THE FACULTY OF SCIENCE

UNDERGRADUATE STUDENT HANDBOOK

2020

WELCOME FROM THE DEAN

Welcome to Rhodes University and the Science Faculty and welcome back to all returning students.

Rhodes University and the Science Faculty offer you a wide range of academic and leadership opportunities to provide you with an outstanding education in your chosen field. The Science Faculty is amongst the strongest in the country. Our staff are highly qualified and nearly 90% have a doctoral degree. This is the highest proportion in any Science Faculty in the country. Most are actively engaged in research and you will study under lecturers who are themselves generating new knowledge. Fourteen of our Staff have been awarded the Vice-Chancellor's Distinguished Teaching Award and twenty-nine have been awarded the Vice-Chancellor's Research Award.

But there is much more to our University than just the education we offer. You will be part of a large, diverse and multicultural society that offers a wide range of cultural and sporting activities and numerous opportunities to develop your leadership skills. You are encouraged to embrace this diversity and to make the most of the opportunities on offer. Your years at University should be amongst the best of your life and the secret is to find a balance between commitment to your studies and commitment to your extra-mural activities.

The Science Faculty Office is staffed by a full time Dean, Prof Tony Booth, two part-time Deputy Deans, Prof Dames and Mrs Sewry, and a Faculty Officer, Ms Lusanda Klaas. The Dean's office is in the old Schönland Building in the Botany Department. (It used to be a military hospital and at one stage housed the House of Assembly). Prof Dames' office is in the Bioscience Building and Mrs Sewry's office is in the Chemistry Building. Should you have any concerns about your degree or courses, or if there is anything else that you wish to discuss, please come and see the Dean. Make an appointment by e-mailing Ms Klaas at scisec@ru.ac.za or calling on (046) 603 7232. Alternatively call in at the offices. We believe that we have a role to play in ensuring that your years at Rhodes are a success and we look forward to working with you.

Dean of Science

Professor Tony Booth
Schönland Building, email: dean.science@ru.ac.za; (046) 603 7232

Deputy Deans of Science

Professor Jo Dames,
Department of Biochemistry and Microbiology, email j.dames@ru.ac.za

Mrs Joyce Sewry;
Department of Chemistry, email j.sewry@ru.ac.za

CONTENTS

LEADERSHIP

Dean and Deputy Deans

Prof Tony Booth
Dean
Botany Building

Mrs Joyce Sewry
Deputy Dean
Department of Chemistry

Prof Jo Dames
Deputy Dean
Department of Biochemistry and Microbiology

Heads of Departments

Prof Earl Brinsloo Boshoff
Biotechnology Innovation Centre

Prof Craig Peter
Botany

Prof Rosa Klein
Chemistry

Prof George Wells
Computer Science

Prof James Gambiza
Environmental Science

Prof Ian Meiklejohn
Geography

Prof Tony Booth
Geology

Dr Swantjie Zschernack
Human Kinetics & Ergonomics

Prof Cliff Jones
Ichthyology & Fisheries Science

Prof Denis Pollney
Mathematics

Prof Joey Medved
Physics and Electronics

Mr Jeremy Baxter
Statistics

Prof Heinrich Hoppe
Biochemistry & Microbiology

Prof William Froneman
Zoology and Entomology

Lusanda Klaas
Faculty Officer
Botany Building

This handbook is designed to help new and returning undergraduate students plan their degrees, by explaining the rules governing degrees, giving advice on how to choose courses, and explaining the many terms and strange words that students have to learn as they start academic life. All of this information is also available on our web site and on the web sites of our departments. We encourage you to read this handbook and become familiar with our rules.

Returning students: notes and reminders

BSc2 students: **You are strongly encouraged to register for three year-long second year courses in 2020.** The reason for this is that it allows you a more flexibility going into third year and if you fail one second year course, you may still be able to complete timeously.

BSc3 students: Ensure that you register for sufficient courses to complete your degree. Note that you may take a **maximum of 6 semester courses** in your final year.

BScF2 students: You may only register for **six semester-long courses first year courses** that are preferably from **three full courses. Augmented courses** will be available in Cell Biology, Chemistry and Earth Science in the first semester.

Curriculum approval for returning second year and third year students

Students who have correctly completed the online pre-registration form will have their subject choice reflected on ROSS. If this applies to you, **you do not need to see the Dean** at Curriculum Approval.

However, if your form is not marked curriculum approved, OR if you wish to change a subject then you MUST attend Curriculum approval at the times indicated below.

Summary of key dates and times

EVENT	First years	Second years	Third years + Honours
Orientation week	3 - 8 February Attend all events	N/A	N/A
Curriculum approval Eden Grove Blue	Friday 7 February 09h00 – 13h00	Saturday 8 February 09h00-12h00	Friday 7 February 13h00 – 17h00
Lectures start	Monday 10 February	Monday 10 February	Monday 10 February
Pracs start	Monday 17 February	Monday 17 February	Monday 17 February
Last date for curriculum change	Friday 21 February	Friday 21 February	Friday 21 February

THE FACULTY OF SCIENCE AND THE DEGREES WE OFFER

The Faculty of Science is a grouping of 14 academic departments which teach subjects such as Physics, Zoology and Chemistry, which are normally taken only in Science degrees. Some of the departments offer courses which may also form part of an arts degree (such as Geography and Environmental Science) and others offer courses that may also form part of a commerce degree (such as Mathematical Statistics).

The departments in the Science Faculty

Botany	Biochemistry & Microbiology
Chemistry	Biotechnology Innovation Centre
Environmental Science	Computer Science
Geology	Geography
Ichthyology & Fisheries Science	Human Kinetics & Ergonomics
Physics & Electronics	Mathematics
Zoology & Entomology	Statistics

The Science Faculty offers **TWO undergraduate DEGREES, an Extended Studies Programme, a Honours Degree, a Master's degree, and a Doctor of Philosophy degree**.

- The **BSc** (Bachelor of Science) is the usual first degree in the Faculty and requires a minimum of three years of study after school. A wide range of subjects, most of which are scientific in nature, can be studied in order to qualify for this degree.

- The **BSc (InfSys or BScS)** (Bachelor of Science Information Systems) is a 3 year degree intended for students who wish to become computer specialists in a commercial environment. It has a more rigid curriculum than the ordinary BSc degree.

- The **BScF** – (Extended Studies Programme). This programme is taken by students whose background has not adequately prepared them for the first year of a BSc, but who we believe will be able to complete a degree over four years. These students spend two years as BScF students after which they join the BSc students and graduate with a BSc.

- The **BSc (Hons)** - (Bachelor of Science with Honours). This degree follows a BSc or BScS and students study one of the subjects taken in the final year of the BSc, but in far greater detail. The usual entrance requirement is that students must have obtained at least a second class pass (65% or more) in this subject in the ordinary degree.

UNIVERSITY STRUCTURE: DEPARTMENTS, FACULTIES AND SENATE

The University structure is a hierarchy, the foundation of which is the academic departments. As a student, you will work within a number of departments, be taught by their staff and be governed by their particular rules. Although the departments are situated at the base of the hierarchy, the academic departments are at the heart of the University. A department is staffed by *Professors, Associate Professors, Senior Lecturers and Lecturers*. One of these, almost always a Professor, is *Head of Department* and is responsible for providing leadership. Related departments are grouped into *Faculties*, of which there are six at Rhodes University.

Faculties at Rhodes and their core departments

Faculty of Science	**Faculty of Humanities**	**Faculty of Commerce**
Biochemistry & Microbiology Biotechnology Innovation Centre Botany Chemistry Computer Science Environmental Science Geography Geology Human Kinetics & Ergonomics Ichthyology & Fisheries Science Mathematics Physics & Electronics Statistics Zoology & Entomology	School of Languages (Afrikaans and Netherlandic Studies, African languages, Chinese, Classics, French, German) Anthropology Drama English Language & Linguistics Fine Art History Journalism & Media Studies Literary Studies in English Music & Musicology Philosophy Political & International Studies Psychology Sociology	Accounting Economics & Economic History Information Systems Management **Faculty of Pharmacy** Various subjects specific to the B Pharm Degree **Faculty of Education** Education **Faculty of Law** Law

Each department is responsible for its own teaching and research and may have a specific set of rules that will affect you. Overall governance is provided by the Science Faculty Board which includes all teaching staff in the departments plus some support and research staff and some student representatives. The Faculty is led by the *Dean* supported by two *Deputy Deans*.

The rules for all degrees are in the *University Calendar*, and the Science rules may be found at http://www.ru.ac.za/diaryanddates/. In cases of dispute it is the Senate's interpretation of the rules as stated in the Calendar which carries weight. This handbook attempts to explain the situation more simply. If, after reading it, you have queries regarding the rules, ask the Administrative Officer, the Dean, or a Deputy Dean.

PLANNING YOUR ACADEMIC CAREER AT RHODES

This is your most important task during Orientation Week.

Introduction and background information

A great deal of assistance in curriculum planning will be available to you during orientation week in the form of orientation talks and consultation sessions and we STRONGLY ENCOURAGE you to attend all of these sessions and make the most of the assistance. Spending some time at the start considering exactly what it is you would like to study is a huge investment for the future. Get it right and the next three years will be a wonderful academic experience.

Your curriculum for first year (and beyond) is one part of a much more important consideration, being career development as a whole. We urge you to read the career guidance booklet and to engage with the issues that it raises from the outset of your time here.

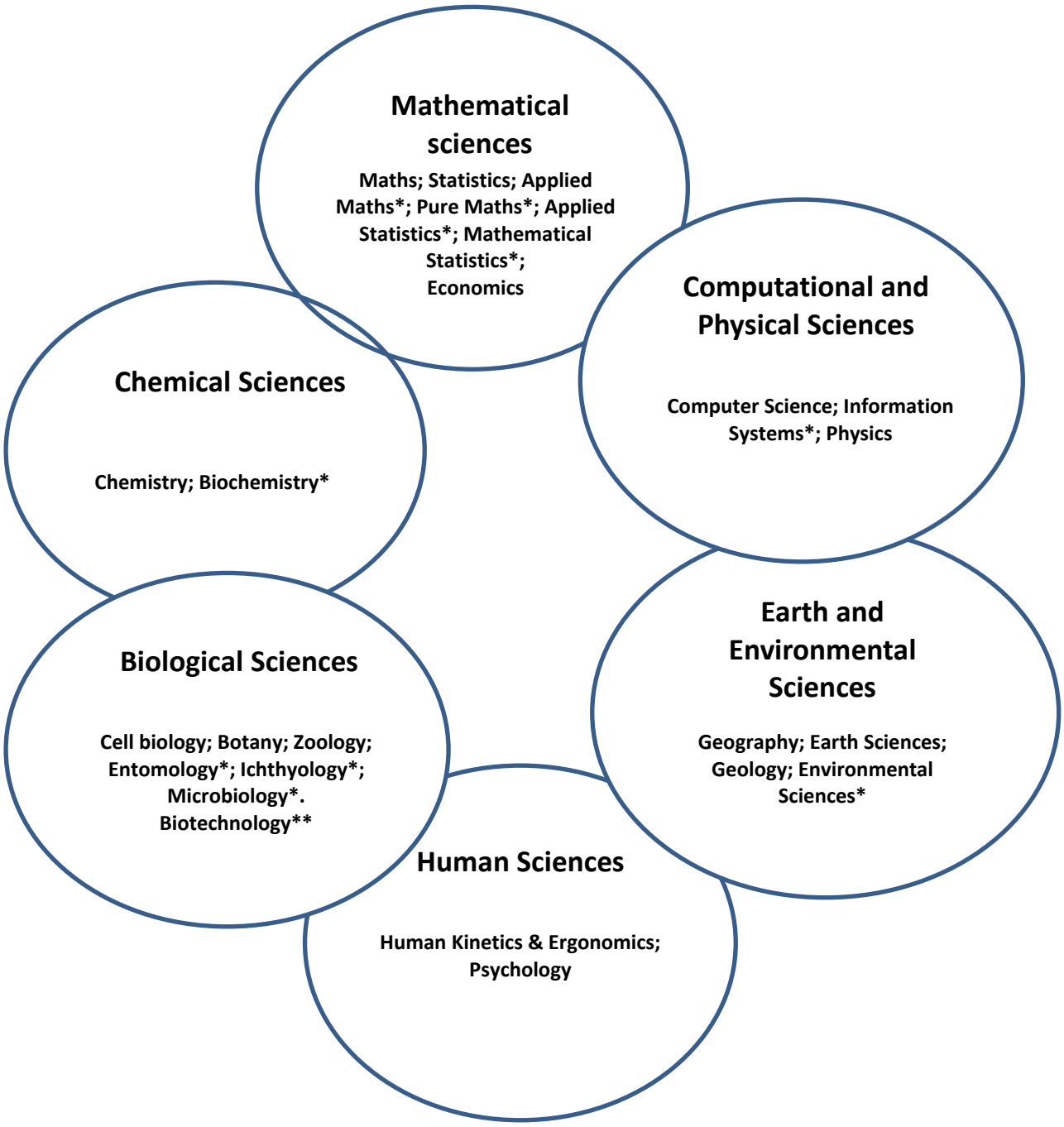
The Subjects within the Sciences

The Science Faculty offers a diverse range of courses that are considered to be Natural Sciences. These can be grouped so that subjects that seem to be fairly closely related are placed together and adjacent groups are similar. This is shown in the diagram on page 9.

It is possible to structure a curriculum so that most of your subjects come from a single group. Of course, some people have an interest right across the spectrum and it is also possible to structure a curriculum to include a wide and diverse range of subjects.

We must stress that setting out to complete a Science degree is not primarily about getting a job, although armed with a BSc (or, even better, a BSc(Honours) degree), you will certainly be better prepared to get a challenging and fulfilling job in many areas, especially (but not only) scientific ones, than if you do not have a degree. Our goal is to provide a broad based, formative education in science that can be used as a springboard for your particular career. Of course, we can structure curricula to suit some careers and you will be provided with guidance in this regard during orientation week.

The subjects taught within the Science Faculty. Closely related subjects are grouped together and adjacent groups are similar. Subjects marked* are taught in second and third year only. Biotechnology is taught from Honours up. Psychology is often taken with HKE but is not a science subject.



Course structure and the structure of an academic year

The academic year is divided into two semesters (halves), each of which is terminated by a series of exams (June for the first semester and November for the second semester).

The science faculty offers courses with a range of different structures and purposes and it is important to understand the differences:

1. **Pairs of semester-courses.** Most courses in the faculty are found in semester-long pairs of courses that can been aggregated together if is one is failed but not too badly. Here, the full course covers an academic year but it is made up of two separate semesters. An example would be first year Chemistry made up of CHE 101 and CHE 102. Or, first year Geography made up of EAR 101 and GOG 102. These courses are the basic building blocks of your degree and IMPORTANTLY, DO lead to higher level (second and third year) study in the subject. Exams are written at the end of BOTH semesters and a pass earns National Qualifications Framework (NQF) credits. If one semester is passed and the other failed but not too badly such that the average is 50% or more, this is known as an aggregated pass. In this case NQF credits for each semester are earned by the student. In some cases (BUT NOT ALL) it is possible to do just one of the semesters, and so a student may do EAR 101 but not GOG 102 or MAM 101 and not MAM 102. **NOTE however that it is rarely possible to do the second semester without having done the first.**
2. **Single semester, stand-alone courses.** These courses are one semester in length, **DO NOT** lead to higher level study and are typically designed to **provide ancillary or supporting knowledge and skills**. They may be taught in either semester. Examples would include the Introduction to ICT course (CSC 1L1), the electronics course (PHY 1E2), the statistics course (STA 1C2) and MAT 1S1. Exams are written at the end of the semester and a pass earns NQF credits. Please note that these courses have code with a letter in the middle "1C1", "1S1", "1E2" etc.

   Stand-alone courses that are taught in the second semester (STA 1C2, PHY 1E2, CSC 112 and ECO 102) have no prerequisites. However, ECO 102 normally forms part of a whole year's study of Economics. *Note that this is different from the situation with the second semester of a year-long course (for example GOG 102) for which there **is** a prerequisite (EAR 101).*

3. **Year-long courses.** Here, the full course covers a full academic year without being broken into semesters and include the extended studies subjects such as MAT 1F, ISCM 1F and CSC 1S. Many subjects within the Humanities fall into this category too.
4. **Not all subjects are taught in all three years and some are taught in second and third year only.** So, for example, Chemistry, Geography, Human Kinetics & Ergonomics and others are taught in all three years, while Ichthyology and Microbiology and others are taught in second and third year.

How to understand course codes

All courses are identified by a code that comprises three letters, a space and three numbers or letters. The three letters indicate the subject (BOT, botany; CHE, chemistry; MIC, microbiology and so on). The three numbers indicate the year and semester (101, first year and first semester; 102, first year and second semester; 302, third year and second semester and so on). In the case of year-long courses there is a number and a letter such as MAT 1F and in stand-alone semester-courses the middle letter denotes the targeted audience. For example, MAT 1S1 is a single-semester course in mathematics at the first year level, aimed at "S"cience students and held in the first semester. Another example is STA 1C2, a first-year level semester-long course in Statistics offered for "C" commerce students in the second semester.

