FACULTY OF NATURAL AND AGRICULTURAL SCIENCES

- Agriculture Economics, Extension and Rural Development
- Anatomy
- Animal and Wildlife Sciences
- Biochemistry
- Chemistry
- Consumer Science
- Food Science
- Genetics
- Geography, Geoinformatics and Meteorology
- Geology
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FACULTY OF NATURAL AND AGRICULTURAL SCIENCES

ACADEMIC PERSONNEL AS ON 30 SEPTEMBER 2010

DEAN
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Rakitianski, S., MSc(Tashkent) PhD(Joint Institute for Nuclear
Research, Dubna, Russia).....Professor
Theron, C.C., BSc(Hons)(PortElizabeth)
MSc PhD(Stellenbosch).....Professor
Chetty, N., BSc(Hons)(Natal) MS PhD(Illinois).....Associate Professor
Diale, M., BSc(Ed)(UNIBO) MSc(Medunsa) PhD(Pretoria).....Senior Lecturer
Duvenhage, R. deV., BSc(Hons) MSc PhD(Pretoria) .....Senior Lecturer
Manyala, N.I., BSc(Hons) MSc(Witwatersrand)
PhD(Louisiana State Univ).....Senior Lecturer
Meyer, W.E., MSc PhD(Pretoria) .....Senior Lecturer
Nel, J.M., BSc(Hons)(Port Elizabeth) MSc(Cape Town)
PhD(Pretoria) .....Senior Lecturer
Van der Berg, N.G., BSc(Port Elizabeth) MSc(Unisa)
DSc(Pretoria).....Senior Lecturer
Janse van Rensburg, P.J., BSc(Hons)(Pretoria) .....Lecturer
Legodi, M.J., BSc(Medunsa) MSc(Pretoria) .....Lecturer
Machatine, A., MSc(Leipzig) .....Lecturer
Moji, C., BSc(Hons)(University of the North) MSc PhD(Natal) .....Lecturer
Odendaal, R.Q., MSc(Pretoria) .....Lecturer
Prinsloo, L.C., MSc HED PhD(Pretoria) .....First Technical Assistant

Department of Physiology
Van Papendorp, D.H., MBChB(Pret) BSc(Hons) .....Professor (Head)
MSc PhD(Stell) M.Akad.SA
Haag, M., MSc DSc(Pret).....Professor
Viljoen, M., MSc PhD(Pret) PhD(Witwatersrand).....Emeritus Professor
Nat Dip(Microbiology)

Dippenaar, N.G., MSc(Stell) MPhil(Cantab) PhD(Medunsa)
DiplMedTech(ChemPath).....Extraordinary Professor
Apatu, R.S.K., MBChB(Ghana) PhD(Cantab).....Associate Professor
Joubert, A.M., MSc PhD(Pret) .....Associate Professor
Ker, J., MBChB MMed(Int) PhD(Pret) MRCP(Edinburgh).....Associate Professor
Fellow: European Society of Cardiology
Coetzee, M., BSc(HHK)(Ed) MSc(Potchefstroom)
PhD(Pretoria) .....Senior Lecturer
Du Toit, P.J., BSc MSc PhD(Pretoria) .....Senior Lecturer
Soma, P., MBChB(Medunsa) MSc(Pretoria) .....Senior Lecturer
Govender, C.O., BSocSci(Hons) MA Clinical
Psychology MSc(Pretoria) .....Lecturer
Grobbelaar, C.W., MBChB(KwaZulu-Natal.....Lecturer
Jay-du Preez, T., MBChB(Pret) NatDipRad(Port Elizabeth .....Lecturer
Koorts, A.M., MSc PhD(Pretoria.....Lecturer
Mercier, A.E., BSc(Hons) MBChB (Pretoria) .....Lecturer
Abraham, S., MBChB(Unitra .....Junior Lecturer

Department of Plant Production and Soil Science

Annandale, J.G., MSc(Agric)(Pretoria) PhD(WSU).....Professor (Acting Head)
Bristow, K.L., BSc(Hons)(Natal) MSc(Free State) PhD(WSU) .....Honorary Professor
Duke, S.O., MS(Univ Arkansas) PhD(Duke Univ).....Extraordinary Professor
Reinhardt, C.F., BSc(Hons)(Free State) BSc(Agric)(Hons)
MSc(Agric) PhD(Pretoria) .....Extraordinary Professor
Singels, A., BSc(Agric)(Hons) MSc(Agric) PhD(Free State) .....Extraordinary Professor
Stirzaker, R.J., MSc(Agric) PhD(Sydney) .....Extraordinary Professor
Chirwa, P. W. C., BSc(Hons)(Bangor) MSc(Gainesville, Florida)
PhD(Nottingham).....Associate Professor
Du Toit, E.S., BSc(Hons) MSc(Agric) PhD(Pretoria).....Associate Professor
Soundy, P., MSc(Agric)(Natal) PhD(Florida) .....Associate Professor
Steyn, J.M., BSc(Hons) MSc(Agric)(Free State) PhD(Pretoria) .....Associate Professor
Avenant, E., BSc(Hons) MSc(Agric)(Pretoria) .....Extraordinary Lecturer
Karsen, P.A., MSc(Agric)(Stellenbosch).....Extraordinary Lecturer
Taylor, N. J., PhD(KwaZulu-Natal) .....Senior Lecturer
Truter, W. F., MSc(Agric) PhD(Pretoria) .....Senior Lecturer
De Jager, P.C., BSc(Hons)(Potchefstroom) MSc(Pretoria).....Lecturer
Madakadze, I.C., BSc(Agric)(Hons)(Zimbabwe)
MSc(Reading) PhD(McGill).....Lecturer
Marais, D., BSc(Agric)(Hons) MSc(Agric) PhD(Pretoria) .....Lecturer
Moshia, M.E., BSc(Agric)(Univ of the North) PhD(Colorado State)....Lecturer
Tesfamariam, E.H., MSc(Agric) PhD(Pretoria) .....Lecturer
Vorster, B.J., MSc PhD(Pretoria) .....Lecturer

Department of Plant Science

Meyer, J.J.M., PhD(Pretoria).....Professor (Head)
Bredenkamp, G.J., DSc(Pretoria) THOD FLS PrSciNat MSAIE ES
MGSSA .....Extraordinary Professor
Smith, G.F., PhD (J.P.H.Acocks Chair) .....Extraordinary Professor
Berger, D.K., PhD(Cape Town) .....Professor
Kunert, K.S., PhD (Konstanz Germany) .....Professor
Van Wyk, A.E., MSc(Potchefstroom) DSc(Pretoria) HED FLS.....Professor
Lall, N., PhD(Pretoria).....Associate Professor

Rouget, M.J.F., PhD(Cape Town) .....Associate Professor
Van Rooyen, M. W., PhD(Pretoria) HNED .....Associate Professor
Chikwamba, R.K., PhD(USA).....Extraordinary Senior Lecturer
Kritzinger, Q., PhD(Pretoria) .....Senior Lecturer
Bapela, M.J., MSc(Pretoria) .....Lecturer
Kiviet, A.M., BSc(Hons)(Fort Hare) MSc(Michigan State Univ)
HED(Transkei) BEd DEd(Unisa) MEd(Columbia, USA).....Lecturer
Tshikalange, T.E., MSc PhD(Pretoria) .....Lecturer

Postgraduate School of Agriculture and Rural Development
Machethe, C.L., BSc(Agric)(Hons)(Fort Hare)
MSc(Agric)(University of the North) M.S. PhD(Michigan
State).....Professor / Director

SADC Centre for Land-related, Regional and Development Law and Policy
Olivier, N.J.J., BA(Law) LLB BA(Hons)(Pretoria)
Drs Juris LLD(Leiden) MA(Pretoria)
BA(Hons)(Potchefstroom) LLD(Pretoria).....Professor / Director

SAFCOL Forest Science Chair
Chirwa, P. W. C., BSc(Hons)(Bangor) MSc(Gainesville, Florida)
PhD(Nottingham).....Director /
Associate Professor

Department of Statistics
Crowther, N.A.S., BSc(Hons)(Free State) MSc(Port Elizabeth)
DSc(Free State)..... Professor (Head)
Stoker, D.J., BSc MSc(Potchefstroom) MSc(Stellenbosch)
Dr(Math&Phys)(Amsterdam)..... Honorary Professor
Smit, C.F., MSc DSc(Pretoria) ..... Emeritus Professor
Van Zyl, G.J.J., BCom(Stellenbosch) PhD(North Carolina) ..... Professor, Acting
Director STATOMET
Bekker, A., MSc(Johannesburg) PhD(Unisa) ..... Associate Professor
Crafford, G., MSc PhD(Pretoria) ..... Senior Lecturer
Debusho, L.K., MSc(Addis Ababa) PhD(KwaZulu-Natal)..... Senior Lecturer
Fletcher, L., MSc PhD(Unisa)..... Senior Lecturer
Kanfer, F.H.J., MSc PhD(Potchefstroom)..... Senior Lecturer
Louw, E.M., MSc PhD(Pretoria) ..... Senior Lecturer
Millard, S.M., MCom(Pretoria)..... Senior Lecturer
Swanepoel, A., MSc(Port Elizabeth) ..... Senior Lecturer
Adamski, K., BSc(Hons) MSc(Pretoria)..... Lecturer
Basson, E.M., BSc(Hons) MSc(Pretoria)..... Lecturer
Bodenstein, L.E., BCom(Hons) MCom(Pretoria) ..... Lecturer
Coetsee, J., BCom(Hons) MCom(Pretoria) ..... Lecturer
Corbett, A.D., BCom BSc(Hons)(Pretoria)..... Lecturer
De Villiers, G.M., BSc(Hons) MSc(Pretoria) ..... Lecturer
Ehlers, R., BSc(Hons) MSc(Pretoria) ..... Lecturer
Fabris-Rotelli, I.N., BSc(Hons) MSc(Pretoria)..... Lecturer
Graham, M.A., BSc(Hons) MSc(Pretoria)..... Lecturer
Reyneke, F., BSc(Hons) MSc(Pretoria)..... Lecturer
Strydom, H.F., BSc(Hons)(Pretoria) MSc(Unisa) HED(Pretoria)..... Lecturer
Van Staden, P.J., BCom(Hons) MCom(Pretoria)..... Lecturer

Wingfield M Mondi Chair
Roux, J., PhD(Free State).....Professor

Department of Zoology and Entomology
Nicolson, S.W., BSc(Hons)(Auckland) PhD(Cantab) FRES.....Professor (Head)
Best, P.B., MA PhD(Cantab).....Extraordinary Professor
Clutton-Brock, T.H., MA PhD ScD(Cantab).....Extraordinary Professor
Crewe, R.M., BSc(Agric) MSc(Agric)(Natal) PhD(Georgia)
FRES FRSSA MSAAS PrSciNat.....Extraordinary Professor
Dippenaar-Schoeman, A.S., BSc(Unisa) BSc(Hons) MSc
PhD(RAU).....Extraordinary Professor
Du Toit, J.T., BSc(Hons) PhD(Witwatersrand).....Extraordinary Professor
Faulkes, C.G, PhD (University College London).....Extraordinary Professor
Getz, W.M., BSc BSc(Hons) PhD(Witwatersrand).....Extraordinary Professor
Kfir, R., BSc(Agric) MSc(Agric) PhD(Hebrew University Jerusalem)..Extraordinary Professor
Mansell, M.W., BSc (Hons) PhD(Rhodes).....Extraordinary Professor
Moritz, R.F.A., Dip PhD(Frankfurt).....Extraordinary Professor
Pimm, S.L., BA(Hons)(Oxon) PhD(New Mexico State Univ).....Extraordinary Professor
Bennett, N.C., BSc(Hons)(Bristol) MSc PhD(Cape Town) FZS.....Professor
Bester, M.N., BSc(Hons) MSc(Stellenbosch) DSc(Pretoria)
PrSciNat.....Professor
Chimimba, C.T., BSc(Malawi) MSc(Western Australia)
PhD(Pretoria) FLS FZS(London) PrSciNat.....Professor
Ferguson, J.W.H., BSc(Port Elizabeth) BSc(Hons)
MSc(Pretoria) PhD(Witwatersrand).....Professor
Scholtz, C.H., BSc(Hons) MSc DSc(Pretoria) FRES.....Professor
Van Aarde, R.J., MSc DSc(Pretoria) PrSciNat.....Professor
Bastos, A., BSc(Hons) MSc PhD(Pretoria).....Associate Professor
Cameron, E.Z., BSc MSc(Canterbury) PhD(Massey).....Associate Professor
Janse van Rensburg, B., BSc(Hons)(Free State) MSc
PhD(Pretoria).....Associate Professor
McKechnie, A.E., MSc PhD(Natal).....Associate Professor
Garnas, J.R., BA(Colorado) MSc(Maine) PhD(Dartmouth).....Senior Lecturer
Govender, P., BSc(Hons) MSc(Natal) PhD(Pretoria).....Senior Lecturer
Krüger, K., MPhil(Wales) PhD(Pretoria) FRES.....Senior Lecturer
Pirk, C.W.W., MSc(Berlin TU) PhD(Rhodes).....Senior Lecturer
Robertson, M.P., BSc BSc(Hons) PhD(Rhodes).....Senior Lecturer
Schoeman, A.S., MSc DSc(Agric) DTE(Pretoria).....Senior Lecturer
De Bruyn, P.J.N., BSc(Hons) MSc PhD(Pretoria).....Lecturer
Golpalraj,G.R.,BSc MSc(Madurai Kamaraj Univ).....Lecturer

BSc Four-year Programme
Naudé, K., BA BA(Hons)(Pretoria) MPhil(Stellenbosch).....Lecturer

Student Administration
Beresford, M.E., Mrs.....Head: Student Administration

Faculty Manager
Kotze, S.l, MA PhD(Pretoria)

GENERAL INFORMATION

Admission
Any person who wishes to register at the University for the first time, or after an interruption of studies, should apply or reapply for admission. Application for admission to all undergraduate programmes closes on 30 September.

Selection
A selection procedure takes place prior to admission to the following degree programmes in the Faculty of Natural and Agricultural Sciences:

Postgraduate programmes:
BScHons in Chemistry: Applications close on 15 December.
BScHons in Mathematical Statistics: Admissions test compulsory for admission.
BScHons in Wildlife Management: Applications close on 30 October.
MScAgric in Animal Science (all specialisations): Applications close on 30 October.

Statement of symbols
When registering at this University for the first time, a candidate has to submit a record of symbols obtained for each subject in the Grade 12 examination.

National Senior Certificate
All undergraduate candidates who enrol at the University of Pretoria for the first time, must show their original National Senior Certificate at the Student Administration of their faculty before the end of the first semester.

Language of tuition
In conducting its general business, the University uses two official languages, namely Afrikaans and English.
In formal education, the language of tuition is either Afrikaans or English, or both languages, taking the demand as well as academic and economic viability into consideration. However, it remains the student's responsibility to determine in which language a module and any further level of that module is presented. The information is published annually in the Timetable. The University reserves the right to change the language of tuition on short notice, depending on the size of the groups and the availability of lecturers. In respect of administrative and other services, a student may choose whether the University should communicate with him or her in Afrikaans or English.

Bursaries and loans
Particulars of bursaries and loans are available on request.
Visit the website: www.up.ac.za/fao

Accommodation
Applications for accommodation in university residences for a particular year should be submitted as from March 1 of the preceding year. Applications will be considered as long as vacancies exist, and prospective students are advised to apply well in advance.
Please note that admission to the University does not automatically mean that lodging will also be available.

Welcoming day, registration and start of the academic year
Details of the welcoming day to which all parents are cordially invited, the subsequent programme for registration and start of the academic year during which all new first-year students **must** be present, are obtainable from the Dean of Students.

Prescribed books
Lists of prescribed books are not available. The appropriate lecturers will supply information regarding prescribed books to students at the commencement of lectures.

Amendment of regulations and fees
The University retains the right to amend the regulations and to change module fees without prior notification.
Please note: The fees advertised and thus levied in respect of a module or study programme presentation represents a combination of the costs associated with the formal services rendered (for example lectures, practicals, access to laboratories, consumables used in laboratories, etc) as well as associated indirect overheads such as the provision of library and recreation facilities, security and cleaning services, electricity and water supply, etc. Therefore the fees in respect of a module or study programme presentation cannot simply be reconciled with the visible services that are rendered in respect of such module or study programme.

NB: The University of Pretoria started phasing in a new system of education and learning during 2000, which meets the requirements set out in the SAQA guidelines (South African Qualifications Authority) and in the NQF (National Qualification Framework). This entails the implementation of training programmes that will be outcomes-based and market-orientated. This system was implemented in the Faculty during 2001.

Presentation of a module or a programme
The Faculty reserves the right not to offer a particular module or programme if there is insufficient resources to do so, or if an insufficient number of qualified students present themselves.

Definition of terms

Familiarise yourself with the following terms. They are used generally in all faculties.

academic year: the duration of the academic year which is determined by the University Council
core module: a compulsory module for a specific study programme or package
module code: consists of an equal number of capitals and digits, which indicate the name of the module, the year of study, the period of study and the level of the module
credits: a number of credits are allocated to each module. These represent the quantity of work and the extent of the module
curriculum: a series of modules grouped together from different subjects over a specified period of time and in a certain sequence according to the regulations
elective module: a module that forms part of a study programme and which may be chosen by the students on condition that sufficient module credits on a specific level is obtained, as is required for the qualification for which the student is registered
examination mark: the mark a student obtains for an examination in a module, including practical and clinical examinations where applicable. If necessary, the examination mark is finalised after ancillary examinations have been completed
extended study programme: a study programme for a degree or diploma which is completed according to the regulations over a longer period than the minimum duration of the particular degree or diploma
final mark: the mark calculated on the basis of the semester/year mark and the examination mark a student obtained in a particular module according to a formula which

is determined from time to time in the regulations for each module with the proviso that should no semester/year mark be required in a module, the examination mark serves as the final mark

fundamental module: a module that is regarded as the academic basis of the learning activities in a specific programme or package

GS: a combined mark (semester/year mark plus examination mark) of at least 40% required for admission to a specific prescribed module

level of a module or **year level**: the academic level of a module which is indicated in the module code: this is an indication of the complexity of a module; the year level is indicated by the first digit of the module code (thus, PHY 131 is a module in Physics at level 1)

learning hours: This refers to the notional number of hours students should spend to master the learning content of a particular module or programme. The total number of learning hours for a module consists of the time needed for lectures, practicals, self-study and any other activity required by the training programme. Learning hours for modules are calculated on the basis of 40 working hours per week x 28 weeks = 1120 + 80 additional hours for evaluation = 1200. For undergraduate modules, the total number of learning hours per module are calculated using the formula number of credits (per module) x 10.

module: a defined part of a subject deemed to be an independent learning unit to which a module code is being allocated; a module is normally offered over seven weeks (quarter module).

registration: the process a candidate is required to complete to be admitted as a student of the University or for admission to a module

regulation for admission: a regulation drawn up by the Dean of a faculty regarding the admission of students to the faculty. It includes a provision regarding the selection process

semester module: a module that extends over one semester

semester/year mark: the mark a student obtains during the course of a semester or a year for tests, class-work, practical work or any other work in a particular module as approved by regulation

subject: a demarcated field of study of which one module or more may be chosen for a study programme

syllabus: the division of the study material for a specific module, according to the regulations

weighted average: the weighted average is composed of the marks for the various modules, weighted with the credits of each module as a fraction of the total number of credits for the semester or year

year module: a module that extends over one year (two semesters)

REGULATIONS AND CURRICULA

The rules for degrees, diplomas and certificates here published are subject to change and may be amended prior to the commencement of the academic year in 2011.

1. Admission to undergraduate study

1.1. General

(a) To register for a first bachelor's degree at the University, a candidate must, in addition to the required National Senior Certificate with admission for degree purposes, comply with the specific admission requirements for particular modules and fields of study as prescribed in the admission regulations and the faculty regulations.

(b) Candidates are advised to write the Institutional Proficiency Test of the University of Pretoria.

(c) Applicants are notified in writing of provisional admission. Admission to the Faculty of Natural and Agricultural Sciences is based on the final grade 12 examination results. In the case of the BSc (Four-year programme) candidates may be considered for admission based on the final grade 12 examination results and the results of the compulsory Institutional Proficiency Test .

(d) The following persons may also be considered for admission:
   (i) A candidate who is in possession of a certificate that is deemed by the University to be equivalent to the required National Senior Certificate with admission for degree purposes.
   (ii) A candidate who is a graduate from another tertiary institution or has been granted the status of a graduate of such an institution.
   (iii) A candidate who passes an entrance examination, as prescribed by the University from time to time.

   Abovementioned candidates are requested to contact the Student Administration at the faculty for more information regarding admission requirements.

   Note: A conditional exemption certificate does not grant admission to bachelor's study. However, in certain circumstances some of the faculties do accept a conditional exemption on the basis of mature age. Candidates are advised to contact the specific faculty administration in this regard.

(e) The Senate may limit the number of students allowed to register for a module, in which case the Dean concerned may, at his own discretion, select from the students who qualify for admission those who may be admitted.

(f) Subject to faculty regulations and the stipulations of General Regulations G.1.3 and G.62, a candidate will only be admitted to postgraduate bachelor's degree studies, if he or she is already in possession of a recognised bachelor's degree.

(g) Admission requirements for the Faculty of Natural and Agricultural Sciences for candidates with a National Senior Certificate:

To be able to gain access to the Faculty and specific programmes prospective students require the appropriate combinations of recognised NSC subjects as well as certain levels of achievement in the said subjects. In this regard the determination of an admission point score (APS) is explained and a summary of the specific requirements, i.e. the APS and the specific subjects required is provided.

Determination of an Admission Point Score (APS)
The calculation is simple and based on a candidate's achievement in six 20-credit recognised subjects by using the NSC ratings, that is the "1 to 7 scale of achievement". Thus, the highest APS that can be achieved is 42.
Life Orientation is excluded from the calculation determining the APS required for admission per faculty.

Rating code	Rating	Marks %
7	Outstanding achievement	80-100%
6	Meritorious achievement	70-79%
5	Substantial achievement	60-69%
4	Adequate achievement	50-59%
3	Moderate achievement	40-49%
2	Elementary achievement	30-39%
1	Not achieved	0-29%

Preliminary admission is based on the results obtained in the final Grade 11 examination. Final admission is based on Grade 12 results.
Please note: The final Grade 12 results will be the determining factor with regard to admission.

Alternative admission channels:
Candidates with an APS lower than required, could be considered for admission to the faculty if they meet the additional assessment criteria specified by the faculty from time to time. Preference will, however, be given to students who comply with the regular admission requirements of the faculty.

Specific requirements for the Faculty of Natural and Agricultural Sciences
1. A valid National Senior Certificate with admission for degree purposes.
2. It is recommended that all applicants write the UP Institutional Proficiency Test
3. The following minimum subject and level requirements:

Degree	APS	Group A		Group B	
		Two languages	Mathematics	Physical Science	Two other subjects
BSc in Biological Sciences (All the degrees including Medical Sciences)	30	Comply with NSC minimum require-ments; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4(50-59%).	5 (60%-69%) **or** 4 (50-59%) **provided** a **5** symbol is obtained for Physical Science	5 (60%-69%) **or** 4 (50-59%) **provided** a **5** symbol is obtained for Mathematics	Any two subjects 4 (50-59%)
	There are only 72 places available in the first year of BSc Medical Sciences. Students who apply for Medical Sciences as their first choice before 30 September wil be admitted until the places have been filled. Students who indicate it as their second choice will be placed on a waiting list and will be considered in January of the first year of study, if places become available. Students who do not comply with these entrance requirements and who wrote the Institutional Proficiency Test may be considered for the BSc: Four-year programme by the Admissions Committee.				

Degree	APS	Group A		Group B	
		Two languages	Mathematics	Physical Science	Two other subjects
BSc in Physical Sciences (Geography, Geology, Environ-ment and Engineering Geology, Meteorology, Environmental Science, Chemistry, Physics, Geoinformatics)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	5 (60-69%)	5 (60-69%)	Any two subjects 4 (50-59%)
	Students who do not comply with these entrance requirements and who wrote the Institutional Proficiency Test may be considered for the BSc: Four-year programme.				

Degree	APS	Group A		Group B
		Two languages	Mathematics	Three other subjects
BConsumer Science	26	Comply with NSC minimum require-ments; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	4 (50-59%)	Any three subjects 4 (50-59%)
BConsumer Science Education	26	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	4 (50-59%)	Any three subjects 4 (50-59%)
BSc in Mathematical Sciences (Applied Mathematics, Mathematics, Mathematical Statistics)	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	6 (70-79%)	Any three subjects 4 (50-59%)
	Students who do not comply with these entrance requirements and who wrote the Institutional Proficiency Test may be considered for the BSc: Four-year programme by the Admissions Committee.			

BSc in Mathematical Sciences (Actuarial and Financial Mathematics)	32	Comply with NSC minimum require-ments; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	7 (80-100%)	Any 3 subjects 4 (50-59%)
	Students who do not comply with the entrance requirements of the BSc: Actuarial and Financial Mathematics and who wrote the Institutional Proficiency Test may be considered for the BSc: Mathematical Statistics or the BSc: Four-year programme.			

