

Academic Programs and Courses
Faculty of Science and Agriculture
University of Zululand

2010

S13 COMPULSORY MODULES FOR MAJOR SUBJECTS

Once a combination is chosen, students must then enrol for the compulsory modules that are specified below for both of these two major subjects taking note of the following points:

- (a) When registering, outstanding lower year-level modules must be registered before higher year-level modules are registered. If there is a timetable clash between a lower-year level module and a higher year-level module then the lower year-level module must be registered.
- (b) If one of the major choices requires a service module (marked as **bold**) in a subject and the other requires the module that forms part of a major in the same subject then the latter must be registered.
- (c) If the same compulsory module appears for both subjects then this compulsory module is only registered once.
- (d) Students are advised to register for modules that form parts of major subjects instead of service modules since this will enable them to pursue a major in this subject.
- (e) Some Departments have an additional module available for students to study at second-year-level. These additional modules are not compulsory but they are designed to compliment the compulsory courses. Students should seek advice from their departments before selecting these.

Once the compulsory modules are selected the elective modules should be selected. Elective choices must not clash on the timetable with the compulsory modules. Students should choose their elective modules such that they increase their options and potentially they will then be in a position to then choose two majors out of three or four options when they progress to second year-level.

* *Module should be taken in the first year if both majors are any two of Biochemistry, Botany, Microbiology and Zoology*

Applied Mathematics

Year 1	Discrete Mathematics SAMT111 (G)	Calculus I SMTH111 (F)	
	Mechanics SAMT112 (G)	Calculus II SMTH112 (F)	
Year 2	Dynamical Systems SAMT211 (E)	Advanced Calculus SMTH221 (H)	
	Classical Mechanics SAMT212 (E)	Linear Algebra SMTH222 (H)	
Year 3	Mechanics SPHY211 (C)	Applied Math Methods SAMT321 (D)	
	Advanced Classical Mechanics SAMT312 (B)	Numerical Methods SAMT322 (D)	

Biochemistry

Year 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)
Year 2	Biomolecules & Enzymology SBCH211 (H)	Intro Zoology I SZOL111 (A) *	
	Metabolism SBCH212 (H)	Intro Zoology II SZOL112 (A) *	
Year 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	

Additional second year module
(A)

Biochemistry: Principles & techniques SBCH222

Botany

Year 1	Cytology, Genetics & Physiol SBOT111 (E)	Classical Mechanics Bio SPHY121 (C)	Basic Chemistry 121 SCHM121 (G)
	Morphology & Taxonomy SBOT112 (E)	Maths & Stats Bio SMTH122 (C)	Basic Chemistry 122 SCHM122 (G)
Year 2	Plant Growth & Development SBOT211 (G)	Intro Zoology I SZOL111 (A) *	
	Plant Anatomy & Biodiversity SBOT212 (G)	Intro Zoology II SZOL112 (A) *	
Year 3	Genetics & Plant Biochem SBOT311 (B)	Aquatic Botany SBOT321 (D)	
	People & Plants SBOT312 (B)	Plant Conservation SBOT322 (D)	

Chemistry

Year 1	General Chemistry 111 SCHM111 (E)	Calculus I SMTH111 (F)	Classical Mechanics Bio SPHY121 (C)
	General Chemistry 112 SCHM112 (E)	Calculus II SMTH112 (F)	Electromag & Nuclear Bio SPHY122 (C)
Year 2	Analytical & Inorganic 2 SCHM211 (G)		
	Organic & Physical 2 SCHM212 (G)		
Year 3	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)	
	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)	

Computer Science

Year 1	Introductory Computing SCPS111 (B)		
	Intro Systems Programming SCPS112 (B)		
Year 2	Data Structures SCPS211 (D)		
	Software Engineering SCPS212 (D)		
Year 3	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)	
	Distributed Systems SCPS312 (E)	Project SCPS322 (G)	

Additional second year module

Computer Architecture SCPS221 (B)

Geography B.Sc stream (Co-majoring with Science Faculty Majors)

Year 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	
	Human Geography SGES112 (H)	Maths & Stats Bio SMTH122 (C)	
Year 2	Landforms & Cartography SGES211 (D)		
	Demographics, Sust Develop SGES212 (B) OR Hydrometeorology SGES222 (D)		
Year 3	Urban Geog and Recreation SGES311 (A) OR Atmospheric Processes SGES321 (E)	Land Use, Resource Manage SGES331 (C) OR Climate Dynamics SGES341 (G)	
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	

Geography B.A stream (Co-majoring with Arts Faculty Majors)

Year 1	Physical & Enviro Geog SGES111 (H)		
	Human Geography SGES112 (H)		
Year 2	Landforms & Cartography SGES211 (D)		
	Demographics, Sust Develop SGES212 (B)		
Year 3	Urban Geog and Recreation SGES311 (A)	Land Use, Resource Manage SGES331 (C)	
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	

Human Movement Science

Year 1	Human Movement Science 1A SHMS111 (H)	Classical Mechanics Bio SPHY121 (C)	
	Human Movement Science 1B SHMS112 (H)	Maths & Stats Bio SMTH122 (C)	
Year 2	Human Movement Science 2A SHMS211 (F)	Human Anatomy Physiology I SZOL121 (B)	
	Human Movement Science 2B SHMS212 (F)	Human Anatomy Physiology II SZOL122 (B)	
Year 3	Human Movement Science 3A SHMS311 (B)	Human Movement Science 3C SHMS321 (D)	
	Human Movement Science 3B SHMS312 (B)	Human Movement Science 3D SHMS322 (D)	

Hydrology

Year 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	Elementary Statistics SSTT111 (E)
	Intro Geology SHYD112 (D)	Maths & Stats Bio SMTH122 (C)	
Year 2	Intro Surface Water SHYD211 (F)		
	Intro Subsurface Water SHYD212 (F)		
Year 3	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)	
	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)	

Additional second year module Geographical Information Systems SHYD222 (H) Must also enrol for SGES211(D)

Mathematics

Year 1	Calculus I SMTH111 (F)		
	Calculus II SMTH112 (F)		
Year 2	Advanced Calculus SMTH221 (H)		
	Linear Algebra SMTH222 (H)		
Year 3	Abstract Algebra SMTH311 (A)	Real Analysis SMTH321 (C)	
	Graph Theory SMTH312 (A)	Complex Analysis SMTH322 (C)	

Microbiology

Year 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Intro Zoology II SZOL112 (A)
Year 2	Procarriots & Microbial Tech SMCB211 (D)	Cytology, Genetics & Physiol SBOT111 (E) *	
	Microbial Growth, Medic Micro SMCB212 (D)	Morphology & Taxonomy SBOT112 (E) *	
Year 3	Food Microbiology SMCB311 (E)	Epidemiology SMED311 (G)	
	Environmental Influences SMCB312 (E)	Biotechnology SMCB322 (G)	

Additional second year module

Procarriots & Eucaryotes SMCB221 (H)

Physics

Year 1	Classical Mechanics SPHY111 (A)	Calculus I SMTH111 (F)	
	Electromag & Nuclear Physics SPHY112 (A)	Calculus II SMTH112 (F)	
Year 2	Mechanics SPHY211 (C)	Advanced Calculus SMTH221 (H)	
	Photonics and Waves SPHY212 (C)	Linear Algebra SMTH222 (H)	
Year 3	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)	
	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)	

Additional second year module

Electromagnetism SPHY222 (A)

Statistics

Year 1	Elementary Statistics SSTT111 (E)	Calculus I SMTH111 (F)	
	Statistics for Science SSTT112 (E)	Calculus II SMTH112 (F)	
Year 2	Distribution Theory SSTT211 (C)	Advanced Calculus SMTH221 (H)	
	Statistical Inference SSTT212 (C)	Linear Algebra SMTH222 (H)	
Year 3	Random Processes SSTT311 (F)	Experimental Design SSTT321 (H)	
	Linear Models SSTT312 (F)	Time Series SSTT322 (H)	

Zoology

Year 1	Intro Zoology I SZOL111 (A)	Classical Mechanics Bio SPHY121 (C)	Basic Chemistry 121 SCHM121 (G)
	Intro Zoology II SZOL112 (A)	Maths & Stats Bio SMTH122 (C)	Basic Chemistry 122 SCHM122 (G)
Year 2	Animal Anatomy Physiology SZOL211 (C)	Cytology, Genetics & Physiol SBOT111 (E) *	
	Animal Diversity SZOL212 (C)	Morphology & Taxonomy SBOT112 (E) *	
Year 3	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)	
	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)	

S14 CURRICULA FOR RECOMMENDED DOUBLE MAJOR COMBINATIONS

The following grids outline the curricula of the 37 recommended double major combinations. The courses specified are all compulsory components of the degrees and where "Elective" is indicated, subjects may be chosen only if they do not clash on the timetable with the compulsory courses and only if their specified prerequisite courses are passed. Students are advised to choose their elective subjects from courses that form recommended co-majors with both of their chosen majors. Letters in brackets indicate the timetable groups that the modules are offered in.

If a service course is specified (SPHY121/SPHY122, SCHM121/SCHM122, SMTH122) then this may be substituted with the mainstream course for that subject (SPHY111/SPHY112, SCHM111/SCHM112, SMTH111/SMTH112) if this is possible within the timetable.