NQF levels and credits

The Higher Education Qualifications Framework, part of the National Qualifications Framework (NQF), provides higher education institutions in South Africa with a single coherent nationally co-ordinated higher education system with a key objective to enable the description of certificates, diplomas and degrees so that students can transfer between programmes and higher education institutions. Part of this systems is to give qualifications different academic levels. For example, your National Senior Certificate is an NQF level 4 qualification. By the time you graduate with a Bachelor's degree you would have passed through levels 5 and 6 with third year majors being at the NQF level 7. An Honours degree is at the NQF level 8, a Master's degree at level 9, and a doctorate at level 10.

Each qualification requires a minimum amount to time to complete it and this time is converted into NQF credit values. A Bachelor's degree takes a minimum of three years to complete at 1200 hours per year (30 weeks at 40 hours per week). An NQF credit is then 10 hours of work. This time is further divided into academic levels of progressive higher levels of study. Therefore, each full year-long course at the first year is worth 300 hours or 30 NQF credits, while this doubles to 600 hrs or 60 credits in third year. The number of courses however decrease as you specialise so you are required to take the equivalent of four year-courses in first year and two in your third year.

NOTE:

If you are not working at least 40 hours per week for every academic week of the year you will most probably fail some or all of your courses. The hours worked include a substantial amount of self-study, which increases with each academic year. It is strongly recommended to exceed the minimum of 40 hours per week and extend it to 50 hours instead – this is 10 hours of solid academic work from Monday to Friday.

Science subjects

The following subjects are offered by departments within the Faculty of Science. Course-specific details can be found in the departmental entries. Normally, some subjects are offered in the first semester (S1), second semester (S2) or are offered throughout the year (Y). Subminimum requirements for supplementary examinations and aggregation of two semester-courses are also provided.

Department of Biochemistry & Microbiology							
Subject code	*Mnemonic*	*Subject name*	*Semester*	*NQF level*	*NQF Credits*	*Supplementary subminimum*	*Aggregation subminimum*
5004201	BCH 201	Biochemistry 201	S1	6	20	No supplementary examinations offered	40%
5004202	BCH 202	Biochemistry 202	S2	6	20		
5004301	BCH 301	Biochemistry 301	S1	7	30		
5004302	BCH 302	Biochemistry 302	S2	7	30		
5601201	MIC 201	Microbiology 201	S1	6	20		
5601202	MIC 202	Microbiology 202	S2	6	20		
5601301	MIC 301	Microbiology 301	S1	7	30		
5601302	MIC 302	Microbiology 302	S2	7	30		
Department of Botany							
6002102	BOT 102	Botany 102	S2	5	15	45%	45%
6002201	BOT 201	Botany 201	S1	6	20	No supplementary examinations offered	
6002202	BOT 202	Botany 202	S2	6	20		
6002301	BOT 301	Botany 301	S1	7	30		
6002302	BOT 302	Botany 302	S2	7	30		
Department of Chemistry							
5001101	CHE 101	Chemistry 101	S1	5	15	40% Theory examination	45% with at least 40% for the theory examination
5001102	CHE 102	Chemistry 102	S2	5	15		
50011R1	CHE 1R1	Chemistry 1R1	S2	5	15	No supplementary examinations offered	
50011R2	CHE 1R2	Chemistry 1R2	S1	5	15		
5001201	CHE 201	Chemistry 201	S1	6	20		40%
5001202	CHE 202	Chemistry 202	S2	6	20		
5001301	CHE 301	Chemistry 301	S1	7	30		
5001302	CHE 302	Chemistry 302	S2	7	30		

Centre for Higher Education Research, Teaching & Learning							
51011B0	CSC 1S	Computer Skills for Science	Y	5	15	No supplementary examinations offered	None
6601100	ISCM 1F	Introduction to Scientific Concepts & Methods	Y	5	30		
Department of Computer Science							
5101101	CSC 1L1	Introduction to ICT	S1	5	15	35%	None
5101112	CSC 112	Problem Solving with Computers	S2	5	15		
51011P3	CSC 101	Computer Science 101	S1	5	15	40%	40%
51011P4	CSC 102	Computer Science 102	S2	5	15		
5101201	CSC 101	Computer Science 201	S1	6	20	No supplementary examinations offered	
5101202	CSC 202	Computer Science 202	S2	6	20		
5101301	CSC 301	Computer Science 301	S2	7	30		
5101302	CSC 302	Computer Science 302	S1	7	30		
Department of Environmental Science							
2602201	ENV 201	Environmental Science 201	S1	6	20	No supplementary examinations offered	40%
2602202	ENV 202	Environmental Science 202	S2	6	20		
2602301	ENV 301	Environmental Science 301	S1	7	30		
2602302	ENV 302	Environmental Science 302	S2	7	30		
Department of Geography							
26011G1	EAR 101	Earth Science 101	S1	5	15	35%	40%
2601102	GOG 102	Geography 102	S2	5	15		
2601201	GOG 201	Geography 201	S1	6	20	No supplementary examinations offered	40%
2601202	GOG 202	Geography 202	S2	6	20		
2601301	GOG 301	Geography 301	S1	7	30		
2601302	GOG 302	Geography 302	S2	7	30		

Department of Geology							
5201102	GLG 102	Geology 102	S2	5	15	35%	45%
5201201	GLG 201	Geology 201	S1	6	20	No supplementary examinations offered	40%
5201202	GLG 202	Geology 202	S2	6	20		
5201301	GLG 301	Geology 301	S1	7	30		
5201302	GLG 302	Geology 302	S2	7	30		
Department of Human Kinetics & Ergonomics							
2207101	HKE 101	Human Kinetics & Ergonomics 101	S1	5	15	40%	40%
2207102	HKE 102	Human Kinetics & Ergonomics 102	S2	5	15		
2207201	HKE 201	Human Kinetics & Ergonomics 201	S1	6	20	No supplementary examinations offered	
2207202	HKE 202	Human Kinetics & Ergonomics 202	S2	6	20		
2207301	HKE 301	Human Kinetics & Ergonomics 301	S1	7	30		
2207302	HKE 302	Human Kinetics & Ergonomics 302	S2	7	30		
Department of Ichthyology & Fisheries Science							
6201201	ICH 201	Ichthyology 201	S1	6	20	No supplementary examinations offered	40%
6201202	ICH 202	Ichthyology 202	S2	6	20		
6201301	ICH 301	Ichthyology 301	S1	7	30		
6201302	ICH 302	Ichthyology 302	S2	7	30		
Department of Mathematics							
54011T0	TOF 1F	Theory of Finance Foundation	Y	5	15	None	None
54010Z0	TOF 1C1	Theory of Finance for Commerce	S1	5	15	40%	None
540101S	MAT 1S1	Mathematics for Science	S1	5	15	40%	None
54011L1	MAT 1F	Mathematics Foundation	Y	5	15	45%	None
540101A	MAM 101	Mathematics 101	S1	5	15	40%	40%
540101B	MAM 102	Mathematics 102	S2	5	15		

5401203	MAM 201	Mathematics and Applied Mathematics 201	S1	6	20	No supplementary examinations offered	40%
5401204	MAM 202	Mathematics and Applied Mathematics 202	S2	6	20		
5401311	MAT 311	Mathematics 311 Algebra	S1	7	18	No supplementary examinations offered	40% but 50% is required for two of the four prescribed subjects for MAT 3 or MAP 3
5401313	MAT 313	Mathematics 311 Real Analysis	S1	7	18		
5401315	MAT 315	Mathematics 311 Topics in Mathematics	S2	7	18		
5401316	MAM 311	Mathematics MAM 311 Complex Analysis	S2	7	18		
5411311	MAP 311	Applied Mathematics 311 Numerical Analysis	S1	7	18		
5411312	MAP 312	Applied Mathematics 311 Dynamical Systems	S2	7	18		
5411314	MAP 314	Applied Mathematics 311 Partial Diff Equations	S1	7	18		
Department of Physics & Electronics							
57011Z1	PHY 1E1	Elementary Physics	S1	5	15	40%	None
5701Z2	PHY 1E2	Electronics Literacy	S2	5	15	45%	None
5701101	PHY 101	Physics 101	S1	5	15	40%	40%
5701102	PHY 102	Physics 102	S2	5	15	45%	45%
5701201	PHY 101	Physics 201	S1	6	20	No supplementary examinations offered	40%
5701202	PHY 202	Physics 202	S2	6	20		45%
5701301	PHY 301	Physics 301	S1	7	30		40%
5701302	PHY 302	Physics 302	S2	7	30		45%

Department of Statistics							
55041D0	STA 1C2	Statistics for Commerce	S2	5	15	35%	None
7001121	STA 1P1	Statistics for Pharmacy	S1	5	15	45%	None
5504101	STA 1S1	Statistics for Science	S1	5	15	35%	None
5504102	MST 102	Mathematical Statistics 102	S2	5	15	45%	None
5501201	MST 201	Mathematical Statistics 201	S1	6	20	No supplementary examinations offered	40%
5501202	MST 202	Mathematical Statistics 202	S2	6	20		
5501301	MST 301	Mathematical Statistics 301	S1	7	30		
5501302	MST 302	Mathematical Statistics 302	S2	7	30		
Department of Zoology & Entomology							
5902101	CEL 101	Cell Biology 101	S1	5	15	35%	45%
5801101	ZOO 102	Zoology 102	S2	5	15	45%	
5801201	ZOO 201	Zoology 201	S1	6	20	No supplementary examinations offered	
5801202	ZOO 202	Zoology 202	S2	6	20		
5801301	ZOO 301	Zoology 301	S1	7	30		
5801301	ZOO 302	Zoology 302	S2	7	30		
6101201	ENT 201	Entomology 201	S1	6	20		
6101202	ENT 202	Entomology 202	S2	6	20		
6101301	ENT 201	Entomology 301	S1	7	30		
6101302	ENT 302	Entomology 302	S2	7	30		

Non-science subjects

Non-science subjects comprise all other undergraduate subjects currently offered in the Faculties of Commerce, Humanities and Law.

Table of major science subjects, showing corresponding first year courses and prerequisites that should be taken in first year.
+ = prerequisite MUST be passed before progressing to the next year.

Major subject	**Corresponding first year course**	**2nd year**	**3rd year**	**Corequisites** (normally taken in first year but required before degree will be awarded) (School maths requirement if relevant)
Applied Mathematics	MAM 101 + MAM 102	MAM 2	MAP 3	None (Must have Maths at >60% on NSC or equivalent)
Applied Statistics	MAM 101 + MAM 102 + MST 102	MST 2	AST 3	None (Must have Maths at >60% on NSC or equivalent)
Biochemistry	CHE 101 + CHE 102	BCH 2	BCH 3	None
Botany	CEL 101 + BOT 102	BOT 2	BOT 3	CHE 1, ZOO 102
Chemistry	CHE 101 + CHE 102	CHE 2	CHE 3	MAM 1, or MAM 101 / MAT 1S1 + STA 1S1/STA 1C2/102
Computer Science	CSC 101 + CSC 102	CSC 2	CSC 3	MAM 101, MAM 101 or MAM 1 (Must have Maths at >60% on NSC or equivalent)
Economics	ECO 101 + ECO 102	ECO 2	ECO 3	None
Entomology	CEL 101 + ZOO 102	ENT 2	ENT 3	CHE 1, BOT 102
Environmental Science	EAR 101 + GOG 102	ENV 2	ENV 3	ONE of BOT 1, GLG 1, ZOO 1, ANT 1, ECO 1 (must be passed BEFORE starting ENV 2)
Geography	EAR 101 + GOG 102	GOG 2	GOG 3	None
Geology	EAR 101 + GLG 102	GLG 2	GLG 3	CHE 101 + 1 other from CHE 102, MAM 101 or PHY 101, MAT 1S1, STA 1S1, STA 1C2
Human Kinetics & Ergonomics	HKE 101 + HKE 102	HKE 2	HKE 3	None
Ichthyology	CEL 101 + ZOO 102	ICH 2	ICH 3	CHE 1, BOT 102 plus MAM 1 or MAM 101, MAT 1S1, TOF1 and one from STA 1S1, 102, 1C2, CSC 101, 102, 112
Information Systems	CSC 112	INF 2	INF 3	None
Mathematics	MAM 101 + MAM 102	MAM 2	MAT 3	None (Must have Maths at >60% on NSC or equivalent)
Mathematical Statistics	MAM 101 + MAM 102 MST 102	MST 2	MST 3	None (Must have Maths at >60% on NSC or equivalent)
Microbiology	CHE 1 + CEL 101 (or BOT 1 or ZOO 1)	MIC 2	MIC 3	None
Physics	PHY 101 + PHY 102	PHY 2	PHY 3	MAM 1 and MAM 2 (taken in 2nd year) (Must have Maths at >60% on NSC or equivalent)
Zoology	CEL 101 + ZOO 102	ZOO 2	ZOO 3	CHE 1, BOT 102

Table of some major *non-science* subjects, showing corresponding first year courses and prerequisites that are normally taken in first year.

Speak to the Dean if you plan to take a different non-science subject as your second major.

Major subject	Corresponding first year course	2nd year	3rd year	Required ancillary (normally taken in first year)
Anthropology	ANT 1	ANT 2	ANT 3	none
Journalism	JRN 1 (2 semester course)	JRN 2	JRN 3	none
Legal Theory	Law 1 (2 semester course)	LAW 2	LAW 3	none
Management	MAN 101 + MAN 102	MAN 2	MAN 3	ACC 1, ECO 1 and MAM 1 or TOF 1C1 & STA 1C2
Music (in various forms)	MUS 1 ETH 1 IMS 1	MUS 2 ETH 2 IMS 2	MUS 3 ETH 3 IMS 3	None
Psychology	PSY 101 and PSY 102	PSY 2	PSY 3	None
Organizational Psychology	PSY 101 and PSY 102	ORG PSY 2	ORG PSY 3	None

Timetabling

Page 20 summarises the timetable of Science subjects and the most common non-Science subjects taken by Science students in their degrees, either as major subjects or subjects that build towards a strong multidisciplinary degree.

There are 16 possible major subjects offered by the faculty and over a dozen more offered by departments from the Faculties of Law and Humanities. However, there are unfortunately only 6 lecture slots per day because afternoons are reserved for practicals. Therefore, the timetable will not permit certain combinations of subjects. Most of these combinations don't make sense anyway.

Note: when planning your curriculum always keep an eye on the timetable.

Timetable

See https://scifac.ru.ac.za/wwwtime/timetable.php for the online version

All courses in each row happen at the same time and WILL clash, while different academic years are in the three columns.

Group 1 Some or all of periods 1 2 3 4 5		
Earth Science 101 (Sem 1) CSC 112 (Sem 2) Geography 102(Sem 2) Legal Theory 1 * isiXhosa 1N Computer Science 101 & 102 * Psychology 1 * Commercial Law 1 Drama 1 * Management 1	Chinese 2 Biochemistry 2 * Economics 2 Entomology 2 Geology 2 * Information Systems 201/202 Anthropology 2 Philosophy 2	Accounting 3 Chemistry 3 Environmental Science 3 Mathematical Statistics 3 English 3 Sociology 3 Indus. & Economic Sociology 3
Group 2 –Some or all of periods 2 3 4 5 1		
Cell Biology 101 CSC 112 * Economics 1 English 1 Zoology 102 * Sociology 1	Pharm. Anat. & Phys. 2 Accounting 2 Chemistry 2 Environmental Science 2 Mathematical Statistics 2 Journalism 2	Computer Science 3 Chinese 3 * Economics 3 Geography 3 Legal Theory 3 Microbiology 3 Drama 3 Ichthyology 3 isiXhosa 3
Group 3 – Some or all of periods 3 4 5 1 2		
Botany 102 BSc1 augmented Human Kinetics & Ergonomics 1 Maths 1S1 Maths 1F Physics 1 * Stats 1C2 * Theory of Finance (TOF 1C1) Linguistics 1 * Sociology 1 Accounting 1	Computer Science 2 Geography 2 Legal Theory 2 Microbiology 2 Drama 2 Ichthyology 2 isiXhosa 2	Organizational Psychology 3 Maths 3 Psychology 3 Zoology 3 * Economics 3 CSC 303
Group 4 – Some or all of periods 4 5 1 2 3		
* isiXhosa 1N Introduction to ICT (CSC 1L1) Anthropology 1 Geology 102 Physics 1E Statistics 101 & 102 * Statistics 1C2 * Theory of Finance (TOF 1C1) Accounting 112	* Economics 2 * Information Systems 201 Organizational Psychology 2 Maths & Applied maths 2 Psychology 2 Zoology 2 Chinese 2	Botany 3 Human Kinetics & Ergonomics 3 Management 3 Physics 3 Linguistics 3

Group 5 – Some or all of periods 5 1 2 3 4		
* Economics 1	Management 2	Applied Mathematics 3
Chemistry 1	Botany 2	Biochemistry 3
Journalism 1	Human Kinetics & Ergon 2	Entomology 3
* Management 1	Physics 2	Geology 3
German 1	Linguistics 2	Information Systems 3
Chinese 1	Sociology 2	Philosophy 3
Philosophy 1	Industrial Sociology 2	French 3
Latin 1		Anthropology 3
Group 6 - Some or all of periods 6 6 6 6 6		
Maths 1, Commercial Law 1		
Afternoon lectures		
* Psychology 1; Journalism 1; French 1; History 1; English 2; Classical Civilization 1		

*Indicates subjects with alternative lecture slots

THE STRUCTURE OF A CURRICULUM IN THE SCIENCE FACULTY

Important general ideas

The structure of your BSc is mainly governed by your choice of what are called the ***major subjects*** (the subjects that you plan to take in your second and third years) and, we expect you to have some idea of what these will be by the time you arrive at the university. We encourage you to **build your degree on your academic strengths and interests**, and in such a way that you will develop a real passion for what you are doing, and also have your eyes opened to all sorts of possibilities that you might have originally dismissed.

