## *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. **Year long courses that comprise two semesters.** 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 one credit per semester passed (two semester-credits in total). 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 MAT 1C1 and not MAT 1C2. **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 1D) and MAT 1S. Exams are written at the end of the semester and a pass earns one semester-credit.

   Stand-alone courses that are taught in the second semester (STA 1D, 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. **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, Microbiology, Mathematical Statistics 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. 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). There are a few exceptions to this and these will be pointed out later. (See page 14 for a full list.)

## *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 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/ BScD) 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** (discussed further later; pg 14) and the degree is taken over **three years.** To complete the degree you **require 18 semester-credits** of which at least **4 must be at third year level** (your two majors) and **8 must be non-initial** (not first year level).

In the first year you will take 8 semester courses, at least 6 of which should belong to year long courses as defined on page 8. The remaining 2 semester courses may be ancillary courses such as STA 101 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-credits which will typically be three, year long second year courses such as MAM 2, HKE 2, BOT 2 and so on.

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).

Two examples of the classic BSc are shown below. The first is for someone with an interest in the biological and earth sciences.

| | Sem 1 | Sem 2 | Sem 1 | Sem 2 | Sem 1 | Sem 2 | Sem 1 | Sem 2 |
|---|---|---|---|---|---|---|---|---|
| **Year 1** | CEL 101 | ZOO 101 | CSC 1L1 | BOT 102 | CHE 101 | CHE 102 | EAR 101 | GOG 102 |
| **Year 2** | ZOO 201 | ZOO 202 | ENT 201 | ENT 202 | CHE 201 | CHE 202 | | |
| **Year 3** | ZOO 301 | ZOO 302 | ENT 301 | ENT 302 | | | | |

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 101 is taught in the second semester.
7. 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 and physical sciences.

| **Year 1** | MAT 1C1 | MAT1C2 | STA 101 | STA 102 | PHY 101 | PHY 102 | CSC 101 | CSC 102 |
|---|---|---|---|---|---|---|---|---|
| **Year 2** | MAM 201 | MAM 202 | MST 202 | MST 202 | PHY 201 | PHY 202 | | |
| **Year 3** | MAT 301 | MAT 302 | MST 301 | MST 302 | | | | |

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. MAT 1C (MAT 1C1 & MAT 1C2) is the required first year course for MST3

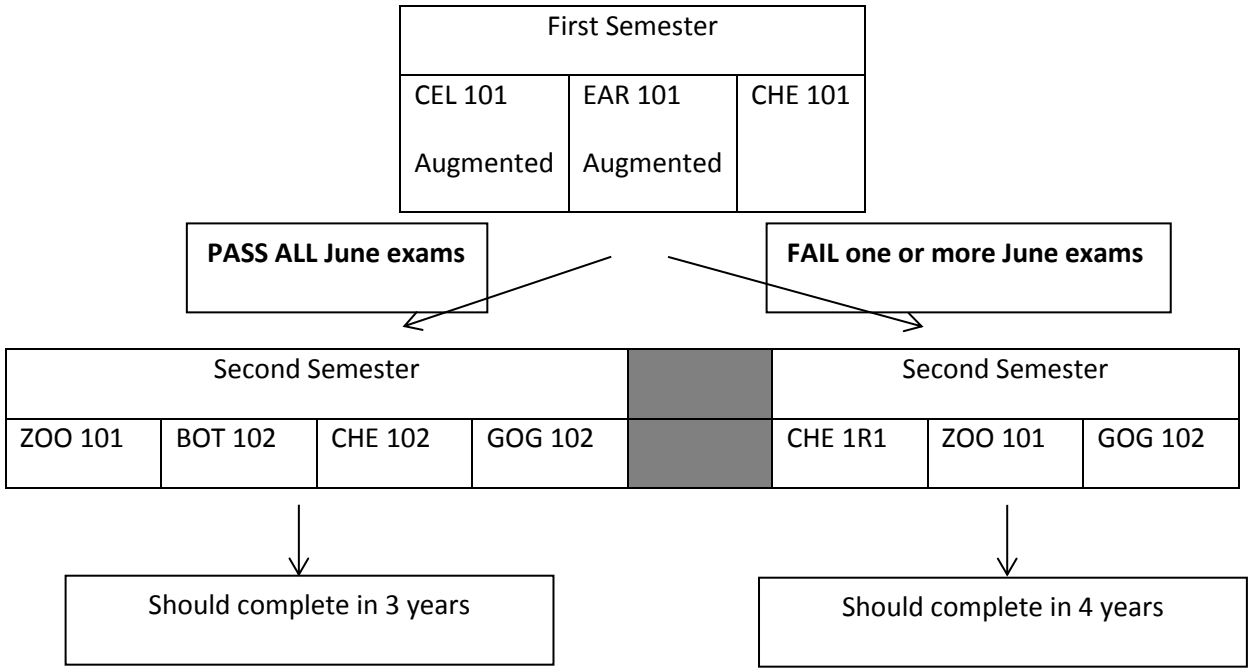
**An important point from both examples is to select first year subjects so as to give as much choice as possible going into second year.**