Degree	**APS**	**Group A**		**Group B**	
		Two languages	**Mathematics**	**Physical Science**	**2 other subjects**
BScAgric	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	5 (60%-69%) **or** 4 (50-59%) **provided** a **5** symbol is obtained for Physical Science	5 (60%-69%) **or** 4 (50-59%) **provided** a **5** symbol is obtained for Mathematics	Any two subjects 4 (50-59%)
	Students who do not comply with these entrance requirements and who wrote the Institutional Proficiency Test may be considered for the BSc: Four-year programme with a view to apply to transfer to BSc(Agric) programmes after successful completion of the first year of the first year of the BSc: Four-year programme.				
BSecEd(Sci): Mathematics and Physical Sciences Education	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	5 (60-69%)	Any two subjects 4 (50-59%)	
	Students who do not comply with these entrance requirements and who wrote the Institutional Proficiency Test may be considered for the BSc: Four-year programme with a view to apply to transfer to BSecEd(Sci) programmes after successful completion of the first year of the first year of the BSc: Four-year programme.				

				Group B	
				Physical Science	**2 other subjects**
BSecEd(Sci): Biology Education	30	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	5 (60%-69%) **or** 4 (50-59%) **provided** a **5** symbol is obtained for Physical Science	5 (60%-69%) **or** 4 (50-59%) **provided** a **5** symbol is obtained for Mathematics	Any two subjects 4 (50-59%)
	Students who do not comply with these entrance requirements and who wrote the Institutional Proficiency Test may be considered for the BSc: Four-year programme with a view to apply to transfer to BSecEd(Sci) programmes after successful completion of the first year of the first year of the BSc: Four-year programme.				
BSc (Four-year programme (Biological and Agricultural Sciences) **Institutional Proficiency Test compulsory**	22	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	4 (50-59%) **or** 3 (40-49%) **provided a 4** symbol is obtained for Physical Science	4 (50-59%) **or** 3 (40-49%) **provided a 4** symbol is obtained for Mathematics	Any two subjects 4 (50-59%)
BSc (Four-year programme) (Physical Sciences) **Institutional Proficiency Test compulsory**	22	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	4 (50-59%) **or** 3 (40-49%) **provided a 4** symbol is obtained for Physical Science	4 (50-59%) **or** 3 (40-49%) **provided a 4** symbol is obtained for Mathematics	Any two subjects 4 (50-59%)

Degree	**APS**	**Group A**		**Group B**
		Two Languages	**Mathematics**	**Three subjects**
BSc (Four-year programme) (Mathematical Sciences) **Institutional Proficiency Test compulsory**	22	Comply with NSC minimum requirements; ADDITIONALLY one of these languages must be Afrikaans OR English at level 4 (50-59%).	4 (50-59%)	Any three subjects 4 (50-59%)

1.2. Requirements for specific modules

A candidate who:

(a) passed the Grade 12 examination in Mathematics with at least 60% will be admitted to the modules GLY 151, 152, 161 and 162 in Geology;

(b) passed the Grade 12 examination in Mathematics with at least 50%, will be admitted to WTW 134, WTW 115 and WTW 152 and 60% for WTW114, WTW126, WTW 158 and WTW 161 in Mathematics, and to WST 111 in Mathematical

Statistics (For the degree programme in Actuarial and Financial Mathematics, 80% in Mathematics is required)

(c) passed the Grade 12 examination in Mathematics as well as in Physical Science with at least 50%, will be admitted to Molecular and Cell Biology and a module in the subjects Zoology and Entomology, Genetics, Microbiology or Plant Science;

(d) passed the Grade 12 examination in Mathematics with at least 50%, or obtained at least 50% in STK 113 and 123 will be admitted to BME 120;

(e) passed the Grade 12 examination in Mathematics and Physical Science with at least 50%, will be admitted to the module CMY 117, 127 and 151 in Chemistry and PHY 131 and 171 in Physics;

(f) obtained at least 60% in Accounting on higher grade in the Grade 12 examination, may enroll immediately for INF 181, a module covering computer applications in accounting and offered for the duration of the first semester (14 weeks). All other students who have obtained at least 40% in FRK 111, must enroll for INF 181 in the second semester (14 weeks).

(g) obtained at least 50% in Grade 12 Mathematics will be admitted for COS 131.

(h) obtained at least 50% in Grade 12 Mathematics will be admitted for STK110. Candidates who do not qualify for STK 110, must enroll for STK 113 and STK 123.

(i) The modules Mathematical Statistics (WST) and Statistics (STK), except for STK 281, may not be taken simultaneously in a programme.

Please note:

- 'The Grade 12 examination' refers to the final National Senior Certificate examination.
- A student who takes a module presented by another faculty must take note of the admission requirements of that module, subminimum required in examina-tion papers, supplementary examinations, etc.

2. Registration for a particular year of study

At the beginning of an academic year, a student registers for all the modules he or she intends taking in that particular year (whether these be first-semester, second-semester or year modules). Changes to the chosen field of study may be made at the beginning of the second semester/third quarter with the Dean's approval. A student may also only register for modules that will fit in on the lecture, test and examination timetables. Should a student be prepared to attend one module after hours to avoid clashes on the timetables, the approval of the Dean is not required. (This will only be possible if the module in question is offered full-time and extramurally). A student is allowed to register for the next year of study only if at least the equivalent of four semester modules have been passed in a particular year of study.

2.1. Extended Programmes:

BSc (Four-year programme) – Mathematical Sciences (02130007)
BSc (Four-year programme) – Biological and Agricultural Sciences (02130008)
BSc (Four-year programme) – Physical Sciences (02130010)

(a) These programmes are followed by students who, as a result of exceptional circumstances, will benefit from an extended programme.

(b) Students who wish to follow one of the BSc four-year programmes will be subjected to an Institutional Proficiency Test and will be considered for admission by the Admissions Committee.

(c) Applications for admission to the BSc (Four-year programme) should be submitted before 30 September each year. Details are obtainable from the Student Administration at the Faculty of Natural and Agricultural Sciences.
(d) The rules and regulations applicable to the normal study programmes apply mutatis mutandis to the BSc (Four-year programme), with exceptions as indicated in the regulations pertaining to the BSc (Four-year Programme).
(e) Students who are admitted to one of the BSc four-year programmes register for one specific programme.

3. Module credits for unregistered students

There are students who attend lectures, write tests and examinations and in this manner earn "marks", but have either not registered for modules or even as students at all. These marks will not be communicated to any student before he/she has provided proof of registration. A student cannot obtain any credits in a specific academic year for a module "passed" in this manner during a previous academic year and for which he/she was not registered. This arrangement applies even where the student is prepared to pay the tuition fees.

4. Examination admission and pass requirements

Students who are registered for a module in this faculty are entitled to write the exam-ination in that module. A final mark of at least 50% is required to pass the module.

4.1. Subminima in examinations

A subminimum of 40% is required in the examination in each module. The year or semester mark of a module is obtained through continuous assessment of a student's performance during the module. A student must satisfactorily complete the practical component of the module (if applicable). The method by which the year/semester mark will be obtained, is published in the study guide of the module.

4.2. Examinations

The examinations for first-semester modules and the first- and second-quarter modules take place in May/June, while all other examinations (second-semester modules, third- and fourth-quarter modules and year modules) take place in October/November.
The final mark for the module is a combination of the year or semester mark and the examination mark, with the proviso that a module can only be passed if a subminimum of 40% is obtained in the examination and the practical component (if applicable) of the module has been satisfactorily completed. A final mark of at least 50% is required to pass a module. The year or semester mark must fall within a range of 40%-60% and the examination mark must fall within a range of 40%-60% of the final mark. Deviations from this rule can be approved by the Dean. The formula that is used to determine the final mark will be specified in the study guide of the module.

4.3. Ancillary examinations

After completion of an examination and before the examination results are published, the examiners may decide to summon a student for an ancillary examination on particular aspects of the work in that module with a view to determining:

- whether a candidate who does not comply with the requirements to pass a module could achieve a final pass mark; or
- whether a candidate, who does not comply with the requirements for a pass with distinction, will be able to improve his or her final mark.
- It is, therefore, possible that, depending on the importance a lecturer attaches to

continuous evaluation, no supplementary examinations may be awarded in a certain module.

- If ancillary examinations are awarded in a module, the guidelines indicating the basis for such consideration, have to be published in the study guide of the module.

4.4. Re-marking of examination papers (also consult Reg G.14)

After an examination, departments give feedback to students about the framework that was used by the examiners during the examination. The way in which feedback is given, is determined by the departmental heads. Students may apply for re-marking of an examination paper after perusal and within 14 calendar days after commencement of lectures in the next semester. The prescribed fee has to be paid. The paper will then be re-marked by an examiner appointed by the head of the department.

4.5. Supplementary examinations

(a) Supplementary examinations in first-semester modules take place after the May/June examinations, while those in second-semester and year modules take place after the October/November examinations.
(b) To pass a supplementary examination, a student must obtain a minimum of 50%.
(c) The highest final percentage a student can obtain in a supplementary examination is 50%.
(d) Special supplementary examinations are not arranged for students who are unable to write the examinations at the times and venues scheduled for supplementary examinations. (Also consult Reg.G.12)

4.6. Computer and information literacy (CIL 111, CIL 121)

It is a requirement for all new first-year students to register for two modules in Computer and information literacy. Students may write an exemption test for CIL 111 (Computer literacy) only.

4.7. Academic literacy (EOT 110 and EOT 120)

All new first-year students are required to write a language profiency test. Based on the results of the test, a student will be enrolled in language development modules that have to be passed before the degree will be awarded. All students who pass the Academic Literacy Test have to enrol for modules of equal value to make up the credits from the following: FIL 110, FIL 155 or other language modules: AFT 110, AFR 110, ENG 110, ENG 120, EOT 161, EOT 162, EOT 164, NDE 120, SEP 110, STW 110, ZUL 110, SCI 154, SCI 164 or MTL 181.

DEGREES AND DIPLOMAS CONFERRED/AWARDED IN THE FACULTY

The following degrees and diplomas are presented in the Faculty (minimum period of study is given in brackets):

Bachelor's degrees:

Bachelor of Science – [BSc] (3 years)
Bachelor of Agricultural Science – [BScAgric] (4 years)
Bachelor of Secondary Education in Science – [BSecEdSci] (4 years)
Bachelor of Consumer Science – [BConsumer Science] (4 years)

Honours degrees: (1 year)

Bachelor of Science Honours – [BScHons]
Bachelor of Agricultural Management Honours – [BInstAgrarHons]

Master's degrees: (minimum 1 year)
Master of Science – [MSc]
Master of Agricultural Science – [MScAgric]
Master of Agricultural Management – [MInstAgrar]
Master of Consumer Science – [MConsumer Science] (minimum 2 year)

Doctoral degrees:
Doctor of Philosophy – [PhD] (minimum 1 year)
Doctor of Science – [DSc]

Diplomas:
Advanced University Diploma in Extension and Rural Development – (1 year)

BACHELOR'S DEGREES

GENERAL INFORMATION FOR DEGREES IN THE FACULTY

General Regulations G.1 to G.15 are applicable to a bachelor's degree.

Sc.1 Duration
BSc
The minimum duration of study is three years full-time study.

BScAgric, BConsumer Science, BSecEdSci, BSc in Food Management
The minimum duration of study is four years full-time study.

Sc.2 Study programmes
The curricula are compiled from the study programmes in Sc. 7 or an alternative study programme as approved by the Dean.

Sc.3 Compilation of the curriculum
BSc
A student must obtain at least 436 module credits to comply with the requirements for a BSc degree programme. At least 144 credits must be obtained at 300/400 level, or otherwise indicated by curriculum. The minimum module credits needed to comply with degree requirements is set out at the end of each study programme. A maximum of 168 credits will be recognised at 100 level. A student may, in consultation with the Dean, follow modules not indicated in BSc three-year study programmes to the equivalent of a maximum of 36 module credits. The credits allocated per quarter/semester/year to each elective module should be regarded as a guideline only and not as an instruction. It is, however, important that the total number of prescribed elective module credits are completed during the course of the study programme. The Dean may, on the recommendation of the head of department, approve deviations in this regard.
A student may not register for more than 100 module credits per semester, unless it is with the permission of the Dean.
Students who are already in possession of a bachelor's degree, will not receive credit for modules of which the content overlap with modules of the degree that was already conferred and will not receive, in any circumstance, credit for more than half the credits passed previously for an uncompleted degree. No credits at the Final-year or 300- and 400 level will be approved.

BSc in Medical Science
As from 2004 the BScMedSci degree is presented in this Faculty.

NB: Due to the limited facilities, only 72 students can be admitted. Only candidates who have applied for admission by 30 September and who indicated this programme as a first choice, are provisionally admitted pending Grade 12 final results.

Promotion requirements:
A student will be promoted to the following year of study if he or she passed 100 credits of the prescribed credits for a year of study, unless the Dean on the recommendation of the head of department decides otherwise. A student who does not comply with the requirements for promotion to the following year of study, retains the credit for the modules already passed and may be admitted by the Dean, on recommendation of the head of department, to modules of the following year of study to a maximum of 48 credits, provided that it will fit in with both the lecture and examination timetable.

BScAgric
The minimum toral of credits needed to comply with degree requirements is set out at the end of each study programme.
Students must register for elective modules in consultation with the head of department who must ensure that the modules do not clash on the set timetable.
The Dean may, in exceptional cases and on recommendation of the head of department, approve deviations from the prescribed curriculum.

Promotion requirements:
A student will be promoted to the following year of study if he or she passed 100 credits of the prescribed credits for a year of study, unless the Dean on the recommendation of the head of department decides otherwise. A student who does not comply with the requirements for promotion to the following year of study, retains the credit for the modules already passed and may be admitted by the Dean, on recommendation of the head of department, to modules of the following year of study to a maximum of 48 credits, provided that it will fit in with both the lecture and examination timetable.

BConsumer Science

Promotion requirements:
All the degrees in Consumer Science
A student who did not pass all the prescribed modules of a particular year of study, has to register for the outstanding modules first. With the approval of the head of the department, modules of the following year of study may be taken in advance only if no timetable clashes occur; all the requirements and prerequisites have been met and not more than a specified number of credits per semester are taken. The credits of the semester of which modules are repeated, are taken as a guideline for the calculation of the number of modules permitted.

(a) A student registers for the second year when at least 80% of the first-year module credits have been passed.
(b) A student registers for the third year when at least 85% of the module credits of the previous years have been passed.
(c) A student registers for the fourth year when at least 95% of the module credits of the previous years have been passed.

BSecEdSci
See Sc.6.2

BSc (Four-year programme)
Three extended programmes are available:
BSc (Four-year programme) – Mathematical Sciences (02130007),
BSc (Four-year programme) – Biological and Agricultural Sciences (02130008) as well
BSc (Four-year programme) – Physical Sciences (02130010).
Students who do not comply with the normal three-year BSc entrance requirements for study in the Faculty of Natural and Agricultural Sciences, may nevertheless be admitted to the Faculty by being placed on the BSc (Four-year programme). Generally the BSc (Four-year programme) means that first study year in Mathematics, Physics, Biology and Chemistry is extended to take two years. After completing the BSc (Four-year programme) successfully, students join the second year of the normal BSc programme to complete their degrees. The possibility of switching over to other faculties such as Engineering, Built Environment and Information Technology, Veterinary Science and Health Sciences, after one or two years in the Extended Programme, exists. This depends on selection rules and other conditions stipulated by the other faculties.

Applications for admission to the BSc (Four-year programme) must be submitted annually before 30 September. All students considered for the BSc (Four-year programme) must have written an Institutional Proficiency Test . Information in this regard is available at the Client Services Centre. In addition all rules and regulations applicable to the normal study programmes, apply *mutatis mutandis* to the BSc (Four-year programme), with exceptions stated in the regulations for the BSc (Four-year programme). For instance, students placed in the BSc (Four-year programme) must have a National Senior Certificate with admission for degree purposes.

An admissions committee considers applications for the BSc (Four-year programme) annually. Regarding subject choices, admitted students are individually placed on the BSc (Four-year programme) according to their prospective field of study. Students may NOT change this placement without the permission of the Chairperson of the admissions committee.

Curriculum
The following available modules as indicated below, are prescribed modules for a BSc (Four-year programme) and the equivalence to the first-year modules of the normal BSc programme:

Prescribed: CMY133 Chemistry 133, CMY143 Chemistry 143 and CMY154 Chemistry 154: Equivalent module – a BSc First-semester prescribed module: CMY117.

Physics modules
For students in biological study directions: PHY133 Physics 133, PHY143 Physics 143 for admittance to PHY 131.

For students who want to study engineering: PHY133 Physics 133, PHY143 Physics 143, PHY153 Physics 153 for credit for FSK 116 (or FSK 176)

For all other students: PHY133, PHY143, PHY153, PHY 163: Equivalent module PHY171.

Prescribed: WTW133 Mathematics 133, WTW143 Mathematics 143 and WTW153 Mathematics 153: Equivalent module – a BSc First-semester prescribed module: WTW114.

Prescribed: MLB133 Molecular and Cell Biology 133, MLB143 Molecular and Cell Biology, MLB153 Molecular and Cell Biology 153: Equivalent module – a BSc First-semester prescribed module: MLB111 Molecular and cell biology 111.

NB! Students may register for an extended module (PHY133, PHY143, PHY153 and PHY163 module codes) only once.

Compulsory modules:
CIL111 and CIL121. Computer and information literacy modules, 4 + 4 credits.
LST 133 and LST 143. Academic literacy, 6 + 6 credits.

All new students must register for the academic literacy modules LST, except if they passed the compulsory academic literacy test, in which case they may select other modules from the list below to make up the 12 credits.
FIL 110, FIL 155 or other language modules: AFT 110, AFR 110, ENG 110, ENG 120, EOT 161, EOT 162, EOT 164, SEP 110, STW 110, ZUL 110, SCI 154, SCI 164 or MTL 181.

Academic promotion requirements

General

All students whose academic progress is not acceptable can be suspended from further studies.

- A student who is excluded from further studies in terms of the stipulations of the abovementioned regulations, will be notified in writing by the Dean or Admissions Committee at the end of the relevant semester.
- A student who has been excluded from further studies may apply in writing to the Admissions Committee of the Faculty of Natural and Agricultural Sciences for re-admission.
- Should the student be re-admitted by the Admissions Committee, strict conditions will be set which the student must comply with in order to proceed with his/her studies.
- Should the student not be re-admitted to further studies by the Admissions Committee, he/she will be informed in writing.
- Students who are not re-admitted by the Admissions Committee have the right to appeal to the Senior Appeals Committee.
- Any decision taken by the Senior Appeals Committee is final.

Specific

BSc (Four-year programme):

It is expected from students who register for the first year of the BSc (Four-year programme) to pass all the prescribed modules of the first year;
It is expected from students accepted into the BSc (Four-year programme) to finish a complete corresponding BSc first year within the two years of enrolment in the BSc (Four-year programme). Students who do not show progress during the first semester of the first year will be referred to the Admissions Committee of the Faculty.
By the end of year 1 semester 2, a student must have passed at least 4 of the 5 prescribed semester 2 modules. The final mark in the module failed must not be lower than 40% allowing the student to write a special exam in this subject early in the following year. This exam must be passed in order to register for the second year of the programme.

Sc.4 Special examinations in the Faculty of Natural and Agricultural Sciences
A student who requires a maximum of two modules and not more than 36 credits outstanding to comply with all the requirements for the degree, may be admitted by the Dean, on the recommendation of the head of department, to special examinations in modules failed, provided that this will enable him or her to comply with all the degree requirements. A student who has obtained a final mark of less than 40% in any one of the relevant modules, or who has previously been admitted to a special examination, does not qualify for this concession.

Sc.5 Degree with distinction
BSc
A student obtains his or her degree with distinction if all prescribed modules at 300 level (or higher) are passed in one academic year with a weighted average of at least 75%, and obtain at least a subminimum of 65% in each of the relevant modules.

BSc (Food Management)
A student obtains his or her degree with distinction if a weighted average of at least 75% is obtained in the following modules:
Recipe development and standardisation 413
Foods 423
Food research project 426
Food Service Management 410
Food Science and Technology 413

BScAgric
The BScAgric degree is conferred with distinction if a student obtains a weighted average of at least 75% in the modules of the major subjects in the third and the fourth year of study, with a weighted average of at least 65% in the other modules of the third and the fourth year of study.

BConsumer Science
A student obtains his or her degree with distinction if a weighted average of at least 75% is obtained in the following modules:

- **Clothing: Clothing Retail Management:**
  A combination equivalent to six semester modules
  Marketing management 311 and 321
  Clothing 410 and 420
  Clothing production 321, 411
  Project: Clothing textile project 402
  Textiles 421
- **Food Management: Food Retail Management:**
  A combination equivalent to six semester modules:
  Marketing management 311 and 321
  Food service management 410
  Consumer food research 310
  Food safety and hygiene 354
  Large-scale food production and restaurant management 322
  Recipe development and standardisation 413
  Visual merchandising of foods 415
  Foods 423
  Project: Visual merchandising of foods 425
  Food research project 426

- **Hospitality Management:**
  A combination equivalent to six semester modules
  Tourism management 310
  Business management 311
  Project hospitality management 410, 420
  Large-scale food production and restaurant management 322
  Recipe development and standardisation 413
  Culinary art 414, 424
  Food service management 410
- **Interior Merchandise Management: Interior Retail Management:**
  A combination equivalent to six semester modules:
  Marketing management 311 and 321
  Interior planning 322, 410
  Interior production 310
  Interior merchandise 311
  Interior project 481
  Consumer facilitation 411
- **Education:**
  Consumer Studies:
  The degree is conferred with distinction on a student who obtains a weighted average of at least 75% in the following modules:
  Subject didactics: Consumer studies 400
  Professional portfolio 400
  Interior merchandise 311
  Interior planning 320
  Nutrition during life cycle 321
  Large-scale food production and restaurant management 322
- **Hospitality Studies:**
  The degree is conferred with distinction on a student who obtains a weighted average of at least 75% in the following modules:
  Subject didactics: Hospitality studies 400
  Professional portfolio 400
  and any other four of the following:
  Food service management 321
  Nutrition 311
  Large-scale food production and restaurant management 322
  Culinary art 414, 424
  Tourism management 310

BSecEdSci
See Sc.6.2

Sc.6 DEGREE PROGRAMMES

The curriculum is composed of one of the following study programmes. The Dean may, on the recommendation of the programme manager, approve deviations in this regard.

Sc.6.1 GENERAL INFORMATION

- Where elective modules are not specified, these may be chosen from any modules appearing in the list of modules.

lpw/ppw: lectures per week/ practicals per week (e.g.: 3+1 = 3 lectures and 1 practical per week)
Quarter: The quarter in which the specific module is presented.
J1 = the whole year (year module: extends over two semesters)
S1 = the first semester (K1 + K2)
S2 = the second semester (K3 + K4)
K1 = first quarter
K2 = second quarter
K3 = third quarter
K4 = fourth quarter

Credits: Credit value of a module.

: Module must be taken before or together with the module for which it is a prerequisite.

Prerequisite modules: clarification		**Minimum requirements**
[ ]	Code in brackets: [AGR313]	Obtained a minimum of 50%
#	Code followed by #: AGR313#	Concurrent registration
GS	Code followed by GS: AGR313GS	Average of 40% - 49%

TDH: Approval from the head of department is required to register for the module.

Par 1.2: Refers to the admission requirements for specific modules that appear at the beginning of this publication.