It is important to stress here, and it will be repeated later, that while we encourage you to develop your curriculum based on your planned major subjects **this does not mean that you cannot change your mind**. If you select your first year subjects carefully, they will give you access to many different subjects in second and third year and a change of direction will be possible.

The curriculum structure varies depending on the degree (BSc or BScS) and the selected major subjects and these differences are described below.

(A) The classic BSc over 3 years

In the classic BSc, **both major subjects are science subjects** and the degree is taken over a minimum of **three years**. To complete a Bachelor's degree you will require **360 NQF credits** of which at least **120 credits must be at the NQF level 7** (third year level). These are your two majors.

In the first year you will take 8 semester courses, at least 6 of which should belong to year-long courses will make up 120 NQF credits. The remaining 2 semester courses may be ancillary courses such as STA 1S1 or CSC 1L1 but may also be part of a year-long course. The selection of subjects to take at first year level may seem intimidating and further guidance is given a little later in this handbook.

In your second year you will take six semester-courses which will typically be three, year-long second year courses at the NQF level 6 such as MAM 2, HKE 2, BOT 2 and so on. These will count 120 NQF credits.

In your third year, you will take just your two major subjects (MAT 3, HKE 3), each comprising two semesters of work (for example MAT 301 and MAT 302) and these will count 120 NQF credits.

Two examples of the classic BSc are shown below.

The first is for someone with an interest in the biological and earth sciences. The superscripts refer to the lecture periods such that you can see that no courses clash.

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1	**CEL 101**[2] (15)	**ZOO 102**[2] (15)	**CSC 1L1**[4] (15)	**BOT 102**[3] (15)	**CHE 101**[5] (15)	**CHE 102**[5] (15)	**EAR 101**[1] (15)	**GOG 102**[1] (15)	(120)
Year 2	**ZOO 201**[4] (20)	**ZOO 202**[4] (20)	**ENT 201**[1] (20)	**ENT 202**[1] (20)	**CHE 201**[2] (20)	**CHE 202**[2] (20)			(120)
Year 3	**ZOO 301**[3] (30)	**ZOO 302**[3] (30)	**ENT 301**[5] (30)	**ENT 302**[5] (30)		(120)			

NOTE:
1. CEL 101 is a common first semester for Zoology 1 and Botany 1.
2. EAR 101 is a common first semester for Geography 1 and Geology 1.
3. CHE 1 is required to major in ZOO and ENT.
4. BOT 102 is required to major in ZOO and ENT.
5. CSC 1L1 is a computer literacy course taught in the first semester.
6. ZOO 102 is taught in the second semester.

In this example, the same first year subjects could have been followed at second year level by botany 2, microbiology 2, biochemistry 2, ichthyology 2, geography 2 or environmental science 2. With the chosen second year subjects, you could take any combination of zoology, entomology and chemistry at third year level.

This second example is for someone with an interest in the mathematical, statistical and physical sciences. The superscripts refer to the lecture periods such that you can see that no courses clash.

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1	**MAM 101**[6] (15)	**MAM 102**[6] (15)	**STA 1S1**[4] (15)	**MST 102**[4] (15)	**PHY 101**[3] (15)	**PHY 102**[3] (15)	**CSC 101**[1] (15)	**CSC 102**[1] (15)	(120)
Year 2	**MAM 201**[4] (20)	**MAM 202**[4] (20)	**MST 201**[2] (20)	**MST 202**[2] (20)	**PHY 201**[5] (20)	**PHY 202**[5] (20)			(120)
Year 3	**MAT 301**[3] (30)	**MAT 302**[3] (30)	**MST 301**[1] (30)	**MST 302**[1] (30)					(120)

NOTE:
1. The same first year subjects could have been followed at second year by Computer Science 2, Information Systems 2.
2. MAM 2 (Maths & Applied Maths 2) is required to major in Physics
3. MAM 1 (MAM 101 & MAM 102) and MST 102 are the required first year courses for MST 3

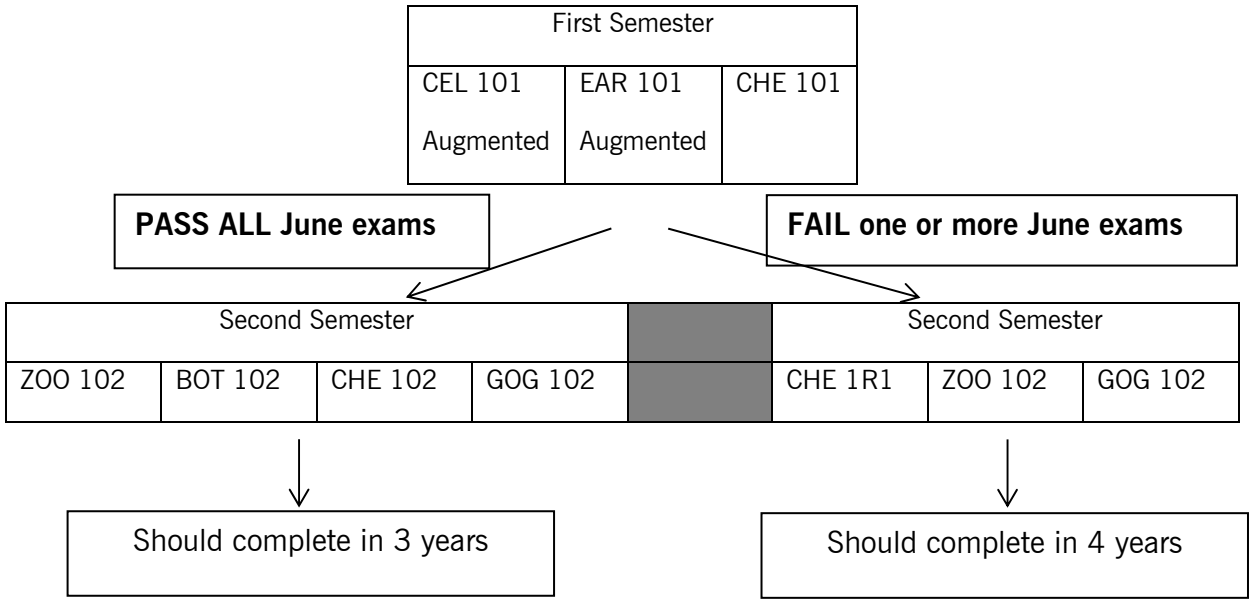
NOTE: An important point from both examples is to select first year subjects so as to give as much choice as possible going into second year.

(B) The classic BSc but over 4 years – Rhodes' "flexible" BSc

Some students do not complete their degrees within the minimum three-year period. Indeed, it is the policy of the Science Faculty to encourage some students with low final school exam scores, or those who do very badly in June exams, to take their degrees over four years. When a degree is structured over four years, the aim is to spend two years obtaining 180 NQF credits for first year level subjects, followed by a third year studying the major subjects at the second year level, and the fourth year completing the major subjects at the third year level.

Our ability to offer carefully structured flexible curricula has been increased by the appointment of staff who now provide additional support (augmentation) in CEL 101, EAR 101 and CHE 101.

Students with an interest in any of the biological, earth and chemical sciences and who are put into a flexible, four-year degree will take three courses in the first semester, with additional support. If these are passed in June, an additional course could be added and the degree completed in three years. If a course is failed in June, then the degree will be spread over four years.



These curricula must be developed in conjunction with the Dean.

(C) The BSc with a non-science major

So far we have discussed degrees in which both major subjects are sciences. It is possible in a BSc to have **ONE** major as a non-science subject, but in such cases the degree **must still comprise at least 360 semester credits. Semester courses offered by the Faculty of Science are worth 20 NQF credits each while in other faculties they are 15 credits each.** In this degree an additional 15 credit course is required so that there are 125 NQF credits in year 2.

Here are just two **examples**, both involving a non-science subject as one of the majors. A degree majoring in Legal Theory and Biochemistry might be planned over three years as follows:

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1	**LAW 1**[1] (30)		**CHE 101**[5] (15)	**CHE 102**[5] (15)	**CEL 101**[2] (15)	**ZOO 102**[2] 5 (15)	**PHY 1E1**[4] (15)	**BOT 102**[3] (15)	(120)
Year 2	**LAW 2**[3] (30)		**BCH 201**[1] (20)	**BCH 202**[1] (20)	**CHE 201**[2] (20)	**CHE 202**[2] (20)	**STA 1S1**[4] (15)		(125)
Year 3	**LAW 3**[2] (60)		**BCH 301**[5] (30)	**BCH 302**[5] (30)					(120)

NOTE: CHE 1 is the prerequisite for BCH 2

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1	**PSY 101**[1] (15)	**PSY 102**[1] (15)	**HKE 101**[3] (15)	**HKE 102**[3] (15)	**CEL 101**[2] (15)	**ZOO 102**[2] 5 (15)	**CHE 101**[5] (15)	**CHE 102**[5] (15)	(120)
Year 2	**PSY 201**[4] (15)	**PSY 202**[4] (15)	**HKE 201**[5] (20)	**HKE 202**[5] (20)	**BOT 201**[3] (20)	**BOT 202**[3] (20)	**CSC 112**[1,2] (15)		(125)
Year 3	**PSY 301**[3] (30)	**PSY 302**[3] (20)	**HKE 301**[4] (30)	**HKE 302**[4] (30)					(120)

NOTE: Psychology 1 is taught twice a day, once in the morning and once in the afternoon. The morning lecture clashes with Geography 1 (EAR 101 and GOG 102) which means that the afternoon lectures have to be used which then clash with pracs. Consequently, students who wish to take Psychology 1 MAY NOT do so in combination with Geography 1.

(D) The BSc(InfSys) degree (BScS)

This degree is unique to Rhodes and is intended for students who wish to become computer specialists in technical, commercial or industrial environments. The normal degree structure consists of at least 370 NQF credits spread over three years. The curriculum is more restricted than for an ordinary BSc, and include combinations of subjects which cannot be taken in an ordinary BSc. The following semester-courses are always needed:

First and second years

1. Computer Science (CSC 101+102, CSC 201+202)
2. Introduction to Information Systems (CSC 112)
3. Information Systems (INF 201+202)
4. Economics or Management (ECO 101+102 or MAN 101+102)
5. Accounting (ACC 101 + ACC 102 or ACC 112)
6. Statistics (STA 1C2 or STA 1S1 or MST 102, or MST 201+202 if MST 102)
7. Mathematics (MAM 101 or MAM 101 & MAM 102 or MAT 1S1)
8. Electronics Literacy (PHY 1E2).

The curriculum for the first 3 years for is as follows and sums to 370 credits:

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
Year 1	**CSC 101**[1] (15)	**CSC 102**[1] (15)	**ACC 101**[3] (15)	**ACC 102/112**[3] (15)	**MAN 101**[1,5] (15)	**MAN 102**[1,5] (15)	**ECO 101**[2,5] (15)	**ECO 102**[2,5] (15)	**MAM 101**[6] (15)	**CSC 112**[1,2] (15)
Year 2	**CSC 201**[3] (20)	**CSC 202**[3] (20)	**INF 201**[1,4] (15)	**INF 202**[1] (15)	**STA 1S1**[4] (15)	**PHY 1E2**[4] (15)				
Year 3	**CSC 301**[2] (30)	**CSC 302**[2] (30)	**INF 301**[5] (30)	**INF 302**[5] (30)						

Students are required to obtain at least 8 of these 10 semester-courses in their first year, and may be required to transfer to another degree if they do not do so. In addition, students who do not obtain at least 60% for CSC 102 will be advised to change to a BCom degree and not to attempt to major in Computer Science.

Third year BSc(InfSys)

Computer Science 3 is a compulsory major subject. The other major subject is usually Information Systems 3, but may also be one of Accounting, Applied Statistics, Economics, Mathematical Statistics, Management, or Mathematics, **depending on the subject choices made in second year**. In the example given above only INF 3 is possible.

NOTE: CSC may be taken as a major subject in an ordinary BSc for students who do not have an interest in the commerce subjects that are required in the BSc(S).

(E) The BScF

Students accepted into the Extended Studies Programme take a fixed set of courses in their first year before moving into the remainder of the degree in their second year. These courses are Computer Skills 1S, Mathematics 1F, and Introduction to Science Concepts and Methods (ISCM). Students who pass them all satisfactorily will earn 60 NQF credits towards the 360 NQF credit BSc degree. In second year (BScF2) students will register for six semester courses, all of which must be part of year long courses. Where augmented versions of a course are offered, these MUST be taken by BScF2 students.

An example of a 390 NQF credit BScF curriculum with **all** Science subjects from years 2 onwards. While it is possible to not take BOT 202 to make the degree a 370 credit degree it is advised to have a 3rd second year subject for its flexibility in majors in the third year. The additional work in your third year will be worth it later.

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1	**MAT 1F**[3] (15)		**CSC 1S**[1 and 2] (15)		**ISCM 1F**[4 and 5] (30)		(60)
Year 2	**EAR 101**[1] (15)	**GOG 102**[1] (15)	**CEL 101**[2] (15)	**BOT 102**[3] (15)	**CHE 101**[5] (15)	**CHE 102**[5] (15)	(90)
Year 3	**GOG 201**[3] (20)	**GOG 202**[3] (20)	**ENV 201**[2] (20)	**ENV 202**[2] (20)	**BOT 201**[5] (20)	**BOT 202**[5] (20)	(120)
Year 4	**GOG 301**[2] (20)	**GOG 302**[2] (30)	**ENV 301**[1] (30)	**ENV 302**[1] (30)			(120)

An example of a 370 NQF credit BScF curriculum with a **non-Science major** from years 2 onwards because second-year non-Science semester-courses are only 15 NQF credits requiring an extra 15 NQF Science semester course. The degree now totals 365 NQF credits.

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1	**MAT 1F**[3] (15)		**CSC 1S**[1 and 2] (15)		**ISCM 1F**[4 and 5] (30)		(60)
Year 2	**PSY 101**[1] (15)	**PSY 102**[1] (15)	**HKE 101**[3] (15)	**HKE 102**[3] (15)	**CEL 101**[2] (15)	**ZOO 102**[2] (15)	(90)
Year 3	**PSY 201**[4] (15)	**PSY 202**[4] (15)	**HKE 201**[5] (20)	**HKE 202**[5] (20)	**EAR 101**[1] (15)	**GOG 101**[1] (15)	(100)
Year 4	**PSY 301**[3] (20)	**PSY 302**[3] (30)	**HKE 301**[4] (30)	**HKE 302**[4] (30)			(120)

You have now seen the basic structure of the various degrees awarded by the Science Faculty. The exact details of which subjects you can take and which ancillary subjects are required are governed by a set of rules with which you must be familiar. These are covered in the next section.

YOUR OWN DEGREE STRUCTURE IN DETAIL

(A) The classic BSc degree

(3 year degree, 360 NQF credits with all Science subjects)

Your subjects will fit into the classic 3 year BSc grid a copy of which is below. Additional blanks are on page 35.

Blank curriculum template for classic BSc

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1									
Year 2									
Year 3									

The key steps in developing your curriculum for a classic BSc are as follows:

1. Identify your likely major subjects. Major subjects are chosen primarily according to your personal and career interests. Note that while we ask you to choose major subjects now, there will always be room for a change of choice IF you select courses carefully. *For this reason, your first-year courses should normally all be ones that can lead to potential major subjects.*

   A wide choice of combinations is allowed in choosing the two major subjects for the degree. However, not all combinations are possible - some are ruled out because of timetable clashes. Check for clashes using the online clash checker (http://scifac.ru.ac.za/wwwtime/timetable.php).

2. If your majors are taught over three years, you will be able to enter the same subject into the blank grid for all three years. If it is taught over two years, enter the subject onto the grid for years two and three.

