

## University of Pretoria Yearbook 2022

# BScHons (Mathematics and Mathematics Education) (Differential Equations and Modelling) (02240185)

**Department** Mathematics and Applied Mathematics

**Minimum duration of study** 1 year

**Total credits** 137

**NQF level** 08

## Programme information

The programme consists of seven honours modules (five modules of 15 credits each from the Department of Mathematics and Applied Mathematics and two modules of 16 credits each from the Department of Science, Mathematics and Technology Education) as well as the compulsory research project (30 credits). Elective modules should be selected according to the prerequisites of these modules.

## Admission requirements

1. BSc (Mathematics) **or** BSc (Applied Mathematics) **or** relevant bachelor's degree
2. A weighted average of at least 60% for all mathematics and applied mathematics modules at final-year level
3. Passed at least four of the following subjects/modules (or equivalent) at final-year level:

- Partial differential equations
- Dynamical systems (ordinary differential equations)
- Real analysis
- Complex analysis
- Numerical analysis
- Continuum mechanics

## Promotion to next study year

The progress of all honours candidates is monitored biannually by the postgraduate coordinator/head of department. A candidate's study may be terminated if the progress is unsatisfactory or if the candidate is unable to finish his/her studies during the prescribed period.



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## Curriculum: Final year

### Minimum credits: 137

Select any one elective offered in the BScHons (Mathematics) or BScHons (Applied Mathematics) programmes, provided that the prerequisites are met with.

### Fundamental modules

[Project 795](#) (WTW 795) - Credits: 30.00

### Core modules

[Mathematics and mathematical literacy education 730](#) (MCE 730) - Credits: 16.00

[Educational research methodology 745](#) (NMQ 745) - Credits: 16.00

[Numerical analysis 733](#) (WTW 733) - Credits: 15.00

[Main principles of analysis in application 735](#) (WTW 735) - Credits: 15.00

[Mathematical optimisation 750](#) (WTW 750) - Credits: 15.00

[Partial differential equations of mathematical physics 776](#) (WTW 776) - Credits: 15.00

### Elective modules

[Special topics 727](#) (WTW 727) - Credits: 15.00

[Measure theory and probability 734](#) (WTW 734) - Credits: 15.00

[Finite element method 763](#) (WTW 763) - Credits: 15.00

[Stochastic calculus 764](#) (WTW 764) - Credits: 15.00

[Mathematical methods and models 772](#) (WTW 772) - Credits: 15.00

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The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.