.

**Contact time** 4 lectures per week

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

**Department** Accounting

**Period of presentation** Semester 1



## Financial accounting 121 (FRK 121)

### Module content:

Property, plant and equipment; intangible assets; inventories; liabilities; presentation of financial statements; enterprises without profit motive; partnerships; companies; close corporations; cash flow statements; analysis and interpretation of financial statements.

**Module credits** 12.00

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

**Prerequisites** FRK 111 GS

**Contact time** 4 lectures per week

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

**Department** Accounting

**Period of presentation** Semester 2

## Financial accounting 122 (FRK 122)

### Module content:

Budgeting, payroll accounting, taxation – income tax and an introduction to other types of taxes, credit and the new Credit Act, insurance, accounting for inventories (focus on inventory and the accounting entries, not calculations), interpretation of financial statements.

**Module credits** 12.00

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

**Prerequisites** FRK 111 GS or FRK 133, FRK 143

**Contact time** 4 lectures per week

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

**Department** Accounting

**Period of presentation** Semester 2

## Informatics 112 (INF 112)

### Module content:

Introduction to information systems, information systems in organisations, hardware: input, processing, output, software: systems and application software, organisation of data and information, telecommunications and networks, the Internet and Intranet. Transaction processing systems, management information systems, decision support systems, information systems in business and society, systems analysis, systems design, implementation, maintenance and revision.



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|                               |   |
|-------------------------------|---|
| <b>Module credits</b>         | 10.00   |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Natural and Agricultural Sciences                  |
| <b>Prerequisites</b>          | A candidate must have passed Mathematics with at least 4 (50-59%) in the Grade 12 examination; or STK 113 60%, STK 123 60% or STK 110 |
| <b>Contact time</b>           | 2 lectures per week   |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Department</b>             | Informatics   |
| <b>Period of presentation</b> | Semester 2  |

### Information systems 113 (INF 113)

#### Module content:

Introduction to quantitative methods for Information systems to students.

|                               |                                |
|-------------------------------|--------------------------------|
| <b>Module credits</b>         | 10.00                          |
| <b>Contact time</b>           | 2 lectures per week            |
| <b>Language of tuition</b>    | Module is presented in English |
| <b>Department</b>             | Informatics                    |
| <b>Period of presentation</b> | Semester 1                     |

### Informatics 154 (INF 154)

#### Module content:

Introduction to programming.

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|-------------------------------|--|
| <b>Module credits</b>         | 10.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | A candidate must have passed Mathematics with at least 4 (50-59%) in the Grade 12 examination                        |
| <b>Contact time</b>           | 1 lecture per week, 2 practicals per week  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Informatics  |
| <b>Period of presentation</b> | Semester 1   |

### Informatics 164 (INF 164)

#### Module content:



Programming.

|                               |   |
|-------------------------------|---|
| <b>Module credits</b>         | 10.00   |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Natural and Agricultural Sciences                              |
| <b>Prerequisites</b>          | INF 154; A candidate must have passed Mathematics with at least 4 (50-59%) in the Grade 12 examination; AIM 101 or AIM 102 or AIM 111 and AIM 121 |
| <b>Contact time</b>           | 1 lecture per week, 2 practicals per week   |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Department</b>             | Informatics   |
| <b>Period of presentation</b> | Semester 2  |

### Informatics 171 (INF 171)

#### Module content:

General systems theory, creative problem solving, soft systems methodology. The systems analyst, systems development building blocks, systems development, systems analysis methods, process modelling.

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| <b>Module credits</b>         | 20.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | A candidate must have passed Mathematics with at least 4 (50-59%) in the Grade 12 examination                        |
| <b>Contact time</b>           | 2 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Informatics  |
| <b>Period of presentation</b> | Year   |

### Informatics 183 (INF 183)

#### Module content:

Computer processing of accounting information.