3. If your subject/s are taught over two years, there will be at least one required subject at first year level. Find out what this is (see table on Page 15) and enter it on the grid. For example, to take Entomology 2, you must pass first-year biology (CEL 101, ZOO 102 and BOT 102) and Chemistry 1 (CHE 101 and CHE 102).

   No matter whether your majors are taught over two or three years, it is likely that there will be other required ancillary subjects (= **prerequisites**) that must be taken. For example, to major in Zoology you must pass Chemistry 1; to major in Physics, you must pass Maths 1 and Maths & Applied Maths 2. Find out what these required subjects are (see table on page 18) and enter them onto the grid. Note that in some cases, these must be passed BEFORE PROGRESSING TO THE NEXT LEVEL. In other cases, they must be COMPLETED BEFORE THE DEGREE IS AWARDED.

4. The choice of major subjects with their ancillary subjects will determine at least eight, usually twelve, and frequently more of the semester-courses, courses and subjects needed to make up the curriculum for your degree. The remaining subjects should be chosen to **support** this choice. A sensible first-year curriculum will leave options for some changes of direction at the end of first (or even second) year. A bad choice, or one that tries to go for "soft options", can lead to wasted fees and frustration later on.

Select courses to give as much flexibility as possible going into second and third year.

5. It is possible to include up to 60 NQF credits (not your major subjects) in the classic BSc from those offered by a *single non-Science department*. The restriction to a single department from Group B is significant - it means, for example, that you cannot obtain credits in a mixture of uncorrelated courses from among the many that are on offer in various Faculties. But it does mean that you can take, for example, two years of Anthropology in a BSc majoring in Environmental Science and Geography.

(B) The classic BSc over 4 years

(for students with low school leaving points or those who do badly in June of year 1)

If you have been registered for this degree, make a point of discussing your curriculum with the Dean **BEFORE** the day of curriculum approval. You will be **governed by the same rules** discussed for the classic BSc, the major difference being that you will undertake a reduced load in your first year.

You will take 3 courses in your first semester and then depending on results in June, either increase or reduce the load for the second semester. For the purpose of planning, identify three year long courses and enter them into the first year of the grid.

You will then take second year subjects in your third year and complete the degree in your fourth year.

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1									
Year 2									
Year 3									
Year 4									

(C) The BSc degree with a non-science major

(3 year degree, one Science major and one non-Science major)

In this case, **your entire degree must be made up of at least 360 NQF s**s.

Apart from the semester-courses needed to obtain the one non-Science major subject, **you may not count other non-Science courses, with two exceptions**:

1. If the non-Science major has a prerequisite among the subjects in that group, credit may be obtained for that ancillary (this happens, for example, in the case of a Management major, which requires that a student also gets credits for Accounting 1; Economics 1 and MAM 1 or TOF 1C1 and STA 1C2).

2. If you major in Music, Ethnomusicology or Instrumental Music Studies you are allowed to obtain 150 NQF credits offered in the Department of Music.

The key steps to develop a curriculum for this degree are very similar to those outlined above BUT you will use a slightly different grid (see example below and page 26).

	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	*NQF credits*
Year 1									
Year 2									
Year 3									

Note the following additional rules

Psychology 1 may be taken in a BSc **only** if you really intend to major in the subject. This is because there are enormous numbers of BA and BSocSci students taking Psychology as essential parts of their degrees, and so the number of places in Psychology available to BSc students is severely limited.

Psychology 1 is taught twice a day, once in the morning and once in the afternoon. The morning lecture clashes with Geography 1 (EAR 101 and GOG 102) which means that the afternoon lectures have to be used which then clash with practicals. Consequently, students who wish to take Psychology 1 MAY NOT do so in combination with Geography 1.

The university timetable is drawn up to try to allow the most commonly occurring subject combinations. In practice this means that BSc students who wish to major in a Group B subject might find that it is very difficult to arrange their curricula to fit into the minimum three year period.

(D) The BSc(InfSys) degree

The structure of this degree has been fully described in the previous section and there is very little flexibility in terms of subject choice.

The following tables will help you plan your curriculum.

Table showing some suggested supporting courses. Note these are NOT required subjects.

Major Subject	**Useful complementary first year courses**
Applied Mathematics	Computer Science, Physics
Applies Statistics	Statistics, Mathematics, Computer Science
Biochemistry	Computer Science
Botany	Geography, Zoology
Computer Science	Physics, Statistics, Mathematics (MAT 1C1 is required)
Environmental Science	Broad range selected from Chemistry, Botany, Geography, Geology, Zoology, Statistics, Economics
Geography	Botany, Zoology, Economics, Geology, Information Systems
Geology	Physics, Mathematics, French 1, Zoology
Human Kinetics & Ergonomics	Chemistry, Zoology, Statistics
Ichthyology	Botany, Geography, Zoology, Entomology
Mathematical Statistics	Statistics, Computer Science, Mathematics
Physics	Computer Science, Chemistry, Statistics
Zoology	Entomology, Botany, Statistics, Ichthyology

Other constraints

Some subjects overlap and you are not allowed to obtain credit in more than one of them:

Computer Science 101	CSC 1L1
Computer Science 1S	CSC 1L1
CSC 1L1	CSC 112
Applied Statistics 3	Mathematical Statistics 3
Physics 101	Physics 1E1
Psychology 2	Organizational Psychology 2
Psychology 3	Organizational Psychology 3
Statistics 101	Statistics 1D
Maths 1	Maths 1S1*
Maths 1F	Maths 1S1

*A student who already has a credits for MAM 1 may not get credits for MAT 1S1. A student with MAT 1S1 may then enrol for MAM 1 and obtain its credits.

Practical exercise - plan your degree

Armed with the information from the preceding sections, you should now be able to draw up your own three- or four-year curriculum.

Firstly, a summary of some VERY important general principles:

- Build your curriculum around your planned majors.
- Select a group of first year subjects that allows **maximum** choice in second year and which allows for a change in planned majors.
- At least six of your eight first year semesters should belong to year-long courses.
- Select ancillaries that support your planned majors and avoid easy options.
- In the 4-year BSc, you will take only three semester courses in the first semester and either three or four in the second. Assume that you will be successful in June and plan now for three year long courses plus an additional course for the second semester.
- **Unless** you plan to major in a non-Science subject, you should not consider taking a subject from this group in your first year, because this restricts the options that can be taken in second year, and can lead to problems later on. An exception to this would be IF the non-Science subject is a sensible ancillary to your majors.

1. Now, select the CORRECT blank template (see pages 39-42 of this handbook).

2. Fill in your major subjects in the last row (Year 3). Then fill in the corresponding second year subjects in Year 2 and the corresponding first year subjects in the row marked Year 1. **IF** your major is a two year subject then you must ensure that you include the required subjects in first year to get into the second year. i.e. CHE 1 for BCH 2.

3. Find out what the prerequisites are for your major subjects (see Table on pages 17 and 18) and fill these in on your template.

By following the above three steps, you will have filled in more than half of the semester-courses required. There will probably be two to four blank semesters in first year and two in second year.

- Now choose other subjects that will complement those already chosen, so as to make up the required NQF credits for the degree. Remember to select first year semesters that give maximum options going into second year AND take three second year subjects in Year 2.

Now review what you have done and check for the following:

i. Are there any clashes? Use the timetables (page 21; or use the timetable checker at **http://scifac.ru.ac.za/wwwtime/timetable.php)** to make sure that these combinations of subjects will be possible. If not, either choose other major subjects, or come to discuss the problem with the Dean. We will not allow students with clashes to register.
ii. Do you have at least three year-long courses in first year?
iii. Have you chosen sensible ancillaries?
iv. Does your curriculum allow room for change?
v. Of the 360 NQF credits required for a degree, 200 must be "non-initial" (that is, second or third year semester-credits), and at least 90 must be at the first year level. The others may be first, second or third year level semester-courses. *However, you are strongly advised to include 6 second year semester-courses wherever possible.*

vi. If you have included non-Science subject, are they all from the same department and are there no more than 60 NQF credits?
vii. If one of your majors is a non-Science major, will you have at least 360 NQF credits after three years?
viii. If one of your majors is a non-Science subject, are all of your other semester-courses Science subjects?
ix. If your degree is BSc (Inf Sys) have you included all the required semester-courses?

An important consideration if you wish to practice as a registered Natural Scientist

If you wish to follow certain scientific careers in South Africa, you should be aware that some of these may require you to be registered as a "Professional Natural Scientist" with a body known as the South African Council for Natural Scientific Professions. Registration is effectively only possible if at least 50% of your BSc curriculum consists of "natural sciences". In order to qualify for Professional Registration under current legislation (SACNASP) affecting all practising and consulting natural scientists, students are encouraged to include at least two of the following subjects in their first year: chemistry, physics, mathematics and/or a biological science.

For most students this will not be a problem but a first year of Geography, Economics, Anthropology and Computer Science, followed by Majors in Geography, Environmental Science and Anthropology may be problematic. If in doubt, speak to the Dean.

SPECIMEN CURRICULA

This section gives some further examples of curricula. It must be stressed that these are not the only ones possible!

The first few curricula should appeal to biologists and life scientists. Here, for example, is a classic biological one combining Botany and Zoology

Year 1	Biology CEL 101	Zoology ZOO 102	Physics PHY 1E1	Botany BOT 102	Chemistry CHE 101	CHE 102	Geography EAR 101	GOG 102
Year 2	Zoology ZOO 201	ZOO 202	Botany BOT 201	BOT 202	ENT 201	ENT 202		
Year 3	Zoology ZOO 301	ZOO 302	Botany BOT 301	BOT 302	← Major subjects			

Very often biologists specialise. Here is a curriculum with the aim of specializing in the study of insects (Entomology). Note that the choice of second year subjects allows for a change of direction when the majors are finally chosen

Year 1	Biology CEL 101	Zoology ZOO 102	Statistics STA 1S1	Botany BOT 102	Chemistry CHE 101	CHE 102	Geography EAR 101	GOG 102
Year 2	Zoology ZOO 201	ZOO 202	Entomology ENT 201	ENT 202	Microbiology MIC 201	MIC 202		
Year 3	Zoology ZOO 301	ZOO 302	Entomology ENT 301	ENT 302	← Major subjects - could also be ZOO+MIC or MIC+ENT			

The next one shows a possible combination of Microbiology and Biochemistry, a strong combination for those interested in Biotechnology. (Biotechnology as a subject is only offered at the Honours, Masters or PhD level, after a BSc degree has been obtained with Biochemistry and/or Microbiology.) As you can see, the second year has prepared the student for a wider choice of majors if so desired:

Year 1	Chemistry CHE 101	CHE 102	Statistics STA 1S1	Botany BOT 102	Biology CEL 101	Zoology ZOO 102	Comp Sci CSC 101	CSC 102
Year 2	Biochemistry BCH 201	BCH 202	Microbiology MIC 201	MIC 202	Zoology ZOO 201	ZOO 202		
Year 3	Biochemistry BCH 301	BCH 302	Microbiology MIC 301	MIC 302	← Major subjects – could also be ZOO+BCH or ZOO+MIC			

Another biological speciality would be to study marine life, and fishes in particular (Ichthyology). Here's one possible degree curriculum planned with this in mind:

Year 1	Maths MAT 1S1	Zoology ZOO 102	Chemistry CHE 101	CHE 102	Biology CEL 101	Botany BOT 102	Statistics STA 1S1	MST 102
Year 2	Zoology ZOO 201	ZOO 202	Ichthyology ICH201	ICH 202	Botany BOT 102	BOT 202		
Year 3	Zoology ZOO 301	ZOO 302	Ichthyology ICH 301	ICH 302	← Major subjects – could also be ZOO+BOT or ICH-BOT			

But perhaps one would like to pursue Ichthyology with an eye on Environmental Science as an alternative?

Year 1	Biology CEL 101	Zoology ZOO 102	Geography EAR 101	GOG 102	Chemistry CHE 101	CHE 102	Maths MAT 1S1	Botany BOT 102
Year 2	Zoology ZOO 201	ZOO 202	Ichthyology ICH 201	ICH 202	Environmental Science ENV 201	ENV 202	Comp Sci CSC 101	
Year 3	Zoology ZOO 301	ZOO 302	Ichthyology ICH3 01	ICH 302	← Major subjects – could also be ZOO+ENV or ICH+ENV			

A common theme in the previous curricula is that Chemistry has formed a part of all of them - it is impossible to study life sciences without a good background in Chemistry. A strong combination is to specialise in both Chemistry and Biochemistry. A major in Chemistry is best supported by courses in Physics and Maths as well:

Year 1	Biology CEL 101	Zoology ZOO 102	Chemistry CHE 101	CHE 102	Physics PHY 1E1	PHY 1E2	Mathematics MAM 101	MAM 102
Year 2	Biochemistry BCH 201	BCH 202	Chemistry CHE 201	CHE 202	Microbiology MIC 301	MIC 202		
Year 3	Biochemistry BCH 301	BCH 302	Chemistry CHE 301	CHE 302	← Major subjects – could also be MIC+BCH or CHE+MIC			

Here's a curriculum that is a classic combination of Physics and Chemistry. Physical Science is highly quantitative, so this curriculum has computational and mathematical back up as well.

Year 1	Physics PHY 101	PHY 102	Chemistry CHE 101	CHE 102	Mathematics MAM 101 MAM 102	Computer Science CSC 101 CSC 102
Year 2	Physics PHY 201	PHY 202	Chemistry CHE 201	CHE 202	Maths &Applied Maths MAM 201 MAM 202	
Year 3	Physics PHY 301	PHY 302	Chemistry CHE 301	CHE 302	← Major subjects – could also be PHY+MAP or CHE + MAP or MAT	

Students with an interest in astrophysics should consider a curriculum such as this.

Year 1	Physics PHY 101	PHY 102	Statistics STA 1S1	MST 102	Mathematics MAM 101 MAM 102	Computer Science CSC 101 CSC 102
Year 2	Physics PHY 201	PHY 202	CSC 201	CSC 202	Maths &Applied Maths MAM 201 MAM 202	
Year 3	Physics PHY 301	PHY 302	MAT 301	MAT 302	← Other Major subjects – could be CSC or applied maths	

Physics can also be combined with Geology, leading to a career as a Geophysicist.

Year 1	Physics PHY 101	PHY 102	Geology EAR 101	GLG 102	Chemistry CHE 101	CHE 102	Mathematics MAM 101 MAM 102
Year 2	Physics PHY 201	PHY 202	Geology GLG 201	GLG 202	Maths & Applied maths MAM 201 MAM 202		
Year 3	Physics PHY 301	PHY 302	Geology GLG 301	GLG 302	← Major subjects – could also be PHY+MAT or GLG+MAT		

Of course Geology can also be sensibly combined with Geography.

Year 1	Geography EAR 101	GOG 102	Statistics STA 1S1	Geology GLG 102	Chemistry CHE 101	CHE 102	Economics ECO 101	ECO 102
Year 2	Geography GOG 201	GOG 202	Geology GLG 201	GLG 202	Chemistry CHE 201	CHE 202		
Year 3	Geography GOG 301	GOG 302	Geology GLG 301	GLG 302	← Major subjects			

Finally, Geology and Economics can be taken together to give a good foundation for those wishing to become mineral economists.

Year 1	Economics ECO 101	ECO 102	Geology EAR 101	GLG 102	Chemistry CHE 101	CHE 102	Mathematics MAM 101	MAM 102
Year 2	Economics ECO 201	ECO 202	Geology GLG 201	GLG 202	Chemistry CHE 201	CHE 202		
Year 3	Economics ECO 301	ECO 302	Geology GLG 301	GLG 302	← Major subjects			

Economics might also combine profitably with Geography and Environmental Science, leading, perhaps, to a more "people" oriented degree than the last one.

Year 1	Economics ECO 101	ECO 102	Geography EAR 101	GOG 102	Biology CEL 101	Botany BOT 102	Anthropology ANT 1 – all year
Year 2	Economics ECO 201	ECO 202	Geography GOG 201	GOG 202	Environmental Science ENV 201 ENV 202		
Year 3	Economics ECO 301	ECO 302	Geography GOG 301	GOG 302	← Major subjects – could also be ECO+ENV or GOG+ENV		

Here is a curriculum that shows a combination of Geography and Environmental Science.

Year 1	Geography EAR 101	GOG 102	Anthropology 1 ANT 1 – all year		Biology CEL 101	Botany BOT 102	Chemistry CHE 101	CHE 102
Year 2	Geography GOG 201	GOG 202	ENV 201	ENV 202	Botany BOT 201	BOT 202		
Year 3	Geography GOG 301	GOG 302	ENV 301	ENV 302	← Major subjects – could also be ENV+BOT or GOG + BOT			

Other Environmental Science curricula can be viewed on the programme's web page:
http://www.ru.ac.za/environmentalscience/studying/

Computer Science (CSC) is a popular and challenging subject. Here is a very strong combination for the technically oriented, who might wish to become experts in computers and in electronics.