### (B) The Classic BSc over 4 years

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 ten semester-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 comprise at least 20 semester-credits.**

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:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year 1** | LAW 1 | LAW 1 | CHE 101 | CHE 102 | CEL 101 | ZOO 101 | PHY 1E1 | BOT 102 |
| **Year 2** | LAW 2 | LAW 2 | BCH 201 | BCH 202 | CHE 201 | CHE 202 | STA 101 | STA 102 |
| **Year 3** | LAW 3 | LAW 3 | BCH 301 | BCH 302 | | | | |

NOTE: CHE 1 is the prerequisite for BCH 2

A curriculum with Psychology coupled with Human Kinetics & Ergonomics might be structured as follows:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Year 1** | PSYCHOLOGY 1 | HKE 101 | HKE 102 | CEL 101 | ZOO 101 | CHE 101 | CHE 102 |
| **Year 2** | PSYCHOLOGY 2 | HKE 201 | HKE 202 | BCH 201 | BCH 202 | CSC 101 | BOT 102 |
| **Year 3** | PSYCHOLOGY 3 | HKE 301 | HKE 302 | | | | |

**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.**

**(E) The BSc(InfSys) and BSc(SofDev) degrees (BScS and BScD)**

These degrees are unique to Rhodes and are intended for students who wish to become computer specialists in a technical, commercial or industrial environment. The normal degree structure consists of 20 semester-credits spread over three years. In the case of the BSc(SofDev) this is followed by a fourth year, as shown below. The curricula are more restricted than for an ordinary BSc, and include combinations of subjects which cannot be taken in an ordinary BSc. The following semester-credits 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+102 or ACC 112)
6. Statistics (STA 1D or STA 101, or MST 201+202)
7. Mathematics (MAT 1C1 or MAT 1C1 & MAT 1C2)
8. Electronics Literacy (PHY 1E2).

The curriculum for the first 3 years for both degrees is as follows:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year 1 | CSC 101 | CSC 102 | ACC 101 | ACC 102/ 112 | MAN 101 | MAN 102 | ECO 101 | ECO 102 | MAT 1C1 | CSC 112 |
| Year 2 | CSC 201 | CSC 202 | INF 201 | INF 202 | STA 101 | PHY 1E2 | | | | |
| Year 3 | CSC 301 | CSC 302 | Second Major | | | | | | | |

For the flagship BSc(SofDev) degree, students are required to obtain at least 8 of these 10 semester-credits in their first year, and may be required to transfer to another degree if they do not do so. In addition, students in either degree 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.

**Third and fourth years BSc(SofDev)**

Both computer science and information systems are required majors and in third year BScD students will take Computer Science 3 and Information Systems 3. The fourth year is the equivalent of joint Honours in computer science and information systems and students will take Computer Science & Information Systems 4.

**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) and BSc(D).**

## (D) 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 1L, and Introduction to Science Concepts and Methods (ISCM). Students who pass them all satisfactorily will earn 4 semester-credits towards the 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.