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|-------------------------------|--------------------------------|
| <b>Module credits</b>         | 3.00                           |
| <b>Prerequisites</b>          | No prerequisites.              |
| <b>Contact time</b>           | 1 practical per week           |
| <b>Language of tuition</b>    | Module is presented in English |
| <b>Department</b>             | Informatics                    |
| <b>Period of presentation</b> | Year                           |





## Business management 114 (OBS 114)

### Module content:

The entrepreneurial mind-set; managers and managing; values, attitudes, emotions, and culture: the manager as a person; ethics and social responsibility; decision making; leadership and responsible leadership; effective groups and teams; managing organizational structure and culture inclusive of the different functions of a generic organisation and how they interact (marketing; finance; operations; human resources and general management); contextualising Sustainable Development Goals (SDG) in each of the topics.

**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** May not be included in the same curriculum as OBS 155

**Contact time** 3 lectures per week

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

**Department** Business Management

**Period of presentation** Semester 1

## Business management 124 (OBS 124)

### Module content:

Value chain management: functional strategies for competitive advantage; human resource management; managing diverse employees in a multicultural environment; motivation and performance; using advanced information technology to increase performance; production and operations management; financial management; corporate entrepreneurship.

**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** Admission to the examination in OBS 114

**Contact time** 3 lectures per week

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

**Department** Business Management

**Period of presentation** Semester 2

## Statistics 110 (STK 110)

### 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.

**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 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

## Statistics 113 (STK 113)

**Module content:**

\*On its own, STK 113 and 123 will not be recognised for degree purposes, but exemption will be granted for STK 110.

Data operations and transformations:

Introductory concepts, the role of statistic, various types of data and the number system. Concepts underlying linear, quadratic, exponential, hyperbolic, logarithmic transformations of quantitative data, graphical representations, solving of equations, interpretations. Determining linear equations in practical situations. Characteristics of logarithmic functions. The relationship between the exponential and logarithmic functions in economic and related problems. Systems of equations in equilibrium. Additional concepts relating to data processing, functions and inverse functions, sigma notation, factorial notation, sequences and series, inequalities (strong, weak, absolute, conditional, double) and absolute values.

Descriptive statistics - Univariate:

Sampling and the collection of data, frequency distributions and graphical representations. Descriptive measures of location and dispersion. Introductory probability theory. Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques.

The weekly one hour practical is presented during the last seven weeks of the semester.

**Module credits** 11.00

**Service modules**

Faculty of Humanities

**Prerequisites**

No prerequisites.



|                               |  |
|-------------------------------|--|
| <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   |

## Statistics 120 (STK 120)

### Module content:

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

Analysis of variance, categorical data analysis, distribution-free methods, curve fitting, regression and correlation, the analysis of time series and indices. Statistical and economic applications of quantitative techniques: Systems of linear equations: solving and application. Optimisation, linear functions, non-linear functions. Marginal and total functions. Stochastic and deterministic variables in statistical and economic context: producers' and consumers' surplus. Supporting mathematical concepts. Statistical concepts are illustrated using simulation within a data science framework.

This module is also presented as STK 121, an anti-semester module. This is a terminating module.

|                       |       |
|-----------------------|-------|
| <b>Module credits</b> | 13.00 |
|-----------------------|-------|

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|------------------------|---|
| <b>Service modules</b> | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Humanities<br>Faculty of Natural and Agricultural Sciences |
|------------------------|---|

|                      |   |
|----------------------|---|
| <b>Prerequisites</b> | STK 110 GS or both STK 113 GS and STK 123 GS or both WST 133 and WST 143 or STK 133 and STK 143 |
|----------------------|---|

|                     |  |
|---------------------|--|
| <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 2 |
|-------------------------------|------------|

## Statistics 123 (STK 123)

### Module content:

\*On its own, STK 113 and 123 will not be recognized for degree purposes, but exemption will be granted for STK 110.