B.Sc Applied Mathematics and Computer Science

SBSC01

Yr 1	Discrete Mathematics SAMT111 (G)	Calculus I SMTH111 (F)	Introductory Computing SCPS111 (B)	Elective
	Mechanics SAMT112 (G)	Calculus II SMTH112 (F)	Intro Systems Programming SCPS112 (B)	Elective
Yr 2	Dynamical Systems SAMT211 (E)	Advanced Calculus SMTH221 (H)	Data Structures SCPS211 (D)	Elective
	Classical Mechanics SAMT212 (E)	Linear Algebra SMTH222 (H)	Software Engineering SCPS212 (D)	Elective
Yr 3	Mechanics SPHY211 (C)	Applied Math Methods SAMT321 (D)	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)
	Adv Classical Mechanics SAMT312 (B)	Numerical Methods SAMT322 (D)	Distributed Systems SCPS312 (E)	Project SCPS322 (G)

B.Sc Applied Mathematics and Hydrology
SBSC02

Yr 1	Discrete Mathematics SAMT111 (G)	Calculus I SMTH111 (F)	Physical & Enviro Geog SGES111 (H)	Elementary Statistics SSTT111 (E)
	Mechanics SAMT112 (G)	Calculus II SMTH112 (F)	Intro Geology SHYD112 (D)	Elective
Yr 2	Dynamical Systems SAMT211 (E)	Advanced Calculus SMTH221 (H)	Intro Surface Water SHYD211 (F)	Mechanics SPHY211 (C)
	Classical Mechanics SAMT212 (E)	Linear Algebra SMTH222 (H)	Intro Subsurface Water SHYD212 (F)	Elective
Yr 3	Elective	Applied Math Methods SAMT321 (D)	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)
	Adv Classical Mechanics SAMT312 (B)	Numerical Methods SAMT322 (D)	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)

B.Sc Applied Mathematics and Mathematics
SBSC03

Yr 1	Discrete Mathematics SAMT111 (G)	Elective	Calculus I SMTH111 (F)	Elective
	Mechanics SAMT112 (G)	Elective	Calculus II SMTH112 (F)	Elective
Yr 2	Dynamical Systems SAMT211 (E)	Elective	Advanced Calculus SMTH221 (H)	Mechanics SPHY211 (C)
	Classical Mechanics SAMT212 (E)	Elective	Linear Algebra SMTH222 (H)	Elective
Yr 3	Elective	Applied Math Methods SAMT321 (D)	Abstract Algebra SMTH311 (A)	Real Analysis SMTH321 (C)
	Adv Classical Mechanics SAMT312 (B)	Numerical Methods SAMT322 (D)	Graph Theory SMTH312 (A)	Complex Analysis SMTH322 (C)

B.Sc Applied Mathematics and Physics
SBSC04

Yr 1	Discrete Mathematics SAMT111 (G)	Calculus I SMTH111 (F)	Classical Mechanics SPHY111 (A)	Elective
	Mechanics SAMT112 (G)	Calculus II SMTH112 (F)	Electromag & Nuclear Physics SPHY112 (A)	Elective
Yr 2	Dynamical Systems SAMT211 (E)	Advanced Calculus SMTH221 (H)	Mechanics SPHY211 (C)	Elective
	Classical Mechanics SAMT212 (E)	Linear Algebra SMTH222 (H)	Photonics and Waves SPHY212 (C)	Elective
Yr 3	Elective	Applied Math Methods SAMT321 (D)	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Adv Classical Mechanics SAMT312 (B)	Numerical Methods SAMT322 (D)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Applied Mathematics and Statistics**SBSC05**

Yr 1	Discrete Mathematics SAMT111 (G)	Calculus I SMTH111 (F)	Elementary Statistics SSTT111 (E)	Elective
	Mechanics SAMT112 (G)	Calculus II SMTH112 (F)	Statistics for Science SSTT112 (E)	Elective
Yr 2	Dynamical Systems SAMT211 (E)	Advanced Calculus SMTH221 (H)	Distribution Theory SSTT211 (C)	Elective
	Classical Mechanics SAMT212 (E)	Linear Algebra SMTH222 (H)	Statistical Inference SSTT212 (C)	Elective
Yr 3	Mechanics SPHY211 (C)	Applied Math Methods SAMT321 (D)	Random Processes SSTT311 (F)	Experimental Design SSTT321 (H)
	Adv Classical Mechanics SAMT312 (B)	Numerical Methods SAMT322 (D)	Linear Models SSTT312 (F)	Time Series SSTT322 (H)

B.Sc Biochemistry and Botany**SBSC06**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Elective	Plant Growth & Development SBOT211 (G)	Elective
	Metabolism SBCH212 (H)	Elective	Plant Anatomy & Biodiversity SBOT212 (G)	Elective
Yr 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	Genetics & Plant Biochem SBOT311 (B)	Aquatic Botany SBOT321 (D)
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	People & Plants SBOT312 (B)	Plant Conservation SBOT322 (D)

B.Sc Biochemistry and Chemistry**SBSC07**

Yr 1	Calculus I SMTH111 (F)	Classical Mechanics Bio SPHY121 (C)	General Chemistry 111 SCHM111 (E)	Intro Zoology I SZOL111 (A)
	Calculus II SMTH112 (F)	Electromag & Nuclear Bio SPHY122 (C)	General Chemistry 112 SCHM112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Cytology, Genetics & Physiol SBOT111 (E)	Analytical & Inorganic 2 SCHM211 (G)	Elective
	Metabolism SBCH212 (H)	Morphology & Taxonomy SBOT112 (E)	Organic & Physical 2 SCHM212 (G)	Elective
Yr 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)

B.Sc Biochemistry and Human Movement Science**SBSC08**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Human Movement Science 1A SHMS111 (H)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Human Movement Science 1B SHMS112 (H)	Intro Zoology II SZOL112 (A)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Cytology, Genetics & Physiol SBOT111 (E)	Human Movement Science 2A SHMS211 (F)	Human Anatomy Physiology I SZOL121 (B)
	Metabolism SBCH212 (H)	Morphology & Taxonomy SBOT112 (E)	Human Movement Science 2B SHMS212 (F)	Human Anatomy Physiology II SZOL122 (B)
Yr 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	Human Movement Science 3A SHMS311 (B)	Human Movement Science 3C SHMS321 (D)
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	Human Movement Science 3B SHMS312 (B)	Human Movement Science 3D SHMS322 (D)

B.Sc Biochemistry and Microbiology**SBSC09**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Elective	Procariots & Microbial Tech SMCB211 (D)	Elective
	Metabolism SBCH212 (H)	Elective	Microbial Growth, Medic Micro SMCB212 (D)	Elective
Yr 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	Food Microbiology SMCB311 (E)	Epidemiology SMED311 (G)
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	Environmental Influences SMCB312 (E)	Biotechnology SMCB322 (G)

B.Sc Biochemistry and Zoology**SBSC10**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)	Cytology, Genetics & Physiol SBOT111 (E)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Intro Zoology II SZOL112 (A)	Morphology & Taxonomy SBOT112 (E)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Elective	Animal Anatomy Physiology SZOL211 (C)	Elective
	Metabolism SBCH212 (H)	Elective	Animal Diversity SZOL212 (C)	Elective
Yr 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Botany and Geography**SBSC11**

Yr 1	Cytology, Genetics & Physiol SBOT111 (E)	Basic Chemistry 121 SCHM121 (G)	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)
	Morphology & Taxonomy SBOT112 (E)	Basic Chemistry 122 SCHM122 (G)	Human Geography SGES112 (H)	Maths & Stats Bio SMTH122 (C)
Yr 2	Plant Growth & Development SBOT211 (G)	Intro Zoology I SZOL111 (A)	Landforms & Cartography SGES211 (D)	Elective
	Plant Anatomy & Biodiversity SBOT212 (G)	Intro Zoology II SZOL112 (A)	Demographics, Sust Develop SGES212 (B) OR Hydrometeorology SGES222 (D)	Elective
Yr 3	Genetics & Plant Biochem SBOT311 (B)	Aquatic Botany SBOT321 (D)	Urban Geog and Recreation SGES311 (A) OR Atmospheric Processes SGES321 (E)	Land Use, Resource Manage SGES331 (C) OR Climate Dynamics SGES341 (G)
	People & Plants SBOT312 (B)	Plant Conservation SBOT322 (D)	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)

B.Sc Botany and Hydrology**SBSC12**

Year 1	Cytology, Genetics & Physiol SBOT111 (E)	Basic Chemistry 121 SCHM121 (G)	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)
	Morphology & Taxonomy SBOT112 (E)	Basic Chemistry 122 SCHM122 (G)	Intro Geology SHYD112 (D)	Maths & Stats Bio SMTH122 (C)
Year 2	Plant Growth & Development SBOT211 (G)	Intro Zoology I SZOL111 (A)	Intro Surface Water SHYD211 (F)	Elementary Statistics SSTT111 (E)
	Plant Anatomy & Biodiversity SBOT212 (G)	Intro Zoology II SZOL112 (A)	Intro Subsurface Water SHYD212 (F)	Elective
Year 3	Genetics & Plant Biochem SBOT311 (B)	Aquatic Botany SBOT321 (D)	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)
	People & Plants SBOT312 (B)	Plant Conservation SBOT322 (D)	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)

B.Sc Botany and Microbiology**SBSC13**

Year 1	Cytology, Genetics & Physiol SBOT111 (E)	Basic Chemistry 121 SCHM121 (G)	Intro Zoology I SZOL111 (A)	Classical Mechanics Bio SPHY121 (C)
	Morphology & Taxonomy SBOT112 (E)	Basic Chemistry 122 SCHM122 (G)	Intro Zoology II SZOL112 (A)	Maths & Stats Bio SMTH122 (C)
Year 2	Plant Growth & Development SBOT211 (G)	Elective	Procarriots & Microbial Tech SMCB211 (D)	Elective
	Plant Anatomy & Biodiversity SBOT212 (G)	Elective	Microbial Growth, Medic Micro SMCB212 (D)	Elective
Year 3	Genetics & Plant Biochem SBOT311 (B)	Aquatic Botany SBOT321 (D)	Food Microbiology SMCB311 (E)	Epidemiology SMED311 (G)
	People & Plants SBOT312 (B)	Plant Conservation SBOT322 (D)	Environmental Influences SMCB312 (E)	Biotechnology SMCB322 (G)

B.Sc Botany and Zoology**SBSC14**

Yr 1	Cytology, Genetics & Physiol SBOT111 (E)	Basic Chemistry 121 SCHM121 (G)	Intro Zoology I SZOL111 (A)	Classical Mechanics Bio SPHY121 (C)
	Morphology & Taxonomy SBOT112 (E)	Basic Chemistry 122 SCHM122 (G)	Intro Zoology II SZOL112 (A)	Maths & Stats Bio SMTH122 (C)
Yr 2	Plant Growth & Development SBOT211 (G)	Elective	Animal Anatomy Physiology SZOL211 (C)	Elective
	Plant Anatomy & Biodiversity SBOT212 (G)	Elective	Animal Diversity SZOL212 (C)	Elective
Yr 3	Genetics & Plant Biochem SBOT311 (B)	Aquatic Botany SBOT321 (D)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	People & Plants SBOT312 (B)	Plant Conservation SBOT322 (D)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Chemistry and Computer Science**SBSC15**

Yr 1	General Chemistry 111 SCHM111 (E)	Calculus I SMTH111 (F)	Introductory Computing SCPS111 (B)	Classical Mechanics Bio SPHY121 (C)
	General Chemistry 112 SCHM112 (E)	Calculus II SMTH112 (F)	Intro Systems Programming SCPS112 (B)	Electromag & Nuclear Bio SPHY122 (C)
Yr 2	Analytical & Inorganic 2 SCHM211 (G)	Elective	Data Structures SCPS211 (D)	Elective
	Organic & Physical 2 SCHM212 (G)	Elective	Software Engineering SCPS212 (D)	Elective
Yr 3	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)
	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)	Distributed Systems SCPS312 (E)	Project SCPS322 (G)

