

University of Pretoria Yearbook 2016

Bioelectromagnetism and modelling 732 (EBI 732)

Qualification Postgraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module credits 32.00

Programmes [BEngHons Bioengineering](#)

Prerequisites Undergraduate Electromagnetism EMZ 320 or equivalent

Contact time 32 contact hours per semester

Language of tuition English

Academic organisation Electrical, Electronic and Com

Period of presentation Semester 1

Module content

The course provides an introduction to modelling of bioelectromagnetic systems using numerical methods. It focuses on the study of the interaction of electromagnetic fields with biological systems and application of this knowledge in the modelling of biological volume conduction problems. The finite element technique is used to analyse volume conduction problems. Students are introduced to an industry standard finite element software package, ANSYS, that is used to complete the practical component of the course.

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