Optimisation techniques with economic applications: Data transformations and relationships with economic applications, operations and rules, linear, quadratic, exponential, hyperbolic and logarithmic functions; systems of equations in equilibrium, system of linear inequalities, solving of linear programming problems by means of the graphical and extreme point methods. Applications of differentiation and integration in statistic and economic related problems: the limit of a function, continuity, rate of change, the derivative of a function, differentiation rules, higher order derivatives, optimisation techniques, the area under a curve and applications of definite integrals. Probability and inference: Theoretical distributions. Sampling distributions. Estimation theory and hypothesis testing of sampling averages and proportions (one-sample and two-sample cases). Identification, use, evaluation and interpretation of statistical computer packages and statistical techniques. The weekly one hour



practical is presented during the last seven weeks of the semester.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 12.00  |
| <b>Service modules</b>        | Faculty of Humanities  |
| <b>Prerequisites</b>          | STK 113 GS   |
| <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 2   |

### Academic orientation 107 (UPO 107)

|                               |   |
|-------------------------------|---|
| <b>Module credits</b>         | 0.00  |
| <b>Language of tuition</b>    | Module is presented in English                |
| <b>Department</b>             | Economic and Management Sciences Deans Office |
| <b>Period of presentation</b> | Year  |

## Elective modules

### Marketing management 120 (BEM 120)

#### Module content:

This module provides an overview of the fundamentals of marketing by considering the exchange process, customer value, marketing research and the development of a marketing plan. It also addresses the marketing mix elements with specific focus on the seven service marketing elements namely the service product, physical evidence, people, process, distribution, pricing and integrated marketing communication.

|                               |   |
|-------------------------------|---|
| <b>Module credits</b>         | 10.00   |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Humanities<br>Faculty of Natural and Agricultural Sciences |
| <b>Contact time</b>           | 3 lectures per week   |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Department</b>             | Marketing Management  |
| <b>Period of presentation</b> | Semester 2  |



## Curriculum: Year 2

**Minimum credits: 150**

### Fundamental modules

#### Introduction to moral and political philosophy 251 (FIL 251)

**Module content:**

In this module students are equipped with an understanding of the moral issues influencing human agency in economic and political contexts. In particular philosophy equips students with analytical reasoning skills necessary to understand and solve complex moral problems related to economic and political decision making. We demonstrate to students how the biggest questions concerning the socio-economic aspects of our lives can be broken down and illuminated through reasoned debate. Examples of themes which may be covered in the module include justice and the common good, a moral consideration of the nature and role of economic markets on society, issues concerning justice and equality, and dilemmas of loyalty. The works of philosophers covered may for instance include that of Aristotle, Locke, Bentham, Mill, Kant, Rawls, Friedman, Nozick, Bernstein, Dworkin, Sandel, Walzer, and MacIntyre.

**Module credits** 10.00

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

**Prerequisites** No prerequisites.

**Contact time** 2 lectures per week

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

**Department** Philosophy

**Period of presentation** Quarter 2, 3 and 4

### Core modules

#### Business law 210 (BER 210)

**Module content:**

Basic principles of law of contract. Law of sales, credit agreements, lease.

**Module credits** 16.00

**Service modules** Faculty of Engineering, Built Environment and Information Technology  
Faculty of Economic and Management Sciences  
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** Mercantile Law



**Period of presentation** Semester 1

## Business law 220 (BER 220)

### Module content:

Labour law. Aspects of security law. Law of insolvency. Entrepreneurial law; company law, law concerning close corporations. Law of partnerships.

**Module credits** 16.00

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

**Prerequisites** Examination entrance for BER 210

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

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

**Department** Mercantile Law

**Period of presentation** Semester 2

## Informatics 214 (INF 214)

### Module content:

Database design: the relational model, structured query language (SQL), entity relationship modelling, normalisation, database development life cycle; practical introduction to database design. Databases: advanced entity relationship modelling and normalisation, object-oriented databases, database development life cycle, advanced practical database design.

**Module credits** 14.00

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

**Prerequisites** AIM 101 or AIM 111 and AIM 121

**Contact time** 2 lectures per week, 2 practicals per week

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

**Department** Informatics

**Period of presentation** Semester 1

## Informatics 225 (INF 225)

### Module content:

An overview of systems infrastructure and integration.