Field of study	Dept	Code
BSc in Actuarial and Financial Mathematics	**WTW**	**02133388**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
COS132	**Imperative programming 132**	**S1**	**4**	**1**	**16**
EKN113	**Economics 113**	**S1**	**3**	**0**	**15**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FBS112	**Financial management 112** Prerequisite/s: Par 1.2	**S1**	**3**	**0**	**10**
WST111	**Mathematical statistics 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**83**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EKN123	**Economics 123** Prerequisite/s: EKN113 GS	**S2**	**3**	**0**	**15**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
FBS122	**Financial management 122** Prerequisite/s: Par 1.2	**S2**	**3**	**0**	**10**
WST121	**Mathematical statistics 121** Prerequisite/s: WST111 GS	**S2**	**4**	**1**	**16**
WTW123	**Numerical analysis 123** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**75**

Compulsory credits = (158) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
IAS211	**Actuarial mathematics 211** Prerequisite/s: WTW114 60% and WTW128 60%	**S1**	**2**	**1**	**12**
INF214	**Informatics 214** Prerequisite/s: CIL111 and CIL121	**S1**	**3**	**2**	**14**
WST211	**Mathematical statistics 211** Prerequisite/s: WST111 and WST121 and WTW114 GS and WTW126 GS and WTW128 GS	**S1**	**4**	**2**	**24**

WTW211	**Linear algebra 211** Prerequisite/s: WTW126	**S1**	**2**	**1**	**12**
WTW218	**Calculus 218** Prerequisite/s: WTW114 and WTW128	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**74**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
IAS221	**Actuarial mathematics 221** Prerequisite/s: IAS211 GS	**S2**	**2**	**1**	**12**
WST221	**Mathematical statistics 221** Prerequisite/s: WST211 GS	**S2**	**4**	**2**	**24**
WTW220	**Analysis 220** Prerequisite/s: WTW114 and WTW128	**S2**	**2**	**1**	**12**
WTW221	**Linear algebra 221** Prerequisite/s: WTW211	**S2**	**2**	**1**	**12**
WTW286	**Differential equations 286** Prerequisite/s: WTW114 and WTW126 and WTW128	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**72**
Elective: IAS282. (Only for non-degree purposes)					
Compulsory credits = (146) Elective credits = (0)					

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WST311	**Multivariate analysis 311** Prerequisite/s: WST211 and WST221 and WTW211 GS and WTW218 GS	**S1**	**2**	**1**	**18**
WTW310	**Analysis 310** Prerequisite/s: WTW220	**S1**	**2**	**1**	**18**
WTW354	**Financial engineering 354** Prerequisite/s: WST211 and WTW211 and WTW218	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**54**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WST321	**Time series analysis 321** Prerequisite/s: WST211 and WST221 and WST311 GS and WTW211 GS and WTW218 GS	**S2**	**2**	**1**	**18**
WTW364	**Financial engineering 364** Prerequisite/s: WST211 and WTW126 and WTW218 and WTW286	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

Electives: IAS 361, IAS 382, WST312, WST322, WTW320, WTW382, WTW383, WTW386. All 72 elective credits must be on 3rd year level.
Compulsory credits = (90) Elective credits = (72) Total credits = (162)
A minimum of (466) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Animal Science	**VKU**	**03134002**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
VKU120	**Animal science 120**	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**
Compulsory credits = (148) Elective credits = (0)					

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**

BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
DAF200	**Animal anatomy and physiology 200** Prerequisite/s: CMY127 or TDH	**J1**	**4**	**1**	**18**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
PPK251	**Sustainable production systems 251** Prerequisite/s: BOT161	**S1**	**2**	**0.5**	**12**
VKU210	**Animal science 210** Prerequisite/s: VKU120	**S1**	**2**	**0.5**	**8**
Total credits for compulsory modules					**86**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
DAF200	**Animal anatomy and physiology 200** Prerequisite/s: CMY127 or TDH	**J1**	**4**	**1**	**18**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
VDG260	**Nutrition 260** Prerequisite/s: CMY127	**S2**	**3**	**0.5**	**12**
VKU220	**Animal science 220** Prerequisite/s: VKU210 of TDH	**S2**	**2**	**0.5**	**12**
Total credits for compulsory modules					**78**
Compulsory credits = (164) Elective credits = (0)					

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM355	**Immunobiology 355** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
BME210	**Biometry 210** Prerequisite/s: BME120	**S1**	**4**	**1**	**24**
DAN310	**Animal anatomy 310** Prerequisite/s: DAF200	**S1**	**1**	**0.5**	**8**
DFS311	**Animal physiology 311** Prerequisite/s: DAF200	**S1**	**2**	**0**	**10**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
RPL310	**Reproduction science 310** Prerequisite/s: DAF200	**S1**	**1**	**0.5**	**8**
VGE301	**Nutrition science 301** Prerequisite/s: BCM263 and BCM264 and BCM265 and BCM266 and DAF200 and VDG250 or VDG260 and VKU220	**J1**	**3**	**0.5**	**16**
WDE310	**Principles of veld management 310**	**S1**	**2**	**0.5**	**14**
Total credits for compulsory modules					**101**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM363	**Xeno biochemistry 363** Prerequisite/s: BCM265	**K4**	**1**	**0**	**5**
DFS320	**Growth physiology 320** Prerequisite/s: TDH	**S2**	**2**	**0.5**	**10**
RPL320	**Reproduction science 320** Prerequisite/s: RPL310	**S2**	**2**	**0.5**	**10**
TLR320	**Animal breeding 320** Prerequisite/s: GTS261	**S2**	**2**	**0.5**	**10**
VGE301	**Nutrition science 301** Prerequisite/s: BCM263 and BCM264 and BCM265 and BCM266 and DAF200 and VDG250 or VDG260 and VKU220	**J1**	**3**	**0.5**	**16**
VKU362	**Animal science biotechnology 362** Prerequisite/s: GTS261	**S2**	**1**	**0**	**8**
WDE320	**Planted pastures and foddercrops 320** Prerequisite/s: WDE310	**S2**	**2**	**0.5**	**14**
Total credits for compulsory modules					**73**

Compulsory credits = (174) Elective credits = (0)
A minimum of (486) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Applied Mathematics	**WTW**	**02133252**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
WST111	**Mathematical statistics 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW115	**Discrete structures 115** Prerequisite/s: Par 1.2	**S1**	**2**	**1**	**8**
WTW152	**Mathematical modelling 152** Prerequisite/s: Par 1.2	**S1**	**2**	**1**	**8**
Total credits for compulsory modules					**58**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
WST121	**Mathematical statistics 121** Prerequisite/s: WST111 GS	**S2**	**4**	**1**	**16**
WTW123	**Numerical analysis 123** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
WTW162	**Dynamical processes 162** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**58**
Compulsory credits = (116) Elective credits = (32) Total credits = (148)					

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW211	**Linear algebra 211** Prerequisite/s: WTW126	**S1**	**2**	**1**	**12**
WTW218	**Calculus 218** Prerequisite/s: WTW114 and WTW128	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**24**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW220	**Analysis 220** Prerequisite/s: WTW114 and WTW128	**S2**	**2**	**1**	**12**
WTW221	**Linear algebra** 221 Prerequisite/s: WTW211	**S2**	**2**	**1**	**12**
WTW285	**Discrete structures 285** Prerequisite/s: WTW115	**S2**	**2**	**1**	**12**

WTW286	**Differential equations 286** Prerequisite/s: WTW114 and WTW126 and WTW128	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**48**
Compulsory credits = (72) Elective credits = (72) Total credits = (144)					

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW310	**Analysis 310** Prerequisite/s: WTW220	**S1**	**2**	**1**	**18**
WTW382	**Dynamical systems 382** Prerequisite/s: WTW218 and WTW286	**S1**	**2**	**1**	**18**
WTW386	**Partial differential equations 386** Prerequisite/s: WTW218 and WTW286	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**54**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW383	**Numerical analysis 383** Prerequisite/s: WTW114 and WTW128 and WTW211	**S2**	**2**	**1**	**18**
WTW387	**Continuum mechanics 387** Prerequisite/s: WTW218 and WTW286	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

A minimum of 54 elective credits at 100 to 300 level can be chosen from any WTW and WST modules. The remainder of the electives at 100 to 300 level can be chosen from any other modules in the list of modules of this faculty.
Compulsory credits = (90) Elective credits = (54) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Biochemistry	**BCM**	**03133001**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**

PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**
Compulsory credits = (148) Elective credits = (0)					

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM271	**Biochemistry practical 271** Prerequisite/s: BCM253# en BCM254# and BCM255# and BCM256# and BCM263# and BCM264# and BCM265# and BCM266# and CMY283# and CMY284#	**J1**	**0**	**1**	**6**
CMY282	**Physical chemistry 282** Prerequisite/s: CMY117 and CMY127	**K1**	**2**	**0.5**	**12**
CMY284	**Organic chemistry 284** Prerequisite/s: CMY117 and CMY127	**K2**	**2**	**0.5**	**12**
Total credits for compulsory modules					**54**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM271	**Biochemistry Practical 271** Prerequisite/s: BCM253# en BCM254# and BCM255# and BCM256# and BCM263# and BCM264# and BCM265# and BCM266# and CMY283# and CMY284#	**J1**	**0**	**1**	**6**
CMY283	**Anatical chemistry 283** Prerequisite/s: CMY117 and CMY127	**K3**	**2**	**0.5**	**12**
CMY285	**Inorganic chemistry 285** Prerequisite/s: CMY117 and CMY127	**K4**	**2**	**0.5**	**12**
Total credits for compulsory modules					**54**
Electives can be chosen from Genetics, Microbiology, Human Physiology, Plant Science or Zoology.					
Compulsory credits = (108) Elective credits = (48) Total credits = (156)					

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM351	**Biochemistry of proteins 351** Prerequisite/s: BCM253 and BCM254	**K1**	**2**	**1**	**9**
BCM352	**Proteome analysis 352** Prerequisite/s: BCM253 and BCM254 and BCM351 GS	**K2**	**2**	**1**	**9**
BCM354	**Biochemistry of nucleic acids 354** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
BCM355	**Immunobiology 355** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM362	**Nutritional biochemistry 362** Prerequisite/s: BCM265	**K3**	**1**	**0**	**4**
BCM363	**Xeno biochemistry 363** Prerequisite/s: BCM265	**K4**	**1**	**0**	**5**
BCM364	**Building the cell 364**	**S2**	**1**	**0.5**	**9**
BCM365	**Immunobiochemistry 365** Prerequisite/s: BCM355 GS	**S2**	**1**	**0.5**	**9**
BCM366	**Enzymology 366**	**S2**	**1**	**1**	**9**
Total credits for compulsory modules					**36**

Electives can be chosen from Chemistry, Genetics, Microbiology, Human Physiology, Plant Science or Zoology.
Compulsory credits = (72) Elective credits = (72) Total credits = (144)
A minimum of (448) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Biological Sciences	**ADM**	**03130001**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**

MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Generic first-year modules in Biological Sciences: Students who are going to apply for the 20-30 MBChD, or the 2-3 BChD places, that become available in the second term, may enroll for FIL155, MGW112 and MTL181 instead of WTW134 under the condition that, should they not be selected and want to continue with BSc, WTW134 be taken in the second semester.
Compulsory credits = (148) Elective credits = (0)

Field of study	Dept	Code
BSc in Biotechnology	**GTS**	**03133052**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Totals for compulsory					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**

ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**
Compulsory credits = (148) Elective credits = (0)					

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**60**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**

GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**60**

Electives may be chosen from [ZEN 251 and ZEN 261] or [PLG 251 en PLG 226] or [GKD 250 and GKD 260] or DAF 200 or BME 210 or another module/s subject to TDH.
Compulsory credits = (120) Elective credits = (24) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM351	**Biochemistry of proteins 351** Prerequisite/s: BCM253 and BCM254	**K1**	**2**	**1**	**9**
BCM354	**Biochemistry of nucleic acids 354** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
GTS352	**Genomes 352** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
MBY364	**Genetic manipulation of microbes 364** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**18**

Contact the Department of Genetics for information regarding elective modules.
Compulsory credits = (54) Elective credits = (90) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Chemistry	**CMY**	**02133172**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**

CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**58**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**58**

Compulsory credits = (116) Elective credits = (32) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CMY282	**Physical chemistry 282** Prerequisite/s: CMY117 and CMY127	**K1**	**2**	**0.5**	**12**
CMY284	**Organic chemistry 284** Prerequisite/s: CMY117 and CMY127	**K2**	**2**	**0.5**	**12**
Total credits for compulsory modules					**24**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CMY283	**Anatical chemistry 283** Prerequisite/s: CMY117 and CMY127	**K3**	**2**	**0.5**	**12**
CMY285	**Inorganic chemistry 285** Prerequisite/s: CMY117 and CMY127	**K4**	**2**	**0.5**	**12**
Total credits for compulsory modules					**24**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Geology, Biochemistry, Zoology and Entomology, Physics, Plant Science, Computer Science, Mathematics and Applied Mathematics.

Compulsory credits = (48) Elective credits = (96) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CMY383	**Analytical chemistry 383** Prerequisite/s: CMY282 and CMY283 and CMY284 and CMY285	**K1**	**4**	**1**	**18**
CMY385	**Inorganic chemistry 385** Prerequisite/s: CMY282 and CMY283 and CMY284 and CMY285	**K2**	**4**	**1**	**18**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CMY382	**Physical chemistry 382** Prerequisite/s: CMY282 and CMY283 and CMY284 and CMY285	**K4**	**4**	**1**	**18**
CMY384	**Organic chemistry 384** Prerequisite/s: CMY282 and CMY283 and CMY284 and CMY285	**K3**	**4**	**1**	**18**
Total credits for compulsory modules					**36**

Compulsory credits = (72) Elective credits = (72) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Ecology	**ZEN**	**03133031**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**72**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**

EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GLY161	**Historical geology 161** Prerequisite/s: Par 1.2	**K3**	**4**	**1**	**8**
GLY162	**Environmental geology 162** Prerequisite/s: Par 1.2	**K4**	**4**	**1**	**8**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**64**

Compulsory credits = (136) Elective credits = (10) Total credits = (146)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT356	**Plant ecophysiology 356** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
BOT358	**Plant ecology 358** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
ZEN351	**Population ecology 351**	**K1**	**4**	**2**	**18**
ZEN353	**Community ecology 353**	**K2**	**4**	**2**	**18**
Total credits for compulsory modules					**72**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT366	**Plant diversity 366** Prerequisite/s: BOT161 or TDH	**S2**	**2**	**1**	**18**
ZEN361	**Ecophysiology 361**	**K3**	**4**	**2**	**18**
ZEN362	**Evolution and phylogeny 362**	**K3**	**4**	**2**	**18**
ZEN364	**Conservation ecology 364**	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**72**

Compulsory credits = (144) Elective credits = (0)
A minimum of (438) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Entomology	**ZEN**	**03133041**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**

BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**
Compulsory credits = (148) Elective credits = (0)					

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GLY161	**Historical Geology 161** Prerequisite/s: Par 1.2	**K3**	**4**	**1**	**8**
GLY162	**Environmental geology 162** Prerequisite/s: Par 1.2	**K4**	**4**	**1**	**8**

GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**64**

Compulsory credits = (136) Elective credits = (12) Total credits = (148)

Third year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
ZEN351	**Population ecology 351**	**K1**	**4**	**2**	**18**
ZEN353	**Community ecology 353**	**K2**	**4**	**2**	**18**
ZEN354	**Physiology 354**	**K2**	**4**	**2**	**18**
ZEN355	**Insect diversity 355** Prerequisite/s: ZEN251 GS or TDH	**K1**	**4**	**2**	**18**
Total credits for compulsory modules					**72**

Third year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
ZEN361	**Ecophysiology 361**	**K3**	**4**	**2**	**18**
ZEN362	**Evolution and phylogeny 362**	**K3**	**4**	**2**	**18**
ZEN364	**Conservation ecology 364**	**K4**	**4**	**2**	**18**
ZEN365	**Insect pest management 365**	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**72**

Compulsory credits = (144) Elective credits = (0)

A minimum of (440) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Environmental and Engineering Geology	**GLY**	**02133042**

First year, first semester:

Degree programmes in the Department of Geology: Students will be informed timeously of compulsory excursions that could take place during the vacations. The attendance of excursions for first-year students is compulsory, while excursions of longer duration are compulsory for senior students.

Code	Name	Trm	lpw	ppw	Crdt
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
GLY151	**Introductory geology 151** Prerequisite/s: Par 1.2	**K1**	**4**	**1**	**8**
GLY152	**Physical geology 152** Prerequisite/s: Par 1.2	**K2**	**4**	**1**	**8**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WTW158	**Calculus 158** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GLY161	**Historical geology 161** Prerequisite/s: Par 1.2	**K3**	**4**	**1**	**8**
GLY162	**Environmental geology 162** Prerequisite/s: Par 1.2	**K4**	**4**	**1**	**8**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
SWK122	**Mechanics 122** Prerequisite/s: WTW158 or WTW114	**S2**	**4**	**0**	**16**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
GLY253	**Sedimentology 253** Prerequisites: CMY117 and **3 of** GLY151, GLY152, GLY161, GLY162 and WTW114/WTW158 or PHY131/PHY171	**K2**	**4**	**2**	**12**
GLY254	**Structural geology 254** Prerequisites: CMY117 and **3 of** GLY151, GLY152, GLY161, GLY162 and WTW114/WTW158 or PHY131/PHY171	**K1**	**4**	**2**	**12**
GLY255	**Fundamental and applied mineralogy 255** Prerequisite/s: CMY117 and GLY151 and **2 of** GLY152, GLY161, GLY162	**S1**	**4**	**2**	**24**
SWK210	**Strength of materials 210** Prerequisite/s: SWK122 and WTW168/WTW128	**S1**	**3**	**2**	**16**
Total credits for compulsory modules					**76**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GLY261	**Igneous petrology 261** Prerequisite/s: GLY252	**K3**	**4**	**2**	**12**
GLY262	**Metamorphic petrology 262** Prerequisite/s: GLY252	**K4**	**4**	**2**	**12**
GLY264	**Introduction to geophysics 264** Prerequisites: **3 of** GLY151, GLY152, GLY161, GLY162 and WTW158/WTW114 or PHY131/PHY171	**K4**	**4**	**2**	**12**
GLY265	**Groundwater 265** Prerequisites: **3 of** GLY151, GLY152, GLY161, GLY162 and WTW158/WTW114 or PHY131/PHY171	**K3**	**4**	**2**	**12**
Total credits for compulsory modules					**48**

Compulsory credits = (124) Elective credits = (24) Total credits = 148

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GKD350	**Soil classification and surveying 350** Prerequisite/s: GKD250 GS	**S1**	**2**	**1**	**14**
GLY362	**Geostatistical and ore reserve calculations 362** Prerequisites: **6 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264, GLY265	**K1**	**4**	**2**	**18**
GLY363	**Engineering geology 363** Prerequisites: GLY152 and GLY265 and **5 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264	**K2**	**4**	**2**	**18**
SGM311	**Soil mechanics 311** Prerequisite/s: SWK210 or SWK220	**S1**	**3**	**1**	**16**
Total credits for compulsory modules					**66**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GKD320	**Soil chemistry 320** Prerequisite/s: GKD250	**S2**	**2**	**1**	**14**
GLY352	**Geodynamics and ore formation 352** Prerequisites: **6 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264, GLY265	**K4**	**4**	**2**	**18**
GLY361	**Ore deposits 361** Prerequisites: **6 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264, GLY265	**K3**	**4**	**2**	**18**
GLY364	**Rock mechanics 364** Prerequisite/s: **6 of** the second-year modules: GLY255, GLY253, GLY254, GLY261, GLY262, GLY264, GLY265	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**68**

Electives for the first to third year can be chosen from the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Mathematics and Applied Mathematics, Physics and Computer Science.

Compulsory credits = (134) Elective credits = (10) Total credits = (144)
A minimum of (440) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Environmental Sciences	**GGY**	**02133361**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
GGY157	**Introduction to environmental sciences 157**	**K1**	**3**	**0**	**6**
GGY158	**Geographical Skills 158**	**S1**	**0**	**1**	**4**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**68**
WTW 134 can be taken instead of WTW 114					

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GGY166	**Southern African geomorphology 166**	**K3**	**4**	**0**	**8**
WKD164	**Climate and weather of Southern Africa 164**	**K4**	**4**	**0**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Electives can be chosen from the following departments: Geography, Geoinformatics and Meteorology, Geology, Plant Production and Soil Science, Physics, Chemistry, Plant Science , Mathematics and Applied Mathematics, Zoology and Entomology, Anthropology and Archaeology and Computer Science.
Compulsory credits = (142) Elective credits = (6) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GGY252	**Process geomorphology 252**	**K2**	**4**	**2**	**12**
GGY283	**Introductory GIS 283**	**S1**	**2**	**1**	**12**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**60**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**24**

Electives can be chosen from the following departments: Geography, Geoinformatics and Meteorology, Physics, Geology, Plant Production and Soil Science, Chemistry, Plant Science , Mathematics and Applied Mathematics, Zoology and Entomology, Anthropology and Archaeology and Computer Science.

Compulsory credits = (84) Elective credits = (60) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GGY355	**Human environmental interactions 355**	**K2**	**4**	**2**	**18**
Total credits for compulsory modules					**18**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GGY361	**Environmental geomorphology 361**	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**18**

Electives can be chosen from modules in the departments: Geography, Geoinformatics and Meteorology, Geology, Plant Production and Soil Science, Physics, Chemistry, Plant Science , Mathematics and Applied Mathematics, Zoology and Entomology, Anthropology and Archaeology and Computer Science

Compulsory credits = (36) Elective credits = (108) Total credits = (144)

A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Food Management	**VBR**	**02133384**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FSG110	**Physiology 110**	**S1**	**3**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
VDS111	**Basic food preparation 111**	**S1**	**1**	**0.5**	**6**
Total credits for compulsory modules					**64**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
FSG120	**Physiology 120** Prerequisite/s: FSG110	**S2**	**3**	**0**	**6**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
VDS121	**Basic food preparation 121** Prerequisite/s: VDS111	**S2**	**1**	**0.5**	**6**
Total credits for compulsory modules					**72**

Compulsory credits = (136) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**

BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
OBS210	**Business management 210** Prerequisite/s: OBS114 or OBS124 with admission to the examination in the other	**S1**	**3**	**0**	**16**
VDS210	**Food commodities and preparation 210** Prerequisite/s: VDS121	**S1**	**3**	**1**	**18**
Total credits for compulsory modules					**70**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
FST260	**Principles of food processing and preservation 260** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S2**	**2**	**1**	**12**
KEP220	**Cultural eating patterns 220** Prerequisite/s: VDS121	**S2**	**3**	**0**	**12**
VDS221	**Food commodities and preparation 221** Prerequisite/s: VDS210	**S2**	**3**	**1**	**18**
Total credits for compulsory modules					**66**

Compulsory credits = (136) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM110	**Marketing management 110**	**S1**	**3**	**0**	**10**
FST351	**Food chemistry (1) 351** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**

FST352	**Food chemistry (2) 352** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**
VDG311	**Nutrition 311** Prerequisite/s: FSG110 and FSG120 or VDG220	**S1**	**3**	**1**	**17**
VDS310	**Consumer food research 310** Prerequisite/s: VDS221	**S1**	**3**	**1**	**21**
Total credits for compulsory modules					**84**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM121	**Consumer behaviour and service marketing 121** Prerequisite/s: BEM110 GS	**S2**	**3**	**0**	**10**
VDB321	**Food service management 321** Prerequisite/s: VDS322#	**S2**	**3**	**0.5**	**18**
VDG321	**Nutrition during life cycle 321** Prerequisite/s: VDG311	**S2**	**3**	**1**	**17**
VDS322	**Large-scale food production and restaurant management 322** Prerequisite/s: KEP261 or KEP220 and VDS221	**S2**	**3**	**3**	**29**
Total credits for compulsory modules					**74**

Compulsory credits = (158) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST412	**Sensory analysis 412** Prerequisite/s: FST260 and FST351 and FST352 or TDH	**S1**	**1**	**1**	**10**
FST413	**Product development and quality management 413** (Capita selecta 20 credits) Prerequisite/s: FST260 and FST351 and FST352 or TDH	**S1**	**3**	**1**	**20**
PGB410	**Project: Research methodology 410** Prerequisite/s: Final-year status	**S1**	**2**	**0**	**10**
VDB410	**Food service management 410** Prerequisite/s: VDB321 GS	**S1**	**3**	**1**	**24**
VDS413	**Recipe development and standardisation 413** Prerequisite/s: VDS310 or VDS322	**S1**	**3**	**2**	**30**
VDS423	**Foods 423**	**S1**	**3**	**0**	**15**
Total credits for compulsory modules					**109**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
MBY362	**Food microbiology 362** Prerequisite/s: MBY251	**S2**	**2**	**1**	**18**
VDS426	**Food research project 426** Prerequisite/s: PGB410# and VDS310	**S2**	**1**	**2**	**18**
Total credits for compulsory modules					**36**

OPI 480 (Experiential training in the industry): During the 4 years of study, during holidays, weekends and after hours, students must complete a total of 480 hours experiential training in the industry to develop practical and occupational skills. This is equal to 3 weeks x 40 hours (120 hours) per year, according to requirements as determined by the head of department. This training must be successfully completed together with a complete portfolio before the degree will be conferred.
Compulsory credits = (145) Elective credits = (0)
A minimum of (575) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Food Science	**VDW**	**03134011**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
FST250	**Introduction to food science and technology 250** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S1**	**2**	**1**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**60**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
FST260	**Principles of food processing and preservation 260** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S2**	**2**	**1**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
VDG260	**Nutrition 260** Prerequisite/s: CMY127	**S2**	**3**	**0.5**	**12**
Total credits for compulsory modules					**48**

Compulsory credits = (108) Elective credits = (36) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST350	**Integrated food science 350** Prerequisite/s: FST250 and FST260 or TDH	**J1**	**2**	**0**	**9**
FST351	**Food chemistry (1) 351** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**
FST352	**Food chemistry (2) 352** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**
FST353	**Food engineering 353** Prerequisite/s: FST260 or TDH	**S1**	**3**	**0.5**	**18**
Total credits for compulsory modules					**63**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST350	**Integrated food science 350** Prerequisite/s: FST250 and FST260 or TDH	**J1**	**2**	**0**	**9**
FST360	**Principles of the science and technology of plant foods 360** Prerequisite/s: FST250 and FST260 and FST351 and FST352 or TDH	**S2**	**2**	**1**	**18**
FST361	**Animal food science 361** Prerequisite/s: FST250 and FST260 and FST351 and FST352 or TDH	**S2**	**2**	**1**	**18**
MBY362	**Food microbiology 362** Prerequisite/s: MBY251	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**63**

Compulsory credits = (126) Elective credits = (18) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Genetics	**GTS**	**03133051**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Compulsory credits = (144) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GTS351	**Eukaryotic gene control and development 351** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
GTS352	**Genomes 352** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
GTS353	**Advanced population genetics 353** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**54**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GTS361	**Human genetics 361** Prerequisite/s: GTS352 GS or TDH	**S2**	**2**	**1**	**18**
GTS363	**Evolutionary and phylo-genetics 363** Prerequisite/s: GTS353 GS or TDH	**S2**	**2**	**1**	**18**

GTS366	**Plant genetics and biotechnology 366** Prerequisite/s: GTS251 GS and GTS261 and GTS351 and GTS352 are recommended or TDH	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**54**

Electives can be chosen from the following list of third-year modules: BCM351, BCM352, BCM354, BCM355, BCM364, BCM365, BCM366, BIF311, BOT357, BOT365, GTS365, MBY351, MBY353, MBY361, MBY363, MBY364, PLG364, ZEN351, ZEN352, ZEN354, ZEN355, ZEN362, ZEN363, ZEN364.
Compulsory credits = (108) Elective credits = (36) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Geography	**GGY**	**02133385**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
GGY156	**Introduction to human geography 156**	**K2**	**3**	**0**	**6**
GGY157	**Introduction to environmental sciences 157**	**K1**	**3**	**0**	**6**
GGY158	**Geographical skills 158**	**S1**	**0**	**1**	**4**
GMC110	**Cartography 110**	**S1**	**3**	**1**	**12**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**54**
WTW 134 can be taken instead of WTW 114.					

