

This programme is designed for students with a strong mathematical inclination who would like to specialise in a mathematical discipline. The various mathematical subjects can be combined with Computer Information Systems, Physics, Chemistry or various Biological disciplines.

Possible learning programmes in Mathematical Sciences are:

- LP1: Mathematics and Applied Mathematics (4331)
- LP2: Financial Mathematics (4332)
- LP3: Mathematical Statistics (4333)
- LP4: Statistics and Biology (4334)
- LP5: Risk analysis (4335)
- LP6: Actuarial Science (4336)
- LP7: Investment Science (4394)

### **Composition of a learning programme**

- A learning programme consists of compulsory as well as optional modules. A module is indicated by the code ABCxyz that means the following:
  - ABC Characters indicating the name of the module.
  - x A digit indicating the year level.
  - y An odd digit for the first semester and even digit for second semester.
  - z A digit that should be multiplied by 4 to determine the credits.
- At first year level the modules with a credit value of at least 120 have to be passed.
- On second year level, modules with a credit value of at least 96, but preferably 128 have to be passed. On third year level the minimum credit value must be 120.
- For a B.Sc. degree modules with a total weight of at least 392 credits must be passed (384 degree credits plus BRS111 and BRS121).
- A '+' between modules indicate that all the modules must be taken. A comma between modules indicates the modules may be taken independently.
- The word 'or' between modules indicates that only one of the modules may be taken.
- Prerequisites of individual modules must always be adhered to.
- Additional modules may be taken only if the timetable allows it.

### Learning programme 5: Risk analysis (4335)

This stream is specifically designed for students who want to follow the post-graduate M.Sc. programme in Risk Analysis. Risks are analysed scientifically and the results are utilised to control crises and losses in future and to minimise the impact thereof. Areas where risk-analysis is applied include insurance, economy, property and natural resources. The programme also offers the student the opportunity to continue with normal post-graduate study in Mathematical Statistics, depending on the subjects taken in the third year.

A performance level 6 in Mathematics in grade 12 is required for admission to this learning programme, or Mathematics in grade 12 with Higher Grade D.

Year		Semester 1	Semester 2
1	<b>Compulsory</b> - Computer Information Systems - Mathematics - Mathematical Statistics - Economics - Computer literacy	RIS114 WTW114 WKS114 EKN114 BRS111	RIS124 WTW124 WKS124 EKN124 BRS121
2	<b>Compulsory</b> - Actuarial Science - Mathematical Statistics - Computer Information Systems - Mathematics and Applied Mathematics	ATW216 WKS216 RIS214+RIS274 WTW214+WTW254	ATW226 WKS226 RIS164+RIS224 WTW264
3	<b>Compulsory</b> - Mathematical Statistics <b>Enough modules to earn at least another 64 credits from:</b> - Actuarial Science - Financial Economics - Mathematics and Applied Mathematics	WKS314+WKS334 ATW314+ATW304 FEC314 WTW314, WTW334, WTW374	WKS324+WKS344 ATW304 FEC324 WTW324, WTW344, WTW364