Year 1	Physics PHY 101	PHY 102	CSC 101	CSC 102	Mathematics 1 MAM 101 MAM 102	Statistics STA 1S1	Electr. PHY 1E2
Year 2	Physics PHY 201	PHY 202	CSC 201	CSC 202	Maths &Applied Maths MAM 201 MAM 202		
Year 3	Physics PHY 301	PHY 302	CSC 301	CSC 302	← Major subjects – could also be PHY+MAP or MAP+CSC		

There will be many career openings for people with expertise in computing and also in statistics. The following curriculum attempts to provide that.

Year 1	Computer Sci. CSC 101	CSC 102	Statistics STA 1S1	MST 102	Physics PHY 101	PHY 102	Mathematics 1 MAM 101	MAM 102
Year 2	Computer Sci. CSC 201	CSC 202	Math. Stats MST 201	MST 202	Information Systems INF 201	INF 202		
Year 3	Computer Sci. CSC 301	CSC 302	Mathematical Statistics MST 301	MST 302	← Major subjects			

Another burgeoning field is that of Bioinformatics. The curriculum below prepares students for careers in the bioinformatics sector, and provides a suitable foundation for the course work MSc in Bioinformatics that is offered at Rhodes.

Year 1	Chemistry CHE 101 CHE 102	Comp. Science CSC 101 CSC 102	Mathematics MAM 101 MAM 102	Statistics STA 1S1 MST 102	Biology CEL 101
Year 2	Biochemistry BCH 201 BCH 202	Comp. Science CSC 201 CSC 202	Maths or Math Stats 2 MAM 2 or MST 2		
Year 3	Biochemistry BCH 301 BCH 302	Comp. Science CSC 301 CSC 302	Microbiology MIC 202	← Major subjects – could also be BCH+MST or BCH+MAT	

Of course, you might be less interested in computers and programming than in more fundamental aspects of mathematics and statistics - in which case majors in these subjects would go well together.

Year 1	Mathematics 1 MAM 101	MAM 102	Statistics STA 1S1	MST 102	Computer Science CSC 101	CSC 102	Physics PHY 101	PHY 102
Year 2	Maths & Applied maths MAM 201	MAM 202	Mathematical Statistics MST 201	MST 202	Information Systems INF 201	INF 202		
Year 3	Mathematics MAT 301	MAT 302	Mathematical Statistics MST 301	MST 302	← Major subjects			

It is possible to do a BSc with an enormous amount of mathematical content (and some Physics, which is closely related to Applied Mathematics). Here's how.

Year 1	Mathematics MAT 1C1	MAT 1C2	Statistics STA 101	STA 102	Physics PHY 101	PHY 102	Computer Science CSC 101	CSC 102
Year 2	Maths & Applied maths MAM 201	MAM 202	Mathematical Statistics MST 201	MST 202	Physics 2 PHY 201	PHY 202		
Year 3	Applied Mathematics MAP 301	MAP 302	Math 3 MAT 301	MAT 302	← Major subjects			

Some people prefer working with people or animals to working with machines or mathematics. Perhaps your interest is in Human Kinetics and Ergonomics - to study how the body functions.

Year 1	Biology CEL 101	Zoology ZOO 102	Human Kinetics & Ergo. HKE 101 HKE 102		Chemistry CHE 101	CHE 102	PHY 1E1	STA 1C2
Year 2	Zoology ZOO 201	ZOO 202	Human Kinetics & Ergo. HKE 201 HKE 202		EAR 101	BOT 102	GOG 102	
Year 3	Zoology ZOO 301	ZOO 302	Human Kinetics & Ergo. HKE 301 HKE 302		← Major subjects			

Human Kinetics and Ergonomics is quite often combined with Psychology. Here is a curriculum that does just that. Because Psychology is a non-Science subject and additional 15 NQF credits are required to total at least 360 NQF credits.

Year 1	Psychology PSY 1 all year	Human Kinetics & Ergo. HKE 101 HKE 102	Biology CEL 101	Zoology ZOO 102	Chemistry CHE 101	CHE 102
Year 2	Psychology PSY 2 – all year	Human Kinetics & Ergo. HKE 201 HKE 202	Biochemistry 2 BCH 201 BCH 202		Statistics STA 101	
Year 3	Psychology PSY 3 – all yer	Human Kinetics & Ergo. HKE 301 HKE 302	← Major Subjects			

Another non-science subject that many scientists find very appealing is Music, and in recent years there have been quite a number of students who have combined Music with Physics, Maths and/or Computer Science. Here's one way in which it might be done - but remember that Music could be combined with other sciences too. Instrumental Studies 1 is a practically based course given in the Department of Music and Musicology, which includes the study of a major instrument, a minor instrument *or* ensemble, and the musical literature of the major instrument. **Note that a maximum of 150 NQF credits in music are allowed in a BSc.**

Year 1	Music MUS 1 – all year	Computer Science CSC 101 CSC 102	Physics PHY 101 PHY 102	Mathematics MAM 101 MAM 102
Year 2	Music MUS 2 – all year	Computer Science CSC 201 CSC 202	Physics PHY 201 PHY 202	Instrumental Studies – all year
Year 3	Music MUS 3 – all year	Computer Science CSC 301 CSC 302	← Major subjects	

In recent times several students have combined Legal Theory with Science, rather than only with Humanities or Commerce, and gone on to acquire the initials "BSc LLB" after their names before following specialised careers in Law. Here is a curriculum that might appeal to those who wish to become experts in Environmental Law. Law 1 clashes with Geography 1 so students can take Geography 1 in their second year instead.

Year 1	Legal Theory 1 Introduction Foundation	Biology CEL 101	Zoology ZOO 102	Physics PHY 1E1	Botany BOT 102	Chemistry CHE 101 CHE 102
Year 2	Legal Theory 2 Various courses	Environmental Science ENV 201 ENV 202		Botany BOT 201 BOT 202		Geography EAR 101 GOG 102
Year 3	Legal Theory 2 Various courses	Environmental Science ENV 301 ENV 302		← Major subjects – could also be LAW + BOT		

The BSc (InfSys) degrees rather more prescribed in what one can and cannot take. How a curriculum might be planned is best understood with reference to the following examples. The first shows a classic three year BSc (InfSys) with the standard Computer Science major combined with the very popular Information Systems major.

Year 1	Computer Science CSC 101 CSC 102	Accounting ACC 101 ACC 102	MAM 101	CSC 112	Management MAN 101 MAN 102	Economics ECO 101 & ECO 102
Year 2	Computer Science CSC 201 CSC 202	Info. Systems INF 201 INF 202	Statistics STA 1S1	Electronics PHY 1E2		
Year 3	Computer Science CSC 301 CSC 302	Info. Systems INF 301 INF 302	← Major subjects			

The second shows that the second major in the BSc (InfSys) degree can be Accounting - provided that the student elects to take Accounting in the first two years of study:

Year 1	Computer Science CSC 101 CSC 102	Accounting ACC 101 ACC 102	MAM 101	CSC 112	Management MAN 101 MAN 102	Economics ECO 101 ECO 102
Year 2	Computer Science CSC 201 CSC 202	Accounting ACC 201 ACC 202	Statistics STA 1S1	Electronics PHY 1E2	Information Systems INF 201 INF 202	
Year 3	Computer Science CSC 301 CSC 302	Accounting Acc. 3 all year	← Major subjects			

NOTE: additional courses must be taken to allow a second major other than INF.

BLANK TEMPLATES TO PLAN YOUR CURRICULUM

Three year Classic BSc degree (360 NQF credits with three second-year courses)

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 1								
Year 2								
Year 3					← Major subjects			

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 1								
Year 2								
Year 3					← Major subjects			

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 1								
Year 2								
Year 3					← Major subjects			

The BSc with a non-science major
(it has the extra NQF credits in either first or second-year level semester-courses)

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 1								
Year 2								
Year 3					← Major subjects			

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 1								
Year 2								
Year 3					← Major subjects			

Three year BSc (InfSys) degree

Note:
In BScS, the second major is often INF 3 but may be one of a number of other subjects. If you plan to have for example ACC 3 as a major this subject must obviously be included in your second year. This is likely to require that you include additional courses in second year.

Year 1	CSC 101	CSC 102	ACC 101	ACC 102	ECO 101	ECO 102	MAN 101	MAN 102	MAM 101	CSC 112
Year 2	CSC 201	CSC 202	INF 201	INF 202	STA 1S1	PHY 1E2				
Year 3	CSC 301	CSC 302			← Major subjects					

Year 1	CSC 101	CSC 102	ACC 101	ACC 102	ECO 101	ECO 102	MAN 101	MAN 102	MAM 101	CSC 112
Year 2	CSC 201	CSC 202	ACC 201	ACC 202	STA 1S1	PHY 1E2				
Year 3	CSC 301	CSC 302	ACC 3		← Major subjects					

Year 1	CSC 101	CSC 102	ACC 101	ACC 102	ECO 101	ECO 102	MAN 101	MAN 102	MAM 101	
Year 2	CSC 201	CSC 202	INF 201	INF 202						
Year 3	CSC 301	CSC 302			← Major subjects					

Four year BSc degree (3 full subjects in first year)

For students with low entry points. Make a point of discussing this with the Dean.
You will take two years to complete a full first year (at least 150 credits)
You may be able to complete three majors over four years
If you do well in June of year one you may be able to complete the degree in 3 years.

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2		Sem 2
Year 1								extra
Year 2								
Year 3								
Year 4					← Major subjects			

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2		Sem 2
Year 1								extra
Year 2								
Year 3								
Year 4					← Major subjects			

	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2		Sem 2
Year 1								extra
Year 2								
Year 3								
Year 4					← Major subjects			

BSc (F)

Planning chart for Extended Studies Programme Students (4 years)

Year 1	Intro. to Science Concepts & Methods		Computer Skills 1S		Mathematics 1F	
	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 2						
Year 3						
Year 4					← Major subjects	

Note year 2 of BScF should be three full year subjects (i.e. CHE 1, GOG 1, ZOO 1, MAT 1 etc) and **NOT** a set of single semester courses

Year 1	Intro. to Science Concepts & Methods		Computer Skills 1S		Mathematics 1F	
	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 2						
Year 3						
Year 4					← Major subjects	

Year 1	Intro. to Science Concepts & Methods		Computer Skills 1S		Mathematics 1F	
	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Year 2						
Year 3						
Year 4					← Major subjects	

CURRICULUM APPROVAL

First year students

Guidance is available from Monday 4th February through to Thursday 7th February as an integral part of Orientation Week. All first-time students are ***required*** to take advantage of this guidance. Details of when and where the sessions are held can be found in the Orientation Week Handbook, and will be clarified as the week proceeds.

The formal curriculum approval for students who are enrolled for Science degrees follows their administrative registration, and takes place as follows:

Please take careful note of these times and come to sign up at the correct time. Regardless of what your friends or others may tell you, **ALL first year Science undergraduate students are required to have their curriculum approved by the Dean in person.** You cannot take a short cut because you might have filled in a preregistration form.

Place: Eden Grove BLUE Lecture Theatre
Times: First year students: Friday 8th February 09h00 - 13h00

At curriculum approval you **must:**

- Collect a form from the assistants containing your previous academic record. In the case of first year students this will simply record your NSC levels.
- Present your student identity card as proof that you have paid your fees, completed your administrative registration, and been accepted at the University.
- Check your proposed curriculum with one of the staff on duty at the computers and seek guidance on any aspects of this that are still causing you concern. Your courses will be entered on the student record system.
- Have your proposed curriculum approved by the Dean or Deputy Dean.

After curriculum approval is complete you should familiarize yourself with the details of when and where your first class meetings will be held. Make a point of visiting the departments in which you will be studying, if you have not already done so. Make sure that you look at the course notice boards. Take note of important information on them, such as pertain to venues, textbooks, and the need to sign up with each department. Although, technically, all curriculum approval is centralized, some departments also require you to hand in your name to a Departmental Secretary or to a Course Coordinator.

The first class meetings in all (and especially in first year) subjects start on Monday 10th February. Find out where they are held and make sure that you are there!

Returning second year and third year students

Students who have correctly completed the pre-registration form will have their Registration Confirmation Form which will be handed to you when you get your new student card, marked as **curriculum approved**. If this applies to you, **you do not need to see the Dean** at Curriculum Approval.

However, if your form is not marked curriculum approved, OR if you wish to change a subject then you MUST attend Curriculum approval at the times indicated below.

Second year students: Saturday 8th February 09h00 - 13h00
Third year students: Friday 7th February 13h00 - 17h00

Arrangements for practical classes, tutorials and lectures

It is important to note that as an individual student, you CANNOT decide on which day you will do a particular practical, or which of alternate lecture slots you should attend. This will be done for you during the first part of the first week of term.

The information collected at curriculum approval will be used as input to allocate students not just to practicals but also to lecture slots and possibly even tutorials. This exercise is only completed early the following week. You should watch Departmental notice boards keenly for details of your particular allocations. The information will also be posted on the Faculty web site: follow the link from the home page at **http://www.ru.ac.za/facultyofscience/**.

First year practical classes start in the **second** week after registration, which is on Monday 17th February. Do *not* make any assumptions as to what your practical timetable will be - it can only be drawn up when the final numbers of students in each subject are known, and all the combinations of subjects taken (hence the timetable varies from year to year).

Practicals for second and third year students will start in the first week.

Changes in registration

Frequently students change their mind about the courses that they wish to take, or wish to change degree or even Faculty. You are encouraged to think very carefully about your curriculum *before* curriculum approval, so as to minimize disruption, confusion, and, most importantly, the problems that could arise if you miss the all important first few classes in any subject. If you find that you do need to make a change, please note that:

Changes made during first two weeks should be approved and discussed with the Dean in person. Science students may not change curricula by logging onto ROSS or by visiting the Student Bureau.

Changes that involve starting a new first-semester course will NOT be allowed after 5pm February 21st. Changes that involve starting a new second-semester course may be made at any time before the second week of the second semester. However, you may drop a course at any time up until the last day of lectures in the relevant semester but this is done after consultation with the Dean.

Dropping a course should be regarded as a fairly drastic thing to do; please consult the Dean or Deputy Dean, and your Head of Department about this! ***In the Faculty of Science, dropping a course or changing your curriculum in any way can only be done by visiting the Dean or Deputy Dean in person - not by using ROSS or sending e-mail to people, or by visiting the Student Bureau.***

LECTURES, PRACTICALS, TUTORIALS, SEMINARS, TESTS, EXAMINATIONS

Courses in the University, and in particular in the Faculty of Science, are given through a mixture of the following:

Lectures

Most science courses have one lecture each day, which you are expected to attend. The lecture is the main vehicle used to put across course material. It takes a variety of forms depending on class size, the level of the course and the preference of the lecturer. It may be a formal address on an aspect of the subject or it may be a much more interactive discussion in which you the student are expected to participate. Material covered in lectures is seldom "revised", as it would be at school. Students are well advised to take notes of what is said, so that they can study these after the lecture is over.

Self study

It is very unlikely that you will gain a full understanding of the subject from just the lectures. It is VERY LIKELY that you will have to do some home work of one sort or another. This may be prescribed by the lecturer or may take the form of self initiated study in which you (alone or with a group of friends) revises the work covered.

Practicals

Virtually all Science departments stress the value and necessity of conducting experiments in laboratory situations. For these the class may be divided into smaller groups, because few departments have a single laboratory large enough to house the entire class, or the funds to provide equipment for all the members to use simultaneously. Once the experiments have been done, students are usually expected to prepare reports on their findings. These are then assessed, and the marks form part of the student's **class record** for the year.

You are strongly urged to attend and to complete all your practical assignments. Not only is this compulsory for the purposes of earning a "DP certificate" - but often the most valuable learning experiences occur in the labs, where you get to know the staff and fellow students far better than in formal lectures.

Tutorials

A lecture tends to be characterized by the lecturer doing all the talking, although most lecturers welcome questions during or after a lecture, provided that these are relevant to the material being discussed. In tutorials, on the other hand, the class is usually divided into smaller groups, each one under the supervision of a staff member or senior graduate student. Problems are usually posed some time before the tutorial commences; students are expected to have tried to solve them before the group meets, and the tutorial then takes the form of a discussion of the problems, with every member of the group encouraged to participate. Not all departments have tutorials

On-line material

An increasing number of courses provide access to learning material using on-line computer systems (RU-Connected).

Seminars

A seminar is also less formal than a lecture. It is often conducted by one of the members of the group discussing a particular topic that he or she has prepared. The other members of the group are then invited to discuss the presentation - they will not, usually, have done as much preparation of their own beforehand.

Tests

Departments hold regular tests to allow staff and students to measure their progress and understanding. Marks for tests usually form a component of the student's overall assessment for credit (**class record**), and attendance at tests is compulsory.