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GGY166	**Southern African geomorphology 166**	**K3**	**4**	**0**	**8**
WKD164	**Climate and weather of Southern Africa 164**	**K4**	**4**	**0**	**8**
Total credits for compulsory modules					**26**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Plant Science, Physics, Zoology and Entomology, Geology, Mathematics and Applied Mathematics, Computer Science, Anthropology and Archaeology, Economics, History, Psychology, Sociology, Political Sciences.

Compulsory credits = (80) Elective credits = (68) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GGY252	**Process geomorphology 252**	**K2**	**4**	**2**	**12**
GGY283	**Introductory GIS 283**	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**24**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GGY266	**City structures, environment and society 266**	**S2**	**3**	**1**	**24**
GIS220	**Geographic data analysis 220**	**S2**	**3**	**1**	**12**
Total credits for compulsory modules					**36**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Plant Science, Physics, Zoology and Entomology, Geology, Mathematics and Applied Mathematics, Computer Science, Anthropology and Archaeology, Economics, History, Psychology, Sociology, Political Sciences.
Compulsory credits = (60) Elective credits = (84) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GGY355	**Human environmental interactions 355**	**K2**	**4**	**2**	**18**
GGY356	**Sustainable development 356**	**K3**	**3**	**1**	**18**
GIS310	**Geographic information systems 310** Prerequisite/s: GGY283 or GIS221	**S1**	**3**	**1**	**24**
Total credits for compulsory modules					**60**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GGY361	**Environmental geomorphology 361**	**K4**	**4**	**2**	**18**
GGY366	**Development frameworks 366**	**K3**	**3**	**1**	**18**
GIS320	**Spatial analysis 320** Prerequisite/s: GIS310 or TDH	**S2**	**3**	**1**	**24**
Total credits for compulsory modules					**60**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Plant Science, Physics, Zoology and Entomology, Geology, Mathematics and Applied Mathematics, Computer Science, Anthropology and Archaeology, Economics, History, Psychology, Sociology, Political Sciences.

Compulsory credits = (120) Elective credits = (24) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Geoinformatics	**GGY**	**02133383**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
GGY156	**Introduction to human geography 156**	**K2**	**3**	**0**	**6**
GGY157	**Introduction to environmental sciences 157**	**K1**	**3**	**0**	**6**
GMC110	**Cartography 110**	**S1**	**3**	**1**	**12**
INF112	**Informatics 112** Prerequisite/s: Par 1.2, STK113 and STK123	**S1**	**2**	**0**	**10**
INF153	**Informatics 153** Prerequisite/s: Par 1.2	**S1**	**2**	**0**	**5**
INF154	**Informatics 154** Prerequisite/s: Par 1.2	**S1**	**1**	**2**	**5**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**70**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GGY166	**Southern African geomorphology 166**	**K3**	**4**	**0**	**8**
GIS120	**Geoinformatics 120** Prerequisite/s: GMC110	**S2**	**3**	**1**	**12**
INF163	**Informatics 163** Prerequisite/s: INF153	**S2**	**2**	**0**	**5**
INF164	**Informatics 164** Prerequisite/s: INF154	**S2**	**1**	**2**	**5**
WKD164	**Climate and weather of Southern Africa 164**	**K4**	**4**	**0**	**8**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**64**

Compulsory credits = (134) Elective credits = (0) Total credits = (134)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BER210	**Business law 210**	**S1**	**3**	**0**	**16**
GGY283	**Introductory GIS 283**	**S1**	**2**	**1**	**12**
GMA220	**Remote sensing 220**	**S2**	**3**	**1**	**16**
INF214	**Informatics 214** Prerequisite/s: CIL111 and CIL121	**S1**	**3**	**2**	**14**
STK110	**Statistics 110** Prerequisite/s: Par 1.2	**S1**	**3**	**1**	**13**
Total credits for compulsory modules					**71**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GIS220	**Geographic data analysis 220**	**S2**	**3**	**1**	**12**
INF225	**Informatics 225** Prerequisite/s: CIL111 and CIL121 and INF163 and INF 164	**S2**	**3**	**2**	**14**
INF261	**Informatics 261** Prerequisite/s: INF214	**S2**	**1**	**1**	**7**
STK120	**Statistics 120** Prerequisite/s: STK110 GS or both STK113 GS and STK123 GS	**S2**	**3**	**1**	**13**
SUR220	**Surveying 220** Prerequisite/s: WTW114 GS	**S2**	**3**	**1**	**16**
Total credits for compulsory modules					**62**

Compulsory credits = (133) Elective credits = (13) Total credits = (146)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GIS310	**Geographic information systems 310** Prerequisite/s: GGY283 or GIS221	**S1**	**3**	**1**	**24**
GMC310	**Geodesy 310** Prerequisite/s: GMC110 and WTW114	**S1**	**3**	**1**	**24**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
Total credits for compulsory modules					**58**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GIS320	**Spatial analysis 320** Prerequisite/s: GIS310 or TDH	**S2**	**3**	**1**	**24**
GMA320	**Remote sensing 320** Prerequisite/s: GMA220 or TDH	**S2**	**3**	**1**	**24**
GMT320	**Geoinformatics project 320** Prerequisite/s: GIS310 and INF214 and INF261 or TDH. **Only for Geoinformatics students**	**S2**	**3**	**1**	**24**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
Total credits for compulsory modules					**82**

Compulsory credits = (140) Elective credits = (22) Total credits = (162)
A minimum of (442) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Geology	**GLY**	**02133022**

First year, first semester:

Degree programmes in the Department of Geology: Students will be informed timeously of compulsory excursions that could take place during the vacations. The attendance of excursions for first-year students is compulsory, while excursions of longer duration are compulsory for senior students.

Code	Name	Trm	lpw	ppw	Crdt
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
GLY151	**Introductory geology 151** Prerequisite/s: Par 1.2	**K1**	**4**	**1**	**8**
GLY152	**Physical geology 152** Prerequisite/s: Par 1.2	**K2**	**4**	**1**	**8**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GLY161	**Historical geology 161** Prerequisite/s: Par 1.2	**K3**	**4**	**1**	**8**
GLY162	**Environmental geology 162** Prerequisite/s: Par 1.2	**K4**	**4**	**1**	**8**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
Total credits for compulsory modules					**58**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Mathematics and Applied Mathematics, Physics and Computer Science.
Compulsory credits = (132) Elective credits = (16) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
GLY253	**Sedimentology 253** Prerequisites: CMY117 and [**3 of** GLY151, GLY152, GLY161, GLY162] and WTW114/WTW158 or PHY131/PHY171	**K2**	**4**	**2**	**12**
GLY254	**Structural geology 254** Prerequisites: CMY117 and [**3 of** GLY151, GLY152, GLY161, GLY162] and WTW114/WTW158 or PHY131/PHY171	**K1**	**4**	**2**	**12**
GLY255	**Fundamental and applied mineralogy 255** Prerequisite/s: CMY117 and GLY151 and **2 o**f GLY152, GLY161, GLY162	**S1**	**4**	**2**	**24**
Total credits for compulsory modules					**60**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GLY261	**Igneous petrology 261** Prerequisite/s: GLY252	**K3**	**4**	**2**	**12**
GLY262	**Metamorphic petrology 262** Prerequisite/s: GLY252	**K4**	**4**	**2**	**12**
GLY264	**Introduction to geophysics 264** Prerequisites: **3 of** GLY151, GLY152, GLY161, GLY162 and WTW158/WTW114 or PHY131/PHY171	**K4**	**4**	**2**	**12**
GLY265	**Groundwater 265** Prerequisites: **3 of** GLY151, GLY152, GLY161, GLY162 and WTW158/WTW114 or PHY131/PHY171	**K3**	**4**	**2**	**12**
Total credits for compulsory modules					**48**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Mathematics and Applied Mathematics, Physics and Computer Science.
Compulsory credits = (108) Elective credits = (36) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GLY362	**Geostatistical and ore reserve calculations 362** Prerequisites: **6 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264, GLY265	**K1**	**4**	**2**	**18**
GLY363	**Engineering geology 363** Prerequisites: GLY152 and GLY265 and **5 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264	**K2**	**4**	**2**	**18**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GLY352	**Geodynamics and ore formation 352** Prerequisites: **6 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264, GLY265	**K4**	**4**	**2**	**18**
GLY361	**Ore deposits 361** Prerequisites: **6 of** the second-year modules: GLY253, GLY254, GLY255, GLY261, GLY262, GLY264, GLY265	**K3**	**4**	**2**	**18**
GLY364	**Rock mechanics 364** Prerequisite/s: **6 of** the second-year modules: GLY255, GLY253, GLY254, GLY261, GLY262, GLY264, GLY265	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**54**

Electives can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Plant Production and Soil Science, Chemistry, Mathematics and Applied Mathematics, Physics and Computer Science.
Compulsory credits = (90) Elective credits = (54) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Human Genetics	**GTS**	**03134031**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**

GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
FLG211	**Introductory and neurophysiology 211** Prerequisite/s: CMY117 and CMY127 and MLB111 and PHY131 or PHY171	**S1**	**2**	**1**	**16**
FLG212	**Circulatory physiology 212** Prerequisite/s: CMY117 and CMY127 and MLB111 and PHY171 or PHY131	**S1**	**2**	**1**	**16**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**80**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**

BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
FLG221	**Lung and renal physiology, acid-base balance and temperature 221** Prerequisite/s: FLG211 and FLG212	**S2**	**2**	**1**	**16**
FLG222	**Digestion, endocrinology and reproductive systems 222** Prerequisite/s: FLG211 and FLG212	**S2**	**2**	**1**	**16**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
Total credits for compulsory modules					**68**

Compulsory credits = (148) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM351	**Biochemistry of proteins 351** Prerequisite/s: BCM253 and BCM254	**K1**	**2**	**1**	**9**
BCM354	**Biochemistry of nucleic acids 354** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
BCM355	**Immunobiology 355** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
GTS351	**Eukaryotic gene control and development 351** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
GTS352	**Genomes 352** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
GTS353	**Advanced population genetics 353** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**81**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GTS361	**Human genetics 361** Prerequisite/s: GTS352 GS or TDH	**S2**	**2**	**1**	**18**
GTS363	**Evolutionary and phylo-genetics 363** Prerequisite/s: GTS353 GS or TDH	**S2**	**2**	**1**	**18**
GTS365	**Applied medical genetics 365** Prerequisite/s: GTS251 GS and GTS261 or TDH	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**54**

Electives to be chosen from the following list of third-year modules: BCM352, BCM365, BCM366, BCM364, BIF311, FAR381, FAR382, GTS366, MBY351, MBY353, MBY364, MBY363.
Compulsory credits = (135) Elective credits = (18) Total credits = (153)
A minimum of (449) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Human Physiology	**FLG**	**03134021**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

Students who are going to apply for the 20-30 MBChB places, or the 2-3 BChD places, that become available in the second term, may enroll for FIL155(6), MGW112(6) and MTL181(12) instead of WTW134 under the condition that, should they not be selected and want to continue with BSc, WTW134 must be taken in the second semester. Students should take note of the prerequisites for FLG 211 and FLG 212. Students who, after the first year do not comply with the prerequisites for these modules, will be required to apply to Student Administration, Faculty of Natural and Agricultural Sciences, to remain in the study programme.

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**50**

Electives can be chosen from ANA121(4), ANA126(4), MBY161(8) , BOT161(8), ZEN 161(8) or WTW152(8). Students who did not take WTW134 in the first semester are reminded to enroll for it in the second semester. Students should take note of the prerequisites for FLG 211 and FLG 212. Students who after the first year do not comply with the prerequisites for these modules will be required to apply to Student Administration, Faculty of Natural and Agricultural Sciences, to remain in the study programme.
Compulsory credits = (124) Elective credits = (24) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
FLG211	**Introductory and neurophysiology 211** Prerequisite/s: CMY117 and CMY127 and MLB111 and PHY131 or PHY171	**S1**	**2**	**1**	**16**
FLG212	**Circulatory physiology 212** Prerequisite/s: CMY117 and CMY127 and MLB111 and PHY171 or PHY131	**S1**	**2**	**1**	**16**
Total credits for compulsory modules					**56**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**

FLG221	**Lung and renal physiology, acid-base balance and temperature 221** Prerequisite/s: FLG211 and FLG212	**S2**	**2**	**1**	**16**
FLG222	**Digestion, endocrinology and reproductive systems 222** Prerequisite/s: FLG211 and FLG212	**S2**	**2**	**1**	**16**
Total credits for compulsory modules					**56**

Electives can be chosen from Chemistry 283 and 284, Genetics, Microbiology, Plant Science or Zoology.
Compulsory credits = (112) Elective credits = (24) Total credits = (136)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ANA316	**Histology techniques 316**	**S1**	**2**	**2**	**16**
FLG311	**Applied cellular physiology 311** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S1**	**1**	**1**	**14**
FLG312	**Developmental physiology 312** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S1**	**1**	**0**	**9**
FLG313	**Research methodology and literacy study 313** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S1**	**1**	**1**	**14**
FLG314	**Immunology 314** Prerequisite/s: Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S1**	**1**	**0**	**9**
Total credits for compulsory modules					**62**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FLG322	**Industrial physiology 322** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**1**	**1**	**14**
FLG324	**Exercise physiology 324** Prerequisite/s: Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**1**	**1**	**14**

FLG325	**Nutrition physiology 325** Prerequisite/s: Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**1**	**0**	**9**
FLG328	**Pathophysiology 328** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**1**	**0**	**9**
FLG329	**Integrated human physiology 329** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**0**	**1**	**9**
Total credits for compulsory modules					**55**

Electives can be chosen from Chemistry 383 and 384, Genetics, Biochemistry, Microbiology, Plant Science, Zoology or Pharmacology.
Compulsory credits = (117) Elective credits = (35) Total credits = (152)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Human Physiology, Genetics and Psychology	**FLG**	**02133392**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
SLK110	**Psychology 110**	**S1**	**2**	**0**	**12**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**86**

Students who are going to apply for the 20-30 MBChB places, or the 2-3 BChD places, that become available in the second term, may enrol for FIL155(6), MGW112(6) and MTL181(12) instead of WTW134 under the condition that, should they not be selected and want to continue with BSc, WTW134 must be taken in the second semester.

Students should take note of the prerequisites for FLG 211 and FLG 212. Students who, after the first year do not comply with the prerequisites for this module, will be required to apply to Student Administration, Faculty of Natural and Agricultural Sciences, to remain in the study programme.

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
SLK120	**Psychology 120**	**S2**	**2**	**0**	**12**
Total credits for compulsory modules					**62**

Students should take note of the prerequisites for FLG 211 and FLG 212. Students who after the first semester do not comply with the prerequisites for this module, will be required to apply to Student Administration, Faculty of Natural and Agricultural Sciences, to remain in the study programme. Students who are going to apply for the BSocSci(Hons) Psychology programme must complete the following research modules: RES 151 (first year), RES 261 (second year) and RES 361 (third year).

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
FLG211	**Introductory and neurophysiology 211** Prerequisite/s: CMY117 and CMY127 and MLB111 and PHY131 or PHY171	**S1**	**2**	**1**	**16**
FLG212	**Circulatory physiology 212** Prerequisite/s: CMY117 and CMY127 and MLB111 and PHY171 or PHY131	**S1**	**2**	**1**	**16**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**

SLK210	**Psychology 210** Prerequisite/s: SLK110, SLK120 GS and RES151 are recommended	**S1**	**2**	**0**	**20**
Total credits for compulsory modules					**88**

Students who do not comply with the prerequisites for the modules FLG211 and FLG212, will be required to apply at Student Administration to remain in the degree programme.

Second year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
FLG221	**Lung and renal physiology, acid-base balance and temperature 221** Prerequisite/s: FLG211 and FLG212	**S2**	**2**	**1**	**16**
FLG222	**Digestion, endocrinology and reproductive systems 222** Prerequisite/s: FLG211 and FLG212	**S2**	**2**	**1**	**16**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
SLK220	**Psychology 220** Prerequisite/s: SLK110, SLK120 GS and SLK261 are recommended	**S2**	**2**	**0**	**20**
Total credits for compulsory modules					**88**

Students who wish to apply for BSc(Hons): Genetics, will be required to register for additional undergraduate Genetics modules. Students who are going to apply for the BSocSci(Hons): Psychology programme must complete the following research modules: RES 151 (first year), RES 261 (second year) and RES 361 (third year).

Compulsory credits = (176) Elective credits = (0)

Third year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
FLG314	**Immunology 314** Prerequisite/s: Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S1**	**1**	**0**	**9**

GTS351	**Eukaryotic gene control and development 351** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
GTS352	**Genomes 352** Prerequisite/s: GTS251 GS and GTS261 GS or TDH	**S1**	**2**	**1**	**18**
SLK310	**Psychology 310** Prerequisite/s: SLK210 GS, SLK220 GS and RES361 are recommended	**S1**	**2**	**0**	**30**
Total credits for compulsory modules					**75**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FLG325	**Nutrition physiology 325** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**1**	**0**	**9**
FLG327	**Higher neurological functions 327** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**0**	**2**	**20**
FLG328	**Pathophysiology 328** Prerequisite/s: BCM253 GS and BCM254 GS and BCM255 GS and BCM256 GS and BCM263 GS and BCM264 GS and BCM265 GS and BCM266 GS and FLG221 and FLG222	**S2**	**1**	**0**	**9**
GTS361	**Human genetics 361** Prerequisite/s: GTS352 GS or TDH	**S2**	**2**	**1**	**18**
SLK320	**Psychology 320** Prerequisite/s: SLK310 GS	**S2**	**2**	**0**	**30**
Total credits for compulsory modules					**86**

Students who are going to apply for the BSocSci(Hons): Psychology programme must complete the following research modules: RES 151 (first year), RES 261 (second year) and RES 361 (third year).

Compulsory credits = (161) Elective credits = (0)

A minimum of (485) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Mathematical Statistics	**WST**	**02133273**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
WST111	**Mathematical statistics 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**

WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**42**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
WST121	**Mathematical statistics 121** Prerequisite/s: WST111 GS	**S2**	**4**	**1**	**16**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**42**

Students in Mathematical Statistics who also want to be trained for the Insurance Industry, Econometrics or Banking, normally choose:
EKN113, 123 (30) or EKN110, 120 (20)
FBS110, 120 (20) or FRK111, 121 (22)
COS131 (16) or COS110 (16)
Other students choose modules from any other subject/faculty according to their own specific career requirements.

Compulsory credits = (84) Elective credits = (64) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WST211	**Mathematical statistics 211** Prerequisite/s: WST111 and WST121 and WTW114 GS and WTW126 GS and WTW128 GS	**S1**	**4**	**2**	**24**
WTW211	**Linear algebra 211** Prerequisite/s: WTW126	**S1**	**2**	**1**	**12**
WTW218	**Calculus 218** Prerequisite/s: WTW114 and WTW128	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**48**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WST221	**Mathematical statistics 221** Prerequisite/s: WST211 GS	**S2**	**4**	**2**	**24**
WTW220	**Analysis 220** Prerequisite/s: WTW114 and WTW128	**S2**	**2**	**1**	**12**
WTW221	**Linear algebra 221** Prerequisite/s: WTW211	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**48**

Insurance Industry students normally choose: IAS211. Econometrics students normally choose: EKN214, 224 and STK281(42). Other students choose modules from any other subject/faculty according to their own specific career requirements.

Compulsory credits = (96) Elective credits = (48) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WST311	**Multivariate analysis 311** Prerequisite/s: WST211 and WST221 and WTW211 GS and WTW218 GS	**S1**	**2**	**1**	**18**
WST312	**Stochastic processes 312** Prerequisite/s: WST211 and WST221 and WTW211 GS and WTW218 GS	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WST321	**Time series analysis 321** Prerequisite/s: WST211 and WST221 and WST311 GS and WTW211 GS and WTW218 GS	**S2**	**2**	**1**	**18**
WST322	**Actuarial statistics 322** Prerequisite/s: WST211 and WST221 and WTW211 GS and WTW218 GS	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**36**
Insurance Industry students normally choose IAS 382. Econometrics students normally choose: EKN310, 320 and 314(60). Other students choose modules from any other faculty according to their own specific career requirements. Important: Elective modules to be selected in order to comply with the required minimum credits per level, provided there are no clashes on the class, test and examination time tables.					
Compulsory credits = (72) Elective credits = (72) Total credits = (144)					
A minimum of (436) credits is required to obtain the degree.					

Field of study	**Dept**	**Code**
BSc in Mathematics	**WTW**	**02133262**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
WST111	**Mathematical statistics 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW115	**Discrete structures 115** Prerequisite/s: Par 1.2	**S1**	**2**	**1**	**8**
WTW152	**Mathematical modelling 152** Prerequisite/s: Par 1.2	**S1**	**2**	**1**	**8**
Total credits for compulsory modules					**58**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
WST121	**Mathematical statistics 121** Prerequisite/s: WST111 GS	**S2**	**4**	**1**	**16**
WTW123	**Numerical analysis 123** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
WTW162	**Dynamical processes 162** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**58**

Compulsory credits = (116) Elective credits = (32) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW211	**Linear algebra 211** Prerequisite/s: WTW126	**S1**	**2**	**1**	**12**
WTW218	**Calculus 218** Prerequisite/s: WTW114 and WTW128	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**24**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW220	**Analysis 220** Prerequisite/s: WTW114 and WTW128	**S2**	**2**	**1**	**12**
WTW221	**Linear algebra 221** Prerequisite/s: WTW211	**S2**	**2**	**1**	**12**
WTW285	**Discrete structures 285** Prerequisite/s: WTW115	**S2**	**2**	**1**	**12**
WTW286	**Differential equations 286** Prerequisite/s: WTW114 and WTW126 and WTW128	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**48**

Compulsory credits = (72) Elective credits = (72) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW310	**Analysis 310** Prerequisite/s: WTW220	**S1**	**2**	**1**	**18**
WTW381	**Algebra 381** Prerequisite/s: WTW114 and WTW211	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
WTW320	**Analysis 320** Prerequisite/s: WTW218 and WTW310	**S2**	**2**	**1**	**18**
WTW389	**Geometry 389** Prerequisite/s: WTW211	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

A minimum of 54 elective credits at 100 to 300 level can be chosen from any WTW and WST modules. The remainder of the electives at 100 to 300 level can be chosen from any other modules in the list of modules of this faculty.
Compulsory credits = (72) Elective credits = (72) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Medical Sciences	**ANA**	**03134020**

Students who have not passed all the first-year, first-semester modules in BScMedSci are excluded from carrying on with BScMedSci in the second semester and need to deregister and reregister for another BSc programme, e.g. BSc in Biological Sciences (or a completely other degree programme).

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FIL155	**Science and world views 155**	**S1**	**1**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**80**

NOTE: Students who intend to apply for admission to one of the 20 to 30 MBChB places or the two to three BChD places becoming available in the second semester, may register in the first semester for FIL155, MGW112 and MTL181 with the proviso that these students, should they not be selected, take WTW134 in the second semester.

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ANA121	**Introduction: Human anatomy and embriology 121** Prerequisite/s: CMY117 and MLB111	**S2**	**1**	**1**	**4**
ANA122	**Human osteology 122**	**S2**	**1**	**1**	**4**
ANA126	**Basic human histology 126** Prerequisite/s: CMY117 and MLB111	**S2**	**1**	**1**	**4**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**70**

Compulsory credits = (150) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ANA214	**Human cell and developmental biology 214** Prerequisite/s: ANA121 and ANA126 and CMY127	**S1**	**2**	**1**	**12**
ANA215	**Paleoantropology 215**	**S1**	**2**	**1**	**10**
ANA217	**Human anatomy 217** Prerequisite/s: ANA121 and ANA122 and CMY127	**S1**	**2**	**1**	**16**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
Total credits for compulsory modules					**62**
Candidates must choose between either [FLG211 (16) and FLG 212 (16) **OR** GTS 251 (12)] as options in the first semester and have to complete the chosen option until their final year.					