B.Sc Chemistry and Hydrology**SBSC16**

Yr 1	General Chemistry 111 SCHM111 (E)	Calculus I SMTH111 (F)	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)
	General Chemistry 112 SCHM112 (E)	Calculus II SMTH112 (F)	Intro Geology SHYD112 (D)	Electromag & Nuclear Bio SPHY122 (C)
Yr 2	Analytical & Inorganic 2 SCHM211 (G)	Elective	Intro Surface Water SHYD211 (F)	Elementary Statistics SSTT111 (E)
	Organic & Physical 2 SCHM212 (G)	Elective	Intro Subsurface Water SHYD212 (F)	Elective
Yr 3	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)
	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)

B.Sc Chemistry and Mathematics**SBSC17**

Yr 1	General Chemistry 111 SCHM111 (E)	Classical Mechanics Bio SPHY121 (C)	Calculus I SMTH111 (F)	Elective
	General Chemistry 112 SCHM112 (E)	Electromag & Nuclear Bio SPHY122 (C)	Calculus II SMTH112 (F)	Elective
Yr 2	Analytical & Inorganic 2 SCHM211 (G)	Elective	Advanced Calculus SMTH221 (H)	Elective
	Organic & Physical 2 SCHM212 (G)	Elective	Linear Algebra SMTH222 (H)	Elective
Yr 3	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)	Abstract Algebra SMTH311 (A)	Real Analysis SMTH321 (C)
	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)	Graph Theory SMTH312 (A)	Complex Analysis SMTH322 (C)

B.Sc Chemistry and Physics**SBSC18**

Yr 1	General Chemistry 111 SCHM111 (E)	Calculus I SMTH111 (F)	Classical Mechanics SPHY111 (A)	Elective
	General Chemistry 112 SCHM112 (E)	Calculus II SMTH112 (F)	Electromag & Nuclear Physics SPHY112 (A)	Elective
Yr 2	Analytical & Inorganic 2 SCHM211 (G)	Advanced Calculus SMTH221 (H)	Mechanics SPHY211 (C)	Elective
	Organic & Physical 2 SCHM212 (G)	Linear Algebra SMTH222 (H)	Photonics and Waves SPHY212 (C)	Elective
Yr 3	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Chemistry and Zoology**SBSC19**

Yr 1	General Chemistry 111 SCHM111 (E)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)	Calculus I SMTH111 (F)
	General Chemistry 112 SCHM112 (E)	Electromag & Nuclear Bio SPHY122 (C)	Intro Zoology II SZOL112 (A)	Calculus II SMTH112 (F)
Yr 2	Analytical & Inorganic 2 SCHM211 (G)	Elective	Animal Anatomy Physiology SZOL211 (C)	Cytology, Genetics & Physiol SBOT111 (E)
	Organic & Physical 2 SCHM212 (G)	Elective	Animal Diversity SZOL212 (C)	Morphology & Taxonomy SBOT112 (E)
Yr 3	Organic Chemistry 3 SCHM311 (B)	Physical Chemistry 3 SCHM321 (D)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	Inorganic Chemistry 3 SCHM312 (B)	Analytical Chemistry 3 SCHM322 (D)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Computer Science and Hydrology**SBSC20**

Yr 1	Introductory Computing SCPS111 (B)	Classical Mechanics Bio SPHY121 (C)	Physical & Enviro Geog SGES111 (H)	Elective
	Intro Systems Programming SCPS112 (B)	Maths & Stats Bio SMTH122 (C)	Intro Geology SHYD112 (D)	Elective
Yr 2	Data Structures SCPS211 (D)	Elective	Intro Surface Water SHYD211 (F)	Elementary Statistics SSTT111 (E)
	Software Engineering SCPS212 (D)	Elective	Intro Subsurface Water SHYD212 (F)	Elective
Yr 3	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)
	Distributed Systems SCPS312 (E)	Project SCPS322 (G)	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)

B.Sc Computer Science and Mathematics**SBSC21**

Yr 1	Introductory Computing SCPS111 (B)	Elective	Calculus I SMTH111 (F)	Elective
	Intro Systems Programming SCPS112 (B)	Elective	Calculus II SMTH112 (F)	Elective
Yr 2	Data Structures SCPS211 (D)	Elective	Advanced Calculus SMTH221 (H)	Elective
	Software Engineering SCPS212 (D)	Elective	Linear Algebra SMTH222 (H)	Elective
Yr 3	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)	Abstract Algebra SMTH311 (A)	Real Analysis SMTH321 (C)
	Distributed Systems SCPS312 (E)	Project SCPS322 (G)	Graph Theory SMTH312 (A)	Complex Analysis SMTH322 (C)

B.Sc Computer Science and Physics**SBSC22**

Yr 1	Introductory Computing SCPS111 (B)	Calculus I SMTH111 (F)	Classical Mechanics SPHY111 (A)	Elective
	Intro Systems Programming SCPS112 (B)	Calculus II SMTH112 (F)	Electromag & Nuclear Physics SPHY112 (A)	Elective
Yr 2	Data Structures SCPS211 (D)	Advanced Calculus SMTH221 (H)	Mechanics SPHY211 (C)	Elective
	Software Engineering SCPS212 (D)	Linear Algebra SMTH222 (H)	Photonics and Waves SPHY212 (C)	Elective
Yr 3	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Distributed Systems SCPS312 (E)	Project SCPS322 (G)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Computer Science and Statistics**SBSC23**

Yr 1	Introductory Computing SCPS111 (B)	Calculus I SMTH111 (F)	Elementary Statistics SSTT111 (E)	Elective
	Intro Systems Programming SCPS112 (B)	Calculus II SMTH112 (F)	Statistics for Science SSTT112 (E)	Elective
Yr 2	Data Structures SCPS211 (D)	Advanced Calculus SMTH221 (H)	Distribution Theory SSTT211 (C)	Elective
	Software Engineering SCPS212 (D)	Linear Algebra SMTH222 (H)	Statistical Inference SSTT212 (C)	Elective
Yr 3	Advanced Programming SCPS311 (E)	Systems Programming SCPS321 (G)	Random Processes SSTT311 (F)	Experimental Design SSTT321 (H)
	Distributed Systems SCPS312 (E)	Project SCPS322 (G)	Linear Models SSTT312 (F)	Time Series SSTT322 (H)

B.Sc Geography and Hydrology**SBSC24**

Yr 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	Elementary Statistics SSTT111 (E)	Elective
	Human Geography SGES112 (H)	Maths & Stats Bio SMTH122 (C)	Intro Geology SHYD112 (D)	Elective
Yr 2	Landforms & Cartography SGES211 (D)	Elective	Intro Surface Water SHYD211 (F)	Elective
	Demographics, Sust Develop SGES212 (B) OR Hydrometeorology SGES222 (D)	Elective	Intro Subsurface Water SHYD212 (F)	Elective
Yr 3	Urban Geog and Recreation SGES311 (A) OR	Land Use, Resource Manage SGES331 (C) OR	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)
	Atmospheric Processes SGES321 (E)	Climate Dynamics SGES341 (G)		
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)

B.Sc Geography and Physics**SBSC25**

Yr 1	Physical & Enviro Geog SGES111 (H)	Elective	Classical Mechanics SPHY111 (A)	Calculus I SMTH111 (F)
	Human Geography SGES112 (H)	Elective	Electromag & Nuclear Physics SPHY112 (A)	Calculus II SMTH112 (F)
Yr 2	Landforms & Cartography SGES211 (D)	Elective	Mechanics SPHY211 (C)	Advanced Calculus SMTH221 (H)
	Demographics, Sust Develop SGES212 (B) OR Hydrometeorology SGES222 (D)	Elective	Photonics and Waves SPHY212 (C)	Linear Algebra SMTH222 (H)
Yr 3	Urban Geog and Recreation SGES311 (A) OR	Land Use, Resource Manage SGES331 (C) OR	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Atmospheric Processes SGES321 (E)	Climate Dynamics SGES341 (G)		
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Geography and Statistics
SBSC26

Yr 1	Physical & Enviro Geog SGES111 (H)	Elective	Elementary Statistics SSTT111 (E)	Calculus I SMTH111 (F)
	Human Geography SGES112 (H)	Elective	Statistics for Science SSTT112 (E)	Calculus II SMTH112 (F)
Yr 2	Landforms & Cartography SGES211 (D)	Elective	Distribution Theory SSTT211 (C)	Advanced Calculus SMTH221 (H)
	Demographics, Sust Develop SGES212 (B) OR Hydrometeorology SGES222 (D)	Elective	Statistical Inference SSTT212 (C)	Linear Algebra SMTH222 (H)
Yr 3	Urban Geog and Recreation SGES311 (A) OR Atmospheric Processes SGES321 (E)	Land Use, Resource Manage SGES331 (C) OR Climate Dynamics SGES341 (G)	Random Processes SSTT311 (F)	Experimental Design SSTT321 (H)
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	Linear Models SSTT312 (F)	Time Series SSTT322 (H)

B.Sc Geography and Zoology
SBSC27

Yr 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)	Basic Chemistry 121 SCHM121 (G)
	Human Geography SGES112 (H)	Maths & Stats Bio SMTH122 (C)	Intro Zoology II SZOL112 (A)	Basic Chemistry 122 SCHM122 (G)
Yr 2	Landforms & Cartography SGES211 (D)	Elective	Animal Anatomy Physiology SZOL211 (C)	Cytology, Genetics & Physiol SBOT111 (E)
	Demographics, Sust Develop SGES212 (B) OR Hydrometeorology SGES222 (D)	Elective	Animal Diversity SZOL212 (C)	Morphology & Taxonomy SBOT112 (E)
Yr 3	Urban Geog and Recreation SGES311 (A) OR Atmospheric Processes SGES321 (E)	Land Use, Resource Manage SGES331 (C) OR Climate Dynamics SGES341 (G)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Human Movement Science and Physics**SBSC28**

Yr 1	Human Movement Science 1A SHMS111 (H)	Elective	Classical Mechanics SPHY111 (A)	Calculus I SMTH111 (F)
	Human Movement Science 1B SHMS112 (H)	Elective	Electromag & Nuclear Physics SPHY112 (A)	Calculus II SMTH112 (F)
Yr 2	Human Movement Science 2A SHMS211 (F)	Human Anatomy Physiology I SZOL121 (B)	Mechanics SPHY211 (C)	Advanced Calculus SMTH221 (H)
	Human Movement Science 2B SHMS212 (F)	Human Anatomy Physiology II SZOL122 (B)	Photonics and Waves SPHY212 (C)	Linear Algebra SMTH222 (H)
Yr 3	Human Movement Science 3A SHMS311 (B)	Human Movement Science 3C SHMS321 (D)	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Human Movement Science 3B SHMS312 (B)	Human Movement Science 3D SHMS322 (D)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Human Movement Science and Zoology**SBSC29**