**Module credits** 14.00



|                               |  |
|-------------------------------|--|
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | INF 112; AIM 101 or AIM 102 or AIM 111 and AIM 121   |
| <b>Contact time</b>           | 1 lecture per week, 3 practicals per week  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Informatics  |
| <b>Period of presentation</b> | Semester 2   |

## Informatics 261 (INF 261)

### Module content:

Database management: transaction management, concurrent processes, recovery, database administration: new developments: distributed databases, client-server databases: practical implementation of databases.

**Module credits** 7.00

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|-------------------------------|--|
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Education<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | INF 214  |
| <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>             | Informatics  |
| <b>Period of presentation</b> | Semester 2   |

## Informatics 271 (INF 271)

### Module content:

Systems analysis. Systems design: construction; application architecture; input design; output design; interface design; internal controls; program design; object design; project management; system implementation; use of computer-aided development tools.

**Module credits** 14.00

|                               |   |
|-------------------------------|---|
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology  |
| <b>Prerequisites</b>          | AIM 101 or AIM 102 or AIM 111 and AIM 121, INF 164, INF 171           |
| <b>Contact time</b>           | 1 discussion class per week, 1 lecture per week, 1 practical per week |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Department</b>             | Informatics   |
| <b>Period of presentation</b> | Year  |



## Informatics 272 (INF 272)

### Module content:

Advanced programming.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 14.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | AIM 101 or AIM 102 or AIM 111 and AIM 121, INF 164 and INF 171, Regulation IT.3(g)                                   |
| <b>Contact time</b>           | 1 lecture per week, 2 practicals per week  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Informatics  |
| <b>Period of presentation</b> | Year   |

## Community-based project 201 (JCP 201)

### 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.

|                               |                                  |
|-------------------------------|----------------------------------|
| <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                             |

## Communication management 284 (KOB 284)

### Module content:





\*Module content will be adapted in accordance with the appropriate degree programme. Only one of KOB 281-284 may be taken as a module where necessary for a programme.

#### Applied business communication skills

Acquiring basic business communication skills will enhance the capabilities of employees, managers and leaders in the business environment. An overview of applied skills on the intrapersonal, dyadic, interpersonal, group (team), organisational, public and mass communication contexts is provided. The practical part of the module (for example, the writing of business reports and presentation skills) concentrates on the performance dimensions of these skills as applied to particular professions.

|                               |                                |
|-------------------------------|--------------------------------|
| <b>Module credits</b>         | 5.00                           |
| <b>Contact time</b>           | 3 lectures per week            |
| <b>Language of tuition</b>    | Module is presented in English |
| <b>Department</b>             | Business Management            |
| <b>Period of presentation</b> | Quarter 4                      |

## Elective modules

### Taxation 200 (BEL 200)

#### Module content:

In this module an introduction to taxation as a discipline in the South African tax environment is provided. The income tax concepts covered in this module are gross income, special inclusions, exempt income, general deductions, special deductions, prohibited deductions and allowed assessed losses. The implications of a capital gains tax event, specific sections of the Income Tax Act applicable on individuals as well as fringe benefits and specific allowances for individuals are discussed. Concepts such as the prepaid tax system, tax implications of donations tax events as well as the tax implications of a deceased person will be covered. Finally an introduction to the basic principles of VAT is included.

|                               |   |
|-------------------------------|---|
| <b>Module credits</b>         | 32.00   |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology  |
| <b>Prerequisites</b>          | FRK 111 and FRK 121 or FRK 100 or FRK 101. Only available to BCom (Option Taxation, Accounting Sciences, Financial Management Sciences, Financial Sciences, Informatics, Investment Management and Law) students. |
| <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>             | Taxation  |
| <b>Period of presentation</b> | Year  |

### Consumer behaviour 212 (BEM 212)

#### Module content:

Internal and external influencing factors of consumer behaviour, the consumer's decision process and application

fields of consumer behaviour, consumerisms and social responsibility, buying behaviour of consumers in both product and service related industries, consumer psychology and the influence thereof on buying behaviour, psychology of pricing, influencing factors in consumer buying behaviour, the impact of various forms of marketing communication on buying behaviour.

