



Bachelor of Science (Honours) in Mathematics and Statistics and Operations Research

Course overview:

The Course shall consist of two parts, namely, Part One comprising the first three years and Part Two comprising the fourth year.

(1) Part One shall consist of study-units to which 180 credits are assigned and indicated in the programme of study and divided as follows:

First Year: in addition to the compulsory and elective study-units outlined in the programme of studies of the chosen areas (not less than 26 credits in each of the two areas), you are required to register for optional study-units to bring their total for the year to 60 credits,

Second Year: 30 credits in each of the two areas of study,

Third Year: 30 credits in each of the two areas of study.

At the end of Part One, if you obtain 180 credits as specified in paragraph (1) but either opt not to proceed with the Course leading to the Honours Degree, or having proceeded, do not successfully complete the Course, then you shall be eligible for the award of the degree of Bachelor of Science (B.Sc.).

(2) Part Two shall consist of study-units to which 60 credits are assigned divided as follows:

(a) 40 credits in one area of study, of which 18 credits are assigned to a dissertation, and

(b) 20 credits in the other area of study,

provided that in the case of Mathematics, the dissertation may be substituted by one or more additional taught study-units.

Mathematics

Mathematics underlies the pursuit of every scientific endeavour as it equips the learner with the necessary body of knowledge, skills, strategies and competences. The Department of Mathematics within the Faculty of Science acknowledges this perspective and responds to it by contributing to joint Honours degrees with other disciplines such as Physics, Chemistry, Biology, Geosciences, Statistics and Operations Research, Banking and Finance, Computer Science and Philosophy.

Most of the Mathematics study-units in the first two years of the degree are compulsory. In the third year, students are asked to choose a stream from four available options. The four options are in line with the main research areas of the academic staff within the Department of Mathematics, namely

Graph Theory and Combinatorics, Functional Analysis and Topology, Applied Mathematics, and Biomathematics. Since subareas of mathematics are becoming more interwoven, core study-units have been identified by the Department and are included in each stream, alongside the more specific study-units pertaining to each stream. The chosen stream will be carried on to the fourth year of the degree, during which a student can also choose a topic to undertake an undergraduate dissertation.

The number of students taking Mathematics as a principal subject for their B.Sc. (Hons) has now stabilised at about 70 per year.

Statistics and Operations Research

The four-year programme of studies for Statistics and Operations Research as part of the B.Sc. (Hons) degree has been designed for students to embark on a four-year plan which helps them learn a number of topics considered to be fundamental in the academic disciplines of Statistics and Operations Research, and to follow fruitfully a set of accompanying study units which are oriented towards specialized areas. Due emphasis is given to the mathematical, computational and modelling aspects of Statistics and Operations Research. You will also be guided to appreciate the research and cultural potential of Statistics and Operations Research within contemporary society. Study-units have been, and are, being designed to incorporate a blend of:

- pedagogical issues
- an acceptable degree of mathematical and logical rigour
- continuous exposure to the practical dimension of the subjects
- responsiveness to current advances in the relevant subjects
- proficiency with reference to the computational aspect of the subjects.