Yr 1	Human Movement Science 1A SHMS111 (H)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)	Basic Chemistry 121 SCHM121 (G)
	Human Movement Science 1B SHMS112 (H)	Maths & Stats Bio SMTH122 (C)	Intro Zoology II SZOL112 (A)	Basic Chemistry 122 SCHM122 (G)
Yr 2	Human Movement Science 2A SHMS211 (F)	Human Anatomy Physiology I SZOL121 (B)	Animal Anatomy Physiology SZOL211 (C)	Cytology, Genetics & Physiol SBOT111 (E)
	Human Movement Science 2B SHMS212 (F)	Human Anatomy Physiology II SZOL122 (B)	Animal Diversity SZOL212 (C)	Morphology & Taxonomy SBOT112 (E)
Yr 3	Human Movement Science 3A SHMS311 (B)	Human Movement Science 3C SHMS321 (D)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	Human Movement Science 3B SHMS312 (B)	Human Movement Science 3D SHMS322 (D)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Hydrology and Microbiology**SBSC30**

Yr 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Basic Chemistry 121 SCHM121 (G)
	Intro Geology SHYD112 (D)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Basic Chemistry 122 SCHM122 (G)
Yr 2	Intro Surface Water SHYD211 (F)	Elementary Statistics SSTT111 (E)	Procarriots & Microbial Tech SMCB211 (D)	Intro Zoology I SZOL111 (A)
	Intro Subsurface Water SHYD212 (F)	Elective	Microbial Growth, Medic Micro SMCB212 (D)	Intro Zoology II SZOL112 (A)
Yr 3	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)	Food Microbiology SMCB311 (E)	Epidemiology SMED311 (G)
	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)	Environmental Influences SMCB312 (E)	Biotechnology SMCB322 (G)

B.Sc Hydrology and Physics**SBSC31**

Yr 1	Physical & Enviro Geog SGES111 (H)	Elementary Statistics SSTT111 (E)	Classical Mechanics SPHY111 (A)	Calculus I SMTH111 (F)
	Intro Geology SHYD112 (D)	Elective	Electromag & Nuclear Physics SPHY112 (A)	Calculus II SMTH112 (F)
Yr 2	Intro Surface Water SHYD211 (F)	Elective	Mechanics SPHY211 (C)	Advanced Calculus SMTH221 (H)
	Intro Subsurface Water SHYD212 (F)	Elective	Photonics and Waves SPHY212 (C)	Linear Algebra SMTH222 (H)
Yr 3	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Hydrology and Statistics**SBSC32**

Yr 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	Elementary Statistics SSTT111 (E)	Calculus I SMTH111 (F)
	Intro Geology SHYD112 (D)	Elective	Statistics for Science SSTT112 (E)	Calculus II SMTH112 (F)
Yr 2	Intro Surface Water SHYD211 (F)	Elective	Distribution Theory SSTT211 (C)	Advanced Calculus SMTH221 (H)
	Intro Subsurface Water SHYD212 (F)	Elective	Statistical Inference SSTT212 (C)	Linear Algebra SMTH222 (H)
Yr 3	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)	Random Processes SSTT311 (F)	Experimental Design SSTT321 (H)
	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)	Linear Models SSTT312 (F)	Time Series SSTT322 (H)

B.Sc Hydrology and Zoology**SBSC33**

Yr 1	Physical & Enviro Geog SGES111 (H)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)	Cytology, Genetics & Physiol SBOT111 (E)
	Intro Geology SHYD112 (D)	Maths & Stats Bio SMTH122 (C)	Intro Zoology II SZOL112 (A)	Morphology & Taxonomy SBOT112 (E)
Yr 2	Intro Surface Water SHYD211 (F)	Elementary Statistics SSTT111 (E)	Animal Anatomy Physiology SZOL211 (C)	Basic Chemistry 121 SCHM121 (G)
	Intro Subsurface Water SHYD212 (F)	Elective	Animal Diversity SZOL212 (C)	Basic Chemistry 122 SCHM122 (G)
Yr 3	Surface Water Hydrology SHYD311 (A)	Ground Water Hydrology SHYD321 (C)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	Fieldwork and Project SHYD312 (A)	Water Resources & Modelling SHYD322 (C)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Mathematics and Physics**SBSC34**

Yr 1	Calculus I SMTH111 (F)	Elective	Classical Mechanics SPHY111 (A)	Elective
	Calculus II SMTH112 (F)	Elective	Electromag & Nuclear Physics SPHY112 (A)	Elective
Yr 2	Advanced Calculus SMTH221 (H)	Elective	Mechanics SPHY211 (C)	Elective
	Linear Algebra SMTH222 (H)	Elective	Photonics and Waves SPHY212 (C)	Elective
Yr 3	Abstract Algebra SMTH311 (A)	Real Analysis SMTH321 (C)	Quantum & Statistical Physics SPHY311 (H)	Electronic Circuits SPHY321 (F)
	Graph Theory SMTH312 (A)	Complex Analysis SMTH322 (C)	Nuclear Physics & Applications SPHY312 (H)	Solid State Physics SPHY322 (F)

B.Sc Mathematics and Statistics**SBSC35**

Yr 1	Calculus I SMTH111 (F)	Elective	Elementary Statistics SSTT111 (E)	Elective
	Calculus II SMTH112 (F)	Elective	Statistics for Science SSTT112 (E)	Elective
Yr 2	Advanced Calculus SMTH221 (H)	Elective	Distribution Theory SSTT211 (C)	Elective
	Linear Algebra SMTH222 (H)	Elective	Statistical Inference SSTT212 (C)	Elective
Yr 3	Abstract Algebra SMTH311 (A)	Real Analysis SMTH321 (C)	Random Processes SSTT311 (F)	Experimental Design SSTT321 (H)
	Graph Theory SMTH312 (A)	Complex Analysis SMTH322 (C)	Linear Models SSTT312 (F)	Time Series SSTT322 (H)

B.Sc Microbiology and Zoology**SBSC36**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Intro Zoology I SZOL111 (A)	Cytology, Genetics & Physiol SBOT111 (E)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Intro Zoology II SZOL112 (A)	Morphology & Taxonomy SBOT112 (E)
Yr 2	Procarliots & Microbial Tech SMCB211 (D)	Elective	Animal Anatomy Physiology SZOL211 (C)	Elective
	Microbial Growth, Medic Micro SMCB212 (D)	Elective	Animal Diversity SZOL212 (C)	Elective
Yr 3	Food Microbiology SMCB311 (E)	Epidemiology SMED311 (G)	Animal Ecology I SZOL311 (F)	Ecophysiology & Ecotoxicology SZOL321 (H)
	Environmental Influences SMCB312 (E)	Biotechnology SMCB322 (G)	Animal Ecology II SZOL312 (F)	Research Design & Application SZOL322 (H)

B.Sc Microbiology and Human Movement Science**SBSC37**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Human Movement Science 1A SHMS111 (H)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Human Movement Science 1B SHMS112 (H)	Intro Zoology II SZOL112 (A)
Yr 2	Procarions & Microbial Tech SMCB211 (D)	Human Anatomy Physiology I SZOL121 (B)	Human Movement Science 2A SHMS211 (F)	Cytology, Genetics & Physiol SBOT111 (E)
	Microbial Growth, Medic Micro SMCB212 (D)	Human Anatomy Physiology II SZOL122 (B)	Human Movement Science 2B SHMS212 (F)	Morphology & Taxonomy SBOT112 (E)
Yr 3	Food Microbiology SMCB311 (E)	Epidemiology SMED311 (G)	Human Movement Science 3A SHMS311 (B)	Human Movement Science 3C SHMS321 (D)
	Environmental Influences SMCB312 (E)	Biotechnology SMCB322 (G)	Human Movement Science 3B SHMS312 (B)	Human Movement Science 3D SHMS322 (D)

S15 FOCUSED PROGRAMMES

The following tables give the programmes of study for focused programmes offered by the Faculty.

(a) Agriculture Department**B.Sc (Agriculture) Animal Science****SBSC50**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Intro Animal Science SAAS211 (B)	Extension & Rural Develop SAAE211 (D)	Intro Soil Science SAAG211 (F)	Biomolecules & Enzymology SBCH211 (H)
	Principles Animal production SAAS212 (B)	Intro Ag econ & Farm Manage SAAE212 (D)	Intro Crop production SAAG212 (F)	Metabolism SBCH212 (H)
Yr 3	Farm Animal Physiology SAAS311 (A)	Animal Breeding SAAS321 (D)	Animal Nutrition SAAS331 (C)	Elementary Statistics SSTT111 (E)
	Digestive Physiology SAAS312 (A)	Animal Health SAAS322 (D)	Pig & Poultry Production SAAS332 (C)	Principles Prod Economics SAAE322 (F)
Yr 4	Pasture Ecology SAAS411 (E)	Animal reproduction SAAS421 (G)	Applied Animal Nutrition SAAS431 (F)	Animal Sci Research Project I SAAS441 (H)
	Applied Pig & Poultry Prod SAAS412 (E)	Applied Ruminant Prod SAAS422 (G) OR Entrepreneurship SAAE312 (A)	Applied Animal Science SAAS432 (F)	Animal Sci Research Project II SAAS442 (H)

B.Sc (Agriculture) Agribusiness**SBSC51**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Intro Animal Science SAAS211 (B)	Extension & Rural Develop SAAE211 (D)	Intro Soil Science SAAG211 (F)	Elementary Statistics SSTT111 (E)
	Principles Animal production SAAS212 (B)	Intro Ag econ & Farm Manage SAAE212 (D)	Intro Crop production SAAG212 (F)	Extension Methods SAAE222 (E)
Yr 3	Farm Management SAAE311 (F)	Land Use, Resource Manage SGES331 (C)	Intermediate Microeconomics CECN201	Business Management 2a CBMG201
	Entrepreneurship SAAE312 (A)	Principles Prod Economics SAAE322 (F)	Principles of Macroeconomics CECN102	Business Management 2b CBMG202
Yr 4	Agribusiness Management SAAE411 (H)	Risk Management SAAE421 (B)	Business Management 3a CBMG301	Agribus research Project I SAAE441 (C)
	Farm Planning SAAE412 (H)	Agricultural Policy SAAE422 (B)	Environmental Management SGES312 (E)	Agribus research Project II SAAE442 (C)

