BComHons (Mathematical Statistics): Focus on Data Science

Interdepartmental and interfaculty collaboration

The Department of Statistics and Actuarial Science and the Division for Computer Science in the Faculty of Science jointly present this programme.

Admission requirements

- A bachelor's degree with an average mark of at least 65% in Mathematical Statistics 3, and a satisfactory mark in Computer Science up to at least second-year level.

This programme is presented jointly by the Department of Statistics and Actuarial Science and the Division for Computer Science of the Department of Mathematical Sciences in the Faculty of Science. Consequently, you must be admitted to postgraduate study by both the Department of Statistics and Actuarial Science and the Division for Computer Science.

Selection

The number of students selected will be influenced by, among other things, staff capacity, availability the departments' resources as well as academic merit and University transformation objectives (within the Division of Computer Science and the Department of Statistics and Actuarial Science). As staff capacity and resources may fluctuate from year to year, the number of students selected can also differ from year to year.

If the Computer Science and Mathematical Statistics background of the applicant is deemed insufficient after a case-by-case determination by the Division of Computer Science and the Department of Statistics and Actuarial Science, the departments may require an additional departmental assessment on third year level Computer Science and Mathematical Statistics topics. Students may also be required to complete additional undergraduate Stellenbosch University Computer Science and Mathematical Statistics modules along with their honours studies.

Programme structure

You must choose coursework modules from both of the Department of Statistics and Actuarial Science and the Division for Computer Science and complete a research assignment from the Department of Statistics and Actuarial Science.

Programme content

Programme module

You must earn a total of at least 120 credits for this programme.

Code	Module	Credits	Module Name	Semester
22853	778	120	Mathematical Statistics	Both

Below follow only the modules presented by the Department of Statistics and Actuarial Science. For details on modules presented by the Division for Computer Science, please consult the Calendar part for Science. Note that some of the modules presented by Computer Science are compulsory.

Please also note:

The research assignment is compulsory. You must complete it under supervision and submit it examination.

Compulsory modules (60 credits)

Code	Module	Credits	Module Name	Semester
58777	741	12	Data mining	1
13074	723	6	Introduction to R Programming	1
11228	791	30	Research Assignment: Mathematical Statistics	Both
13360	771	12	Statistical Learning Theory	2

Please note the following prerequisite:

Data Mining 741(12) is a prerequisite for Statistical Learning Theory 771(12).

Elective modules

You must take the modules from Computer Science into account when you choose your elective modules.

Please note:

Some of the modules listed below may not be offered in a specific year and some modules may also be offered in different semesters from the ones listed below, depending on circumstances in the Department. Please contact the Department to find out which modules will be available.

Code	Module	Credits	Module Name	Semester
10394	711	12	Bayesian Statistics	1
13361	771	12	Mathematical Statistics for Data Science	1
10602	715	12	Multivariate Statistical Analysis A	1
10603	745	12	Multivariate Statistical Analysis B	2
65250	718	12	Stochastic Simulation	1
10751	747	12	Time Series Analysis	2

Please note the following prerequisite:

Multivariate Statistical Analysis A 715(12) is a prerequisite for Multivariate Statistical Analysis B 745(12).