Test marks

Test marks will be kept by departments but also in the Dean's office. Expect the Dean to contact you if you fail tests in several subjects.

Examinations

The most crucial part of the assessment of a student is, of course, done through formal examinations. These are held in June and November, and it is impossible to obtain the credits for a course unless you write them.

Final assessment

The final mark that you achieve will be a combination of your class record mark and you exam marks. The way these marks are combined will vary between departments and you will hear about this in lectures.

Most courses in the Faculty of Science involve four or five lectures per week, with possibly one or two tutorial periods, and in many cases one practical session. First year courses are limited to one practical session, four lectures and one tutorial or test per week.

ACADEMIC STATUS, EXCLUSIONS AND PROBATION

Read these very important rules carefully as they will affect some of you in a negative way.

Academic Status

A BSc (all BSc degrees) student is classified as a "first year student" until six semester-courses (90 NQF credits) are obtained, and is classified as a "third year student" only when registered for at least one third-year course - which is possible only after at least ten semester-courses have been gained, the equivalent to at least 150 NQF credits.

***You will NOT be allowed to start on a second-year course unless you have obtained at least six first-year semester-courses*.** Every year a small group of students appeal loudly against this rule (which does not apply in all faculties), but experience has shown that students who cannot obtain six semester-courses in their first year will simply be incapable of completing second year courses. In addition, timetable complications inevitably arise, and the degree structure ends up in a serious mess.

You should also note that a major subject cannot be taken along with more than two other courses. Some students who have done poorly think that they can mop up an enormous number of outstanding semester-credits in their final year, but, again, experience has shown that attempts to do so always end in complete disaster, and so there is now a strict ruling against allowing a student to become overloaded. **You can take a maximum of 6 semester courses in your final year.**

Exclusions

The University has a rule that is applied to students whose academic results are unsatisfactory, whereby they may be "**excluded**", and prevented from registering at Rhodes in a subsequent year. This is the rule known as "G.7", and in the case of the Science Faculty, it specifies that:

- You must have four semester-courses, or 60 NQF credits, by the end of your first year of study;
- You must have eight semester-credits, or 120 NQF credits, by the end of your second year of study;
- You must have twelve semester-courses by the end of your third year of study, and of these, four at least must be second-year or third-year credits equivalent to at least 190 NQF credits;
- Besides this, you must make "satisfactory progress", which typically means that you should pass at least half of your courses each year - so passing four semester courses well in your first year and then failing everything in second year means that you will have a total of eight semester-courses by the end of second year, but will not have made satisfactory progress.
- You may not take longer than five years to complete the degree.
- If you are enrolled on the Extended Studies Programme, at the end of the Foundation year of study you must have passed all courses with an average of 60% in the courses read in order to qualify for entry into mainstream courses in the following year.
- Students who perform very badly in June of year 1 may be advised to withdraw.

How are exclusions decided?

After the examinations have been marked, the situations of students who do not satisfy Rule G.7 are considered very carefully by the Dean and the Deputy Deans. They look at as many factors as they can - such as how they had performed in previous examinations, whether they were carrying full loads of courses, **whether advice had been given to such students earlier about reducing courses, whether this advice had been taken**, or whether they had earned all their DP certificates.

At the end of the year, the Dean and Deputy Dean submit recommendations on each student to a special meeting of the Faculty Board for their comment and approval. At the meeting, members of staff often ask for other factors to be considered - perhaps drawing attention to students who have performed badly because of having problems or illnesses earlier in the year.

Exclusion from the University is a last resort for the Dean and such decisions are NOT taken lightly.

If you repeatedly perform badly - in particular, if you fail to meet Rule G.7 at the end of your second or third year at Rhodes University, or if you have been excluded or on probation before - you will be treated with less sympathy.

Appeals against exclusion

If you are excluded, an exclusion letter will be sent to you by the Registrar. You then have the right to appeal against your exclusion, *in writing, either on the prescribed form or by completing and submitting a web-based form*, to the Registrar who will then discuss the case with the Dean, who, in turn, may recommend to the Registrar that you be readmitted "on probation". Since the cases have been very carefully considered by the Dean (and by the Board in December), the decision to exclude is usually, but not always, upheld. If you can provide a good motivation, the request may succeed, but in our experience, the motivations put forward are usually very weak. *Attention is drawn to the need to appeal in writing - verbal and telephonic appeals are unacceptable.*

Academic Probation

If you have fared poorly in June or November such that you have just satisfied the G7 rules, the Dean will place you on academic probation to achieve a minimum academic level in the following semester or academic year. Failure to meet these terms could lead to more drastic measures by the Dean including Academic Exclusion.

MORE RULES AND LEGALESE

This section attempts to summarize the various rules that apply to obtaining credits for Science degrees.

* Assessment

At the discretion of the Department, an undergraduate student's performance is assessed either:

- entirely at the end of the academic year (no examples in the Science Faculty but this may apply to you if you chose a subject from the Humanities Faculty);
- 50% in June and 50% in November (aggregated 2-semester year-long courses; e.g. CEL 101 & BOT 102; HKE 201 & HKE 202; applies to most courses in the Science Faculty); or
- entirely in June or November, when the course is finished (1-credit single semester courses; *e.g.* CSC 1L1 or CSC 112; MAT 1S1)

"Assessment" here means the incorporation of class and practical records, as well as written examinations. The implication is that departments will, where applicable, compute a composite mark at the end of each semester. This form of continual assessment requires you to work consistently through the year. Do this well and you increase your chance of getting a good final mark. Where assessment is subject to external examination, June assessments should be regarded as provisional, since external examiners usually perform all their duties at the end of the year.

Passing

Passing any course requires that you score an overall mark of at least 50%. Passes are graded into Class 1, 2A, 2B or 3, which equate to marks of at least 75%, 70%, 60% or 50% respectively.

We stress that marks for practical and tutorial work tests and essays often count directly towards a student's result for a course as a whole. Details of contributions of class record to examination results, and of the number of examinations for each course are usually posted on Departmental notice boards or supplied to students in course handouts.

Aggregated passes

In all subjects offered at a given level as a pair of semester-long courses, if both semester-courses are not obtained, an aggregate of 50% in the pair may still be deemed equivalent to passing a full 2-semester "aggregate pass" for that subject. **Credit for an aggregate pass also requires that you have met any adequate performance subminima imposed for each constituent.** If you do not obtain passes in both components, but meet the requirements of an aggregate pass, you will have your academic transcript amended to show that an aggregated continuing course (ACR) or aggregated non- continuing course (NCR) has been achieved in the appropriate subject, as the case may be. However, note that credit will not be given for an aggregate course in *addition* to passing one or more of its semester-course components, and that if you do not achieve an aggregate pass, a pass in any semester-course you have passed can still count towards the degree.

* Aggregated pass can only be given for components of a subject taken within a single academic year, and the calculation of aggregated pass will normally take place in December. This means that such passed will be based on the marks scored in June and November (or November and November if a supplementary for a June examination is written in November). You will not normally be able to get aggregated credit by combining marks for EAR 101 taken in different years, for example.

* Aggregate course pass can only be given for two semester- courses offered within a single subject, except in Botany 1 (which is composed of an aggregate of semester-courses in Cell Biology and Botany), Zoology 1 (which is composed of an aggregate of semester-courses in Cell Biology and Zoology), Geography 1 (which is composed of an aggregate of semester-courses in Earth Science and Geography) and Geology 1 (which is composed of an aggregate of semester-courses in Earth Science and Geology).

DP certificates

In most departments there is a minimum attendance and performance requirement, certainly for practical work, often including attending and writing all tests and essays. Before you are allowed to write the examination in a course, you must earn a DP ("Duly Performed") certificate. Such certificates are never actually issued in paper form, as it happens, so don't ask to see one! "Losing a DP" is the term given to being forbidden from continuing in a course, or from writing the examination, usually because you have not attended classes satisfactorily, or have done particularly badly in tests and assignments. This is viewed in a very serious light by the Board of the Faculty when considering your progress through the system. All Departments are free to set their own attendance and other requirements in this regard. A list of these should be issued to students in the Department, or published on the departmental notice boards. **Make sure that you understand these requirements, and make sure that you satisfy them, so as to prevent a lot of anguish and heartache later in the year.**

Adequate performance

For any credit bearing course, the department offering it, and other departments requiring it, may publish a subminimum mark, which, if achieved, constitutes "adequate performance" in the course for the purposes of registration prerequisite requirements for later courses in such departments.

Such marks may vary between semesters, but will not normally be lower than 40% in the case of non-initial courses, or 35% in initial courses. Where departments impose such subminima on courses in their own subjects - for example where registration for GOG 202 requires adequate performance in GOG 201 - care is taken to set these at realistic levels, especially in the case of non-initial courses, where supplementaries are not normally offered.

Prerequisites and registrations

At the discretion of a Department, prerequisite requirements may be imposed before you may register for a particular course. Similarly, such requirements may be imposed before you finally pass a given course.

Requirements will usually be stricter than registration requirements, which might stipulate "adequate performance" in an ancillary subject (or even at a lower level in the same subject) rather than passing at 50%.

At the start of the year you would normally register for both components of a semesterised subject, unless you make it clear that you intend taking only one of the semester courses to obtain a single semester-credit, or to complete the outstanding component of a semesterised subject.

You may be allowed to register at any time until the end of the second week of the second semester for semester-courses held in the second semester in subjects for which you have not previously been registered (provided that you will meet the registration requirements for such courses). Such registrations will be at the discretion of the Dean, in consultation with the Head of the Department concerned. **Note that there are only a few such courses.**

Deregistration after July

If you fail to perform adequately in the first semester of a subject, you will probably have your registration for any second semester component of that subject cancelled. For subjects that are not semesterised, this is taken to mean cancelling registration for the course as a whole that is, "losing a DP in June".

These decisions may sometimes be reversed, on appeal through the Head of Department to the Dean, who remains the final arbiter; the intention being to allow for an assessment of "overall performance" before a decision is reached.

Concessions

As already noted, some subjects have strict rules about prerequisite ancillaries, and failure in an ancillary can in some cases hold up a student's major subject(s) for a year. In some cases relaxations of these rules are allowed, with the special permission of the Board of the Faculty, if the Heads of the Departments involved are willing to support the application. The onus is on the student to apply. This is done by discussing the matter with the Dean of Science at curriculum approval.

If you are repeating a course, you may find that the department will excuse you from attending some (or all) of the lectures and practicals. This is known as "getting an extended DP", but **this practice is not recommended.**

Supplementary examinations and rewrites

The pass mark for all courses in Science is 50%. Students who earn marks between 35% and 49% in first year subjects in June or between 45% and 49% in November are often (*but not automatically*) recommended by their Departments to be allowed to write a re-write examination in August (for courses narrowly failed in June) or a supplementary (Supp) exam in January (for courses narrowly failed in November), before the next year begins. The June qualifying mark is often lower than the November mark to accommodate students who might still be adjusting to the University environment in their first semester. Occasionally the November qualifying mark is set below the norm of 45%, although it is usually above the June level. **The marks required to earn a re-write or a supp differ between departments; see tables on pages 12-16.**

Sometimes an aggregate mark of 48% or 49% in both components of a first or second year course will earn you a "non-continuing pass". In such cases, credit will be given, but you may not proceed to the next level course in that particular subject unless you reattend and pass the course, or, in some first year subjects, write a supplementary examination. In first year, such supplementaries *are* automatic - provided that subminima have been met, and that the examination has already been set for other candidates who qualified for supplementary or aegrotat examinations.

*** You do not have the right to "appeal" for the award of supplementary examinations.**

* Recommending that a supplementary examination be awarded is done, in the first instance, by the Department.

*** Supplementary examinations are *not* simply awarded automatically once you have an aggregate or component mark of at least 45% (sometimes subminima have not been attained, for example).**

Subminima

The final mark is often comprised of the class record, a practical exam and a theory exam. Some departments apply a subminimum mark (for example it may be 35%) to one or more of these components and if this subminimum is not met the student fails and may not even earn a re-write or supp. So, for example, it may be possible to get a final mark of 50% but fail the theory exam with less than 35%. In such a case the record would show % FSM and the student would not get a credit.

* Candidates who fail in June, but who score a mark that would allow them to obtain an aggregate pass if the second semester course is passed well enough, may sometimes choose e*ither* to write the re-write paper in that subject in November, *or* to take a chance of obtaining an aggregate pass.

* The Faculty Board has discretion over the final award of supplementary examinations. No restrictions are usually placed on the number of supplementary examinations that you will be allowed to write for first semester initial courses. For second semester courses and non-initial courses (where such supplementary exams may occasionally be offered) you must have obtained at least four semester-courses by November of your first year to qualify for any supplementaries for November examinations.

*** In the Faculty of Science, supplementary examinations are not awarded to students who have been excluded.**

* Supplementary examinations are almost never recommended for second and third year subjects in any Faculty.

* **Note that Supps are not normally awarded in the Humanities Faculty**. This may affect you if you take a subject from the Humanities.

Rewriting to improve marks

Students in first-semester first year courses who *pass* in June but who wish to try to improve their mark - perhaps to qualify for scholarships - have been permitted to write the August re-write paper for this purpose. You are free to *re-attend* a course and rewrite a subsequent "ordinary" examination. Some potential Honours students have been known to take this approach.

Aegrotat examinations

If you are unable to attend an examination because of genuine ill-health, or for some other valid reason, such as the death of a member of your family, then you may be allowed to write another (equivalent) examination at a later time, known as an *aegrotat* examination. Applications to sit such examinations must be made *in writing* and *before the examination* to the Student Bureau, and must be supported by doctor's certificates or other proof that the request is genuine.

ANSWERS TO COMMON QUESTIONS

What is a "semester"?

The academic year is divided into two semesters. The first semester starts in February and ends with the examinations in June; the second semester starts in July and ends with the examinations in November.

What is a "dawnie" or "dawn patrol"?

The lectures that start at 07h45 each morning have been known by these terms to generations of Rhodes students. In fact, even in midwinter, 07h45 is quite a long time after sunrise, but tradition is Very Important!

What is "leave of absence"?

Many departments have strict rules about attending classes and handing in assignments. If you are ill, or have to be away from the University for any genuine reason, and so find yourself missing classes, you should apply for leave of absence from the head of each department in which you are studying. This is done on a standard form available from:

https://www.ru.ac.za/media/rhodesuniversity/content/registrar/documents/forms/LeaveofAbsenceApplicationForm.pdf

It is VERY IMPORTANT that when applying for an LOA, you follow the rules and ensure that your application is supported as required and submitted in good time.

What is an "extended DP"?

Sometimes a student who has failed a course is allowed to rewrite the examinations in the course in the following year, without actually attending all the lectures and practicals for a second time. This is known as "writing on an extended DP". Permission to do so is usually given only to students who cannot afford to attend the University again, perhaps because they have started a job before completing their degree properly. Applications for extended DPs must be made within two weeks of the start of a course. *It is our experience that attempts to complete courses in this way are, sadly, usually unsuccessful.*

What is an "academic transcript"?

This is a summary of the courses that a student has studied, and of the marks earned for each of these courses. If you need one, enquire at the Student Bureau.

What is a "subminimum"?

Several departments assess students by adding together results from several tests, examinations, practicals and so on. It may not be sufficient simply to gain an overall average mark of 50% to pass - sometimes minimum marks must be obtained in some or all of the component parts of the assessment.

What do the symbols on my transcript/ result sheet mean?

Symbol	Meaning
Pass	
1	75-100%
2A	70-74%
2B	60-69%
3	50-59%
P	Pass (supp was passed)
3NC	3rd class pass with no right to continue with this subject
ACR	Aggregate pass for two semesters in the same subject
NCR	Aggregate pass but with NO right to continue with this subject
Fail	
F1	45-49%
F2	30-44%
F3	0-29%
F1S/F2S	Fail but with a re-write in bruary of the following year
F1N/F2N	Fail but with re-write in November of the same year.
FSM	Failed to meet a sub-minimum; no credit awarded
Other	
CR	Credits from another university in SA
CRX	Credits earned while on exchange as part of a recognised exchange programme
CRT	Credits on the basis of prior learning
DPR	DP refused and NOT allowed to write exam
DPP	DP refused for plagiarism
DNW	Absent from exam with no reason provided
AEG	Absent from exam with permission on medical or compassionate grounds. Allowed to write a supplementary exam in either November or January/February
PND	Pending – results not available for this course.

What does it mean to "obtain a distinction"?

If a student obtains a first class pass (75% or better, averaged over the various components) in a major subject, or for an Honours degree, then he or she is said to have earned a distinction in that subject, and the degree certificate records this.

What is a "merit bursary" or Fee Rebate?

If you obtain first class passes in all of your subjects you will get a 50% rebate on academic fees for your second year. This reduces to a 25% rebate if firsts are in three of four subjects and 12.5% for firsts in two of four subjects.

If the average mark for all your Rhodes exams in any year is 90% or greater (student taking a normal undergraduate lecture load), you will automatically get a full academic fee rebate.

