

**University of Stellenbosch**  
**Postgraduate Programmes in Actuarial**  
**Science 2021**

**Actuarial Science Honours Programme**  
**B.Com.Hons. (Actuarial Science)**

*Admission*

For admission to the one-year Honours programme applicants should have:

- A BCom (Actuarial Science) or equivalent degree with Actuarial Science and Mathematical Statistics as majors;
- Passes in university modules equivalent to at least seven of the eight foundation and intermediate technical subjects of the Actuarial Society of South Africa (or core technical subjects CT1–CT8 of the Institute and Faculty of Actuaries); and
- Exemptions from (or passes in the profession’s examinations for) at least five of the foundation and intermediate technical examinations of the Actuarial Society of South Africa (or core technical examinations CT1–CT8 of the Institute and Faculty of Actuaries), including at least one of the subjects A201 (CT1) or A203 (CT5).

Note:

1. For applicants who did not complete their Bachelor’s degree in the minimum time of three years, an additional exemption is required for each additional year taken.
2. Where students have not passed the equivalent of Subject A203 at university, or have completed a Bachelor’s degree in which all eight of the foundation and intermediate technical subjects have been taken, a minimum of six exemptions is required.

Students who narrowly fail to meet the above requirements (e.g. have one fewer exemption than required) may be considered for admission to an 18-month or two-year Honours programme.

*Curriculum*

Students will be required to pass modules totalling at least 120 credits made up as follows:

*Compulsory Actuarial Science modules (108 credits):*

<u>Module</u>	<u>Code</u>	<u>Semester</u>	<u>Credits</u>
Financial Economics (A205)	737	1	18
Actuarial Risk Management (A311)	774	1 & 2	60
Actuarial Science Research Assignment	791	1 & 2	30

*Elective modules (totalling at least 12 credits):*

Modules totalling at least 12 credits (as approved by the Head of Actuarial Science from time to time) must be selected from topics offered in the Mathematical Statistics or Financial Risk Management Honours programmes.

Such modules could include:

<u>Mathematical Statistics Modules</u>	<u>Code</u>	<u>Semester</u>	<u>Credits</u>
Bayesian Statistics	711	1	12
Data Mining	741	1	12
Introduction to S-Plus/R	723	Pre 1 <sup>st</sup>	0
Multivariate Statistical Analysis A *	715	1	12
Multivariate Statistical Analysis B *	745	2	12
Stochastic Simulation	718	1	12
Survival Analysis *	746	2	12
Time Series Analysis B	747	2	12
<u>Financial Risk Management Modules</u>			
Financial Mathematical Statistics A (Extreme Values & Stochastic Calculus)	732	1	12
Practical Financial Modelling	736	1	6

*Students may, in addition to (i.e. not instead of) the above, also choose to take the following module:*

<u>Actuarial Science Module</u>	<u>Code</u>	<u>Semester</u>	<u>Credits</u>
Communications (N211)	773	2	6

Note:

- Modules denoted by \* require students to have completed the Introduction to S-Plus/R (723) module.
- Students wishing to take Financial Mathematical Statistics should ideally (although not essentially) have completed the Financial Mathematics 378 (Mathematics Dept.) module.
- It may be that certain of the optional modules listed above may not be available or may be offered during a different semester.
- Students may be able to include Actuarial Science undergraduate (Technical) courses for exemption purposes. Such courses however will carry no credit towards the Honours degree.

### *Extended Honours Programme*

For students wishing to extend their honours programme (either because they were not accepted onto the one-year programme, or in order to give them time to catch up missing exemptions or maximize their chances of getting exemptions in the Honours degree) at least one of the compulsory modules would be left until a second year of study.

During the first year the main goal would be to complete as many of the Foundation and Intermediate Technical subjects as possible.

### *Grading and Regulations*

The final honours grade will be a weighted average of the marks obtained for each module (with weights based on the module credits as given above).

Students are expected to pass (i.e. with a mark of not less than 50%) modules totalling at least 120 credits (as outlined above).

N.B. There are no rewrite/supplementary examinations for students failing modules.

Where more than the minimum amount of elective credits have been passed, the best 12 credits will be counted.

Credit may be awarded for at most one module (to a maximum of 60 credits) in respect of equivalent subjects which students have passed through the Actuarial Society of South Africa (or Institute and Faculty of Actuaries).

The calculation of the final mark for each module may differ by module, but for the Actuarial Science modules it will typically be the average of the class mark (based on all relevant tests and assignments) and examination mark. For the Actuarial Science modules students will be required to have a class mark of at least 45% (based on class tests and possibly other hand-in work as specified) in order to be given entry to the final examination for that module.