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ANA226	**Human histology 226** Prerequisite/s: ANA126	**S2**	**1**	**1**	**10**
ANA227	**Human anatomy 227** Prerequisite/s: ANA217 GS	**S2**	**2**	**2**	**16**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
Total credits for compulsory modules					**50**

Depending on their choice of electives during the first semester, candidates need to complete either [FLG221 (16) and FLG 222 (16) **OR** GTS 261 (12)].
Elective credits:
GTS option: 24
FLG option: 64

Compulsory credits = (112)
Elective credits:
GTS option: 24
FLG option: 64

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ANA315	**Forensic antropology 315** Prerequisite/s: ANA122 and ANA215	**S1**	**2**	**1**	**16**
***ANA316**	**Histology techniques 316**	**S1**	**2**	**2**	**16**
Total credits for compulsory modules					**32**

GTS options: GTS 351, GTS 352 and/or GTS 353. A total of five GTS modules (90 credits) must be taken at 300-level; OR
FLG option: Any first semester, third-year Physiology modules and/or Pharmacology 381, to a a minimum of 37 credits.

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ANA324	**Applied human cell and developmental biology 324** Prerequisite/s: ANA214 and ANA226	**S2**	**2**	**1**	**14**

ANA327	**Comparative anatomy 327** Prerequisite/s: ANA121 and ANA122 and ANA217 and ANA227	**S2**	**1**	**1**	**14**
ANA328	**Applied research techniques 328** Prerequisite/s: ANA315 and ANA316	**S2**	**0**	**1**	**8**
Total credits for compulsory modules					**36**

GTS option: GTS 361, GTS 363 an/or GTS 365. A total of five GTS modules (90 credits) must be taken at 300-level; OR
FLG option: Any second-semester, third-year Physiology modules and/or Pharmacology 382, to a minimum of 39 credits.
** FLG311 must be taken by students who choose Pharmacology.
***ANA226 is required for all students with Anatomy as main subject.
**FAR 383 must be taken by students who choose FAR384.
NOTE: FLG327 Higher Neurological Functions 327 may only be taken by students with Psychology as major subject.

Compulsory credits = (68)

Elective credits on third year:
GTS option: 90
FLG option: 76
A minimum of 444 credits for the GTS option is required to obtain the degree.
A minimum of 468 credits for the FLG option is required to obtain the degree.

Field of study	Dept	Code
BSc in Meteorology	**GGY**	**02133312**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WKD151	**Atmospheric processes 151**	**K1**	**4**	**1**	**8**
WKD152	**Atmospheric circulation and climate 152**	**K2**	**4**	**1**	**8**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**58**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WKD162	**Dynamic and numerical meteorology 162**	**K3**	**4**	**0.6**	**8**

WKD164	**Climate and weather of Southern Africa 164**	**K4**	**4**	**0**	**8**
WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**58**

Compulsory credits = (116) Elective credits = (28) Total credits = (144)

Second year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
WKD250	**Weather forecasting 250**	**S1**	**5**	**0**	**24**
WKD253	**Community project 253**	**S1**	**0**	**2**	**18**
WTW218	**Calculus 218** Prerequisite/s: WTW114 and WTW128	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**54**

Second year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
GIS220	**Geographic data analysis 220**	**S2**	**3**	**1**	**12**
WKD261	**Physical meteorology 261**	**K3**	**4**	**0**	**12**
Total credits for compulsory modules					**24**
Compulsory credits = (78) Elective credits = (70) Total credits = (148)					

Third year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
WKD351	**Atmospheric balance laws 351**	**K1**	**4**	**1**	**18**
WKD352	**Atmospheric vorticity and divergence 352**	**K2**	**4**	**1**	**18**
Total credits for compulsory modules					**36**

Third year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
WKD361	**Quasi-geostrophic analysis 361** Prerequisite/s: WKD351 GS and WKD352 GS	**K3**	**4**	**0**	**18**
WKD362	**Cloud and boundary layer dynamics 362** Prerequisite/s: WKD351 GS	**K4**	**4**	**0**	**18**
WKD365	**Atmospheric data manipulation 365**	**K3**	**3**	**1**	**18**
Total credits for compulsory modules					**54**

Electives for the first to third year can be chosen from modules in the following departments: Geography, Geoinformatics and Meteorology, Geology, Plant Production and Soil Science, Chemistry, Plant Science, Mathematics and Applied Mathematics, Physics, Computer Science.

Compulsory credits = (90) Elective credits = (54) Total credits = (144)

A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Microbiology	**MBY**	**03133071**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**

BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**
ZEN251 may be replaced with FST250.					

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

ZEN261 may be replaced with PLG262 or FST260.
Compulsory credits = (144) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
MBY351	**Structure and diversity of viruses 351** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S1**	**2**	**1**	**18**
MBY352	**Environmental microbiology 352** Prerequisite/s: MBY161	**S1**	**2**	**1**	**18**
MBY353	**Vertibrate-microbe interaction 353** Prerequisite/s: MBY251	**S1**	**2**	**1**	**18**
PLG351	**General plant pathology 351** Prerequisite/s: MBY161 and MBY261 or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**72**

PLG351 may be replaced with GTS352 or GTS353 or BCM351 and BCM355.

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
MBY361	**Trends in microbiology 361** Prerequisite/s: BCM253 and BCM254 and GTS261 and MBY251	**S2**	**2**	**1**	**18**
MBY362	**Food microbiology 362** Prerequisite/s: MBY251	**S2**	**2**	**1**	**18**
MBY363	**Molecular biology of prokaryotes 363** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S2**	**2**	**1**	**18**
MBY364	**Genetic manipulation of microbes 364** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**72**

MBY362 may be replaced with GTS363 if GTS353 was taken during the first semester.
Compulsory credits = (144) Elective credits = (0)
A minimum of (436) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Nutrition and Food Science	**VDW**	**03134012**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**

CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FSG110	**Physiology 110**	**S1**	**3**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
VDS111	**Basic food preparation 111**	**S1**	**1**	**0.5**	**6**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**86**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
FSG120	**Physiology 120** Prerequisite/s: FSG110	**S2**	**3**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**64**

Compulsory credits = (150) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
FST250	**Introduction to food science and technology 250** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S1**	**2**	**1**	**12**

MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
VDG311	**Nutrition 311** Prerequisite/s: FSG110 and FSG120 or VDG220	**S1**	**3**	**1**	**17**
VDS210	**Food commodities and preparation 210** Prerequisite/s: VDS121	**S1**	**3**	**1**	**18**
Total credits for compulsory modules					**83**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
FST260	**Principles of food processing and preservation 260** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S2**	**2**	**1**	**12**
KEP220	**Cultural eating patterns 220** Prerequisite/s: VDS121	**S2**	**3**	**0**	**12**
VDG321	**Nutrition during life cycle 321** Prerequisite/s: VDG311	**S2**	**3**	**1**	**17**
VDS221	**Food commodities and preparation 221** Prerequisite/s: VDS210	**S2**	**3**	**1**	**18**
Total credits for compulsory modules					**83**

Compulsory credits = (166) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM355	**Immunobiology 355** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
FST350	**Integrated food science 350** Prerequisite/s: FST250 and FST260 or TDH	**J1**	**2**	**0**	**9**
FST351	**Food chemistry (1) 351** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**

FST352	**Food chemistry (2) 352** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**
VDS310	**Consumer food research 310** Prerequisite/s: VDS221	**S1**	**3**	**1**	**21**
Total credits for compulsory modules					**75**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM365	**Immunobiochemistry 365** Prerequisite/s: BCM355 GS	**S2**	**1**	**0.5**	**9**
FST350	**Integrated food science 350** Prerequisite/s: FST250 and FST260 or TDH	**J1**	**2**	**0**	**9**
MBY362	**Food microbiology 362** Prerequisite/s: MBY251	**S2**	**2**	**1**	**18**
VVW363	**Food, nutrition and health 363** Prerequisite/s: HNT210 or VDG311 and VDG321	**S2**	**3**	**1**	**21**
VVW364	**Food composition and applied nutritional programmes 364** Prerequisite/s: FST351 and FST 352 or TDH	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**75**

Compulsory credits = (150) Elective credits = (0)
A minimum of (466) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Physics	**PHY**	**02133202**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**
WTW114	**Calculus 114** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**42**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
PHY171	**First course in physics 171** Prerequisite/s: Par 1.2	**J1**	**4**	**1**	**16**

WTW126	**Linear algebra 126** Prerequisite/s: Par 1.2	**S2**	**2**	**1**	**8**
WTW128	**Calculus 128** Prerequisite/s: WTW114 GS	**S2**	**2**	**1**	**8**
Total credits for compulsory modules					**42**

CMY117,127 are recommended. Electives can be chosen from e.g. Mathematics, Meteorology, Geology, Geography, IT, Mathematical Statistics, Computer Science, Biochemistry, Zoology etc.
Compulsory credits = (84) Elective credits = (64) Total credits = (148)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
PHY255	**Waves, thermodynamics and modern physics 255** Prerequisite/s: PHY171 and WTW211# and WTW218#	**S1**	**4**	**1**	**24**
WTW211	**Linear algebra 211** Prerequisite/s: WTW126	**S1**	**2**	**1**	**12**
WTW218	**Calculus 218** Prerequisite/s: WTW114 and WTW128	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**48**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
PHY263	**General physics 263** Prerequisite/s: PHY255 GS and WTW211 GS and WTW218 GS and WTW220# and WTW221#	**S2**	**4**	**2**	**24**
WTW220	**Analysis 220** Prerequisite/s: WTW114 and WTW128	**S2**	**2**	**1**	**12**
WTW221	**Linear algebra 221** Prerequisite/s: WTW211	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**48**

Electives can be chosen from e.g. Mathematics, Meteorology, Geology, Geography, IT and Mathematical Statistics etc.
Compulsory credits = (96) Elective credits = (48) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
PHY356	**Electronics, magnetism and quantum mechanics 356** Prerequisite/s: PHY255 GS and PHY263 GS and WTW211 GS and WTW218 GS	**S1**	**4**	**1**	**36**
Total credits for compulsory modules					**36**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
PHY364	**General physics 364** Prerequisite/s: PHY356 GS and WTW211 GS and WTW218	**S2**	**4**	**2**	**36**
Total credits for compulsory modules					**36**

PHY353 and/or PHY363 can be chosen as elective modules.
Compulsory credits = (72) Elective credits = (72) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Plant Pathology	**MBY**	**03134001**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**

PLG262	**Principles of plant pathology 262** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**72**

Compulsory credits = (144) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT356	**Plant ecophysiology 356** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
MBY351	**Structure and diversity of viruses 351** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S1**	**2**	**1**	**18**
MBY352	**Environmental microbiology 352** Prerequisite/s: MBY161	**S1**	**2**	**1**	**18**
PLG351	**General plant pathology 351** Prerequisite/s: MBY161 and MBY261 or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**72**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GTS366	**Plant genetics and biotechnology 366** Prerequisite/s: GTS251 GS and GTS261 and GTS351 and GTS352 are recommended or TDH	**S2**	**2**	**1**	**18**
MBY364	**Genetic manipulation of microbes 364** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S2**	**2**	**1**	**18**
PLG363	**Plant disease control 363** Prerequisite/s: PLG251 or PLG262 or TDH. MBY261 is recommended	**S2**	**2**	**1**	**18**
PLG364	**Host pathogen interactions 364**	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**72**

Compulsory credits = (144) Elective credits = (0)
A minimum of (436) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BSc in Plant Science	**BOT**	**03133091**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**

CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**

MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Students specialising in plant ecology/taxonomy: Replace BCM 255 and BCM 256 with GKD 250.

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GLY161	**Historical geology 161** Prerequisite/s: Par 1.2	**K3**	**4**	**1**	**8**
GLY162	**Environmental geology 162** Prerequisite/s: Par 1.2	**K4**	**4**	**1**	**8**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**64**

Students NOT specialising in plant ecology/taxonomy: Replace GLY 161 and GLY 162 with either PLG 262 or HSC 260 and an additional elective module with at least 4 credits.

Compulsory credits = (136) Elective credits = (8) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT356	**Plant ecophysiology 356** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
BOT357	**Crop biotechnology 357** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
BOT358	**Plant ecology 358** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**54**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT365	**Phytomedicine 365** Prerequisite/s: BOT161 or TDH	**S2**	**2**	**1**	**18**
BOT366	**Plant diversity 366** Prerequisite/s: BOT161 or TDH	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**36**

Plant ecology specialisation: Students take ZEN364(18) and suitable elective modules.
Compulsory credits = (90) Elective credits = (54) Total credits = (144)
A minimum of (436) credits is required to obtain the degree.

Field of study	Dept	Code
BSc in Zoology	**ZEN**	**03133021**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**

BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
ZEN251	**Invertebrate biology 251** Prerequisite/s: ZEN161 GS or TDH	**K1**	**4**	**1**	**12**
Total credits for compulsory modules					**72**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GLY161	**Historical geology 161** Prerequisite/s: Par 1.2	**K3**	**4**	**1**	**8**
GLY162	**Environmental geology 162** Prerequisite/s: Par 1.2	**K4**	**4**	**1**	**8**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
ZEN261	**African vertebrates 261** Prerequisite/s: ZEN161 GS or TDH	**K3**	**4**	**1**	**12**
Total credits for compulsory modules					**64**

Compulsory credits = (136) Elective credits = (12) Total credits = (148)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ZEN351	**Population ecology 351**	**K1**	**4**	**2**	**18**
ZEN352	**Mammalogy 352**	**K1**	**4**	**2**	**18**
ZEN353	**Community ecology 353**	**K2**	**4**	**2**	**18**
ZEN354	**Physiology 354**	**K2**	**4**	**2**	**18**
Total credits for compulsory modules					**72**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ZEN361	**Ecophysiology 361**	**K3**	**4**	**2**	**18**
ZEN362	**Evolution and phylogeny 362**	**K3**	**4**	**2**	**18**
ZEN363	**Behavioural ecology 363**	**K4**	**4**	**2**	**18**
ZEN364	**Conservation ecology 364**	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**72**

Compulsory credits = (144) Elective credits = (0)
A minimum of (440) credits is required to obtain the degree.

Field of study	Dept	Code
BScAgric in Agricultural Economics/Agribusiness Management	**LEK**	**03130050**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FRK111	**Financial accounting 111**	**S1**	**4**	**0**	**10**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**68**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
FRK121	**Financial accounting 121** Prerequisite/s: FRK111 GS	**S2**	**4**	**0**	**12**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**54**

Compulsory credits = (122) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
EKN110	**Economics 110**	**S1**	**3**	**0**	**10**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
PPK251	**Sustainable production systems 251** Prerequisite/s: BOT161	**S1**	**2**	**0.5**	**12**
STK110	**Statistics 110** Prerequisite/s: Par 1.2	**S1**	**3**	**1**	**13**
VKU210	**Animal science 210** Prerequisite/s: VKU120	**S1**	**2**	**0.5**	**6**
Total credits for compulsory modules					**65**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
EKN120	**Economics 120** Prerequisite/s: EKN 110 GS or EKN 113 GS and at least 3 (40-49%) in Mathematics in the Grade 12 examination or STK 113 and STK 123 50%	**S2**	**3**	**0**	**10**
HSC260	**Crop propagation 260** Prerequisite/s: BOT161	**S2**	**2**	**0.5**	**12**
LBU260	**Agroclimatology 260**	**S2**	**2**	**0.5**	**12**
LEK220	**Agricultural economics 220** Prerequisite/s: LEK251 and LEK252 or EKN113 and/or EKN120	**S2**	**3**	**0**	**12**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
STK120	**Statistics 120** Prerequisite/s: STK110 GS or both STK113 GS and STK123 GS	**S2**	**3**	**1**	**13**
VKU220	**Animal science 220** Prerequisite/s: VKU210 of TDH	**S2**	**2**	**0.5**	**12**
Total credits for compulsory modules					**81**

Compulsory credits = (146) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BER210	**Business law 210**	**S1**	**3**	**0**	**16**
EKN214	**Economics 214** Prerequisite: EKN 110 GS and EKN 120 or EKN 113 GS and EKN 123 and STK 110 GS and STK 120 GS	**S1**	**3**	**0**	**16**

FST250	**Introduction to food science and technology 250** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S1**	**2**	**1**	**12**
LEK310	**Agricultural economics 310** Prerequisite/s: LEK251 or EKN110 and LEK252 or EKN120	**S1**	**3**	**0**	**12**
STK210	**Statistics 210** Prerequisite/s: STK110 and STK120	**S1**	**3**	**1**	**20**
Total credits for compulsory modules					**76**

EKN215 is recommended as an elective.

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
AGV421	**Communication 421**	**S2**	**2**	**0**	**20**
BEL220	**Taxation 220** Prerequisite/s: FRK 111, FRK 121 or FRK 100 or FRK 101 and INF 181	**S2**	**3**	**0**	**16**
EKN224	**Economics 224** Prerequisite: EKN 110 or EKN113, STK 110, EKN 214 GS	**S2**	**3**	**0**	**16**
LEK320	**Agricultural economics 320** Prerequisite/s: LEK220 and LEK251 and LEK252	**S2**	**3**	**2**	**18**
STK281	**Statistics 281** Prerequisite/s: STK110 and STK120	**S2**	**2**	**1**	**10**
Total credits for compulsory modules					**80**

Compulsory credits = (156) Elective credits = (37) Total credits = (193)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ARD480	**Agricultural and rural development studies 480**	**J1**	**3**	**0**	**20**
EKN314	**Economics 314** Prerequisite: EKN 214, EKN 224 and STK 120	**S1**	**3**	**0**	**20**
LEK415	**Agricultural economics 415** Prerequisite/s: EKN110 and LEK220 and WTW134	**S1**	**3**	**1**	**18**
LEK451	**Agricultural demand and supply analysis 451** Prerequisite/s: LEK220 and LEK252 and STK281	**K1**	**3**	**2**	**12**
LEK452	**Commodity price analysis 452** Prerequisite/s: LEK220 and LEK252 and LEK451 and STK281	**K2**	**3**	**2**	**12**
Total credits for compulsory modules					**82**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ARD480	**Agricultural and rural development studies 480**	**J1**	**3**	**0**	**20**
LEK421	**Agricultural economics 421** Prerequisite/s: LEK451 and STK210 and STK281	**S2**	**3**	**2**	**24**

LEK424	**Introduction to resource economics 424** Prerequisite/s: LEK251 and LEK252	**S2**	**3**	**0**	**15**
Total credits for compulsory modules					**59**

Elective modules can be chosen from the following: STK310, STK320, WDE320, EKN325, and any modules from Animal and Wildlife Sciences and Plant Production and Soil Sciences on 400 level that do not clash on the lecture, practical or examination time-table.
Compulsory credits = (141) Elective credits = (20) Total credits = (161)
A minimum of (622) credits is required to obtain the degree.

Field of study	Dept	Code
BScAgric in Animal Science	**VKU**	**03130140**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**

VKU120	**Animal science 120**	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
DAF200	**Animal anatomy and physiology 200** Prerequisite/s: CMY127 or TDH	**J1**	**4**	**1**	**18**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
PPK251	**Sustainable production systems 251** Prerequisite/s: BOT161	**S1**	**2**	**0.5**	**12**
VKU210	**Animal science 210** Prerequisite/s: VKU120	**S1**	**2**	**0.5**	**8**
Total credits for compulsory modules					**86**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**

DAF200	**Animal anatomy and physiology 200** Prerequisite/s: CMY127 or TDH	**J1**	**4**	**1**	**18**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
VDG260	**Nutrition 260** Prerequisite/s: CMY127	**S2**	**3**	**0.5**	**12**
VKU220	**Animal science 220** Prerequisite/s: VKU210 of TDH	**S2**	**2**	**0.5**	**12**
Total credits for compulsory modules					**78**

Compulsory credits = (164) Elective credits = (0)

Third year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
BME210	**Biometry 210** Prerequisite/s: BME120	**S1**	**4**	**1**	**24**
BCM355	**Immunobiology 355** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**1**	**0.5**	**9**
DAN310	**Animal anatomy 310** Prerequisite/s: DAF200	**S1**	**1**	**0.5**	**8**
DFS311	**Animal physiology 311** Prerequisite/s: DAF200	**S1**	**2**	**0**	**10**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
RPL310	**Reproduction science 310** Prerequisite/s: DAF200	**S1**	**1**	**0.5**	**8**
VGE301	**Nutrition science 301** Prerequisite/s: BCM263 and BCM264 and BCM265 and BCM266 and DAF200 and VDG250 or VDG260 and VKU220	**J1**	**3**	**0.5**	**16**
WDE310	**Principles of veld management 310**	**S1**	**2**	**0.5**	**14**
Total credits for compulsory modules					**101**

Third year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
BCM363	**Xeno biochemistry 363** Prerequisite/s: BCM265	**K4**	**1**	**0**	**5**
DFS320	**Growth physiology 320** Prerequisite/s: TDH	**S2**	**2**	**0.5**	**10**
RPL320	**Reproduction science 320** Prerequisite/s: RPL310	**S2**	**2**	**0.5**	**10**
TLR320	**Animal breeding 320** Prerequisite/s: GTS261	**S2**	**2**	**0.5**	**10**
VGE301	**Nutrition science 301** Prerequisite/s: BCM263 and BCM264 and BCM265 and BCM266 and DAF200 and VDG250 or VDG260 and VKU220	**J1**	**3**	**0.5**	**16**
VKU362	**Animal science biotechnology 362** Prerequisite/s: GTS261	**S2**	**1**	**0**	**8**

WDE320	**Planted pastures and foddercrops 320** Prerequisite/s: WDE310	**S2**	**2**	**0.5**	**14**
Total credits for compulsory modules					**73**

Compulsory credits = (174) Elective credits = (0)

Fourth year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
GVK420	**Large stock science 420** Prerequisite/s: RPL320 and VGE301 and VKU210	**S1**	**2**	**0.5**	**12**
PVK420	**Poultry science 420** Prerequisite/s: VGE301 and VKU220	**S1**	**2**	**0.5**	**12**
TLR411	**Animal breeding 411** Prerequisite/s: Simultaneously register for GVK 420, PVK420, KVK420 and VKD 410	**S1**	**2**	**0.5**	**12**
VGE423	**Nutrition science 423** Prerequisite/s: VGE301	**S1**	**3**	**0**	**16**
VKF411	**Animal science pharmacology 411** Prerequisite/s: DFS320 and VGE301	**S1**	**3**	**0**	**12**
VKU400	**Research methodology 400** Prerequisite/s: Simultaneously register for GVK 420, PVK420, TLR411, VGE 423, VKF 411 and WLK 410	**J1**	**2**	**0**	**8**
WLK410	**Wool science 410**	**S1**	**1**	**0.5**	**8**
Total credits for compulsory modules					**80**

Fourth year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
KVK420	**Small stock science 420** Prerequisite/s: RPL320 and VGE301 and VKU220	**S2**	**2**	**0.5**	**12**
TLR420	**Animal breeding 420** Prerequisite/s: TLR411	**S2**	**2**	**0.5**	**12**
VGE411	**Nutrition science 411** Prerequisite/s: VGE301	**S2**	**4**	**0.5**	**18**
VGE421	**Nutrition science 421** Prerequisite/s: VGE301	**S2**	**3**	**0.5**	**16**
VKD410	**Pig science 410** Prerequisite/s: VGE301 and VKU220	**S2**	**1**	**0.5**	**8**
VKU400	**Research methodology 400** Prerequisite/s: Simultaneously register for GVK 420, PVK420, TLR411, VGE 423, VKF 411 and WLK 410	**J1**	**2**	**0**	**8**
VSX420	**Meat and dairy science 420** Prerequisite/s: DFS320	**S2**	**2**	**0**	**10**
WKE420	**Wildlife science 420** Prerequisite/s: VGE301 and VKU361 or TDH	**S2**	**2**	**0**	**10**
Total credits for compulsory modules					**94**

Compulsory credits = (174) Elective credits = (0)

A minimum of (660) credits is required to obtain the degree.