B.Sc (Agriculture) Agronomy**SBSC52**

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Extension & Rural Develop SAAE211 (D)	Intro Soil Science SAAG211 (F)	Plant Growth & Development SBOT211 (G)	Biomolecules & Enzymology SBCH211 (H)
	Intro Ag econ & Farm Manage SAAE212 (D)	Intro Crop production SAAG212 (F)	Plant Anatomy & Biodiversity SBOT212 (G)	Metabolism SBCH212 (H)
Yr 3	Physical & Enviro Geog SGES111 (H)	Plant Propogation SAAG311 (G)	Genetics & Plant Biochem SBOT311 (B)	Elementary Statistics SSTT111 (E)
	Hydrometeorology SGES222 (D)	Plant Breeding SAAG312 (G)	Crop Protection SAAG322 (B)	Principles Prod Economics SAAE322 (F)
Yr 4	Soil Fertility Management SAAG411 (E)	Floriculture SAAG421 (D)	Land Use, Resource Manage SGES331 (C)	Agronomy Research Project I SAAG441 (B)
	Horticultural Crop Production SAAG412 (E) OR Entrepreneurship SAAE312 (A)	Applied Plant Breeding SAAG422 (D) OR Entrepreneurship SAAE312 (A)	Field Crop Production SAAG432 (C)	Agronomy Research Project II SAAG442 (B)

(b) Department of Consumer Sciences

B Consumer Sciences (Extension and Rural development)

SBSC55

Yr 1	Household Consumer Studies SCNS111 (E)	Physics for Cons Sci SPHY131 (H)	Human Anatomy Physiology I SZOL121 (B)	English 1 Part A AENG111
	Intro to Nutrition SCNU112 (E)	Chem for Cons Sci SCHM132 (H) AND Intro to Food Science SCFS112 (A)	Human Anatomy Physiology II SZOL122 (B)	Food Hygiene & Safety SCFH112 (D)
Yr 2	Extension & Rural Develop SAAE211 (D)	Household Resource Manage SCNS211 (A) AND Nutrition in the Lifecycle SCNU211 (B)	NGO Sector, Development & Underdevelopment ADEV111	Meal Planning & Management SCFD211 (F)
	Intro Ag econ & Farm Manage SAAE212 (D) OR	Consumer and the Market SCNS212 (A)	Community Project Development and Facilitation ADEV112	Extension Methods SAAE222 (E)
	Principles Design Interiors SCHC212 (H)			
Yr 3	Community Nutrition SCNU311 (A)	Food processing technologies SCFS211 (E)	Development Concepts: Economic and Social ADEV211	Housing Education SCHC311 (G)
	Clothing & Textiles I SCTC212 (C) OR Quantity Food Production SCFD212 (F)	Food Product Development SCFS212 (E)	Integrated Rural Development ADEV222	Gender, Development & Tech SCNS312 (G)
Yr 4	Research Methods SCRM311 (B)	Food Marketing SCFD321 (C)	Housing Development ADEV311	Clothing & Textiles II SCTC312 (F) OR Entrepreneurship SAAE312 (A)
	Research Project SCRM422 (D)	Manage Community Progs SCNS412 (C)	Project Management & Evaluation ADEV332	
	Internship Extension SCIN419 (X)			

SBSC56

B Consumer Sciences (Hospitality and Tourism)

Yr 1	Computer Literacy I SCPS121 (X)	Intro to Hospitality Manage SCHT111 (B)	English 1 Part A AENG111	Introduction to Tourism ARTO111
	Intro to Nutrition SCNU112 (E)	Basic Food Preparation SCFD112 (B)	Food Hygiene & Safety SCFH112 (D)	Business Tourism & Entrepreneurship ARTO112
Yr 2	Tourism Development ARTO121	Int Events Management A ARTO211	Meal Planning & Management SCFD211 (F)	Beginners German 1 AGER111
	Safety & Security in Tourism ARTO122	Int Events Management B ARTO222	Quantity Food Production SCFD212 (F)	Operation Manage Food Serv SCFD222 (G)
Yr 3	Food & Beverage Manage SCFD311 (H)	Research Planning in Tourism ARTO321	Info technology in Tourism ARTO311	Manage Community Progs SCNS412 (C)
	Principles Design Interiors SCHC212 (H)	Tourism Research ARTO342	Hospitality Service Ops SCHT322 (G)	
	Exp Learning Hospitality SCHT319 (X)			

B Consumer Sciences (Nutrition)**SBSC57**

Yr 1	Household Consumer Studies SCNS111 (E)	Physics for Consumer Sciences SPHY131 (H)	Human Anatomy Physiology I SZOL121 (B)	English 1 Part A AENG111
	Intro to Nutrition SCNU112 (E)	Chem for Consumer Sciences SCHM132 (H) AND Intro to Food Science SCFS112 (A)	Human Anatomy Physiology II SZOL122 (B)	Food Hygiene & Safety SCFH112 (D)
Yr 2	Nutrition in the Lifecycle SCNU211 (B)	Meal Planning & Management SCFD211 (F)	Food processing technologies SCFS211 (E)	Household Resource Manage SCNS211 (A)
	Operation Manage Food Serv SCFD222 (G)	Quantity Food Production SCFD212 (F)	Food Product Development SCFS212 (E)	Consumer and the Market SCNS212 (A)
Yr 3	Therapeutic Nutrition SCNU321 (G)	Research Methods SCRM311 (B)	Food Marketing SCFD321 (C)	Community Nutrition SCNU311 (A)
	Gender, Development & Tech SCNS312 (G)	Nutrition Research Project SCRM412 (B)	Manage Community Progs SCNS412 (C)	Nutrition Education SCNU312 (A)
	Internship Nutrition SCIN319 (X)			

(c) Department of Nursing Science**B Cur (Nursing Science)****SBSC60**

Yr 1	Fundamental Nursing IA SNFN111	Community Health & Microbiol SNCH111	Human Anatomy, Med Biophys IA SNHA111	Ethos, Prof Practice SNEP111
	Fundamental Nursing IB SNFN112	Community Health & Parasit SNCH112	Human Anatomy, Med Biophys IB SNHA112	
	Nursing Practice I SNPR119			
Yr 2	General Nursing Science 2A SNGN211	Community Health 2A SNCH211	Human Physiology, Biochem IA SNHP211	Introduction to Sociology ASGY111
	General Nursing Science 2B SNGN212	Community Health 2B + Intro. Research SNCH212	Human Physiology, Biochem IB SNHP212	Industrial Societies ASGY112
	Nursing Practice II SNPR219			
Yr 3	General Nursing Science 3A SNGN311	Psychiatric Nursing 3A SNPN311	Midwifery 3A SNMW311	Pharmacology SNPC311
	General Nursing Science 3B SNGN312	Psychiatric Nursing 3B SNPN312	Midwifery 3B SNMW312	
	Nursing Practice III SNPR319			
Yr 4	General Nursing Science 4A SNGN411	Psychiatric Nursing 4A SNPN411	Midwifery 4A SNMW411	Introduction to Psychology APSY111
	General Nursing Science 4B SNGN412	Psychiatric Nursing 4B SNPN412	Midwifery 4B SNMW412	Applied psychology 1 & 2 APSY112
	Nursing Practice IV + Research Project SNPR419			

B Cur (E et A) (Option 1: Nursing Education and Management)**SBSC61**

Yr 1	Philosophy of Education EPE591	Didactics of human Anatomy & related biophysics SNED111	Advances in community Health nursing Practice SNCM111	Intro to Nursing Management SNMG111
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	Fundamentals and dynamics of nursing education SNED122	Didactics of human Physiology & related medical biochemistry SNED112	Research in community Health Nursing Practice SNCM112	Leadership & Communication in nursing Management SNMG112
Yr 2	Teaching and Learning Theories in nursing. Teaching strategies SNED211	Dynamics of nursing Management SNMG211	Introduction to Psychology APSY111	Public Administration 1a CPAD101
	Curriculum Development Multimedia & tutorial techniques SNED212	Change Management and Implementation SNMG212	Applied Psychology APSY112	Public Administration 1b CPAD102
Yr 3	Current Issues & trends in nursing education SNED311	International Viewpoints on Nursing Management & Nursing Leadership SNMG311	Research Proposal and Literature Review SNRS311	Introduction to Sociology ASGY111
	Nursing School Management SNMG322	National Health System and Quality Assurance SNMG312	Data Collection and Analysis. Research Report Writing SNRS312	Industrial Societies ASGY112

B Cur (E et A) (Option 2: Community Health and Management)

SBSC62

Yr 1	Philosophy of Education EPE591	Introduction to Sociology ASGY111	Advances in community Health nursing Practice SNCM111	Intro to Nursing Management SNMG111
	Fundamentals and dynamics of nursing education SNED122	Industrial Societies ASGY112	Research in community Health Nursing Practice SNCM112	Leadership & Communication in nursing Management SNMG112
Yr 2	Community Health Nursing Theories SNCM211	Dynamics of nursing Management SNMG211	Introduction to Psychology APSY111	Public Administration 1a CPAD101
	Occupational health Nursing SNCM212	Change Management and Implementation SNMG212	Applied Psychology APSY112	Public Administration 1b CPAD102
Yr 3	Contemporary issues influencing community health nursing practice SNCM311	International Viewpoints on Nursing Management & Nursing Leadership SNMG311	Communication Science I ACOM111	Research Proposal and Literature Review SNRS311
	Community Development and Rehabilitation SNCM312	National Health System and Quality Assurance SNMG312	Journalism I ACOM112	Data Collection and Analysis. Research Report Writing SNRS312

(d) Department of Biochemistry and Microbiology

B.Sc (Medical Science)

SBSC65

Yr 1	Basic Chemistry 121 SCHM121 (G)	Classical Mechanics Bio SPHY121 (C)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Morphology & Taxonomy SBOT112 (E)	Intro Zoology II SZOL112 (A)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Procarriots & Microbial Tech SMCB211 (D)	Intro to Viruses, HIV/AIDS SMED211 (F)	Human Anatomy Physiology I SZOL121 (B)
	Metabolism SBCH212 (H)	Microbial Growth, Medic Micro SMCB212 (D)	Biochem Principles Technique SBCH222 (A)	Human Anatomy Physiology II SZOL122 (B)
Yr 3	Gene Expression SBCH311 (A)	Metabolic Regulation SBCH321 (C)	Epidemiology SMED311 (G)	Immunology & Serology SMED321 (B)
	Recombinant DNA SBCH312 (A)	Biochemistry of Nutrition SBCH322 (C)	Clinical Biochemistry SMED312 (E)	Human Movement Science 3B SHMS312 (B)