What is "plagiarism"?

(This section is closely based on a document issued to students in the Department of Psychology, and their permission to incorporate it is gratefully acknowledged. Read the full University policy on plagiarism at:

http://www.ru.ac.za/media/rhodesuniversity/content/institutionalplanning/documents/Plagiarism.pdf

Plagiarism refers to the (unacceptable) practice of presenting as your own work material which has been written by someone else. Any use of material that is derived from the work of another person constitutes plagiarism, unless the source is clearly acknowledged. You will be guilty of plagiarism if, for example, you hand in an assignment under your own name which, either in part or as a whole,

*is copied from a document downloaded from a website;
*is copied from a published article or book chapter;
*is copied from an essay, computer program or practical report written by another student;
* has been written for you by someone else.

Of course, when you write an essay or report in an academic setting, it is normal - and often necessary - to draw on material written by other people, to the point where many students think that there is no harm in copying sentences from books and articles when composing essays and practical reports. However, in terms of the definition above, the use of even one sentence without acknowledgement constitutes plagiarism and is not acceptable. Thus it is important that you acknowledge the fact whenever you draw on other people's work. There are standard procedures for doing this - for example by citing a reference and providing details of the source in a reference list at the end of the assignment. You are expected to do this even where you do not quote directly from your source but merely express in your own words ideas or arguments which you have taken from that source. In addition, where you quote verbatim from a published source, you must put inverted commas round the quoted material and provide a page number. The only situation in which these rules do not apply strictly is in examinations written without access to books and other reference materials.

As a University student you are being trained to understand and observe the highest standards of ethics, integrity and professional practice in the writing of essays and reports. The University and its constituent Departments expects these high standards to be observed as a matter of course. Accordingly, Senate has adopted an overall policy towards the handling of plagiarism. In terms of this policy:

* Departments are encouraged to address the matter in their teaching and to train students in the correct procedures for acknowledging the sources of material used for assignments.
* Higher standards are expected as students progress through the University. The highest standards are expected of all post-graduates.

* Cases of plagiarism must be addressed by disciplinary procedures within the Department and at University level.

To implement this policy, a Department will (typically) have a Disciplinary Committee to deal with the problem of plagiarism. Where staff have evidence that students have plagiarized work, the matter will normally be referred to this Disciplinary Committee. Where the Committee concludes that plagiarism has occurred, it will make a ruling as to what disciplinary steps are appropriate. In terms of the Senate guidelines, these steps may range from giving a warning (for first time and minor offences), to imposing a mark penalty, and, in more serious cases, to withdrawing the student's DP.

In the case of second time alleged offenders in first year, or for any really serious cases, the Disciplinary Committee is **required** to refer the offence to a select subcommittee. After considering the evidence of the staff and the student, this Committee, in cases where guilt is established, will normally withdraw the DP of the offender for the subject in question, but might impose an even greater penalty such as a fine, rustication or even expulsion from the University.

You have been warned! Plagiarism is taken very seriously - don't do it!

Can I take more than the standard number of courses for a degree?

The simple answer is yes, although usually it is only above average students that do so. There are restrictions on the total number of courses that may be taken in a year - ten semester-courses in the case of a first year student, and six semester-courses in the case of a final year student. (In both cases this represents one more "subject" than the normal load). Provided that these restrictions are met, there is no extra charge for taking an extra course within a given year.

Do I need to be concerned about the Natural Science Professions Act?

In a recent letter to the Registrar we were told that "professional registration of natural scientists has now been in existence for approximately two decades. The South African Council for Natural Scientific Professions (SACNASP) was established by an Act of Parliament and is responsible for the registration of all Professional Natural Scientists. In terms of Sections 18(2) and 20(1) of the Act, professional registration for all practising and consulting natural scientists is compulsory. Unregistered persons may not perform work identified for registered persons in Schedule 1 of the Act."

Quite what this means in practice is uncertain in a country with as severe skills shortages as ours, but in principle you might find that you are barred from certain jobs, in which a BSc or Honours is needed, if your degree does not pass the criteria of this body. You can find out more about SACNASP from our Faculty website, or from **http://www.sacnasp.org.za/**

What is the difference between doing a BSc (InfSys) degree and a BCom majoring in Information Systems?

The BSc (InfSys) degree affords the best opportunity to major in both Computer Science *and* Information Systems, and provide a student with the most intensive preparation for a general career in Information Technology in both technical and management components. The BCom degree provides considerably less technical content, but more "commercial" background in Management and Accounting and Law.

Can I try to get into the Pharmacy Faculty by doing an appropriate first year curriculum, and then transferring from Science to Pharmacy?

No, not easily. If you are determined to try, you will need to register for the following: CEL 101, ZOO 102, CHE 101 & 102, MAT 1S1, In addition, register for a subject such as CSC 1L1 in the first semester. To complete the second semester, include BOT 102 and perhaps STA 1C2. If you pass all of these subjects well, it may be possible for you to move to a BPharm year 1.

What if I want to take a combination of subjects that results in timetable clashes?

The lecture timetable has been carefully designed so that most subjects either clash "every time" or "not at all". For example, if you try to take Geography and Computer Science, you will find that the first year lectures clash exactly, so do the second year ones, and so do the third year ones. If you are taking some science subjects and some non-science subjects, you may find fewer clashes, but it is preferable to choose subjects that do not clash at all. **Indeed, the Dean will not allow you to register for courses that clash more than once a week**. If you really want to pursue curricula that result in serious clashes, then you will be advised to spend at least one extra year over the degree so as to find an arrangement that avoids clashes.

If I fail an exam, can I ask for my papers to be marked again?

No, but you can arrange to get a copy of your script from the Registrar.

What are my options if I fail very badly in the June examinations?

Unfortunately, every year a small but significant number of students fail so badly in June that there is no chance they can complete the year in November. Such students are dealt with as follows:

If the performance is very poor then they will be advised (not required) to withdraw. In addition, all such students will be required to meet with the Dean in the first week of term 3 and a revised curriculum will be developed.

Where can I consult old examination papers to help me prepare for examinations?

The library carries a collection of papers going back over the last three years, and many departments have more extensive archives; some old examination papers are now also available for perusal on the WWW at **http://www.ru.ac.za/library.** Remember that courses evolve over time - what may appear a fiendishly difficult question in an old paper may really be the effect of having attended a course that no longer covers that particular topic at all!

What is the earliest stage at which I may take second and third year courses?

Other Faculties have different rules, but Science students are not permitted to take any second year level courses until they have obtained at least six semester-courses of first year level courses, and they are not allowed to take any third year courses until they have obtained at least ten semester-courses. And, fairly obviously, one cannot take any second or third year level course without having obtained the prerequisite first or second year level courses in that subject.

I studied at another university before coming to Rhodes, and passed some courses there. Can I get credits for them towards my Rhodes degree?

Most departments at Rhodes are prepared to recommend that a student get credits for at least some *first year* courses passed elsewhere, provided that the course is also offered at Rhodes, and is deemed to cover essentially the same material as the Rhodes course, and at the same sort of level. You are unlikely to be granted a credits in Astronomy or Archaeology, for example, but you might well be allowed to count a UNISA or UCT credits in Chemistry or Mathematics. Finally, for a Rhodes degree to be earned, at least half of the semester-courses (including the major subjects) must have been earned at Rhodes University.

How do I find out what textbooks I shall need?

Most departments issue a list of these, display a list on their notice board, or announce them during the first lectures of a course. Don't rely on what other students tell you - the advice may be out of date, since textbooks change from year to year.

Where do I buy textbooks?

The best-known bookseller in Grahamstown that carries stocks of new Rhodes textbooks is Van Schaik Bookstore, just down the High Street from the Drostdy Arch. Sometimes you can buy second-hand textbooks from students who took the course in previous years, or from other booksellers like Fables, but do make sure that you get up-to-date books and editions!

Do I need to have my own computer to do a BSc (and in particular to do Computer Science or Information Systems)?

While it is useful to have your own one, it is not necessary. Rhodes has particularly good computer facilities, available to students around the clock. If you do acquire your own computer, try to make sure that it is compatible with one on campus.

Do I have to pay extra to use the computer facilities?

Students registered for Computer Science and Information Systems pay a small additional levy to provide funds to keep their laboratories at the cutting edge. The levy simply forms an extra part of their student fee for the year. While access to computers, to e-mail, to the World Wide Web, and to the news groups is free to all students, you will have to pay a small amount per page to use laser printers if you want to produce high quality printouts of essays. (Contact the Student Bureau for details of how to debit this to your student account.)

How do I get to start using the university's computers?

Almost immediately you complete your registration you will become a registered user of the systems, and be issued with an email address and a password.

Can I get help in learning to use a computer?

Introduction to ICT (CSC 1L1) is an in-depth literacy course that many students find useful - and it earns them credits.

Are there any restrictions on what I may do on the university's computers?

Naturally there are. You may not, for example, raid the files of other students, send obscene messages to the VC or even to the Dean, pretend to be anybody but yourself, make money by running systems on the university computers, or play games on the machines. These conditions are all explained in detail at **http://www.ru.ac.za/aup.**

I hear I can connect my own computer to the network. How do I do this?

The University offers a service called Student Networking details of which can be found at http://www.ru.ac.za/studentnetworking.

Still feeling lost?

I am having trouble adjusting to University life. Who can help me?

The Dean, Deputy Deans and Faculty Administrative Officer are all available to discuss problems with you. They are equipped to help with academic problems and although not trained counsellors, can listen to other problems. In addition for career guidance, see the Career Advisor. If you are having social or personal problems, make an appointment to see your warden, or the counsellors in the Counselling Centre. The SRC (Students' Representative Council) publishes an extremely valuable "Student Services Booklet" detailing where to find help on travel, medical care, psychological problems, financial aid, legal problems, security, and harassment. If you haven't yet done so, get a copy and *use* it!

USEFUL CONTACT ADDRESSES AND TELEPHONE NUMBERS

Dean of Science: Professor Tony Booth, Schönland Building, Botany Department
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Deputy Dean of Science: Professor Jo Dames, Department of Biochemistry and Microbiology; e-mail: j.dames@ru.ac.za

Deputy Dean of Science: Mrs Joyce Sewry, Department of Chemistry; e-mail: j.sewry@ru.ac.za

Faculty Administrative Officer: Ms Lusanda Klaas, Schönland Building, Botany Department
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Manager, Academic Administration: Contact Registrar's Division
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Registrar: Dr Adele Moodly, Registrar's Division
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Admissions Officer: Mrs Desiree Wicks, Registrar's Division
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Counselling Centre: Ms Christine Lewis. 046 603-7070; http://www.ru.ac.za/counsellingcentre
e-mail: s.green@ru.ac.za

Financial Aid Administrator, Registrar's Division
Phone: (046) 603-8248 FAX: (046) 603-8300 e-mail: finaid@ru.ac.za

Student Careers Adviser: Ms Christine Lewis, Careers Centre
Phone: (046) 603-8180 FAX: (046) 603-8197 e-mail: Christine.lewis@ru.ac.za

Director: Student Affairs: Ms Nomangwane Mrwetyana, Phone: (046) 603-8181 email: n.mrwetyana@ru.ac.za

SciFest: http://www.scifest.org.za

If you have Internet access: visit the University Home Page: http://www.ru.ac.za

Visit the Science Faculty WWW Home Pages at: http://www.ru.ac.za/facultyofscience

For further information on any particular subject, please write a letter or email to "The Dean of Science" or to "The Head of Department" of that subject, Rhodes University, Grahamstown 6140.

SCIFEST 2020 - THE NATIONAL SCIENCE FESTIVAL

http://www.scifest.org.za/

As Science students at Rhodes University you are indeed fortunate. Not only do you have the privilege of going to hear some of the best lecturers in the country every day as you take our degree courses, you have the opportunity once a year of spending a week listening to some of the best lecturers in the world!

The Science Festival, which is now in its 24nd year, is a week-long, spectacular collection of lectures, demonstrations, workshops, exhibitions, quizzes, films, sunset shows and much more will take place on your doorstep in March. Many of the events are held on campus or in the Museums near Eden Grove; many others are held in the Settlers' Monument.

While it may be difficult to fit in lectures or a visit to the Monument around your other study commitments, we strongly encourage you to try and get to one or two of the special lectures.

With more than 500 events there is something of interest for everyone. More importantly, all these folk share the ability to explain what they do, and are fired up with enthusiasm to encourage us all to take a new look at the world around us.

You can find out more about SciFest 2020 from many sources - watch out for the posters that will soon start to appear, and look for the press releases in our local papers and the (free) Festival newspaper, SciCue, produced by our Journalism department.

Don't miss SciFest!

SUMMARY OF SUBJECTS OFFERED AS MAJORS IN THE BSC AND BSC (INFSYS) DEGREES

This summary is intended to give the essence of the relationships between courses offered at various levels in the subjects that can be taken for the BSc and BScS degrees. Where an aggregated course can be obtained by achieving an average mark of at least 50% in the two related semester-courses, this is shown in the row denoted **Aggregated**, and the subminima that must be obtained in each component are shown in the row marked **Agg sub-min**. The sub-minimum needed before the Department will recommend that a student may write a supplementary examination is shown in the row marked **Supp sub-min**. The row marked **Prerequisite** shows what other courses offered in the same department must have been passed before you may register for a particular course. Other (ancillary) prerequisites may be found summarized on page 17.

NOTE: FULL DETAILS OF ALL SUBMINIMA AND OTHER REQUIREMENTS, INCLUDING SUBMINIMA FOR INDIVIDUAL PAPERS CAN BE FOUND IN THE CALENDAR WHICH CONTAINS THE OFFICIAL SET OF RULES. ONCE YOU HAVE REGISTERED FOR SUBJECTS YOU ARE ENCOURAGED TO MAKE YOURSELF FAMILIAR WITH ALL THE RULES.

Accounting

is a subject in which two semester-courses at each level are needed to continue to the next level. Both parts of the first year course must be passed before you may proceed to second year, and both parts of the second year course must be passed before you may proceed to third year. Accounting 3 is not semesterised. Accounting 112 is an alternative to Accounting 102 for students who do not wish to continue to Accounting 2.

	Accounting 1		**Accounting 2**		**Accounting 3**	**Accounting 1F/1G**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Full year course*	*Year 1*	*Year 2*
Courses	ACC 101	ACC 102/112	ACC 201	ACC 202	ACC 3 *not semesterized*	*Sem 1*	
Aggregated	ACC 1		ACC 2		No	ACC 1F	ACC 1G
Aggregated sub-minimum	40%	40%	45%	45%	N/A	ACC 1F + ACC 1G = ACC	
Supplementary sub-minimum	35%	45%	45%	45%	45%	1	
Prerequisite		ACC 101 35%	ACC 101 50%	ACC 201 35%	ACC 201 50%		
			ACC 102 50%		ACC 202 50%	45%	45%
			ACR ACC 1		ACR ACC2		ACC 1F 50%

Biochemistry

is a subject in which two semester- courses at one level are needed before you may continue to the next level. Credit in Chemistry 1 is required before you may register for Biochemistry 2.

	Biochemistry 2		Biochemistry 3	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*
Courses	BCH 201	BCH 202	BCH 301	BCH 302
Aggregated	BCH 2		BCH 3	
Aggregated sub-minimum	40%	40%	40%	40%
Supplementary sub-minimum	No supps	No supps	No supps	No supps
Prerequisite		BCH 201 40%	BCH 2 50%	BCH 301 40%

Botany

is a subject in which two semester- courses at one level are needed before you may continue to the next level. Prerequisites for majoring in Botany are Cell Biology 101, Botany 102, Zoology 102 and Chemistry 1. Cell Biology 101 and Botany 102 (or an aggregate credit for Botany 1) are required before you may register for Botany 2. Students are required to obtain at least 40% for their theory examinations in order to obtain credit for Bot 201, 202, 301 or 302. CEL 101 acts as the first semester course for Botany 1 and for Zoology 1. Students who take both Botany 1 and Zoology 1 can earn only 45 NQF credits from the combination CEL 101 + BOT 102 + ZOO 102; such students are required to take extra NQF credits in another subject to make up the total needed for a degree.

	Botany 1		Botany 2		Botany 3	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	CEL 101	BOT 102	BOT 201	BOT 202	BOT 301	BOT 302
Aggregated	BOT 1		BOT 2		BOT 3	
Aggregated sub-minimum	45%	45%	45%	45%	45%	45%
Supplementary sub-minimum	35%	45%	No supps	No supps	No supps	No supps
Prerequisite		CEL 101 35%	CEL 101 50% BOT 102 50% ACR BOT 1	BOT 201 40%	BOT 2 50%	BOT 301 40%

Chemistry

is a subject in which two semester- courses at one level are needed before you may continue to the next level. Students who get from 20% to 39% in THEORY for June in their first year are transferred to Chem 1R1, rewrite Chem 1R1 in November and, if successful, continue with Chem 1R2 in the first semester of the next year to write Chem 1R2 in June. Those failing Chem 1R2 in June move into Chem 102 in July. Two ancillary semester-courses, normally comprised of one full first year course in any of Physics, Maths, Computer Science or Statistics is required for a student to major in Chemistry.