**Module credits** 16.00

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

**Prerequisites** BEM 120 GS

**Contact time** 3 lectures per week

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

**Department** Marketing Management

**Period of presentation** Semester 1

### Integrated brand communications 224 (BEM 224)

**Module content:**

Integrated brand communications approach, marketing communication planning, objectives and budgets for integrated marketing communications, principles and strategising of marketing communication elements, new media, the brand name communication process, marketing metrics and evaluation for marketing communication effectiveness.

**Module credits** 16.00

**Service modules** Faculty of Humanities  
Faculty of Natural and Agricultural Sciences

**Prerequisites** BEM 120 GS

**Contact time** 3 lectures per week

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

**Department** Marketing Management

**Period of presentation** Semester 2

### Financial management 212 (FBS 212)

**Module content:**

Role and environment of managerial finance. Financial statement analysis. Time value of money. Risk and return. Working capital management. Interest and valuations (bonds and shares).

**Module credits** 16.00

**Prerequisites** FRK 111 and 121/122 or FRK 100 or FRK 101

**Contact time** 3 lectures per week



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

**Department** Financial Management

**Period of presentation** Semester 1

## Financial management 222 (FBS 222)

### Module content:

Introduction to management accounting. Cost terms, concepts and classifications. Job-order costing. Cost behaviour. Variable versus absorption costing. Cost-volume profit relationships. Budgeting. Activity based costing. Cash flow and financial planning.

**Module credits** 16.00

**Prerequisites** FRK 111 and 122/121 or FRK 100 or FRK 101

**Contact time** 3 lectures per week

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

**Department** Financial Management

**Period of presentation** Semester 2

## Financial accounting 211 (FRK 211)

### Module content:

Preparation and presentation of company annual financial statements in compliance with the requirements of the Companies Act, the Framework and Statements of Generally Accepted Accounting Practice relating to the following: presentation of financial statements; revenue; investments; provisions, contingent liabilities and contingent assets; events after the balance sheet date; inventories; income taxes; leases; property, plant and equipment; impairment of assets; intangible assets; investment property, changes in accounting estimates and errors; introduction to financial instruments.

**Module credits** 16.00

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

**Prerequisites** FRK 111 and FRK 121 or FRK 100/101

**Contact time** 4 lectures per week

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

**Department** Accounting

**Period of presentation** Semester 1

## Financial accounting 221 (FRK 221)

### Module content:



Preparation and presentation of company annual financial statements in compliance with the requirements of Statements of Generally Accepted Accounting Practice relating to the following: employee benefits; the effects of changes in foreign exchange rates; accounting policies; earnings per share; cash flow statements; interests in joint ventures. Branch accounting. Introduction to consolidations, including basic consolidation techniques for both wholly-owned and partly-owned subsidiaries. Introduction to public sector accounting.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 16.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Education |
| <b>Prerequisites</b>          | FRK 211 GS   |
| <b>Contact time</b>           | 4 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Accounting   |
| <b>Period of presentation</b> | Semester 2   |

### Internal auditing 211 (IOK 211)

#### Module content:

Introduction to the audit environment. Nature, objectives, history and development of internal auditing. The internal auditing profession and the role of the Institute of Internal Auditors (IIA). Ethical code and standards of internal auditors (IPPF). An organisation's internal control environment and internal control systems. Introduction to Information Technology (IT). General controls and application controls frameworks. The internal audit process and tools and techniques used during the audit Introduction to sampling.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 16.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology |
| <b>Prerequisites</b>          | FRK 111 and FRK 121  |
| <b>Contact time</b>           | 3 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English                                       |
| <b>Department</b>             | Auditing   |
| <b>Period of presentation</b> | Semester 1   |

### Internal auditing 221 (IOK 221)

#### Module content:

Introduction to corporate governance. Relationship between internal auditing and other related disciplines and individuals. Background to external auditing. Internal and external audit approaches. The identification of weaknesses, risks and controls for the revenue and procurement systems in the system. The audit of internal control systems and the audit of financial statements.