B.Sc (Food Science and Technology)

SBSC66

Yr 1	Basic Chemistry 121 SCHM121 (G)	Human Anatomy Physiology I SZOL121 (B)	Cytology, Genetics & Physiol SBOT111 (E)	Intro Zoology I SZOL111 (A)
	Basic Chemistry 122 SCHM122 (G)	Maths & Stats Bio SMTH122 (C)	Intro to Nutrition SCNU112 (E)	Intro to Food Science SCFS112 (A)
Yr 2	Biomolecules & Enzymology SBCH211 (H)	Procarriots & Microbial Tech SMCB211 (D)	Food processing technologies SCFS211 (E)	Elective
	Metabolism SBCH212 (H)	Microbial Growth, Medic Micro SMCB212 (D)	Food Product Development SCFS212 (E)	Consumer and the Market SCNS212 (A)
Yr 3	Food Microbiology SMCB311 (E)	Food Technology I STFS311 (B)	Process Engineering STFS321 (F)	Food Marketing SCFD321 (C)
	Environmental Influences SMCB312 (E)	Food Technology II STFS312 (B)	Quality Assurance STFS322 (F)	Food and Nutrition Security SCNU412 (C)

(e) Department of Physics and Engineering

B. Industrial Science

SBSC70

Yr 1	Classical Mechanics SPHY111 (A)	Calculus I SMTH111 (F)	General Chemistry 111 SCHM111 (E)	Discrete Mathematics SAMT111 (G)
	Electromag & Nuclear Physics SPHY112 (A)	Calculus II SMTH112 (F)	General Chemistry 112 SCHM112 (E)	Mechanics SAMT112 (G)
Yr 2	Mechanics SPHY211 (C)	Engineering Drawing SENG211 (A)	Electronic Circuits SPHY321 (F)	Advanced Calculus SMTH221 (H)
	Photonics and Waves SPHY212 (C)	Computer Aided Design SENG212 (A)	Industrial Electronics SENG222 (B)	Engineering Design SENG232 (D)
Yr 3	Eng Materials - Metals SENG311 (E)	Digital systems SENG321 (B)	Business Management 1a CBMG101	Principles of Microeconomics CECN101
	Eng Materials - Non Metals SENG312 (E)	Linear Algebra SMTH222 (H)	Business Management 1b CBMG102	Electromagnetism SPHY222 (A)
Yr 4	Quality Assurance SENG411 (F)	Instrumentation SENG421 (C)	Quantum & Statistical Physics SPHY311 (H)	Production Engineering SENG431 (G)
	Project I SENG412 (F)	Project II SENG422 (C)		

B.Sc (Physics with Electronics)

SBSC71

Yr 1	Classical Mechanics SPHY111 (A)	Calculus I SMTH111 (F)	General Chemistry 111 SCHM111 (E)	Introductory Computing SCPS111 (B)
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	Electromag & Nuclear Physics SPHY112 (A)	Calculus II SMTH112 (F)	General Chemistry 112 SCHM112 (E)	Intro Systems Programming SCPS112 (B)
Yr 2	Mechanics SPHY211 (C)	Advanced Calculus SMTH221 (H)	Engineering Drawing SENG211 (A)	Electronic Circuits SPHY321 (F)
	Photonics and Waves SPHY212 (C)	Linear Algebra SMTH222 (H)	Computer Aided Design SENG212 (A)	Industrial Electronics SENG222 (B)
Yr 3	Quantum & Statistical Physics SPHY311 (H)	Digital systems SENG321 (B)	Eng Materials - Metals SENG311 (E)	Instrumentation SENG421 (C)
	Nuclear Physics & Applications SPHY312 (H)	Electromagnetism SPHY222 (A)	Eng Materials - Non Metals SENG312 (E)	Solid State Physics SPHY322 (F)

(f) Department of Geography

B.A (Environmental Planning and Development)

SGBA01

Year 1	Physical & Enviro Geog SGES111 (H)	Introduction to Tourism ARTO111	NGO Sector, Development & Underdevelopment ADEV111	English 1 Part A AENG111
	Human Geography SGES112 (H)	Business Tourism & Entrepreneurship ARTO112	Community Project Development and Facilitation ADEV112	English 1 Part B AENG112
Year 2	Landforms & Cartography SGES211 (D)	Tourism Marketing A ARTO211	Development Concepts: Economic and Social ADEV211	Elementary Statistics SSTT111 (E)
	Demographics, Sust Develop SGES212 (B)	Tourism Marketing B ARTO212 OR Computer Literacy II SCPS122 (X)	Globalisation & Third World Development ADEV212	Geographical Info Systems SHYD222 (H)
Year 3	Urban Geog and Recreation SGES311 (A)	Land Use, Resource Manage SGES331 (C)	Housing Development ADEV311	Industry & Development ADEV321
	Environmental Management SGES312 (E)	Env Fieldwork & Research SGES322 (G)	Project Management & Evaluation ADEV332	Research Methodology ADEV342

S16 DIPLOMA COURSES

The following tables give the programmes of study for diploma programmes offered by the Faculty.

(a) Department of Human Movement Science

National Diploma in Sport and Exercise Technology				SNDP01
Year 1	Sport Didactics and Coaching SHMD119	Sport Management I SHMD129	Sport & Exercise Technology I SHMD139	Sport & Physical recreation Studies I SHMD149
Year 2	Human Movement Studies SHMD219	Exercise Physiology II SHMD229	Kinesiology SHMD239	Sport & Exercise Technology II SHMD249
Year 3	Sport Psychology SHMD319	Health Sciences SHMD329	Exercise Physiology III SHMD339	Sport & Exercise Technology III SHMD349

S17 ACCESS PROGRAMMES

S17.1 Augmented streams

In the Augmented streams, the first academic year of study will be spread over the first two years of registration with half of the curriculum being taken in each year. The regular first year courses in Physics, Chemistry, Mathematics, Botany and Zoology as well as the first year service courses in Physics, Chemistry and Mathematics will be taught as augmented courses. Identical material will be covered at the same pace as the mainstream courses but the augmented courses will be taught separately and will have double the contact time (6 lectures, 1 practical and 3 tutorial hours) with specific augmented stream lecturers. Close contact will be maintained between the mainstream and the augmented lectures. At the end of each semester, mainstream and augmented students will write the same final examinations. The continuous assessment marks for each group will be derived on a similar basis.

For administrative purposes, students will be placed in either the life sciences or the physical sciences stream depending upon which academic programme they have indicated that they wish to follow. Students in each stream will follow a common curriculum in their first year and in their second year they will take the modules relevant to their chosen academic programme. Following the completion of the Augmented stream, students will register for their chosen programme and will start at the second academic year of the programme.

Science Augmented Programme (Physical Sciences)**SBSC98**

Year 1	Calculus I (Augmented) SLMH111 (16 credits)	Classical Mechanics (Augmented) SLPH111 OR Classical Mechanics Bio (Augmented) SLPH121 (16 credits)	English Literacy SFLT111 (8 credits)
	Calculus II (Augmented) SLMH112 (16 credits)	Electromagnetism & Nuclear Physics (Augmented) SLPH112 OR Electromagnetism & Nuclear Physics Bio (Augmented) SLPH122 (16 credits)	English Literacy SFLT112 (8 credits)
Year 2	General Chemistry 111 (Augmented) SLCH111 (16 credits)	Elective and/or alternative to Chemistry (Computer Science, Geography, Statistics, Applied Mathematics, Zoology, Human Movement Science) (16 credits)	
	General Chemistry 112 (Augmented) SLCH112 (16 credits)	Elective and/or alternative to Chemistry (Computer Science, Hydrology, Geography, Statistics, Applied Mathematics, Zoology, Human Movement Science) (16 credits)	

Science Augmented Programme (Life Sciences)**SBSC99**

Year 1	Basic Chemistry 121 (Augmented) SLCH121 (16 credits)	Classical Mechanics Bio (Augmented) SLPH121 (16 credits)	English Literacy SFLT111 (8 credits)
	Basic Chemistry 122 (Augmented) SLCH122 (16 credits)	Maths & Stats Bio (Augmented) SLMH122 (16 credits)	English Literacy SFLT112 (8 credits)
Year 2	Cytology, Genetics & Physiology (Augmented) SLBT111 (16 credits)	Intro Zoology I (Augmented) SLZL111 (16 credits)	Alternatives to Botany and/or Zoology (Geography, Human Movement Science, Statistics) (16 credits)
	Morphology & Taxonomy (Augmented) SLBT112 (16 credits)	Intro Zoology II (Augmented) SLZL112 (16 credits)	Alternatives to Botany and/or Zoology (Geography, Hydrology, Human Movement Science, Physics Bio) (16 credits)

S17.2 Foundation stream

The foundation stream is incorporated into the programmes specified above with the first academic year being devoted to the completion of four fully foundational year-length courses in core science subjects together with two semester-length courses in English, communication skills and academic literacy. Each of the science courses will carry a credit weight of 4 credits and these will address fundamental concepts and progress to include a component of NQF level 5 material. The English courses each have a credit weight of 8 credits and will address fundamental literacy related topics and progress to cover specific scientific literacy concepts set at NQF level 5.

Following the successful completion of this year, students will continue with the first academic year of their chosen academic programme.

For administrative purposes, all students following the foundation stream will be placed under the same qualification code but they will be required to indicate which academic programme they intend to pursue after the completion of the foundation year.

Foundation stream (preliminary year of registered mainstream programme)					SBSC00
Year 1	Chemistry (Fully Foundational) SFCH119 (4 credits)	Physics (Fully Foundational) SFPH119 (4 Credits)	Biology (Fully Foundational) SFBL119 (4 credits)	Mathematics (Fully Foundational) SFMH119 (4 credits)	English Literacy SFLT111 (8 credits)
					English Literacy SFLT112 (8 credits)

B POSTGRADUATE DEGREES

Honours Bachelors Degree

(See entries under the individual departments for Departmental Rules and the structure of the qualifications)

S20 DEPARTMENTS

The degree may be conferred in the following subjects:

Agriculture	Botany	
Biochemistry		
Chemistry	Computer Science	Consumer
Sciences Geography	Human Movement Science	
Hydrology		
Microbiology	Mathematics	Applied
Mathematics Statistics	Physics	Zoology

S21 ADMISSION

- To qualify for admission a student shall possess a bachelor's degree with a major in the subject s/he wishes to enrol for, or have the approval of Senate for conferment of status.
- To be admitted a student shall have passed the final-year modules of the major subject that leads to the honours degree with an average final mark of 60%. If this average final mark is less than 60% then admission shall be subject to the approval of the Faculty Board on the recommendation of the Head of Department

S22 EXAMINATION

- The honours programme consists of a number of theory modules and a research project. In order to pass the degree, all components of the curriculum must be passed with a mark of at least 50%
- Modules that are failed may be repeated and passed within a period of two years after the module is first failed in order to retain credit for the passed modules. If the failed module(s) are not compulsory then a substitute module(s) must be passed within a period of two years in order to retain credit for the passed modules. If after the period of two

years, all components have not been passed then the honours programme must be repeated in its entirety.