One example of a BScF curriculum (**20 semester-credit degree**)

| | | | | | | |
|---|---|---|---|---|---|---|
| **Year 1** | MAT 1L | MAT 1L | CSC 1S | CSC 1S | ISCM 1 | ISCM 1 |
| **Year 2** | EAR 101 | GOG 102 | CEL 101 | BOT 102 | CHE 101 | CHE 102 |
| **Year 3** | GOG 201 | GOG 202 | ENV 201 | ENV 202 | BOT 201 | BOT 202 |
| **Year 4** | GOG 301 | GOG 302 | ENV 301 | ENV 302 | | |

MAT 1L and CSC 1S both count for a single semester credit each. ISCM counts for 2 semester-credits.

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

**This is governed by a number of rules which vary from one degree to another and on your choice of major subjects.**

The subjects that can be taken in a BSc degree fall into one of two groups: Group A (the science subjects) and Group B (the "other" subjects).

***Group A Subjects***

| **Subject (* = non major) (2 = two-year major)** | | |
|---|---|---|
| 2 Applied Mathematics | MAP | 301, 302 |
| 2 Applied Statistics (*not offered in 2014*) | AST | 301, 302 |
| 2 Biochemistry | BCH | 201, 202, 301, 302 |
| Botany | BOT | 102, 201, 202, 301, 302 |
| * Cell Biology | CEL | 101 |
| Chemistry | CHE | 101, 102, 201, 202, 301, 302 |
| Computer Science | CSC | IS, 1L1*, 112*, 101, 102, 201, 202, 301, 302, 303 |
| * Earth Science | EAR | 101 |
| Economics | ECO | 101, 102, 201, 202, 311 – 318 |
| * Electronics Literacy | PHY | 1E2 |
| 2 Entomology | ENT | 201, 202, 301, 302 |
| 2 Environmental Science | ENV | 201, 202, 301, 302 |
| Geography | GOG | 102, 201, 202, 301, 302 |
| Geology | GLG | 102, 201, 202, 301, 302 |
| Human Kinetics & Ergonomics | HKE | 101, 102, 201, 202, 301, 302 |
| 2 Ichthyology | ICH | 201, 202, 301, 302 |
| * Introductory Molecular Biology | IMB | 201, 202 (= BCH 210 & MIC 202) |
| Mathematics | MAT | 1L*, 1S*, 1C1, 1C2, 301, 302 |
| Mathematics & applied Mathematics | MAM | 201, 202 |
| 2 Mathematical Statistics | MST | 201, 202, 301, 302 |
| 2 Microbiology | MIC | 201, 202, 301, 302 |
| Physics | PHY | 101, 102, 1E1*, 1E2*, 201,202, 301, 302 |
| * Statistics | STA | 101, 102, 1D |
| Zoology | ZOO | 101, 201, 202, 301, 302 |

***Group B*** is made up of all other subjects taught at Rhodes, most of which fall more naturally into degrees offered in other faculties. These include:

Accounting, Afrikaans, Anthropology, Art (in various options), Chinese Studies, Classical Civilization, Commercial Law, Drama, English, English Language and Linguistics, French, German, Greek, History, History and Appreciation of Music, Industrial Sociology, Information Systems, isiXhosa, Journalism & Media Studies, Latin, Legal Theory, Management, Music (in various options), Organizational Psychology, Philosophy, Politics, Psychology, Sociology.

## *(A) The classic BSc degree* *(3 year degree, 18 semester-credits, both majors from Group A)*

Your subjects will fit into the classic 3 year BSc grid a copy of which is below and additional blanks are on page 31.

Blank curriculum template for classic BSc

| | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 | Semester 1 | Semester 2 |
|---|---|---|---|---|---|---|---|---|
| **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) or the timetables on pages 55-57.

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 19) and enter it on the grid. For example, to take Entomology 2, you must pass first-year biology (CEL 101, ZOO 101 and BOT 102) and Chemistry 1 (CHE 101 and CHE 102).
4. 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.
5. The choice of major subjects with their ancillary subjects will determine at least eight, usually twelve, and frequently more of the semester-credits, 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.**

6. **It is possible to include up to 4 semester credits (not your major subjects) in the classic BSc from those offered by a *single department* in Group B.** The restriction to a single department from Group B is significant - it means, for example, that you cannot obtain credit 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 (see pg. 11). 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.

| | Sem 1 | Sem 2 | Sem 1 | Sem 2 | Sem 1 | Sem 2 |
|---|---|---|---|---|---|---|
| **Year 1** | | | | | | |
| **Year 2** | | | | | | |
| **Year 3** | | | | | | |
| **Year 4** | | | | | | |

## *(C) The BSc degree with a non-science major (3 year degree, one major from Group A and one major from Group B)*

In this case, **your entire degree must be made up of at least 20 semester-credits**.