Field of study	Dept	Code
BScAgric in Animal Science/Pasture Science	**VKU**	**03130250**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
VKU120	**Animal science 120**	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**

BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
DAF200	**Animal anatomy and physiology 200** Prerequisite/s: CMY127 or TDH	**J1**	**4**	**1**	**18**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
PPK251	**Sustainable production systems 251** Prerequisite/s: BOT161	**S1**	**2**	**0.5**	**12**
VKU210	**Animal science 210** Prerequisite/s: VKU120	**S1**	**2**	**0.5**	**8**
Total credits for compulsory modules					**86**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
DAF200	**Animal anatomy and physiology 200** Prerequisite/s: CMY127 or TDH	**J1**	**4**	**1**	**18**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
VKU220	**Animal science 220** Prerequisite/s: VKU210 of TDH	**S2**	**2**	**0.5**	**12**
VDG260	**Nutrition 260** Prerequisite/s: CMY127	**S2**	**3**	**0.5**	**12**
Total credits for compulsory modules					**90**

Compulsory credits = (176) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME210	**Biometry 210** Prerequisite/s: BME120	**S1**	**4**	**1**	**24**

DAN310	**Animal anatomy 310** Prerequisite/s: DAF200	**S1**	**1**	**0.5**	**8**
DFS311	**Animal physiology 311** Prerequisite/s: DAF200	**S1**	**2**	**0**	**10**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
RPL310	**Reproduction science 310** Prerequisite/s: DAF200	**S1**	**1**	**0.5**	**8**
VGE301	**Nutrition science 301** Prerequisite/s: BCM263 and BCM264 and BCM265 and BCM266 and DAF200 and VDG250 or VDG260 and VKU220	**J1**	**3**	**0.5**	**16**
WDE310	**Principles of veld management 310**	**S1**	**2**	**0.5**	**14**
Total credits for compulsory modules					**92**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
DFS320	**Growth physiology 320** Prerequisite/s: TDH	**S2**	**2**	**0.5**	**10**
LBU260	**Agroclimatology 260**	**S2**	**2**	**0.5**	**12**
RPL320	**Reproduction science 320** Prerequisite/s: RPL310	**S2**	**2**	**0.5**	**10**
TLR320	**Animal breeding 320** Prerequisite/s: GTS261	**S2**	**2**	**0.5**	**10**
VGE301	**Nutrition science 301** Prerequisite/s: BCM263 and BCM264 and BCM265 and BCM266 and DAF200 and VDG250 or VDG260 and VKU220	**J1**	**3**	**0.5**	**16**
WDE320	**Planted pastures and foddercrops 320** Prerequisite/s: WDE310	**S2**	**2**	**0.5**	**14**
Total credits for compulsory modules					**72**

Compulsory credits = (164) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GKD350	**Soil classification and surveying 350** Prerequisite/s: GKD250 GS	**S1**	**2**	**1**	**14**
GVK420	**Large stock science 420** Prerequisite/s: RPL320 and VGE301 and VKU210	**S1**	**2**	**0.5**	**12**
VGE423	**Nutrition science 423** Prerequisite/s: VGE301	**S1**	**3**	**0**	**16**
VKF411	**Animal science pharmacology 411** Prerequisite/s: DFS320 and VGE301	**S1**	**3**	**0**	**12**
VKU400	**Research methodology 400** Prerequisite/s: Simultaneously register for GVK 420, PVK420, TLR411, VGE 423, VKF 411 and WLK 410	**J1**	**2**	**0**	**8**
WDE450	**Environmental resource assessment and management 450**	**S1**	**3**	**0.5**	**20**
Total credits for compulsory modules					**82**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
APS461	**Crop physiology 461** Prerequisite/s: GKD250 and BOT356	**S2**	**2**	**0.5**	**14**
KVK420	**Small stock science 420** Prerequisite/s: RPL320 and VGE301 and VKU220	**S2**	**2**	**0.5**	**12**
VGE411	**Nutrition science 411** Prerequisite/s: VGE301	**S2**	**4**	**0.5**	**18**
VGE421	**Nutrition science 421** Prerequisite/s: VGE301	**S2**	**3**	**0.5**	**16**
VKU400	**Research methodology 400** Prerequisite/s: Simultaneously register for GVK 420, PVK420, TLR411, VGE 423, VKF 411 and WLK 410	**J1**	**2**	**0**	**8**
VSX420	**Meat and dairy science 420** Prerequisite/s: DFS320	**S2**	**2**	**0**	**10**
WKE420	**Wildlife science 420** Prerequisite/s: VGE301 and VKU361 or TDH	**S2**	**2**	**0**	**10**
Total credits for compulsory modules					**88**

Compulsory credits = (170) Elective credits = (0)
A minimum of (658) credits is required to obtain the degree.

Field of study	Dept	Code
BScAgric Option in Applied Plant and Soil Sciences	**PGW**	**03130162**

First year, first semester:					
Students who want to enroll for the main subjects: Agronomy, Horticulture or Pasture Science, must register for the BSc(Agric) Applied Plant and Soil Sciences degree.					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BOT251	**South African flora and vegetation 251** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**12**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
PLG251	**Introduction: Crop protection 251**	**S1**	**2**	**1**	**12**
PPK251	**Sustainable production systems 251** Prerequisite/s: BOT161	**S1**	**2**	**0.5**	**12**
VKU210	**Animal science 210** Prerequisite/s: VKU120	**S1**	**2**	**0.5**	**6**
Total credits for compulsory modules					**78**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**

GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
HSC260	**Crop propagation 260** Prerequisite/s: BOT161	**S2**	**2**	**0.5**	**12**
LBU260	**Agroclimatology 260**	**S2**	**2**	**0.5**	**12**
LEK220	**Agricultural economics 220** Prerequisite/s: LEK251 and LEK252 or EKN113 and/or EKN120	**S2**	**3**	**0**	**12**
PLG262	**Principles of plant pathology 262** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**72**

Compulsory credits = (150) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT356	**Plant ecophysiology 356** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
GKD350	**Soil classification and surveying 350** Prerequisite/s: GKD250 GS	**S1**	**2**	**1**	**14**
HSC351	**Nursery management 351**	**S1**	**2**	**0.5**	**14**
PGW350	**Soil-water-relationship and irrigation 350** Prerequisite/s: GKD250	**S1**	**2**	**0.5**	**16**
WDE310	**Principles of veld management 310**	**S1**	**2**	**0.5**	**14**
Total credits for compulsory modules					**76**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
AGR361	**Field crops 361** Prerequisite/s: HSC260 and PPK251	**S2**	**2**	**0.5**	**14**
GKD320	**Soil chemistry 320** Prerequisite/s: GKD250	**S2**	**2**	**1**	**14**
PLG363	**Plant disease control 363** Prerequisite/s: PLG251 or PLG262 or TDH. MBY261 is recommended	**S2**	**2**	**1**	**18**
WDE320	**Planted pastures and foddercrops 320** Prerequisite/s: WDE310	**S2**	**2**	**0.5**	**14**
ZEN365	**Insect pest management 365**	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**78**

Compulsory credits = (154) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
AGR410	**Vegetable crops 410**	**S1**	**2**	**0.5**	**14**
HSC490	**Ornament horticulture 490**	**S1**	**2**	**0.5**	**14**
LKM450	**Environmental biophysics 450**	**S1**	**2**	**0.5**	**16**

PGW400	**Seminar 400**	**J1**	**1**	**0**	**10**
PGW421	**Experimental design and analysis 421** Prerequisite/s: BME120	**S1**	**2**	**0.5**	**14**
WDE450	**Environmental resource assessment and management 450**	**S1**	**3**	**0.5**	**20**
Total credits for compulsory modules					**88**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
APS461	**Crop physiology 461** Prerequisite/s: GKD250 and BOT356	**S2**	**2**	**0.5**	**14**
GKD420	**Soil fertility, soil microbiology and plant nutrition 420** Prerequisite/s: GKD250 GS	**S2**	**3**	**1**	**14**
HSC420	**Fruit tree crops 420** Prerequisite/s: GKD250 and PGW350	**S2**	**4**	**1**	**26**
OKW413	**Weed science 413** Prerequisite/s: PLG251	**S2**	**2**	**0.5**	**14**
PGW400	**Seminar 400**	**J1**	**1**	**0**	**10**
Total credits for compulsory modules					**78**

Compulsory credits = (166) Elective credits = (0)
A minimum of (618) credits is required to obtain the degree.

Field of study	**Dept**	**Code**
BScAgric in Food Science and Technology	**VDW**	**03130370**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**

BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
BCM255	**Carbohydrate metabolism 255** Prerequisite/s: BCM256# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM256	**Practical: Carbohydrate metabolism 256** Prerequisite/s: BCM255# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
FST250	**Introduction to food science and technology 250** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S1**	**2**	**1**	**12**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**60**

Second year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
BCM263	**Lipid and nitrogen metabolism 263** Prerequisite/s: BCM264# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**

BCM264	**Practical: Lipid and nitrogen metabolism 264** Prerequisite/s: BCM263# and CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
BCM265	**Biochemistry in perspective 265** Prerequisite/s: BCM266# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**2**	**0**	**9**
BCM266	**Practical: Biochemistry in perspective 266** Prerequisite/s: BCM265# en CMY117 GS and CMY127 GS and MLB111 GS	**S2**	**0**	**0.5**	**3**
FST260	**Principles of food processing and preservation 260** Prerequisite/s: CMY117 and CMY127 and MBY161 and PHY131 and WTW134 or TDH	**S2**	**2**	**1**	**12**
LEK220	**Agricultural economics 220** Prerequisite/s: LEK251 and LEK252 or EKN113 and/or EKN120	**S2**	**3**	**0**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
VDG260	**Nutrition 260** Prerequisite/s: CMY127	**S2**	**3**	**0.5**	**12**
Total credits for compulsory modules					**72**

Compulsory credits = (132) Elective credits = (12) Total credits = (144)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST350	**Integrated food science 350** Prerequisite/s: FST250 and FST260 or TDH	**J1**	**2**	**0**	**9**
FST351	**Food chemistry (1) 351** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**
FST352	**Food chemistry (2) 352** Prerequisite/s: BCM253 and BCM254 and BCM255 and BCM256 and BCM263 and BCM264 and BCM265 and BCM266	**S1**	**2**	**1**	**18**
FST353	**Food engineering 353** Prerequisite/s: FST260 or TDH	**S1**	**3**	**0.5**	**18**
Total credits for compulsory modules					**63**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST350	**Integrated food science 350** Prerequisite/s: FST250 and FST260 or TDH	**J1**	**2**	**0**	**9**
FST360	**Principles of the science and technology of plant foods 360** Prerequisite/s: FST250 and FST260 and FST351 and FST352 or TDH	**S2**	**2**	**1**	**18**
FST361	**Animal food science 361** Prerequisite/s: FST250 and FST260 and FST351 and FST352 or TDH	**S2**	**2**	**1**	**18**

LEK320	**Agricultural economics 320** Prerequisite/s: LEK220 and LEK 251 and LEK252	**S2**	**3**	**2**	**18**
MBY362	**Food microbiology 362** Prerequisite/s: MBY251	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**81**

Compulsory credits = (144) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST400	**Research methodology and seminar 400** Prerequisite/s: Third-year status or TDH	**J1**	**2**	**1**	**10**
FST402	**Advanced plant food science and technology 402** Prerequisite/s: FST360 or TDH	**J1**	**2**	**1**	**10**
FST412	**Sensory analysis 412** Prerequisite/s: FST260 and FST351 and FST352 or TDH	**S1**	**1**	**1**	**10**
FST413	**Product development and quality management 413** Prerequisite/s: FST260 and FST351 and FST352 or TDH	**S1**	**3**	**1**	**30**
FST420	**Advanced food science 420** Prerequisite/s: Third-year status or TDH	**J1**	**2**	**0**	**10**
FST463	**Research project 463** Prerequisite/s: Third-year status in Food Science or TDH	**J1**	**0**	**1**	**20**
Total credits for compulsory modules					**90**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST400	**Research methodology and seminar 400** Prerequisite/s: Third-year status or TDH	**J1**	**2**	**1**	**10**
FST401	**Animal food technology 401** Prerequisite/s: FST361 or TDH	**S2**	**2**	**1**	**20**
FST402	**Advanced plant food science and technology 402** Prerequisite/s: FST360 or TDH	**J1**	**2**	**1**	**10**
FST420	**Advanced food science 420** Prerequisite/s: Third-year status or TDH	**J1**	**2**	**0**	**10**
FST463	**Research project 463** Prerequisite/s: Third-year status in Food Science or TDH	**J1**	**0**	**1**	**20**
Total credits for compulsory modules					**70**

Compulsory credits = (160) Elective credits = (0)
A minimum of (596) credits is required to obtain the degree.

Field of study	Dept	Code
BScAgric in Plant Pathology	**MBY**	**03130321**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
CMY117	**General chemistry 117** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
MLB111	**Molecular and cell biology 111** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
PHY131	**General physics 131** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
WTW134	**Mathematics 134** Prerequisite/s: Par 1.2	**S1**	**4**	**1**	**16**
Total credits for compulsory modules					**74**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BME120	**Biometry 120** Prerequisite/s: Par 1.2	**S2**	**4**	**1**	**16**
BOT161	**Plant biology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
CMY127	**General chemistry 127** Prerequisite/s: CMY117 GS	**S2**	**4**	**1**	**16**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
GTS161	**Introductory genetics 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
MBY161	**Introduction to microbiology 161** Prerequisite/s: MLB111 GS	**S2**	**2**	**0.5**	**8**
ZEN161	**Animal diversity 161** Prerequisite/s: MLB111 GS or TDH	**S2**	**2**	**0.5**	**8**
Total credits for compulsory modules					**74**

Compulsory credits = (148) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BCM253	**Introduction to proteins and enzymes 253** Prerequisite/s: BCM254# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**2**	**0**	**9**
BCM254	**Practical: Introduction to proteins and enzymes 254** Prerequisite/s: BCM253# and CMY117 GS and CMY127 GS and MLB111 GS	**S1**	**0**	**0.5**	**3**
GKD250	**Introductory soil science 250** Prerequisite/s: CMY117 GS or TDH	**S1**	**3**	**1**	**12**

GTS251	**Gene and chromosome organisation 251** Prerequisite/s: GTS161 GS or TDH	**S1**	**2**	**0.5**	**12**
LEK251	**Introduction to financial management in agriculture 251**	**K1**	**3**	**0**	**6**
LEK252	**Introduction to agricultural production economics 252** Prerequisite/s: LEK251	**K2**	**3**	**0**	**6**
PLG251	**Introduction: Crop protection 251**	**S1**	**2**	**1**	**12**
Total credits for compulsory modules					**60**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT261	**Plant biochemical evolution 261** Prerequisite/s: BOT161 and CMY117 and CMY127 or TDH	**S2**	**2**	**1**	**12**
GTS261	**Genetic analysis and manipulation 261** Prerequisite/s: GTS161 GS or TDH	**S2**	**2**	**0.5**	**12**
HSC260	**Crop propagation 260** Prerequisite/s: BOT161	**S2**	**2**	**0.5**	**12**
LBU260	**Agroclimatology 260**	**S2**	**2**	**0.5**	**12**
LEK220	**Agricultural economics 220** Prerequisite/s: LEK251 and LEK252 or EKN113 and/or EKN120	**S2**	**3**	**0**	**12**
MBY261	**Growth activity and control of fungi 261** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
PLG262	**Principles of plant pathology 262** Prerequisite/s: MBY161	**S2**	**2**	**1**	**12**
Total credits for compulsory modules					**84**

Compulsory credits = (144) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BOT356	**Plant ecophysiology 356** Prerequisite/s: BOT161 or TDH	**S1**	**2**	**1**	**18**
MBY251	**Growth, diversity and control of bacteria 251** Prerequisite/s: MBY161 GS	**S1**	**2**	**1**	**12**
MBY351	**Structure and diversity of viruses 351** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S1**	**2**	**1**	**18**
PLG351	**General plant pathology 351** Prerequisite/s: MBY161 and MBY261 or TDH	**S1**	**2**	**1**	**18**
PPK251	**Sustainable production systems 251** Prerequisite/s: BOT161	**S1**	**2**	**0.5**	**12**
Total credits for compulsory modules					**78**

MBY351 may be replaced with HSC351 and an additional elective of 4 credits.

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
GTS366	**Plant genetics and biotechnology 366** Prerequisite/s: GTS251 GS and GTS261 and GTS351and GTS352 are recommended or TDH	**S2**	**2**	**1**	**18**
MBY364	**Genetic manipulation of microbes 364** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S2**	**2**	**1**	**18**
PLG363	**Plant disease control 363** Prerequisite/s: PLG251 or PLG262 or TDH. MBY261 is recommended	**S2**	**2**	**1**	**18**
PLG364	**Host pathogen interactions 364**	**S2**	**2**	**1**	**18**
Total credits for compulsory modules					**72**

Plant protection focus: MBY364 and GTS366 may be replaced with MBY362 and BOT365.
Compulsory credits = (150) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
MBY352	**Environmental microbiology 352** Prerequisite/s: MBY161	**S1**	**2**	**1**	**18**
PGW400	**Seminar 400**	**J1**	**1**	**0**	**10**
PGW421	**Experimental design and analysis 421** Prerequisite/s: BME120	**S1**	**2**	**0.5**	**14**
PLG462	**Research project 462**	**J1**	**1**	**1**	**15**
PLG483	**Advanced plant disease control 483** Prerequisite/s: PLG363 or TDH	**S1**	**2**	**1**	**18**
Total credits for compulsory modules					**75**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
MBY363	**Molecular biology of prokaryotes 363** Prerequisite/s: BCM253 and BCM254 and CMY127 and MBY161	**S2**	**2**	**1**	**18**
OKW413	**Weed science 413** Prerequisite/s: PLG251	**S2**	**2**	**0.5**	**14**
PGW400	**Seminar 400**	**J1**	**1**	**0**	**10**
PLG462	**Research project 462**	**J1**	**1**	**1**	**15**
PLG490	**Current concepts in plant pathology 490** Prerequisite/s: Third-year status or TDH	**S2**	**2**	**1**	**18**
ZEN365	**Insect pest management 365**	**K4**	**4**	**2**	**18**
Total credits for compulsory modules					**93**

MBY363 may be replaced with HSC460 and an additional elective of 6 credits or an equivalent module of 18 credits.
Compulsory credits = (168) Elective credits = (0)
A minimum of (610) credits is required to obtain the degree.

Field of study	Dept	Code
BConsumer Science in Clothing: Retail Management	**VBR**	**02130124**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EKN110	**Economics 110**	**S1**	**3**	**0**	**10**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FRK111	**Financial accounting 111**	**S1**	**4**	**0**	**10**
KLR110	**Clothing production: Sewing techniques 110**	**S1**	**1**	**1**	**9**
OBG111	**Design principles 111**	**S1**	**1**	**1**	**7**
STK110	**Statistics 110** Prerequisite/s: Par 1.2	**S1**	**3**	**1**	**13**
Total credits for compulsory modules					**59**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EKN120	**Economics 120** Prerequisite/s: EKN 110 GS or EKN 113 GS and at least 3 (40-49%) in Mathematics in the Grade 12 examination or STK 113 and STK 123 50%	**S2**	**3**	**0**	**10**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
EST121	**Aesthetics 121** Prerequisite/s: OBG111	**S2**	**1**	**1**	**9**
FRK121	**Financial accounting 121** Prerequisite/s: FRK111 GS	**S2**	**4**	**0**	**12**
INF181	**Informatics 181** Prerequisite/s: FRK 111 GS	**S2**	**2**	**0**	**3**
KLR120	**Clothing product: Processes 120** Prerequisite/s: KLR110	**S2**	**1**	**1**	**9**
Total credits for compulsory modules					**53**

Compulsory credits = (112) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM110	**Marketing management 110**	**S1**	**3**	**0**	**10**
EST212	**Aesthetics: Product, consumer and environment 212** Prerequisite/s: EST121	**S1**	**1**	**1**	**10**
KLD210	**Costume and fashion history 210**	**S1**	**3**	**0**	**12**
KLR211	**Flat pattern design 211** Prerequisite/s: KLR120	**S1**	**0**	**2**	**12**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
TKS212	**Textiles: Utility, fibres and yarns 212**	**S1**	**3**	**1**	**14**
Total credits for compulsory modules					**68**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM121	**Consumer behaviour and service marketing 121** Prerequisite/s: BEM110 GS	**S2**	**3**	**0**	**10**
KLD222	**Fashion forecasting 222**	**S2**	**3**	**0**	**12**
KLR221	**Pattern use and good fit 221** Prerequisite/s: KLR211	**S2**	**1**	**1**	**10**
KTP220	**Experiential training 220**	**S2**	**0**	**1**	**4**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
TKS222	**Textiles: Structures and finishes 222** Prerequisite/s: TKS212 GS	**S2**	**3**	**1**	**14**
Total credits for compulsory modules					**60**

Compulsory credits = (128) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM211	**Marketing management 211** Prerequisite/s: BEM 110 or BEM 121 with a GS in the other	**S1**	**3**	**0**	**16**
BER210	**Business law 210**	**S1**	**3**	**0**	**16**
KLR311	**Tailoring 311** Prerequisite/s: KLR211 and KLR221	**S1**	**1**	**1**	**11**
OBS210	**Business management 210** Prerequisite/s: OBS114 or OBS124 with admission to the examination in the other	**S1**	**3**	**0**	**16**
TKS310	**New developments and textiles in use 310** Prerequisite/s: TKS212 and TKS222 GS	**S1**	**2**	**0**	**10**
Total credits for compulsory modules					**69**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM221	**Marketing management 221** Prerequisite/s: BEM110 and BEM121 with a GS in the other; and BEM211 GS	**S2**	**3**	**0**	**16**
BER220	**Business law 220** Prerequisite/s: BER210	**S2**	**3**	**0**	**16**
KLD322	**Social and cultural aspects of clothing 322**	**S2**	**4**	**0**	**20**
KLR321	**Clothing production 321** Prerequisite/s: KLR221	**S2**	**1**	**1**	**11**
OBS220	**Business management 220** Prerequisite/s: OBS114 or OBS124 with admission to the examination in the other	**S2**	**3**	**0**	**16**
SEM381	**Seminar 381** Prerequisite/s: Third-year status	**S2**	**1**	**0**	**5**
Total credits for compulsory modules					**84**

Compulsory credits = (153) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM311	**Marketing management 311** Prerequisite/s: BEM211 or BEM221 with a GS in the other	**S1**	**3**	**0**	**20**
KLD410	**Clothing retail management 410** Prerequisite/s: Fourth-year status	**S1**	**3**	**0**	**15**
KLR411	**Product development 411** Prerequisite/s: KLR221 and KLR321	**S1**	**2**	**1**	**19**
KTP402	**Clothing textile project 402** Prerequisite/s: SEM381 and Fourth-year status	**J1**	**0**	**1**	**9**
Total credits for compulsory modules					**63**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM321	**Marketing management 321** Prerequisite/s: BEM211 or BEM221 with a GS in the other; and BEM311 GS	**S2**	**3**	**0**	**20**
KLD420	**Clothing merchandising 420** Prerequisite/s: Fourth-year status	**S2**	**3**	**0**	**15**
KTP402	**Clothing textile project 402** Prerequisite/s: SEM381 and Fourth-year status	**J1**	**0**	**1**	**9**
TKS421	**Textiles 421** Prerequisite/s: TKS212 and TKS222 and TKS310	**S2**	**3**	**0**	**15**
Total credits for compulsory modules					**59**

Experimential training in the industry: During the 4 years of study, during holidays, weekends and after hours, students must complete a total of 480 hours experiential training in the industry to develop practical and occupational skills. This is equal to 3 weeks x 40 hours (120 hours) per year, according to requirements as determine by the head of department. These "credits" must be successfully completed together with a complete portfolio before the degree will be conferred.

Compulsory credits = (122) Elective credits = (0)
A minimum of (515) credits is required to obtain the degree.