|                       |       |
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| <b>Module credits</b> | 16.00 |
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| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology |
| <b>Prerequisites</b>          | IOK 211 GS   |
| <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>             | Auditing   |
| <b>Period of presentation</b> | Semester 2   |

## Business management 210 (OBS 210)

### Module content:

Logistics management

The role of logistics in an enterprise; definition and scope of customer service; electronic and other logistics information systems; inventory management; materials management with special reference to Japanese systems; management of the supply chain. Methods of transport and transport costs; types and costs of warehousing; electronic aids in materials handling; cost and price determination of purchases; organising for logistics management; methods for improving logistics performance.

**Module credits** 16.00

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|-------------------------------|--|
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Education<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | OBS 114 or 124 with admission to the examination in the other  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Business Management  |
| <b>Period of presentation</b> | Semester 1   |

## Business management 220 (OBS 220)

### Module content:

Project management and negotiations:

Introduction Project management concepts; needs identification; the project, the project manager and the project team; types of project organisations; project communication and documentation. Planning and control: planning, scheduling and schedule control of projects; resource considerations and allocations; cost planning and performance evaluation.

Negotiation and collective bargaining: The nature of negotiation; preparation for negotiation; negotiating for purposes of climate creation; persuasive communication; handling conflict and aggression; specialised negotiation and collective bargaining in the South African context.

**Module credits** 16.00

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|------------------------|--|
| <b>Service modules</b> | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Education<br>Faculty of Natural and Agricultural Sciences |
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| <b>Prerequisites</b>          | OBS 114 or 124 with admission to the examination in the other. Students from other Faculties are required to have 50% for Mathematics in Grade 12. |
| <b>Contact time</b>           | 3 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Business Management  |
| <b>Period of presentation</b> | Semester 2   |

## Statistics 210 (STK 210)

### Module content:

Statistical problem solving. Causality, experimental and observational data. Probability theory. Multivariate random variables. Discrete and continuous probability distributions. Stochastic representations. Measures of association. Expected values and conditional expectation. Simulation techniques. Supporting mathematical concepts. Statistical concepts are demonstrated and interpreted through practical coding and simulation within a data science framework.

**Module credits** 20.00

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

**Prerequisites** STK 110, STC 122 or WST 111, WST 121

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

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

**Department** Statistics

**Period of presentation** Semester 1

## Statistics 220 (STK 220)

### Module content:

Multivariate probability distributions. Sampling distributions and the central limit theorem. Frequentist and Bayesian inference. Statistical learning and decision theory. Simulation techniques enhancing statistical thinking. Supervised learning: linear regression, estimation and inference. Non-parametric modelling. Supporting mathematical concepts. Statistical algorithms. Statistical concepts are demonstrated and interpreted through practical coding and simulation within a data science framework.

**Module credits** 20.00

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

**Prerequisites** STK 210 GS

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



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

**Department**              Statistics

**Period of presentation**    Semester 2



## Curriculum: Final year

**Minimum credits: 120**

### Core modules

#### Informatics 315 (INF 315)

**Module content:**

A review of current trends which are relevant to the application of information systems within a business environment.

**Module credits** 15.00

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

**Prerequisites** INF 261, INF 225, INF 271 and INF 272

**Contact time** 2 lectures per week

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

**Department** Informatics

**Period of presentation** Semester 1

#### Informatics 324 (INF 324)

**Module content:**

Information systems in organisations.

**Module credits** 15.00

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

**Prerequisites** INF 261, INF 225, INF 271 and INF 272

**Contact time** 2 lectures per week

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

**Department** Informatics

**Period of presentation** Semester 2

#### Informatics 354 (INF 354)

**Module content:**

Advanced programming.

**Module credits** 15.00

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

**Prerequisites** INF 261, INF 225, INF 271 and INF 272

**Contact time** 1 lecture per week, 2 practicals per week





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

**Department** Informatics

**Period of presentation** Semester 1

## Informatics 370 (INF 370)

### Module content:

Application of systems analysis and design in a practical project; programming; use of computer-aided development tools.