Apart from the semester-credits needed to obtain the one major subject from Group B itself, **you may not count credit for any other courses chosen from this group, with two exceptions**:

1. If the major subject from Group B also 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 credit for Accounting 1; Economics 1 and MAT 1C or TOF and STA 1D).

2. If you major in Music, Ethnomusicology or Instrumental Music Studies you are allowed to obtain 8 semester-credits in subjects 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 31).

**Blank curriculum template for 20 credit BSc**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year 1** | | | | | | | | |
| **Year 2** | | | | | | | | |
| **Year 3** | | | | | | | | |

The 20 semester-credits are typically achieved by taking 8 in first year and 8 in second year and concentrating on the majors only in third year. It is however possible to attempt an extra semester or two in first year and this opportunity will be offered to students who have done particularly well at school.

**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) and BSc(SofDev) degrees*

The structure of these degrees has been fully described in the previous section (pg 13) and there is very little flexibility in terms of subject choice. (Grids on page 32)

## 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 |
| 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 |

***Courses offered in both semesters***

In 2014 there will be no courses offered in both semesters. Statistics 101 (in the first semester) is very similar to Statistics 1D (in the second semester) but STA 1D is really intended only for Commerce students.

***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 1C | Maths 1S* |
| Maths 1L | Maths 1S |

*A student who already has a credit for MAT 1C may not get credit for MAT 1S. A student with MAT 1S may then enrol for MAT 1C and get credit.

**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 | Prerequisites (normally taken in first year but required before degree will be awarded) (School maths requirement if relevant) |
|---|---|---|---|---|
| Applied Mathematics | MAT 1C1 + MAT 1C2 | MAM 2 | MAP 3 | None (Must have Maths at >60% on NSC or equivalent) |
| Applied Statistics<br>*Not available in 2014* | MAT 1C1 + MAT 1C2 | MST 2 | AST 301<br>AST 302 | 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 101 |
| Chemistry | CHE 101 + CHE 102 | CHE 2 | CHE 3 | 2 first year level semester courses from MAT 1C1, 1C2, 1S, STA 101, 102, STA 1D, CSC 101, 102, PHY 101, 102, 1E1 |
| Computer Science | CSC 101 + CSC 102 | CSC 2 | CSC 3 | MAT 1C1 or MAT 1C (Must have Maths at >60% on NSC or equivalent) |
| Economics | ECO 101 + ECO 102 | ECO 2 | ECO 3 | none |
| Entomology | CEL 101 + ZOO 101 | 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 credit from CHE 102, MAT 1C1 or PHY 101 |
| Human Kinetics & Ergonomics | HKE 101 + HKE 102 | HKE 2 | HKE 3 | none |
| Ichthyology | CEL 101 + ZOO 101, | ICH 2 | ICH 3 | CHE 1, BOT 102 plus 2 semesters from MAT 1C1, 1C2, 1S, STA 101, 102, 1D, CSC 101, 102 |
| Information Systems | CSC 112 | INF 2 | INF 3 | none |
| Mathematics | MAT 1C1 + MAT 1C2 | MAM 2 | MAT 3 | None (Must have Maths at >60% on NSC or equivalent) |
| Mathematical Statistics | MAT 1C1 + MAT 1C2 | MST 2 | MST 3 | None (Must have Maths at >60% on NSC or equivalent) |
| Microbiology | CEL 101 + BOT 102 OR ZOO101 | MIC 2 | MIC 3 | CHE 1**+** |
| Physics | PHY 101 + PHY 102 | PHY 2 | PHY 3 | MAT 1C**+** & MAM 2**+** (taken in 2nd year) (Must have Maths at >60% on NSC or equivalent) |
| Zoology | CEL 101 + ZOO 101, | 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, MAT 1C or TOF & STA 1D |
| Music (in various forms) | MUS 1<br>ETH 1<br>IMS 1 | MUS 2<br>ETH 2<br>IMS 2 | MUS 3<br>ETH 3<br>IMS 3 | none |
| Psychology | PSY 1 (2 semester course) | PSY 2 | PSY 3 | none |
| Organizational Psychology | PSY 1 (2 semester course) | ORG PSY 2 | ORG PSY 3 | none |

## *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 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 subject from Group B, 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 Group B course is a sensible ancillary to your majors.