	Chemistry 1		**Chemistry 2**		**Chemistry 3**		**Chemistry 1R**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	CHE 101	CHE 102	CHE 201	CHE 202	CHE 301	CHE 302	CHE 1R2	CHE 1R1
Aggregated	CHE 1		CHE 2		CHE 3		No	No
Aggregated sub-minimum	40% theory & 45% CHE 101	40% theory & 45% CHE 102	40% theory	40% theory	40% theory	40% theory		
Supplementary sub-minimum	40% theory	40% theory	No supps	No supps	No supps	No supps	No supps	No supps
Prerequisite		CHE 101 theory paper 40 %	CHE 1 50%	CHE 1 50%	CHE 2 50%	CHE 2 50%	CHE 1R1 50%	CHE 101 20%

Computer Science

is a subject in which two semester- courses at one level are needed before you may continue to the next level. One of MAM 101 or MAM 1 or MAT 1S1 or STA 1S1 or STA 1C2 or MST 102 is required for a student to major in Computer Science. CSC 303 is an optional extra semester courses, it does not replace either CSC 301 or CSC 302.

	Computer Science 1		**Computer Science 2**		**Computer Science 3**		**Introduction to ICT**	**CSC 112**	**CSC 303**
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*	*Op. extra*
Courses	CSC 101	CSC 102	CSC 201	CSC 202	CSC 301	CSC 302	CSC 1L		
Aggregated	CSC 1 (NCR)		CSC 2		CSC 3		No	CSC112	CSC 303
Aggregated sub-minimum	40%	40%	40%	40%	40%	40%	N/A	No	No
Supplementary sub-minimum	40%	40%	No supps	No supps	No supps	No supps	35%	N/A	N/A
Prerequisite		CSC 101 40% in same year OR credit for CSC 101	CSC 101 50% CSC 102 50%	CSC 201 40%	CSC 2 50%	CSC 2 50%		35%	No supps CSC 201 Must be in 3rd year

Economics

is a subject in which the equivalent of two semester- courses at one level are needed before you may continue to the next level. Economics 3 is subdivided further; students have to register for a choice of topics.

	Economics 1		**Economics 2**		**Economics 3**
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*
Courses	ECO 101	ECO 102	ECO 202	ECO 201	*Semester 2*
Aggregated	ECO 1		ECO 2		Choice of 4 topics
Aggregated sub-minimum	40%	40%	45%	45%	ECO 3
Supplementary sub-minimum	35%	45%	45%	45%	No module under 40%
Prerequisite			ECO 1 50%		45% 45% ECO 2 50% ECO 2 50%

Entomology

is a subject in which two semester- courses at one level are needed before you may continue to the next level. Prerequisites for majoring in Entomology are Cell Biology 101, Botany 102, Zoology 102 and Chemistry 1. Cell Biology 101 and Zoology 102 (or an aggregate credit for Zoology 1) are required before you may register for Entomology 2.

	Entomology 2		**Entomology 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*
Courses	ENT 202	ENT 201	ENT 302	ENT 301
Aggregated	ENT 2		ENT 3	
Aggregated sub-minimum	45%	45%	45%	45%
Supplementary sub-minimum	No supps	No supps	No supps	No supps
Prerequisite	CEL 101 50% ZOO 102 50% ACR ZOO 1	ENT 202 40%	ENT 2 50%	ENT 302 45%

Environmental Science

is a two-year major subject. Geography 1 and either Anthropology 1, Botany 1, Economics 1, Geology 1 or Zoology 1 are required before a student may start ENV 2. For each semester, there is a subminimum mark of 35% for the both the class record and for each exam. Students getting less than 35% will get an FSM, will not earn any NQF credits and will not be able to aggregate with a mark for the other semester.

	Environmental Science 2		**Environmental Science 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*
Courses	ENV 201	ENV 202	ENV 301	ENV 302
Aggregated	ENV 2	ENV 2	ENV 3	ENV 3
Aggregated sub-minimum	40%	40%	40%	40%
Supplementary sub-minimum	No supps	No supps	No supps	No supps
Prerequisite	See above	ENV 201 40%	ENV 2	ENV 301 40%

Geography

is a subject in which NQF credits in part of a year are needed before you may continue to the matching part in the next level. Both second year semesters are normally needed before you may enrol for Geography 3 as a major subject. For each semester, there is an overall subminimum AND subminima for the class record and the exams which is the same as the overall subminimum. Students getting less than 40% in either of the exams OR the class record will get an FSM irrespective of the final mark, will not earn any NQF credits, will not be able to aggregate with a mark for the other semester and will not get a supp.

EAR 101 acts as the first semester course for Geography 1 and for Geology 1.

	Geography 1		**Geography 2**		**Geography 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	EAR 101	GOG 102	GOG 201	GOG 202	GOG 301	GOG 302
Aggregated	GOG 1		GOG 2		GOG 3	
Aggregated sub-minimum	40%	40%	40%	40%	45%	45%
Supplementary sub-minimum	35%	40%	No supps	No supps	No supps	No supps
Prerequisite		EAR 101 35% OR, a pass in matric geography or equivalent	EAR101 50% GOG 102 50% (OR GOG 1 60%)	EAR 101 50% GOG102 50% (OR GOG1 60%)	GOG 201 50% GOG 202 50%	GOG 201 50% GOG 202 50%

Geology

is a subject in which NQF credits in only part of a year (but preferably both) are needed before you may continue to the next level. Chemistry 101 and one other semester credit in Chemistry, Maths or Physics is required for a student to major in Geology. **Students are ENCOURAGED to take a full year of Chemistry 1 in their first year.**

	Geology 1		**Geology 2**		**Geology 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	EAR 101	GLG 102	GLG 201	GLG 202	GLG 301	GLG 302
Aggregated	GLG 1		GLG 2		GLG 3	
Aggregated sub-minimum	40%	40%	40%	40%	40%	40%
Supplementary sub-minimum	35%	45%	No supps	No supps	No supps	No supps
Prerequisite		EAR 101 35% and met the subminimum requirements for both theory and practical papers	GLG 1 50% Has at least attended CHE 101	GLG 201	GLG 2 OR credit in either GLG 201 or 202 and adequate performance in the other AND credit in at least CHE 101 and/or CHE 102 or a credit in maths or physics.	GLG 301

Human Kinetics and Ergonomics

is a subject in which two semester-courses at one level are needed before you may continue to the next level.

	Human Kinetics & Ergonomics 1		**Human Kinetics & Ergonomics 2**		**Human Kinetics & Ergonomics 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	HKE 101	HKE 102	HKE 201	HKE 202	HKE 301	HKE 302
Aggregated	HKE 1		HKE 2		HKE 3	
Aggregated sub-minimum	40%	40%	40%	40%	40%	40%
Supplementary sub-minimum	40%	40%	No supps	No supps	No supps	No supps
Prerequisite		HKE 101 40%	HKE 1 50%	HKE 201 40%	HKE 2 50%	

Ichthyology

is a subject in which two semester-courses at one level are needed before you may continue to the next level. Prerequisites for majoring in Ichthyology are Cell Biology 101, Zoology 101, Botany 102, Chemistry 1 and two semester courses of Maths, Theory of Finance, Computer Science (not CSC 1L) or Statistics. Cell Biology 101 and Zoology 101 (or an aggregate credit for Zoology 1) are required before you may register for Ichthyology 2.

	Ichthyology 2		**Ichthyology 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*
Courses	ICH 201	ICH 202	ICH 301	ICH 302
Aggregated	ICH 2		ICH 3	
Aggregated sub-minimum	40%	40%	40%	40%
Supplementary sub-minimum	No supps	No supps	No supps	No supps
Prerequisite	CEL 101 50% ZOO 102 50% ACR ZOO 1	ICH 201 40%	ICH 201 50% ICH 202 50%	ICH 301 40%

Information Systems

is a subject in which both semester- courses at one level are needed before you may continue to the next level. Introduction to Information Systems (CSC 112) is required before you may register for Information Systems 2. Aggregated passes require an overall subminimum of 45% in the course failed, with further subminima of 40% for each of theory and practicals. INF 203 is an alternative to INF 202 that can be taken by BCom students, but not by BSc students.

	Information Systems 2		**Information Systems 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*
Courses	INF 201	INF 202	INF 301	INF 302
Aggregated	INF 2		INF 3	
Aggregated sub-minimum	40% both theory & pracs		40% both theory & pracs	
Supplementary sub-minimum	No supps	No supps	No supps	No supps
Prerequisite	CSC 112 and 40% Must be in 2nd year	INF 201	INF 201 50% 50% or INF 2 ACR	INF 301 INF 202

Journalism

is not semesterised. Journalism 1, 2 and 3 are 2-credit courses.

Legal Theory

Legal Theory 1 consists of two one-semester courses, Introduction to Law (first semester) and Foundations of Law (second semester). Legal Theory 2 consists of four one semester courses (Legal Interpretation and Constitutional Law A in the first semester, and Constitutional Law B and Customary Law in the second semester). There are six one semester courses in Legal Theory 3 (Law of Persons, Law of Property A and Law of Contract A in the first semester, and Law of Life Partnerships, Law of Property B and Law of Contract B in the second).

Management

is a subject in which both semester-courses at one level are needed before you may continue to the next level. Both parts of the first year course must be passed before you may proceed to second year, and all parts of the second year course must be passed before you may proceed to third year. You must have Accounting 1 to proceed with MAN 2, and ECO 1, MAM 1 or TOF 1C1 and STA 1C2 to proceed with MAN 3.

(NOTE: the prerequisites required to major in MAN makes it difficult to include as a major subject in a BSc)

	Management 1		**Management 2**		**Management 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	MAN 101	MAN 102	MAN 212+214	MAN 211+213	MAN 311+313	MAN 314+312
Aggregated	MAN 1		MAN 2		MAN 3	MAN3
Aggregated sub-minimum	45%	45%	40%/45%*	40%/45%*	40%/45%*	40%/45%*
Supplementary sub-minimum	35%	45%	45%	45%	45%	45%
Prerequisite		MAN 101 35% in that year	MAN 1 50% ACC1	MAN 1 50% ACC 1	MAN 2 50% ECO1, MAT1 OR TOF 1C1 AND STA 1C2	

Aggregation of modular papers is permitted for MAN2 and MAN3 provided that the papers constituting the semester for each year are read in the same year and that a subminimum of 45% is obtained for at least two papers with credits being obtained for the remaining two papers; OR that a sub-minimum of 40% is obtained for one paper with credits obtained for the remaining three papers.

Mathematics

is a subject in which two semester-credits at one level are needed before you may continue to the next level. Students who perform poorly in the first semester of MAM 1 may be required to attend a remedial programme that will help them improve their performance. Mathematics 1F is an Extended Studies Programme course open to students who have taken mathematical literacy on the NSC or Standard Grade maths at matric level. MAM 1 is the prerequisite for MAM 2.

NOTE: Normally, students who have taken Mathematical Literacy on the NSC will not be allowed to register for Maths 1 or MAT 1S1 BUT can take MAT 1F

	Maths & Applied Maths 1		**Maths & Applied Maths 2**		**Maths 3**		**Applied maths 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	MAM 101	MAM 102	MAM 201	MAM 202	MAT 301	MAT 302	MAP 301	MAP 302
Aggregated	MAM 1		MAM 2		MAT 3		MAP 3	
Aggregated sub-minimum	40%	40%	40%	40%	40%	40%	40%	40%
Supplementary sub-minimum	40%	40%	No supps	No supps	No supps	No supps	No supps	No supps
Prerequisite	See note above	MAM 101 40%	MAM 1 55%	MAM 201 40%	MAM 2 50%	MAM 2 50%	MAM 2 50%	MAM 2 50%
	Maths 1F		**Single Service Courses**					
	Full year course		*Semester 1*	*Semester 1*				
Courses	MAT 1F		MAT 1S1	TOF 1C1				
Aggregated			No	No				
Aggregated sub-minimum	N/A		No	N/A				
Supplementary sub-minimum	45%		40%	35%				
Prerequisite	See note above		See note above					

NOTE: The third year maths modules now have individual codes. It is essential that students register correctly for the modules of their choice.

Microbiology

is a subject in which two semester-courses at one level are needed before you may continue to the next level. Chemistry 1, and Cell Biology 101 (or an aggregate pass in BOT 1 or ZOO 1) are required before you may register for Microbiology 2.

	Microbiology 2		**Microbiology 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*
Courses	MIC 201	MIC 202	MIC 301	MIC 302
Aggregated	MIC 2		MIC 3	
Aggregated sub-minimum	40%	40%	40%	40%
Supplementary sub-minimum	No supps	No supps	No supps	No supps
Prerequisite	CEL 101 50% or ACR BOT 1/ZOO 1	MIC 201 40%	MIC 2 50%	MIC 301 40%

Music

Except for Ethnomusicology 1 and Music, Health and the Brain (MHB), courses are not semesterised. Various options are available at each level in Music, Ethnomusicology, and Instrumental Music Studies. These options will be explained to students on registration.

Physics

is a subject in which two semester- courses at one level are needed before you may continue to the next level. A prerequisite to register for Physics 2 is Mathematics 1. To major in Physics with Electronics you are required to obtain Maths & Applied Maths 2, including the modules in Advanced Calculus and Linear Algebra. Physics 1E1 (Elementary Physics for Pharmacy) and 1E2 (Electronics Literacy) can be taken as independent courses.

	Physics 1		**Physics 2**		**Physics 3**		**Physics 1E**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	PHY 101	PHY 102	PHY 201	PHY 202	PHY 301	PHY 302	PHY 1E1	PHY 1E2
Aggregated	PHY 1		PHY 2		PHY 3			
Aggregated sub-minimum	40%	45%	40%	45%	40%	45%	40%	45%
Supplementary sub-minimum	40%	45%	No supps	No supps	No supps	No supps	40%	45%
Prerequisite		PHY 101 40% or PHY 1E1 70%	PHY 1 50%	PHY 201 50%	PHY 2 50%	PHY 301 40%		

Psychology / Organizational Psychology

Psychology 1 is a semesterized course; neither are Psychology 2, Psychology 3, Organizational Psychology 2 or Organizational Psychology 3. Organizational Psychology 2 and 3 are two-semester courses, which have Psychology 1 as a prerequisite.

Statistics (Mathematical Statistics)

is a subject in which three semester- courses at one level are needed before you may continue to the next level. Mathematics and Applied Mathematics 1 and Mathematical Statistics 102 are required for a student to major in Mathematical Statistics or Applied Statistics. Grade 12 Mathematics is required before you may register for first year Statistics courses. **Note that Maths 1 and MST 102 are prerequisites for MST 201 and not STA 1S1 or STA 1C2.**

	Statistics for Science and Commerce							
Courses Aggregated Aggregated sub-minimum Supplementary sub-minimum Prerequisite	*Semester 1* STA 1S1 N/A 35%	*Semester 2* STA 1C2 N/A 45%						
	Maths Stats 1		**Maths Stats 2**		**Maths Stats 3**		**Applied Stats 3 (not in 2020)**	
Courses Aggregated Aggregated sub-minimum Supplementary sub-minimum Prerequisite		*Semester 2* MST 102 40% 45%	*Semester 1* MST 201 MST 2 40% No supps See note above	*Semester 2* MST 202 40% No supps MST 201 35%	*Semester 1* MST 301 MST 3 40% No supps MST 2 >60% and see note above	*Semester 2* MST 302 40% No supps MST 301 35%	*Semester 1* AST 301 AST 3 40% No supps MST 2 50%	*Semester 2* AST 302 40% No supps MST 301 35%

NOTE. Students must pass MST 2 with an aggregate mark of 60% or more to enter MST 3.

Zoology

is a subject in which two semester- courses at one level are needed before you may continue to the next level. Prerequisites for majoring in Zoology are Cell Biology 101, Botany 102, Zoology 102 and Chemistry 1. Cell Biology 101 and Zoology 102 (or an aggregate credit for Zoology 1) are required before you may register for Zoology 2.

	Zoology 1		**Zoology 2**		**Zoology 3**	
	Semester 1	*Semester 2*	*Semester 1*	*Semester 2*	*Semester 1*	*Semester 2*
Courses	CEL 101	ZOO 102	ZOO 201	ZOO 202	ZOO 301	ZOO 302
Aggregated	ZOO 1		ZOO 2		ZOO 3	
Aggregated sub-minimum	45%	45%	45%	45%	45%	45%
Supplementary sub-minimum	35%	45%	No supps	No supps	NO supps	No supps
Prerequisite		CEL 101 35%	CEL 101 50% ZOO 102 50% ACR ZOO 1	ZOO 201 40%	ZOO 2 50%	ZOO 301 40%