**Module credits** 35.00

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

**Prerequisites** INF 261, INF 225, INF 271 and INF 272

**Contact time** 1 lecture per week, 2 practicals per week

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

**Department** Informatics

**Period of presentation** Year

## Elective modules

### Taxation 300 (BEL 300)

#### Module content:

The purpose of the module is to enable the learner to calculate the value-added tax liability and to journalise transactions; calculate the normal tax liability (including the determination of taxable capital gains and assessed capital losses) of individuals, companies, estates and trusts, discuss tax principles on value-added tax and normal tax; and calculate and discuss provisional and employees' tax and to object against an assessment.

**Module credits** 40.00

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

**Prerequisites** BEL 200 and FRK 221 or FRK 201

**Contact time** 1 discussion class per week, 4 lectures per week

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

**Department** Taxation

**Period of presentation** Year

### Marketing research 314 (BEM 314)

#### Module content:

The role of marketing research, the process of marketing research, interpretation of secondary research,



qualitative research, survey research, observation, measurement and attitude scaling, questionnaire design, sampling design and sampling procedures, basic data analysis, descriptive statistical analysis, interpretation and reporting of results, research report writing.

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|-------------------------------|---|
| <b>Module credits</b>         | 20.00   |
| <b>Service modules</b>        | Faculty of Humanities<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | BEM 120 and STK 110 GS  |
| <b>Contact time</b>           | 3 lectures per week   |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Department</b>             | Marketing Management  |
| <b>Period of presentation</b> | Semester 1  |

### Marketing management 321 (BEM 321)

#### Module content:

Strategic issues in marketing, strategic marketing, strategic analysis (market analysis, customer analysis, competitor analysis and internal analysis), market strategies (competitive strategies, strategies in the product life cycle and relationship building strategies) and strategy implementation and control.

|                               |   |
|-------------------------------|---|
| <b>Module credits</b>         | 20.00   |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Humanities<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | BEM 120   |
| <b>Contact time</b>           | 3 lectures per week   |
| <b>Language of tuition</b>    | Module is presented in English  |
| <b>Department</b>             | Marketing Management  |
| <b>Period of presentation</b> | Semester 2  |

### Financial accounting 311 (FRK 311)

#### Module content:

Preparation and presentation of company annual financial statements in compliance with the requirements of International Financial Reporting Standards (IFRS) relating to the following: income taxes; property, plant and equipment; impairment; non-current assets held for sale; intangible assets; investment property; borrowing costs; leases; accounting policies; changes in accounting estimates and errors; segment reporting; certain aspects of financial instruments.

|                        |  |
|------------------------|--|
| <b>Module credits</b>  | 20.00  |
| <b>Service modules</b> | Faculty of Engineering, Built Environment and Information Technology |



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|                               |                                |
|-------------------------------|--------------------------------|
| <b>Prerequisites</b>          | FRK 211, 221 and INF 281       |
| <b>Contact time</b>           | 4 lectures per week            |
| <b>Language of tuition</b>    | Module is presented in English |
| <b>Department</b>             | Accounting                     |
| <b>Period of presentation</b> | Semester 1                     |

## Financial accounting 321 (FRK 321)

### Module content:

Preparation and presentation of company annual financial statements in compliance with the requirements of International Financial Reporting Standards (IFRS) relating to the following: the effects of changes in foreign exchange rates; earnings per share; related party disclosure; associates. Complex consolidation issues, including intra-group transactions; dividends; preference shares; revaluations; horizontal, vertical and mixed groups; insolvent subsidiaries; change of interest; consolidated cash flow statement.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 20.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology |
| <b>Prerequisites</b>          | FRK 311 GS and INF 281   |
| <b>Contact time</b>           | 4 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English                                       |
| <b>Department</b>             | Accounting   |
| <b>Period of presentation</b> | Semester 2   |