1. Now, select the CORRECT blank template (see pages 31-34 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 page 19) 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.

4. Now choose other subjects that will complement those already chosen, so as to make up the required semester-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 (pages 54 – 58; or in the Calendar, 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 18 or 20 semester-credits required for a degree, 8 must be "non-initial" (that is, second or third year semester-credits), and at least 6 must be first year semester-credits. The others may be first, second or third year level semester-credits. *However, you are strongly advised to include 6 second year semester-credits wherever possible.*
vi. If you have included subjects from Group B, are they all from the same department and are there no more than 4 semesters?
vii. If one of your majors is from Group B, will you have 20 semester-credits after three years?
viii. If one of your majors is from Group B, are all of your other semester-credits from Group A?
ix. If your degree is BSc(Inf Sys) or BSc (Soft Dev) have you included all the required semester-credits?

# Changes in 2014 and Further Points to Note

## Changes for 2014

**General: Rewrites and remarks are no longer allowed at Rhodes.** See the new version of the rule G27 in the Calendar.

**Maths Stats. In 2014 Maths Stats 2 will be taught once a day only and will clash with Chemistry 2.** (MST 3 has always clashed with CHE 3)

## Points to Note (changes from 2013 and earlier)

### Computer Science

1. Introduction to ICT (CSC 1L) is only offered in the first semester as CSC 1L1
2. CSC 101 is NO LONGER the prerequisite for INF 2
3. Introduction to Information Systems (CSC 112) IS the prerequisite for INF 2 and is taught in the second semester

### Information Systems

CSC 101 is NO LONGER the prerequisite for INF 2. Students wishing to major in INF 2 MUST take CSC 112.

### Maths

1. MAT 1P has been replaced by MAT 1S which is taught in the first semester. MAT 1S is a maths course for science students who do not plan to continue with maths.
2. At third year level, the maths modules now have individual course codes. Students MUST register for the courses they intend to take.

| Subject | Module name | Semester | Code | Protea code |
|---|---|---|---|---|
| Maths | Algebra M3.1 | 2 | 5401311 | MAT311 |
| | Complex analysis M3.2 | 1 | 5401312 | MAT312 |
| | Real analysis M3.3 | 1 | 5401313 | MAT313 |
| | Differential geometry M3.4 | 2 | 5401314 | MAT314 |
| Applied Maths | Numerical analysis AM3.1 | 1 | 5411311 | MAP311 |
| | Dynamical systems AM3.2 | 2 | 5411312 | MAP312 |
| | Advanced differential equations AM3.3 | 2 | 5411315 | MAP313 |
| | Partial differential equations AM3.4 | 1 | 5411313 | MAP314 |

**Physics**

Physics 1E1. The content has changed to meet the needs of students planning to major in HKE. PHY 1E1 is an appropriate ancillary course for any student in the Science Faculty who passed physical science at school.

**BScS & BScD**

Because CSC 112 has been introduced as a prerequisite for INF 2, the first year must include BOTH CSC 101 and CSC 112.

**Psychology 1 and Geography 1**

**In a BSc, students may not combine psychology 1 with geography 1**. The PSY 1 lectures are given once in the morning and once in the afternoon. The morning slot clashes with the GOG 1 slot and this forces the PSY 1 lectures into the afternoons which then clash with science practicals.

**CSC 303**

is only available for students who have passed CSC 2 and who are in third year. Note that it **does not replace** either CSC 301 or CSC 302. If you are interested in this course, speak to the Head of Department.

**Maths Stats**

60% or higher in MST 2 is required for entry to MST 3.

**Journalism 1 and 3**

are now taught in the afternoons and will clash with science practicals. A joint science major with Journalism is NOT impossible but you will have to leave your practicals on Monday, Wednesday and Thursday for one period.

A special curriculum is recommended to those students who may be thinking of careers in Bioinformatics (see the specimen curricula in the next section).

## 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.