Field of study	Dept	Code
BConsumer Science in Foods: Retail Management	VBR	02130114

First year, first semester:					
Code	Name	Trm	lpw	ppw	Crdt
BEM110	Marketing management 110	S1	3	0	10
CIL111	Computer literacy 111	S1	0	1	4
EKN110	Economics 110	S1	3	0	10
EOT110	Academic literacy(1) 110	S1	2	0	6
FRK111	Financial accounting 111	S1	4	0	10
OBS114	Business management 114	S1	3	0	10
STK110	Statistics 110 Prerequisite/s: Par 1.2	S1	3	1	13
VDS111	Basic food preparation 111	S1	1	0.5	6
Total credits for compulsory modules					69

First year, second semester:					
Code	Name	Trm	lpw	ppw	Crdt
BEM121	Consumer behaviour and service marketing 121 Prerequisite/s: BEM110 GS	S2	3	0	10
CIL121	Information literacy 121	S2	2	0	4
EKN120	Economics 120 Prerequisite/s: EKN 110 GS or EKN 113 GS and at least 3 (40-49%) in Mathematics in the Grade 12 examination or STK 113 and STK 123 50%	S2	3	0	10
EOT120	Academic literacy(2) 120	S2	2	0	6
FRK121	Financial accounting 121 Prerequisite/s: FRK111 GS	S2	4	0	12
INF181	Informatics 181 Prerequisite/s: FRK 111 GS	S2	2	0	3
OBS124	Business management 124 Prerequisite/s: Admission to the examination in OBS 114	S2	3	0	10
VDS121	Basic food preparation 121 Prerequisite/s: VDS111	S2	1	0.5	6
Total credits for compulsory modules					61

Compulsory credits = (130) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM211	**Marketing management 211** Prerequisite/s: BEM 110 or BEM 121 with a GS in the other	**S1**	**3**	**0**	**16**
OBG111	**Design principles 111**	**S1**	**1**	**1**	**7**
OBS210	**Business management 210** Prerequisite/s: OBS114 or OBS124 with admission to the examination in the other	**S1**	**3**	**0**	**16**
VDS210	**Food commodities and preparation 210** Prerequisite/s: VDS121	**S1**	**3**	**1**	**18**
Total credits for compulsory modules					**57**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM221	**Marketing management 221** Prerequisite/s: BEM110 and BEM121 with a GS in the other; and BEM211 GS	**S2**	**3**	**0**	**16**
KEP220	**Cultural eating patterns 220** Prerequisite/s: VDS121	**S2**	**3**	**0**	**12**
VDG220	**Nutrition 220**	**S2**	**3**	**0**	**12**
VDS221	**Food commodities and preparation 221** Prerequisite/s: VDS210	**S2**	**3**	**1**	**18**
Total credits for compulsory modules					**58**

Compulsory credits = (115) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM311	**Marketing management 311** Prerequisite/s: BEM211 or BEM221 with a GS in the other	**S1**	**3**	**0**	**20**
VDG311	**Nutrition 311** Prerequisite/s: FSG110 and FSG120 or VDG220	**S1**	**3**	**1**	**17**
VDS310	**Consumer food research 310** Prerequisite/s: VDS221	**S1**	**3**	**1**	**21**
VDS354	**Food safety and hygiene 354**	**S1**	**2**	**1**	**14**
Total credits for compulsory modules					**72**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ABV320	**Labour relations 320**	**S2**	**3**	**3**	**20**
BEM321	**Marketing management 321** Prerequisite/s: BEM211 or BEM221 with a GS in the other; and BEM311 GS	**S2**	**3**	**0**	**20**

VDG321	**Nutrition during life cycle 321** Prerequisite/s: VDG311	**S2**	**3**	**1**	**17**
Total credits for compulsory modules					**57**

Compulsory credits = (129) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
FST412	**Sensory analysis 412** Prerequisite/s: FST260 and FST351 and FST352 or TDH	**S1**	**1**	**1**	**10**
PGB410	**Project: Research methodology 410** Prerequisite/s: Final-year status	**S1**	**2**	**0**	**10**
VDB410	**Food service management 410** Prerequisite/s: VDB321 GS	**S1**	**3**	**1**	**24**
VDS413	**Recipe development and standardisation 413** Prerequisite/s: VDS310 or VDS322	**S1**	**3**	**2**	**30**
VDS423	**Foods 423**	**S1**	**3**	**0**	**15**
Total credits for compulsory modules					**89**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
VDS415	**Visual merchandising of foods 415**	**S2**	**3**	**0**	**15**
VDS425	**Project: Visual merchandising of foods 425** Prerequisite/s: VDS415 and VDS423	**S2**	**3**	**0**	**15**
VDS426	**Food research project 426** Prerequisite/s: PGB410# and VDS310	**S2**	**1**	**2**	**18**
Total credits for compulsory modules					**48**

OPI 480: 6 credits – (Experiential training in the industry): During the 4 years of study, during holidays, weekends and after hours, students must complete a total of 480 hours experiential training in the industry to develop practical and occupational skills. This is equal to 3 weeks x 40 hours (120 hours) per year, according to requirements as determined by the head of department. These "credits" must be successfully completed together with a complete portfolio before the degree will be conferred.
Compulsory credits = (137) Elective credits = (0)
A minimum of (511) credits is required to obtain the degree.

Field of study	Dept	Code
BConsumer Science in Hospitality Management	**VBR**	**02130115**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EKN110	**Economics 110**	**S1**	**3**	**0**	**10**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
OBG111	**Design principles 111**	**S1**	**1**	**1**	**7**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
STK110	**Statistics 110** Prerequisite/s: Par 1.2	**S1**	**3**	**1**	**13**
TBE110	**Tourism management 110**	**S1**	**4**	**0**	**10**
VDS111	**Basic food preparation 111**	**S1**	**1**	**0.5**	**6**
Total credits for compulsory modules					**66**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EKN120	**Economics 120** Prerequisite/s: EKN 110 GS or EKN 113 GS and at least 3 (40-49%) in Mathematics in the Grade 12 examination or STK 113 and STK 123 50%	**S2**	**3**	**0**	**10**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
ITW121	**Interior merchandise 121**	**S2**	**2**	**1**	**8**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
TBE120	**Tourism management 120** Prerequisite/s: TBE110 GS	**S2**	**4**	**0**	**10**
VDS121	**Basic food preparation 121** Prerequisite/s: VDS111	**S2**	**1**	**0.5**	**6**
Total credits for compulsory modules					**54**

Compulsory credits = (120) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
OBS210	**Business management 210** Prerequisite/s: OBS114 or OBS124 with admission to the examination in the other	**S1**	**3**	**0**	**16**
TBE210	**Tourism management 210** Prerequisite/s: TBE110 or TBE120 with a GS in the other	**S1**	**4**	**0**	**16**
VDS210	**Food commodities and preparation 210** Prerequisite/s: VDS121	**S1**	**3**	**1**	**18**
Total credits for compulsory modules					**50**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ABV320	**Labour relations 320**	**S2**	**3**	**0**	**20**
ITW261	**Interior merchandise 261**	**K3**	**2**	**1**	**5**
KEP220	**Cultural eating patterns 220** Prerequisite/s: VDS121	**S2**	**3**	**0**	**12**
TBE220	**Tourism management 220** Prerequisite/s: TBE210 GS	**S2**	**4**	**0**	**16**
VDG220	**Nutrition 220**	**S2**	**3**	**0**	**12**
VDS221	**Food commodities and preparation 221** Prerequisite/s: VDS210	**S2**	**3**	**1**	**18**
Total credits for compulsory modules					**83**

Compulsory credits = (133) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ITW311	**Interior merchandise 311** Prerequisite/s: ITW121	**S1**	**2**	**1**	**11**
TBE310	**Tourism management 310** Prerequisite/s: TBE210 and TBE220 with a GS in the other	**S1**	**4**	**0**	**20**
VDG311	**Nutrition 311** Prerequisite/s: FSG110 and FSG120 or VDG220	**S1**	**3**	**1**	**17**
VDS354	**Food safety and hygiene 354**	**S1**	**2**	**1**	**14**
VDS355	**Food and beverage service management 355** Prerequisite/s: VDS221	**K1**	**2**	**1**	**6**
Total credits for compulsory modules					**68**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
VDB321	**Food service management 321** Prerequisite/s: VDS322#	**S2**	**3**	**0.5**	**18**
VDG321	**Nutrition during life cycle 321** Prerequisite/s: VDG311	**S2**	**3**	**1**	**17**
VDS322	**Large-scale food production and restaurant management 322** Prerequisite/s: KEP261 or KEP220 and VDS221	**S2**	**3**	**3**	**29**
Total credits for compulsory modules					**64**

Compulsory credits = (132) Elective credits = (0)

Fourth year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
PGB410	**Project: Research methodology 410** Prerequisite/s: Final-year status	**S1**	**2**	**0**	**10**
VDB410	**Food service management 410** Prerequisite/s: VDB321 GS	**S1**	**3**	**1**	**24**
VDS413	**Recipe development and standardisation 413** Prerequisite/s: VDS310 or VDS322	**S1**	**3**	**2**	**30**
VDS414	**Culinary art 414** Prerequisite/s: VDS210 and VDS221	**S1**	**2**	**1**	**19**
Total credits for compulsory modules					**83**

Fourth year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
INB320	**Interior planning 320** Prerequisite/s: ITW311 and OBG111	**S2**	**1**	**1**	**11**
OBS321	**Entrepreneurship 321** Prerequisite/s: Admission to the examination in OBS311	**S2**	**3**	**0**	**20**
PGB420	**Project: Hospitality management 420** Prerequisite/s: PGB410 and Final-year status	**S2**	**4**	**0**	**20**
VDS424	**Culinary art 424** Prerequisite/s: VDS221 and VDS322# and VDS414	**S2**	**2**	**1**	**19**
Total credits for compulsory modules					**70**

OPI 480: 6 credits - (Experiential training in the industry): During the 4 years of study, during holidays, weekends and after hours, students must complete a total of 480 hours experiential training in the industry to develop practical and occupational skills. This is equal to 3 weeks x 40 hours (120 hours) per year, according to requirements as determined by the head of department. These "credits" must be successfully completed together with a complete portfolio before the degree will be conferred. Please note: Various practical and industry-interaction activities support the theoretical component of TBE110, 120, 220, 310 and VDS355 and take place after hours to develop practical and industry skills, namely TBE291 and TBE293.

Compulsory credits = (153) Elective credits = (0)

A minimum of (538) credits is required to obtain the degree.

Field of study	Dept	Code
BConsumer Science in Interior Merchandise: Retail Management	**VBR**	**02130125**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EKN110	**Economics 110**	**S1**	**3**	**0**	**10**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
FRK111	**Financial accounting 111**	**S1**	**4**	**0**	**10**
INK110	**Interior production 110**	**S1**	**1**	**1**	**9**
KGK110	**History of art 110**	**S1**	**3**	**0**	**12**
OBG111	**Design principles 111**	**S1**	**1**	**1**	**7**
STK110	**Statistics 110** Prerequisite/s: Par 1.2	**S1**	**3**	**1**	**13**
Total credits for compulsory modules					**71**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EKN120	**Economics 120** Prerequisite/s: EKN 110 GS or EKN 113 GS and at least 3 (40-49%) in Mathematics in the Grade 12 examination or STK 113 and STK 123 50%	**S2**	**3**	**0**	**10**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
FRK121	**Financial accounting 121** Prerequisite/s: FRK111 GS	**S2**	**4**	**0**	**12**
INF181	**Informatics 181** Prerequisite/s: FRK 111 GS	**S2**	**2**	**0**	**3**
ITW121	**Interior merchandise 121**	**S2**	**2**	**1**	**8**
KGK120	**History of art 120**	**S2**	**3**	**0**	**12**
KOB183	**Communication management 183**	**K3**	**3**	**0**	**5**
Total credits for compulsory modules					**60**

Compulsory credits = (131) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM110	**Marketing management 110**	**S1**	**3**	**0**	**10**
ERG282	**Ergonomics 282**	**S1**	**1**	**1**	**8**

INK210	**Interior production 210** Prerequisite/s: INK110	**S1**	**1**	**1**	**10**
MTT210	**Furniture and textile history 210**	**S1**	**3**	**0**	**12**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
TKS212	**Textiles: Utility, fibres and yarns 212**	**S1**	**3**	**1**	**14**
Total credits for compulsory modules					**64**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BDO181	**Industrial and organisational psychology 181**	**K3**	**4**	**0**	**5**
BEM121	**Consumer behaviour and service marketing 121** Prerequisite/s: BEM110 GS	**S2**	**3**	**0**	**10**
INB220	**Interior planning 220** Prerequisite/s: ERG282 GS and OBG111	**S2**	**1**	**2**	**16**
ITW221	**Interior merchandise 221** Prerequisite/s: ITW121	**S2**	**2**	**1**	**10**
MTT220	**Furniture and textile history 220** Prerequisite/s: MTT210 GS	**S2**	**3**	**0**	**12**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
TKS222	**Textiles: Structures and finishes 222** Prerequisite/s: TKS212 GS	**S2**	**3**	**1**	**14**
Total credits for compulsory modules					**77**

Compulsory credits = (141) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BDO219	**Industrial and organisational psychology 219** Prerequisite/s: BDO110 GS and BDO120 GS	**S1**	**3**	**0**	**16**
BEM211	**Marketing management 211** Prerequisite/s: BEM 110 or BEM 121 with a GS in the other	**S1**	**3**	**0**	**16**
BER210	**Business law 210**	**S1**	**3**	**0**	**16**
INK310	**Interior production 310** Prerequisite/s: INK210	**S1**	**1**	**1**	**11**
ITW311	**Interior merchandise 311** Prerequisite/s: ITW121	**S1**	**2**	**1**	**11**
OBS213	**Entrepreneurship 213**	**S1**	**3**	**0**	**16**
Total credits for compulsory modules					**86**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
BEM221	**Marketing management 221** Prerequisite/s: BEM110 and BEM121 with a GS in the other; and BEM211 GS	**S2**	**3**	**0**	**16**
BER220	**Business law 220** Prerequisite/s: BER210	**S2**	**3**	**0**	**16**

CIL122	**Visual design (AUTOCAD) 122**	**S2**	**2**	**0**	**4**
INB322	**Interior planning 322** Prerequisite/s: ERG282 and ITW311 and OBG111	**S2**	**1**	**1**	**11**
SEM381	**Seminar 381** Prerequisite/s: Third-year status	**S2**	**1**	**0**	**5**
Total credits for compulsory modules					**52**

Compulsory credits = (138) Elective credits = (0)

Fourth year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
BEM311	**Marketing management 311** Prerequisite/s: BEM211 or BEM221 with a GS in the other	**S1**	**3**	**0**	**20**
INB410	**Interior planning 410** Prerequisite/s: CIL122 and INB322	**S1**	**1**	**2**	**23**
ITP481	**Project: Interior merchandise 481** Prerequisite/s: INB322 and INB410# en SEM381 GS and Final-year status	**J1**	**1**	**1**	**11**
VBF411	**Consumer facilitation 411**	**S1**	**2**	**0**	**10**
Total credits for compulsory modules					**64**

Fourth year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
BEM321	**Marketing management 321** Prerequisite/s: BEM211 or BEM221 with a GS in the other; and BEM311 GS	**S2**	**3**	**0**	**20**
ITP481	**Project: Interior merchandise 481** Prerequisite/s: INB322 and INB410# en SEM381 GS and Final-year status	**J1**	**1**	**1**	**11**
Total credits for compulsory modules					**31**

OPI 480: 6 credits (Experiential training): During the third year of study, during holidays, weekends and after hours, students must complete a total of 120 hours experiential training in the industry to develop practical and occupational skills. This is equal to 3 weeks x 40 hours (120 hours), according to requirements as determined by the head of department. This experiental training must be successfully completed together with a final report before the degree will be conferred.

Compulsory credits = (95) Elective credits = (0)

A minimum of (505) credits is required to obtain the degree.

Field of study	Dept	Code
BConsumer Science Education in Consumer Studies	**VBR**	**02130122**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
KLR110	**Clothing production: Sewing techniques 110**	**S1**	**1**	**1**	**9**
OBG111	**Design principles 111**	**S1**	**1**	**1**	**7**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
SCE171	**Religious instruction 171**	**S1**	**2**	**0**	**8**
SOC110	**Sociology 110**	**S1**	**3**	**0**	**12**
VDS111	**Basic food preparation 111**	**S1**	**1**	**0.5**	**6**
Total credits for compulsory modules					**62**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
EOT164	**Communication in organisations 164**	**K4**	**3**	**0**	**6**
ITW121	**Interior merchandise 121**	**S2**	**2**	**1**	**8**
KLR120	**Clothing product: Processes 120** Prerequisite/s: KLR110	**S2**	**1**	**1**	**9**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
SOC121	**Sociology 121**	**S2**	**3**	**0**	**12**
VDS121	**Basic food preparation 121** Prerequisite/s: VDS111	**S2**	**1**	**0.5**	**6**
Total credits for compulsory modules					**61**

Compulsory credits = (123) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ERG282	**Ergonomics 282**	**S1**	**1**	**1**	**8**
INK210	**Interior production 210** Prerequisite/s: INK110	**S1**	**1**	**1**	**10**
SCE201	**Science education 201**	**J1**	**2**	**0**	**8**

TKS212	**Textiles: Utility, fibres and yarns 212**	**S1**	**3**	**1**	**14**
VDS210	**Food commodities and preparation 210** Prerequisite/s: VDS121	**S1**	**3**	**1**	**18**
Total credits for compulsory modules					**58**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ITW221	**Interior merchandise 221** Prerequisite/s: ITW121	**S2**	**2**	**1**	**10**
KEP220	**Cultural eating patterns 220** Prerequisite/s: VDS121	**S2**	**3**	**0**	**12**
SCE201	**Science education 201**	**J1**	**2**	**0**	**8**
TKS222	**Textiles: Structures and finishes 222** Prerequisite/s: TKS212 GS	**S2**	**3**	**1**	**14**
VDG220	**Nutrition 220**	**S2**	**3**	**0**	**12**
VDS221	**Food commodities and preparation 221** Prerequisite/s: VDS210	**S2**	**3**	**1**	**18**
Total credits for compulsory modules					**74**

Compulsory credits = (132) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ITW311	**Interior merchandise 311** Prerequisite/s: ITW121	**S1**	**2**	**1**	**11**
SCE303	**Science education 303** Prerequisite/s: SCE201	**J1**	**2**	**1**	**18**
VDG311	**Nutrition 311** Prerequisite/s: FSG110 and FSG120 or VDG220	**S1**	**3**	**1**	**17**
VDS354	**Food safety and hygiene 354**	**S1**	**2**	**1**	**14**
VDS355	**Food and beverage service management 355** Prerequisite/s: VDS221	**K1**	**2**	**1**	**6**
Total credits for compulsory modules					**66**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
INB320	**Interior planning 320** Prerequisite/s: ITW311 and OBG111	**S2**	**1**	**1**	**11**
KLD322	**Social and cultural aspects of clothing 322**	**S2**	**4**	**0**	**20**
SCE303	**Science education 303** Prerequisite/s: SCE201	**J1**	**2**	**1**	**18**
VDG321	**Nutrition during life cycle 321**	**S2**	**3**	**1**	**17**

	Prerequisite/s: VDG311				
VDS322	**Large-scale food production and restaurant management 322** Prerequisite/s: KEP261 or KEP220 and VDS221	**S2**	**3**	**3**	**29**
Total credits for compulsory modules					**95**

Compulsory credits = (161) Elective credits = (0)

Fourth year, first semester:

Code	Name	Trm	lpw	ppw	Crdt
ASS400	**Assessment 400**	**J1**	**Block session**		**6**
COE400	**Social contexts in education 400**	**J1**	**Block session**		**6**
FCL400	**Facilitating learning 400**	**J1**	**Block session**		**12**
FOE400	**Foundations of education 400**	**J1**	**Block session**		**3**
GPE400	**Global perspectives in education 400**	**J1**	**Block session**		**3**
LNT400	**Learning theories 400**	**J1**	**Block session**		**6**
PEL400	**Professional ethics and law 400**	**J1**	**Block session**		**3**
PPF400	**Professional portfolio 400**	**J1**	**Block session**		**6**
VHT400	**Subject didactics of consumer studies 400**	**J1**	**Block session**		**12**
Total credits for compulsory modules in the first/second terms					**57**

Fourth year, second semester:

Code	Name	Trm	lpw	ppw	Crdt
ASS400	**Assessment 400**	**J1**	**Block session**		**6**
COE400	**Social contexts in education 400**	**J1**	**Block session**		**6**
FCL400	**Facilitating learning 400**	**J1**	**Block session**		**12**
FOE400	**Foundations of education 400**	**J1**	**Block session**		**3**
GPE400	**Global perspectives in education 400**	**J1**	**Block session**		**3**
LNT400	**Learning theories 400**	**J1**	**Block session**		**6**
PEL400	**Professional ethics and law 400**	**J1**	**Block session**		**3**
PPF400	**Professional portfolio 400**	**J1**	**Block session**		**6**
VHT400	**Subject didactics of consumer studies 400**	**J1**	**Block session**		**12**
Total credits for compulsory modules in the third/fourth terms					**57**

Compulsory credits = (114) Elective credits = (0)

A minimum of (530) credits is required to obtain the degree.

Field of study	Dept	Code
BConsumer Science Education in Hospitality Studies	**VBR**	**02130123**

First year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL111	**Computer literacy 111**	**S1**	**0**	**1**	**4**
EKN110	**Economics 110**	**S1**	**3**	**0**	**10**
EOT110	**Academic literacy(1) 110**	**S1**	**2**	**0**	**6**
OBG111	**Design principles 111**	**S1**	**1**	**1**	**7**
OBS114	**Business management 114**	**S1**	**3**	**0**	**10**
SCE171	**Religious instruction 171**	**S1**	**2**	**0**	**8**
TBE110	**Tourism management 110**	**S1**	**4**	**4**	**10**
VDS111	**Basic food preparation 111**	**S1**	**1**	**0.5**	**6**
Total credits for compulsory modules					**61**

First year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
CIL121	**Information literacy 121**	**S2**	**2**	**0**	**4**
EKN120	**Economics 120** Prerequisite/s: EKN 110 GS or EKN 113 GS and at least 3 (40-49%) in Mathematics in the Grade 12 examination or STK 113 and STK 123 50%	**S2**	**3**	**0**	**10**
EOT120	**Academic literacy(2) 120**	**S2**	**2**	**0**	**6**
EOT164	**Communication in organisations 164**	**K4**	**3**	**0**	**6**
ITW121	**Interior merchandise 121**	**S2**	**2**	**1**	**8**
OBS124	**Business management 124** Prerequisite/s: Admission to the examination in OBS 114	**S2**	**3**	**0**	**10**
TBE120	**Tourism management 120** Prerequisite/s: TBE110 GS	**S2**	**4**	**0**	**10**
VDS121	**Basic food preparation 121** Prerequisite/s: VDS111	**S2**	**1**	**0.5**	**6**
Total credits for compulsory modules					**60**

Compulsory credits = (121) Elective credits = (0)

Second year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
SCE201	**Science education 201**	**J1**	**2**	**0**	**8**
TBE210	**Tourism management 210** Prerequisite/s: TBE110 or TBE120 with a GS in the other	**S1**	**4**	**0**	**16**

TKS211	**Textiles: Utility 211**	**K1**	**3**	**1**	**7**
VDS210	**Food commodities and preparation 210** Prerequisite/s: VDS121	**S1**	**3**	**1**	**18**
Total credits for compulsory modules					**49**

Second year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
ITW221	**Interior merchandise 221** Prerequisite/s: ITW121	**S2**	**2**	**1**	**10**
KEP220	**Cultural eating patterns 220** Prerequisite/s: VDS121	**S2**	**3**	**0**	**12**
SCE201	**Science education 201**	**J1**	**2**	**0**	**8**
TBE220	**Tourism management 220** Prerequisite/s: TBE210 GS	**S2**	**4**	**0**	**16**
VDG220	**Nutrition 220**	**S2**	**3**	**0**	**12**
VDS221	**Food commodities and preparation 221** Prerequisite/s: VDS210	**S2**	**3**	**1**	**18**
Total credits for compulsory modules					**76**

Compulsory credits = (125) Elective credits = (0)

Third year, first semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
SCE303	**Science education 303** Prerequisite/s: SCE201	**J1**	**2**	**1**	**18**
TBE310	**Tourism management 310** Prerequisite/s: TBE210 and TBE220 with a GS in the other	**S1**	**4**	**0**	**20**
VDG311	**Nutrition 311** Prerequisite/s: FSG110 and FSG120 or VDG220	**S1**	**3**	**1**	**17**
VDS354	**Food safety and hygiene 354**	**S1**	**2**	**1**	**14**
VDS355	**Food and beverage service management 355** Prerequisite/s: VDS221	**K1**	**2**	**1**	**6**
VDS414	**Culinary art 414** Prerequisite/s: VDS210 and VDS221	**S1**	**2**	**1**	**19**
Total credits for compulsory modules					**94**

Third year, second semester:					
Code	**Name**	**Trm**	**lpw**	**ppw**	**Crdt**
SCE303	**Science education 303** Prerequisite/s: SCE201	**J1**	**2**	**1**	**18**
VDB321	**Food service management 321** Prerequisite/s: VDS322#	**S2**	**3**	**0.5**	**18**

VDS322	**Large-scale food production and restaurant management 322** Prerequisite/s: KEP261 or KEP220 and VDS221	**S2**	**3**	**3**	**29**
VDS424	**Culinary art 424** Prerequisite/s: VDS221 and VDS322# and VDS414	**S2**	**2**	**1**	**19**
Total credits for compulsory modules					**84**

Compulsory credits = (178) Elective credits = (0)

Fourth year, first semester:

Code	Name	Trm		Crdt
ASS400	**Assessment 400**	**J1**	**Block session**	**6**
COE400	**Social contexts in education 400**	**J1**	**Block session**	**6**
FCL400	**Facilitating learning 400**	**J1**	**Block session**	**12**
FOE400	**Foundations of education 400**	**J1**	**Block session**	**3**
GPE400	**Global perspectives in education 400**	**J1**	**Block session**	**3**
LNT400	**Learning theories 400**	**J1**	**Block session**	**6**
PEL400	**Professional ethics and law 400**	**J1**	**Block session**	**3**
PPF400	**Professional portfolio 400**	**J1**	**Block session**	**6**
VHS400	**Subject didactics of hospitality studies 400**	**J1**	**Block session**	**12**
Total credits for compulsory modules in the first/second terms				**57**

Fourth year, second semester:

Code	Name	Trm		Crdt
ASS400	**Assessment 400**	**J1**	**Block session**	**6**
COE400	**Social contexts in education 400**	**J1**	**Block session**	**6**
FCL400	**Facilitating learning 400**	**J1**	**Block session**	**12**
FOE400	**Foundations of education 400**	**J1**	**Block session**	**3**
GPE400	**Global perspectives in education 400**	**J1**	**Block session**	**3**
LNT400	**Learning theories 400**	**J1**	**Block session**	**6**
PEL400	**Professional ethics and law 400**	**J1**	**Block session**	**3**
PPF400	**Professional portfolio 400**	**J1**	**Block session**	**6**
VHS400	**Subject didactics of hospitality studies 400**	**J1**	**Block session**	**12**
Total credits for compulsory modules in the third/fourth terms				**57**

Compulsory credits = (114) Elective credits = (0)

A minimum of (538) credits is required to obtain the degree.