Masters Degree

(See entries under the individual departments for Departmental Rules and the structure of the qualifications)

S30 DEPARTMENTS

The degree may be conferred in the same Departments as the degree of Bachelor of Science (honours).

S31 ADMISSION AND EXAMINATION REQUIREMENTS

The admission and examination requirements are indicated for each department in the syllabus section of this prospectus. The procedure for the submission of project proposals for Masters and Doctoral degrees is outlined below.

Doctor's Degree

(See entries under the individual departments for Departmental Rules and the structure of the qualifications)

S32 DEPARTMENTS

The degree may be conferred in the same Departments as the degree of Master of Science

S33 ADMISSION AND EXAMINATION REQUIREMENTS

The admission and examination requirements are indicated for each department in the syllabus section of this prospectus. The procedure for the submission of project proposals for Masters and Doctoral degrees is outlined below.

LIST OF UNDERGRADUATE MODULES OFFERED WITHIN THE FACULTY

All modules are semester-length and set at 16 credits except where otherwise indicated.

The timetable group that each module is in is indicated in the column on the right (X indicates that the module does not have pre-scheduled classes on the timetable)

YEAR 1 SEMESTER 1			
Applied Mathematics	SAMT111	Discrete Mathematics	G
Botany	SBOT111	Introduction to Plant Cytology, Genetics and Physiology	E
Chemistry	SCHM111	General Chemistry 111	E
	SCHM121	Basic Chemistry 121	F
Consumer Sciences	SCHT111	Introduction to Hospitality Management	B
	SCNS111	Household and Consumer Studies	E
Computer Science	SCPS111	Introductory Computing	B
	SCPS121	Computer Literacy I	X
Geography	SGES111	Introduction to Physical and Environmental Geography	H
Human Movement Sci	SHMS111	Human Movement Science 1A	H
Mathematics	SMTH111	Calculus I	F
Nursing Science	SNCH111	Community Health Nursing and Related Microbiology 1	X
	SNCM111	Advances in Community Health Nursing Practice	X
	SNED111	Didactics of Human Anatomy & Related Biophysics	X
	SNEP111	Ethos and professional practice	X
	SNFN111	Fundamental Nursing and Nutrition	X
	SNHA111	Human Anatomy and Related Medical Biophysics	X
	SNMG111	Introduction to Nursing Management. Development of a Nurse Manager. Dynamics of Nursing Management	X
	SNPR119	Nursing Practica (year-length course, 16 credits)	X
Physics	SPHY111	Classical Mechanics and Properties of Matter	A
	SPHY121	Classical Mechanics and Properties of Matter for Biological Sciences	C
	SPHY131	Physics for Consumer Sciences 8 credit module	H
Statistics	SSTT111	Elementary Statistics for Science Students	E
	SSTT121	Mathematics and Statistics for Commerce Students	B/D
Zoology	SZOL111	Introduction to Zoology I	A
	SZOL121	Human Anatomy and Physiology I	B

YEAR 1 SEMESTER 2

Applied Mathematics	SAMT112	Mechanics	G
Botany	SBOT112	Plant Morphology, Taxonomy and an Introduction to Mycology	E
Chemistry	SCHM112	General Chemistry 112	E
	SCHM122	Basic Chemistry 122	F
	SCHM132	Chemistry for Consumer Sciences 8 credit module	H
Consumer Sciences	SCFD112	Basic Food Preparation / Culinary Studies	B
	SCFH112	Food Hygiene and Safety	D
	SCFS112	Introduction to Food Science	A
	SCNU112	Introduction to Nutrition	E
Computer Science	SCPS112	Introductory Systems Programming	B
	SCPS122	Computer Literacy II	X
Geography	SGES112	Introduction to Human Geography	H
Human Movement Sci	SHMS112	Human Movement Science 1B	H
Hydrology	SHYD112	Introduction to Geology	D
Mathematics	SMTH112	Calculus II	F
	SMTH122	Mathematics and Statistics for Earth and Life Sciences	C
Nursing Science	SNCH112	Community Health Nursing and Related Parasitology	X
	SNCM112	Research in Community Health Nursing Practice	X
	SNED112	Didactics of Human Physiology & Related Medical Biochemistry	X
	SNED122	Fundamentals and Dynamics of Nursing Education	X
	SNFN112	Fundamental Nursing and Nutrition	X
	SNHA112	Human Anatomy and Related Medical Biophysics	X
	SNMG112	Leadership and Communication in Nursing Management	X
Physics	SPHY112	Nuclear Physics, Electromagnetism, Modern Physics	A
	SPHY122	Nuclear Physics, Electromagnetism, Modern Physics for Biological Sciences	C
Statistics	SSTT112	Statistics for Science Students	E
	SSTT122	Elementary Statistics for Commerce Students	D/B
Zoology	SZOL112	Introduction to Zoology II	A
	SZOL122	Human Anatomy and Physiology II	B

YEAR 2 SEMESTER 1			
Agriculture	SAAE211	Introduction to Extension and Rural Development	D
	SAAG211	Introduction to Soil Science	E
	SAAS211	Introduction to Animal Science	B
Applied Mathematics	SAMT211	Dynamical Systems and Mathematical modelling	E
Biochemistry	SBCH211	Biomolecules and Enzymology	H
Botany	SBOT211	Plant growth and Development. Floral Propagation	G
Chemistry	SCHM211	Analytical and Inorganic Chemistry 2	G
Consumer Sciences	SCFD211	Meal Planning and Management	F
	SCFS211	Food Processing Technologies	E
	SCNS211	Household Resource Management	A
	SCNU211	Nutrition in the Lifecycle	C
Computer Science	SCPS211	Data Structures and Algorithms	D
	SCPS221	Computer Architecture and Assemblers	B
	SCPS231	Computer Communications and Networks	C
Engineering	SENG211	Engineering Drawing – Introduction and Basics	A
Geography	SGES211	Global Landforms and Cartography	D
Human Movement Sci	SHMS211	Human Movement Science II A	F
Hydrology	SHYD211	Introduction to Surface Water Hydrology	F
Mathematics	SMTH221	Advanced Calculus	H
Medical Science	SMED211	Introduction to Viruses and HIV/AIDS	F
Microbiology	SMCB211	Procarriots Classification and Microbial Techniques	D
	SMCB221	Procarriots Structure and Environmental Microbiology	A
Nursing Science	SNCH211	Community Health Nursing	X
	SNCM211	Community Health Nursing Theories, Development of Health Education Programmes	X
	SNED211	Teaching and Learning Theories; Multimedia, Tutorial Techniques, and Nursing Education System Process.	X
	SNGN211	General Nursing Science	X
	SNHP211	Human Physiology and related Biochemistry	X
	SNMG211	Dynamics of Nursing Management, Human and Financial Resources Management	X
	SNPR219	Nursing Practica (year-length course, 16 credits)	X
Physics	SPHY211	Mechanics, Special Relativity and Properties of Matter	C
Statistics	SSTT211	Distribution Theory	C
Zoology	SZOL211	Animal Anatomy and Physiology	C

YEAR 2 SEMESTER 2			
Agriculture	SAAE212	Introduction to Agricultural Economics & Farm Management	D
	SAAE222	Extension Methods	E
	SAAG212	Introduction to Crop Production	F
	SAAS212	Principles of Animal Production	B
Applied Mathematics	SAMT212	Introduction to Operations Research	E
Biochemistry	SBCH212	Metabolism	H
	SBCH222	Biochemistry: Principles and Techniques	A
Botany	SBOT212	Plant Anatomy, Taxonomy and Biodiversity	G
Chemistry	SCHM212	Organic and Physical Chemistry 2	G
Consumer Sciences	SCFD212	Quantity Food Production	F
	SCFD222	Operation and Management of Food Services	G
	SCFS212	Food Product Development	E
	SCHC212	Principles of Design and Interiors	H
	SCNS212	Consumer and the Market	A
	SCTC212	Clothing and Textiles I	C
Computer Science	SCPS212	Introductory Software Engineering	D
	SCPS232	Database and Information Management I	C
	SCPS242	Visual Application Development	F
Engineering	SENG212	Computer Aided Design	A
	SENG222	Industrial Electronics	B
	SENG232	Engineering Design	D
Geography	SGES212	Demographics, Health and Sustainable Development	B
	SGES222	Hydrometeorology	D
Human Movement Sci	SHMS212	Human Movement Science II (Biokinetics)	F
Hydrology	SHYD212	Introduction to Subsurface Hydrology	F
	SHYD222	Geographical Information Systems	H
Mathematics	SMTH222	Linear Algebra and Differential Equations	H
Microbiology	SMCB212	Microbial growth and Medical Microbiology	D
Nursing Science	SNCH212	Community Health Nursing and Introduction to Research	X
	SNCM212	Occupational Health Nursing Practice and School Health Services	X
	SNED212	Nursing Education Practice and Curriculum Development	X
	SNGN212	General Nursing Science	X
	SNHP212	Human Physiology and related Biochemistry	X
	SNMG212	International Viewpoints and Change Management and Implementation	X
Physics	SPHY212	Modern Physics Photonics and Waves	C
	SPHY222	Electromagnetism	A
Statistics	SSTT212	Statistical Inference	C
Zoology	SZOL212	Animal Diversity	C

