

University of Pretoria Yearbook 2021

Bioelectromagnetism and modelling 732 (EBI 732)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	32.00
NQF Level	08
Programmes	BEngHons Bioengineering BEngHons Electronic Engineering
Prerequisites	Undergraduate Electromagnetism EMZ 320 or equivalent
Contact time	32 contact hours per semester
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
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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