## Internal auditing 311 (IOK 311)

### Module content:

General and application IT controls. The identification of weaknesses, risks and controls for the inventory, bank and cash systems. Statistical sampling. The audit of internal control systems and the audit of financial statements. Internal audit and external audit reports.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 20.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology |
| <b>Prerequisites</b>          | IOK 211 and IOK 221  |
| <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>             | Auditing   |
| <b>Period of presentation</b> | Semester 1   |



## Internal auditing 321 (IOK 321)

### Module content:

The identification of weaknesses, risks and controls for the payroll system and health and safety environment. The audit of internal control systems and the audit of financial statements. Computer Assisted Audit Techniques (CAATS). Introduction to performing an operational/performance audit. Relevant legislation and other guidelines that affect the internal audit profession. Introduction to the public sector internal audit environment.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 20.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology |
| <b>Prerequisites</b>          | IOK 311 GS   |
| <b>Contact time</b>           | 3 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English                                       |
| <b>Department</b>             | Auditing   |
| <b>Period of presentation</b> | Semester 2   |

## Business management 310 (OBS 310)

### Module content:

Strategy formulation: the deliberate strategy process of formulating a vision and mission statement, conducting internal and external environmental analyses and selecting appropriate strategies. It will enhance an understanding of the level of strategy formulation, gaining competitive advantage in your market place and thinking strategically.

|                               |  |
|-------------------------------|--|
| <b>Module credits</b>         | 20.00  |
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology |
| <b>Prerequisites</b>          | OBS 114 or 124 with admission to the examination in the other        |
| <b>Contact time</b>           | 3 lectures per week  |
| <b>Language of tuition</b>    | Module is presented in English                                       |
| <b>Department</b>             | Business Management  |
| <b>Period of presentation</b> | Semester 1   |

## Business management 320 (OBS 320)

### Module content:

Strategy execution: Strategic management implementation. The role of management in strategy implementation; budgets as instrument in the implementation process; leading processes of change within enterprises; supporting policies, procedures and information systems for implementation in the various functional areas; evaluation and control of implementation. South African case studies to create contextual relevance.

|                       |       |
|-----------------------|-------|
| <b>Module credits</b> | 20.00 |
|-----------------------|-------|



|                               |  |
|-------------------------------|--|
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Education |
| <b>Prerequisites</b>          | OBS 114 or 124 with admission to the examination in the other                                |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Business Management  |
| <b>Period of presentation</b> | Semester 2   |

## Statistics 310 (STK 310)

### Module content:

Supervised learning. Linear and non-linear regression. Ordinary least squares and maximum likelihood estimation. Violations of the assumptions, residual analysis. Cross validation. Statistical inference. Bootstrap inference. Supporting mathematical concepts. Statistical concepts are demonstrated and interpreted through practical coding and simulation within a data science framework.

**Module credits** 25.00

|                               |   |
|-------------------------------|---|
| <b>Service modules</b>        | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Humanities<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>          | STK 210, STK 220  |
| <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>             | Statistics  |
| <b>Period of presentation</b> | Semester 1  |

## Statistics 320 (STK 320)

### Module content:

Stationary and non-stationary univariate time series. Properties of ARIMA processes. Identification, estimation and diagnostic testing of a time series models. Forecasting. Multivariate time series. Supervised learning: introduction to generalised linear models. Modelling of binary response variables, logistic regression. Supporting mathematical concepts. Statistical concepts are demonstrated and interpreted through practical coding and simulation within a data science framework.

**Module credits** 25.00

|                            |   |
|----------------------------|---|
| <b>Service modules</b>     | Faculty of Engineering, Built Environment and Information Technology<br>Faculty of Economic and Management Sciences<br>Faculty of Natural and Agricultural Sciences |
| <b>Prerequisites</b>       | STK 210, STK 220 or WST 211, WST 221  |
| <b>Contact time</b>        | 1 practical per week, 3 lectures per week   |
| <b>Language of tuition</b> | Module is presented in English  |



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|                               |            |
|-------------------------------|------------|
| <b>Department</b>             | Statistics |
| <b>Period of presentation</b> | Semester 2 |

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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 each student to familiarise himself or herself 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.