YEAR 3 SEMESTER 1			
Agriculture	SAAE311	Farm Management and Record Keeping Systems	F
	SAAG311	Plant propagation	G
	SAAS311	Farm Animal and Physiology	A
	SAAS321	Animal Breeding	D
	SAAS331	Animal Nutrition	C
Applied Mathematics	SAMT321	Applied Mathematical Methods	D
Biochemistry	SBCH311	Gene Expression and replication	A
	SBCH321	Metabolic Regulation	C
Botany	SBOT311	Cytology, Genetics, and Plant Biochemistry	B
	SBOT321	Aquatic Botany and Lower Plant Taxonomy	D
Chemistry	SCHM311	Organic Chemistry 3	B
	SCHM321	Physical Chemistry 3	D
Consumer Sciences	SCFD311	Food and Beverage Management	H
	SCFD321	Food Marketing	C
	SCHC311	Housing Education and Environment	G
	SCHT319	Experiential Learning in Hospitality (year-length course, 16 credits)	X
	SCIN319	Internship for Nutrition (year-length course, 16 credits)	X
	SCNU311	Community Nutrition and Food Security	A
	SCNU321	Therapeutic Nutrition	G
	SCRM311	Research Methods	B
Computer Science	SCPS311	Advanced Programming Techniques	E
	SCPS321	Systems Programming (OS and Compilers)	G
	SCPS331	Database and Information Management II	A
Engineering	SENG311	Engineering Materials – Introduction and Metals	E
	SENG321	Digital Systems (Microprocessors)	B
Food Science and Technology	STFS311	Food Technology I	B
	STFS321	Principles of Process Engineering	F
Geography	SGES311	Urban Environment and Recreation Planning	A
	SGES321	Atmospheric Processes and Pollution	E
	SGES331	Land Use and Natural Resources Management	C
	SGES341	Climate Dynamics and Weather Variability and Prediction	G
Human Movement Science	SHMS311	Human Movement Science III A	B
	SHMS321	Human Movement Science III C	D
Hydrology	SHYD311	Surface Water Hydrology	A
	SHYD321	Groundwater Hydrology	C
Mathematics	SMTH311	Abstract Algebra	A
	SMTH321	Real Analysis	C
Medical Science	SMED311	Epidemiology & Pathogenesis of Infectious Diseases. Antimicrobial Chemotherapy	G
	SMED321	Immunology and Serology	B
Microbiology	SMCB311	Food Microbiology and Food Analysis	E
Nursing Science	SNCM311	Contemporary Issues and International Trends Influencing Community Health Nursing Practice	X
	SNED311	Current Issues and Sociology in Nursing Education	X
	SNGN311	General Nursing Science	X
	SNMW311	Midwifery	X
	SNMG311	International Viewpoints on Nursing Management & Nursing Leadership.	X
	SNPC311	Pharmacology	X
	SNPN311	Psychiatric Nursing	X
	SNPR319	Nursing Practica (year-length course, 16 credits)	X
SNRS311	Research Proposal and Literature Review	X	
Physics	SPHY311	Quantum and Statistical Physics	H
	SPHY321	Electronic Circuits and Devices	F
Statistics	SSTT311	Random Processes	F
	SSTT321	Experimental Design	H
Zoology	SZOL311	Animal Ecology I	F
	SZOL321	Animal Ecology II	H
YEAR 3 SEMESTER 2			
Agriculture	SAAE312	Entrepreneurship, Co-ops and other forms of Business Ownership	A
	SAAE322	Principles of Production Economics	F
	SAAG312	Plant Breeding	G
	SAAG322	Crop Protection	B

	SAAS312	Digestive Physiology	A
	SAAS322	Animal Health	D
	SAAS332	Pig and Poultry Production	C
Applied Mathematics	SAMT312	Advanced Classical Mechanics	B
	SAMT322	Numerical Methods	D
Biochemistry	SBCH312	Recombinant DNA Technology	A
	SBCH322	Biochemistry of Nutrition	G
Botany	SBOT312	People and Plants	B
	SBOT322	Plant Conservation and Management, and Terrestrial Ecology	D
Chemistry	SCHM312	Inorganic Chemistry 3	B
	SCHM322	Analytical Chemistry 3	D
Consumer Sciences	SCHT322	Hospitality Service Operations	G
	SCNS312	Gender, Development and Technology	G
	SCNU312	Nutrition Education and Training	A
	SCTC312	Clothing and Textiles II	F
Computer Science	SCPS312	Distributed Systems Development	E
	SCPS322	Final Year Project	G
	SCPS332	Client / Server Computing	A
Engineering	SENG312	Engineering Materials – Non Metals	E
Food Science and Technology	STFS312	Food Technology II (Alcoholic Fermentation)	B
	STFS322	Quality Assurance and Control	F
Geography	SGES312	Environmental Management	E
	SGES322	Environmental Fieldwork and Research	G
Human Movement Science	SHMS312	Human Movement Science III B	B
	SHMS322	Human Movement Science III D	D
Hydrology	SHYD312	Hydrological Fieldwork and Hydrological Research Project	A
	SHYD322	Water Resources Management and Hydrological Modelling	C
Mathematics	SMTH312	Graph Theory	A
	SMTH322	Complex Analysis	C
Medical Science	SMED312	Clinical Biochemistry	E
Microbiology	SMCB312	Environmental Influences on Micro-organisms and Principles of Industrial Microbiology	E
	SMCB322	Biotechnology	X
Nursing Science	SNCM312	Community Development and Rehabilitation	X
	SNGN312	General Nursing Science	X
	SNMG312	National Health System and Quality Assurance	X
	SNMG322	Nursing School Management	X
	SNMW312	Midwifery	X
	SNPN312	Psychiatric Nursing	X
Physics	SNRS312	Data Collection & Analysis, Research Report Writing and Submission	X
	SPHY312	Nuclear Physics and Applications	H
Statistics	SPHY322	Solid State Physics and Materials Science	F
	SSTT312	Linear Models	F
Zoology	SSTT322	Time Series	H
	SZOL312	Ecophysiology and Ecotoxicology	F
	SZOL322	Research Design and Application	H

YEAR 4 SEMESTER 1			
Agriculture	SAAE411	Agribusiness Management and Marketing	H
	SAAE421	Risk Management	B
	SAAE441	Agribusiness Research Project I	C
	SAAG411	Soil Fertility Management and Conservation	E
	SAAG421	Floriculture	D
	SAAG441	Agronomy Research Project I	B
	SAAS411	Pasture Ecology and Management	E
	SAAS421	Animal Reproduction	G
	SAAS431	Applied Animal Nutrition	F
	SAAS441	Animal Science Research Project I	H
Consumer Sciences	SCIN419	Internship for Extension and Rural Development (year-length course, 16 credits)	X
Nursing Science	SNGN411	General Nursing Science	X
	SNMW411	Midwifery	X
	SNPN411	Psychiatric Nursing	X
	SNPR419	Nursing Practica and Research (year-length course, 16 credits)	X
Engineering	SENG411	Quality Assurance	F
	SENG421	Instrumentation and Process Control	C
	SENG431	Production Engineering	G

YEAR 4 SEMESTER 2			
Agriculture	SAAE412	Farm Planning	H
	SAAE422	Agricultural Policy and International Trade	B
	SAAE442	Agribusiness Research Project II	C
	SAAG412	Horticultural Crop Production	E
	SAAG422	Applied Plant Breeding	D
	SAAG432	Field Crop Production	C
	SAAG442	Agronomy Research Project II	B
	SAAS412	Applied Pig and Poultry Production	E
	SAAS422	Applied Ruminant Production	G
	SAAS432	Applied Animal Science	F
	SAAS442	Animal Science Research Project II	H
	Consumer Sciences	SCNS412	Management of Community Programmes
SCRM412		Nutrition Research Project	B
SCRM422		Research Project	D
Nursing Science	SNGN412	General Nursing Science	X
	SNMW412	Midwifery	X
	SNPN412	Psychiatric Nursing	X
Engineering	SENG412	Project I	F
	SENG422	Project II	C

LIST OF AUGMENTED PROGRAMME MODULES

All of these modules are set at 16 credits and are directly equivalent to the mainstream modules that they correspond to (given in brackets).

Augmented Programmes Semester 1	SLBT111 (SBOT111)	Introduction to Plant Cytology, Genetics and Physiology (Augmented)	
	SLCH111 (SCHM111)	General Chemistry 111 (Augmented)	
	SLCH121 (SCHM121)	Basic Chemistry 121 (Augmented)	
	SLMH111 (SMTH111)	Calculus I (Augmented)	
	SLPH111 (SPHY111)	Classical mechanics and properties of matter (Augmented)	
	SLPH121 (SPHY121)	Classical mechanics and properties of matter for biological science (Augmented)	
	SLZL111 (SZOL111)	Introduction to Zoology I (Augmented)	

Augmented Programmes Semester 2	SLBT112 (SBOT111)	Plant Morphology, Taxonomy and an Introduction to Mycology (Augmented)	
	SLCH112 (SCHM112)	General Chemistry 112 (Augmented)	
	SLCH122 (SCHM122)	Basic Chemistry 122 (Augmented)	
	SLMH112 (SMTH112)	Calculus II (Augmented)	
	SLMH122 (SMTH122)	Mathematics and Statistics for Life and Earth sciences (Augmented)	
	SLPH112 (SPHY112)	Nuclear Physics, Electromagnetism, Modern Physics (Augmented)	
	SLPH122 (SPHY122)	Nuclear Physics, Electromagnetism, Modern Physics for Biological Science (Augmented)	
	SLZL112 (SZOL112)	Introduction to Zoology II (Augmented)	

LIST OF FOUNDATION PROGRAMME MODULES

All of these modules are year length and have a credit value of 4.

Science Foundation (Foundation Programme) Year-length modules	SFBL119	Life Sciences Foundation (4 credits)	
	SFMH119	Mathematics Foundation (4 credits)	
	SFPH119	Physics Foundation (4 credits)	
	SFCH119	Chemistry Foundation (4 credits)	

LIST OF ENGLISH LITERACY MODULES

The Faculty offers English Literacy modules that are compulsory in both the Foundation and Augmented streams. Each of these modules is worth 8 credits. Students in other programmes may register for these modules and use them in the place of one elective slot in their programme grids.

English Literacy modules	SFLT111	English literacy I (8 credits) Semester 1	
	SFLT112	English literacy II (8 credits) Semester 2	

LIST OF DIPLOMA MODULES OFFERED WITHIN THE FACULTY

YEAR 1		
Human Movement Science	SHMD119	Sport Didactics and Coaching I (year-length course, 16 credits)
	SHMD129	Sport Management I (year-length course, 24 credits)
	SHMD139	Sport and Exercise Technology I (year-length course, 32 credits)
	SHMD149	Sport and Physical Recreation Studies I (year-length course, 32 credits)
YEAR 2		
Human Movement Science	SHMD219	Human Movement Studies (year-length course, 32 credits)
	SHMD229	Exercise Physiology II (year-length course, 32 credits)
	SHMD239	Kinesiology (year-length course, 32 credits)
	SHMD249	Sport and Exercise Technology II (year-length course, 32 credits)
YEAR 3		
Human Movement Science	SHMD319	Sport Psychology (year-length course, 32 credits)
	SHMD329	Health Sciences (year-length course, 32 credits)
	SHMD339	Exercise Physiology III (year-length course, 32 credits)
	SHMD349	Sport and Exercise Technology III (year-length course, 32 credits)