Sc.6.2 Bachelor of Secondary Education (Science) BSecEdSci (Code 02135001)

(a) Admission requirements
A National Senior Certificate with admission for degree purposes, with Mathematics - at least 60%, Physical Sciences (Natural Sciences) - at least 50%, Life Orientation - at least 50% as well as two official languages, including English or Afrikaans with at least 50%, and an APS (Admissions Point Score) of 30.

NB: Candidates who do not comply with the requirement regarding Physical Science (Natural Sciences) may only be admitted to the degree if the study programme is compiled from modules for which Physical Science (Natural Sciences) is not a prerequisite. Candidates may also follow this study programme through the BSc (Four-year programme).

(b) Duration
Four years of full-time study.

(c) Promotion requirements
A student will be promoted to the following year of study if at least 100 of the credits required have been passed, unless the Dean on the recommendation of the head of department decides otherwise. A student who does not comply with the requirements for promotion to the following year of study, retains the credit for the modules already passed and may be admitted by the Dean, on recommendation of the head of department, to modules of the following year of study to a maximum of 50 credits, provided that it will fit in with both the lecture and examination timetable.

(d) Curriculum
A minimum of 516 credits are required to obtain the degree.

One of the following:

- SCE 204 Educational community project 204 (12)

Or

- SCE301 Educational community project 301 (18)

Module code	Module description	Credits	Prereq.
Faculty Requirement			
WTW 114	Calculus 114 **or**	(16)	Par.1.2
WTW 134	Mathematics 134	(16)	Par.1.2
General requirements (258)			
CIL 111	Computer literacy 111	(4)	
CIL121	Information literacy 121	(4)	
FIL 120	Philosophy 120	(12) or	
FIL 155	Science and world views 155	(6 plus any 4 credit module	
SCE 171	Religious instruction 171	(8)	
SCE 201	Science education 201	(16)	
SCE 303	Science education 303	(36)	
SLK120	Psychology 120	(12)	

Additional requirements
Two year modules† at 200-level, both of which should be recognised school subjects. As a guideline, 48 credits per year module for a total of 96 credits on 200-level should be obtained. Deviation from this is possible upon approval by the programme co-ordinator and the dean, bearing in mind that the total amount of credits required for the degree is not affected by such a deviation.
At least 72 credits at 300-level of a single year module (two sequential semester modules) that is presented in the Faculty of Natural and Agricultural Sciences. In addition an elective module(s) worth at least 24 credits on 300-level must be passed.

The following modules are presented by the Faculty of Education at the Groenkloof Campus as part of the PGCE (Postgraduate Certificate in Education) programme. These modules also constitute the fourth year of the BSecEdSci degree and must be taken by final-year (4th year) BSecEdSci students.

Fundamental modules

GPE 400	Global perspectives in education 400	(6)
FOE 400	Foundations of education 400	(6)

Core modules

LNT 400	Learning theories 400	(12)
FCL 400	Facilitating learning 400	(24)
ASS 400	Assessment 400	(12)
PEL 400	Professional ethics and law 400	(6)
COE 400	Social contexts of education 400	(12)
PPF 400	Professional portfolio 400	(12)

Further Education and Training

(Choose one in accordance with the degree subject on 300 level) (24)

VLW 400	Subj. Did in Life Sciences 400
VGG 400	Subj. Did in Geography 400
VNS 400	Subj. Did in Physical Science 400
VWS 400	Subj. Did in Mathematics 400
VIG 400	Subj. Did in Information Technology 400

Outstanding credits
Students may, in consultation with the Dean, take modules not listed in the curriculum.

† A year module is equivalent to two successive semester modules in one subject. Also refer to point (k).

(e) Teaching Practice
A student must gain teaching experience by means of:
(i) Attending demonstration lessons.
(ii) One of : SCE 204 or SCE 301
(iii) School Practice as incorporated in the PGCE programme in the 4th year.

(f) Language endorsement
Students must demonstrate the ability to teach in at least two official languages, of which one must be either English or Afrikaans.

(g) Compulsory language modules
The academic literacy modules (EOT 110 and 120) are compulsary.

Subject to satisfactory performance in the prescribed Academic Literacy Test, all or some of the above academic literacy modules must be replaced by EOT 161 and EOT 162. Other options may be taken upon approval by the BSecEd(Sci) co-ordinator.

(h) Religious instruction (SCE 171)

Required by the Department of Education. A student may apply for exemption on the grounds of conscientious objection, only if a module of at least 8 credits is taken in the place of Religious instruction.

(i) Professional studies

The professional studies component of the programme consists of the PGCE modules in the fourth year.

(j) Education

Education consist of Science education (SCE 201 and SCE 303) as well as the PGCE modules.

(k) Recognised school subjects

Subject	Level	Modules
Biology*††	100	MLB 111 and ZEN 161 and BOT 161
Biology*††	200	Appropriate modules in Plant Science or Zoology/Entomology or Human Physiology at 200-level.
Chemistry**	100	CMY 117, 127
Chemistry**	200	CMY 282,283,284,285
Physics**	100	PHY 171
Physics**	200	PHY 253, 254, 263.
Natural Sciences	200	GLY 151, GGY 252, 355 or 361 GLY 162 or WKD 164 or a combination of appropriate modules in Chemistry and Physics at 200-level, on the recommendation of the head of department and with the approval of the Dean.
Geography	100	GGY 156, 157, 166, WKD 164
Geography	200	GGY 252, 283
Agriculture††	100	In consultation with the Programme Manager: Agricultural Sciences and with approval from the Dean.
Agriculture††	200	In consultation with the Programme Manager: Agricultural Sciences and with approval from the Dean.
Computer Science	100	COS 110, COS 132, COS 151.
Computer Science	200	COS 212, 216, (COS 222 or 226).
Mathematics	100	WTW 114,126,128
Mathematics	200	WTW 211, 389 plus a suitable combination of credits to the value of 24 from WTW

NB: All modules of a subject must be passed for the subject to be recognised as a school subject.

* Zoology, Plant Science and Biology are the equivalent of only one recognised school subject. A recognised module must be passed at 100-level.

** Physics, Chemistry and Physical Science are the equivalent of only one recognised school subject and is only accepted if a full year module (two consecutive semester modules) is passed in both Chemistry and Physics at 100-level.

†† The combination ZEN 251 and BOT 251 is the equivalent of Biology at 200-level, but does not lead to admission to modules at 300 level.
The combination with MLB 111, BOT 161, ZEN 161 together with appropriate second-year modules in Zoology, Plant Science and Human Physiology can lead to admission to modules at 300-level.

(l) Special examination in the Faculty of Natural and Agricultural Sciences

A final-year student who requires a maximum of 36 credits to comply with all the requirements for the degree, may be admitted by the Dean on the recommendation of the relevant head(s) of department, to special examinations in the modules he or she has failed, provided that this will enable them to qualify for the degree. Students with a final mark of less than 40% in any of the failed modules, or who have previously been admitted to a special examination, do not qualify for a special examination. (Also consult Reg. G.12)

(m) Degree with distinction

The BSecEdSci degree is conferred with distinction on a student who obtains a weighted average of at least 75% in:

(i) A compulsory year module at 300 level.
(ii) The PGCE modules.

Sc.7 DIPLOMAS

A Senior Certificate must be included in all applications.

Advanced University Diploma in Extension and Rural Development (Code 03120200)

The admission requirements are:

- an appropriate initial university diploma in one of the Agricultural disciplines plus one year appropriate extensive experience; or
- an appropriate BTech degree or National Diploma plus one year relevant extensive experience; or
- an appropriate Agricultural Diploma or related diploma plus five years' relevant extensive experience; or
- a qualification deemed appropriate by the Senate of the University plus approved experience (RPL).

POSTGRADUATE STUDIES

See the Postgraduate yearbook of the Faculty of Natural and Agricultural Sciences for more detail.

Sc.8 HONOURS DEGREES

SC.8.1 Bachelor of Science Honours [BScHons]

Also consult General Regulations G.1.3; G.16 – G. 29 and G.62, and postgraduate yearbook.

(a) Admission requirements and prerequisites

(i) **For the BScHons degree**
Subject to the stipulations of General Reg. G.16, a student is only admitted to the study for the honours degree if he or she holds the BSc or BSecEdSci degree with an average mark of at least 60% and provided that he or she complies with the stipulations for the particular modules.

(ii) The curriculum is compiled in consultation with the head of department, from whom full details may be obtained except if mentioned otherwise.

(iii) (iii) In cases where the required module or linguistic basis is lacking, additional modules may be prescribed.

(b) Examination admission and pass requirements

For preparation, evaluation and examination of research reports, consult the manual of the Faculty, which is obtainable on request from the head of department. The pass mark for research reports is at least 50%. The stipulations regarding pass requirements for dissertations in General Regulation G.60.2.1 2(a) apply *mutatis mutandis* to research reports.

(c) Degree with distinction

The BScHons degree is awarded with distinction to a candidate who obtains a weighted average of at least 75% in all the prescribed modules and a minimum of 65% in any one module.

(d) Degrees

Discipline	Degree code
Actuarial Science	02240275
Animal Science	03241201
Applied Mathematics	02240171
Biochemistry	03241011
Bioinformatics	03241014
Biotechnology	02240392
Chemistry	02240121
Engineering and Environmental Geology	02240372
Entomology	03241031
Financial Engineering	02240274
Food Science	03240921
Genetics	03241051
Geography	02240411
Environmental Analysis and Management	02240412
Geoinformatics	02240408
Geology	02240141
Mathematical Statistics	02240191
Mathematics of Finance	02240272
Mathematics	02240181
Meteorology	02240070

Microbiology	03240911
Nutrition and Food Science	03240922
Option: Environmental Soil Science	03240902
Option: Medicinal Plant Science	03241090
Physics	02240231
Plant Pathology	03240931
Plant Science	03241091
Wildlife Management	03241001
Zoology	03241021

Sc.8.2 Bachelor of Agricultural Management Honours [BInstAgrarHons]

Also consult General Regulations G.16 to G.29

(a) Admission requirements

Subject to the stipulations of General Regulations G.1.3 and G.62, a candidate must hold the BInstAgrar degree or an appropriate bachelor's degree to be admitted to the BInstAgrarHons. Additional modules in the field of specialisation other than the honours modules may be prescribed by the Dean, on the recommendation of the head(s) of the department(s) concerned.

(b) Duration

Training is offered full-time.

(c) Curriculum

The curriculum consists of a minimum of eight modules, which include the following:

- A common core of modules, ARD 780, is compulsory for all fields of specialisation, except in the case of the Extension option, for which only ARD 781 and 782 are compulsory. Credit for equivalent modules already passed may be considered, in which case suitable alternative modules will be prescribed by the Dean in consultation with the relevant head of the department concerned.
- The prescribed module work in the student's field of specialisation. Credit for equivalent modules already passed may be considered, in which case suitable alternative modules will be prescribed by the Dean in consultation with the head of the department concerned.
- Additional modules required for the particular field of specialisation, as stipulated by the Dean in consultation with the head of the department concerned.

(d) Degree with distinction

A student must obtain a weighted average of at least 75 % in all the prescribed modules, with a minimum of 65 % in each of the modules to pass the degree with distinction.

(e) Degrees

Discipline	**Degree code**
Agribusiness Management	03242024
Agricultural Economics	03242021
Crop Protection	03242062
Extension	03242011

Plant Production	03242031
Plant Quarantine	03242183
Rural Development Planning	03242023

Sc.9 MASTER'S DEGREES

Sc.9.1 Master of Science [MSc]

Also consult General Regulations G.30 – G.44.

(a) Admission requirements for the MSc degree

Subject to the stipulations of General Regulations G.30, G.1.3 and G.62, an applicable BScHons degree is a prerequisite for admission. Additional requirements may be set by the Dean on the recommendation of the head of department. A candidate with an average mark of less than 60% for the honours degree will only be admitted to the MSc degree programme with the approval of the Dean on the recommendation of the head of department.

(b) Conferment of degree

The MSc degree is conferred by virtue of a dissertation and such additional postgraduate modules as may be prescribed.

(c) Pass requirements

(i) A pass mark of at least 50% must be obtained in both the dissertations and the additional prescribed modules, if such additional module work is prescribed.

(ii) Guidelines with regard to the preparation, evaluation and examination of dissertation is available from the head of department on request. The pass mark for dissertations is at least 50%. The stipulations with regard to pass requirements for dissertations in G.60.2.1.2 (a) apply *mutatis mutandis* to mini-dissertations.

(d) Degree with distinction

The degree is conferred with distinction on a student who obtains a final average of at least 75%, as well as at least 75% for the dissertation and provided that all the members of the Examination Commission indicate in writing that the degree be conferred with distinction.

(e) General

Students should take particular note of the maximum period of registration (General Regulation G.32.4), as well as of the requirement regarding submission of a draft article/articles for publication (General Regulation G. 61).

(f) Degrees

Discipline	Degree code
Actuarial Science	02250395
Applied Mathematics	02250171
Applied Mineralogy	02250381
Applied Statistics	02250401
Biochemistry	03251011
Bioinformatics	03251014
Biotechnology	03251052
Chemistry	02250121

Engineering and Environmental Geology	02250372
Engineering Geology	02250371
Entomology	03251031
Environment and Society (Coursework)	03251032
Environmental Ecology (Coursework)	03251033
Environmental Economics (Coursework)	03251034
Environmental Management (Coursework)	03251037
Financial Engineering	02250184
Food Science	03250921
Genetics	03251051
Geography	02250411
Geoinformatics	02250412
Geology	02250141
Mathematical Statistics	02250191
Mathematics Education	02250183
Mathematics of Finance	02250182
Mathematics	02250181
Option: Air Quality Management (Coursework)	03251038
Option: Medicinal Plant Science	03251090
Option: Forest Science and the Environment (Coursework)	03251039
Meteorology	02250070
Microbiology	03250911
Nutition	03251106
Physics	02250231
Plant Pathology	03250881
Plant Science	03251091
Postharvest Technology	03251102
Science Education	02250442
Soil Science	03250901
Water Resource Management (Coursework)	03251035
Wildlife Management	03251001
Zoology	03251021

Sc.9.2 Master of Philosophy [MPhil] (Code: 03250700)

Also consult General Regulation G. 62

(a) Admission requirements

Students wishing to enroll for the MPhil (Wildlife Management) should have a approved four-year first degree at a recognised university or any qualification that is accepted by the Senate as equivalent to it in terms of Regulation G. 62.

(b) Duration

The duration of the internet-based part-time programme is two years. The theoretical component forms 40%, the research project 35% and the practical component 25% of the programme.

(c) Curriculum

This programme aims to educate candidates interested in this field but who come from non-biological backgrounds. It is a postgraduate programme focusing on the philosophy, ethics, ecological principles and application of wildlife management.

Sc.9.3 Master of Agricultural Science [MScAgric]

Also consult General Regulations G.30 to G.44.

(a) Requirements for admission

Subject to the stipulations of General Regulations G.1.3 and G.62, the four-year BScAgric degree with an average of 60% in the final year of the major subject is a requirement for admission to the MScAgric degree. Additional requirements may be stipulated by the head of department.

(b) Duration

Duration of study is at least two years of uninterrupted full-time study (or the part-time equivalent) at this University.

(c) Residence

The Dean may on the recommendation of the head of the department concerned, set particular requirements concerning residence during master's degree studies.

(d) Curricula

The curriculum for the MScAgric degree consists of:

(i) a dissertation; and
further study in the major subject, supplemented by ancillary module/s as may be required by the Dean, on the recommendation of the head of department. Students who hold the BScAgricHons degree may be exempted from further ancillary modules.

(ii) A total of 240 credits is required for the MScAgric degree, of which 120 are for the dissertation.

(e) Examinations and pass requirements

(i) The final examinations for the MScAgric may only be taken at the end of the second year of study.

(ii) The examinations in the ancillary modules, if required, must be passed before or concurrent with the examinations in the major subject, unless the Board of the Faculty decides differently.

(iii) General Regulation G.12.2, as well as paragraph 4 of the Faculty regulations pertaining to examination admission and pass requirements, are applicable to the calculation of marks.

(iv) A student must pass all prescribed modules as well as the dissertation to obtain the MScAgric degree.

(v) The degree is conferred with distinction on a student who obtains a final mark of at least 75%, as well as at least 75% for the dissertation and provided that all the members of the Examination Commission indicate in writing that the degree be conferred with distinction.

(f) General

Students should take particular note of the maximum period of registration (General Regulation G.32.4), as well as of the requirement regarding submission of a draft article/articles for publication (General Regulation G.61).

(g) Degrees

Discipline	Degree code
Agricultural Economics	03250041
Agricultural Extension	03251030

Agronomy	03250454
Animal Science: Production Management	03250441
Animal Science: Animal Breeding and Genetics	03250457
Animal Science: Meat Science	03250122
Animal Science: Production Physiology	03250391
Entomology	03250120
Genetics	03250291
Microbiology	03250071
Plant Pathology	03250301
Food Science and Technology	03250261
Horticulture	03250091
Nutition Science	03250421
Pasture Science	03250455
Soil Science	03250456

Sc.9.4 Master of Agricultural Management [MInstAgrar]

Also consult General Regulations G. 30 to G. 44.

(a) Admission requirements

Subject to the stipulations of General Requirements G.1.3 and G. 62, a candidate must hold the BInstAgrar(Hons) or an appropriate honours degree for admission to the MInstAgrar degree study. Additional modules may be prescribed by the Dean on the recommendation of the head of department. A candidate with an average mark of less than 60 % for the honours degree will only be admitted to MInstAgrar study with the approval of the Dean, on the recommendation of the head of the department.

(b) Curriculum

The curriculum consists of further study in the field of specialisation and a mini-dissertation, which encompasses research conducted by the student under supervision of a member of the academic staff.

(c) Degree with distinction

The degree is conferred with distinction on a student who obtains a final mark of at least 75%, as well as at least 75% for the mini-dissertation and provided that all the members of the Examination Commission indicate in writing that the degree be conferred with distinction.

(d) General

Students must take particular note of the maximum period of registration (General Regulation G.32.4), as well as of the requirement regarding submission of a draft article/articles for publication (General Regulation G. 61).

(e) Degrees

Discipline	**Degree code**
Agricultural Economics	03252021
Agronomy	03252072
Animal Production Management	03252093
Crop Protection	03252062
Environmental Management (Coursework)	03252132
Extension	03252011

Horticulture	03252082
Rural Development Planning	03252023
Pasture Science	03252092
Plant Quarantine	03252141

Sc.9.5 Master of Consumer Science [MConsumer Science]

(a) Admission requirements
A four-year BConsumer Science or other applicable degree.

(b) Duration
A minimum of two years full-time and a maximum of four years part-time study.

(c) Programme options
There are four disciplines with a further two options to choose from, each with a minimum of 240 credits:

(i) **Dissertation option**

Interior Merchandise Management	02253004
Clothing Management	02253006
General	02253009
Food Management	02253008

(ii) **Coursework option with research report**

Interior Merchandise Management	02253003
Clothing Management	02253005
General	02253010
Food Management	02253007

(d) Curriculum (a minimum of 240 credits)

(i) **Dissertation option**

Research Methodology 814	(30 credits)
Theoretical Orientation	(15 credits)*
Electives (30 credits each) (a minimum of 60 credits)	
VBR890 (Dissertation)	(120 credits)

(ii) **Coursework option**

Research Methodology 814	(30 credits)
Theoretical Orientation	(15 credits)*
Electives (30 credits each)	(4x30=120 credits)
VBR892 (Research report)	(60 credits)

*To earn credits for the Theoretical Orientation, at least one of the following options must be taken:

HSK 810:	Theoretical frameworks in cultural studies 810	(15 credits)
HSK 812:	Theoretical frameworks in consumer studies 812	(15 credits)
HSK 813:	Socio-cultural studies 813	(15 credits)

Other applicable orientations offered in and outside the Department can be taken additionally. (15-30 credits).

Students choose electives on 800-level from the following four electives groupings:

- Clothing and textiles
- Foods, nutrition and food service management
- Interior merchandising and consumer facilitation

Depending on the field of study, a maximum of two postgraduate modules may be selected from disciplines from other departments.
Depending on the academic background of the student and the chosen area of study, it may be required of the student to take additional modules.
Work on the dissertation/research report consists of three parts, namely the research proposal, project execution and an oral presentation of the research results.

A basic module in Statistics is compulsory when a quantitative approach is used for the research project.

(e) Degree with distinction

The degree is conferred with distinction on a student who obtains a final average of at least 75%, as well as at least 75% for the dissertation and provided that all the members of the Examination Commission indicate in writing that the degree be conferred with distinction.

(f) Prerequisites for the dissertation/research report

Consult the Department for more information on the structuring of programmes, the content of the theoretical orientations, and electives including their prerequisites.

(g) Degrees

Discipline	Degree code
Interior Merchandise Management	02253004
Interior Merchandise Management (Coursework)	02253003
Clothing Management	02253006
Clothing Management (Coursework)	02253005
General	02253009
General (Coursework)	02253010
Food Management	02253008
Food Management (Coursework)	02253007

DOCTORATES

Sc.10 Doctor of Philosophy [PhD]

Also consult General Regulations G.45 to G.55.

(a) Admission requirements

(i) **PhD degree**

Subject to the stipulations of General Regulations G.1.3, G.45 and G.62, no student will be admitted to the study for a doctor's degree unless he or she holds an applicable master's degree or has been admitted to the status thereof. Further requirements for admission, if any, are set out in the syllabi of the various departments.

(ii) **PhD in Consumer Science**

MConsumer Science or applicable master's degree with a pass mark of at least 60%.

To proceed with the thesis, a student should have fulfilled the requirements for the master's degree regarding:

- Theoretical orientation
- Research methodology (NMN 814)
- The student should also have published at least one article in a research journal during the two years prior to registration for the PhD degree or have proof that the article has been accepted for publication in a refereed journal. Furthermore, it should also be evident from the master's dissertation or publications that research can be undertaken independently.

NB: The student may be required to do additional modules/coursework.

(b) Duration

A minimum of two years full-time study.

(c) Residence

Doctoral students may be required to reside at the University for further study on the recommendation of the head of department and with the approval of the Dean.

(d) Curriculum

The curriculum for the PhD degree consists of:

(i) theoretical knowledge of the major subject and such ancillary modules as may be required; and
(ii) a thesis.

(e) Conferring of degree

(i) A PhD student must submit a thesis which deals with a topic from the list of subject disciplines.
(ii) The doctoral examination, either written and/or oral, is compulsory and covers the content of the thesis as well as the subdivisions of the field of study on which the thesis is based.

(f) General

Students must take particular note of the maximum period of registration (General Regulation G. 47), as well as of the requirements regarding the submission of a draft article/articles for publication (General Regulation G. 61).

(g) Degrees

Discipline	Degree code
Agrarian Extension	03262002
Agricultural Economics	03260042
Agronomy	03262164
Animal Production Management	02260545
Animal Science	03260141
Biochemistry	03260012
Biotechnology	03262162
Bioinformatics	03260014
Chemistry	02260451
Consumer Science: Development	02263003
Consumer Science: Food Management	02263004

Consumer Science: Interior Merchandise Management	02263001
Consumer Science: Clothing Management	02263002
Crop Protection	03262021
Engineering and Environmental Geology	02260542
Entomology	03260121
Environment and Society	03250122
Environmental Studies	03260127
Environmental Economics	03260124
Food Science	03260272
Genetics	03260292
Geography	02260511
Geoinformatics	02260512
Geology	02260521
Horticulture	03262167
Mathematical Sciences	02260761
Meteorology	02260630
Microbiology	03260072
Nutrition	03261006
Option: Air Quality Management	03260129
Option: Environmental Management	03260125
Option: Forest Science	03252160
Option: Medicinal Plant Science	03261090
Pasture Science	03262165
Physics	02260481
Plant Pathology	03260302
Plant Science	03261091
Rural Development Planning	03262023
Science and Mathematics Education	02260753
Soil Science	03262166
Water Resource Management	03260126
Wildlife Management	03261001
Zoology	03261021

Sc.11 Doctor of Science [DSc]

Consult General Regulation G.56.

This degree usually follows on the PhD degree and is conferred by virtue of publications emanating from independent research. The publication must represent a meaningful contribution to a specific subdiscipline.

(a) Guidelines for evaluation

(i) **Disciplines**
The DSc degree in the Faculty of Natural and Agricultural Sciences is conferred byvirtue of published research work in one of the disciplines in the faculty.

(ii) **Criteria**
The work submitted for the DSc must constitute an original and important contribution to scientific knowledge and insight in that it isregarded as a substantial and coherent contribution to the advancement of the frontiers of knowledge and insight into the specific subdiscipline, and proof of the

candidate's achievement with regard to international leadership in the specific field of scientific research.

The emphasis in the assessment of the work of a DSc candidate must be placed on originality, substance and excellence.

(iii) **Presentation**

The document submitted for examination must consist of a selection of published articles as well as a substantiated representation in which the grounds for submission and coherency of the work presented is evident.