

University of Pretoria Yearbook 2016

Evolutionary physiology 354 (ZEN 354)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	18.00
Programmes	BSc Biochemistry
	BSc Chemistry
	BSc Entomology
	BSc Environmental Sciences
	BSc Genetics
	BSc Geography
	BSc Geoinformatics
	BSc Human Physiology
	BSc Microbiology
	BSc Physics
	BSc Plant Science
	BSc Zoology
Service modules	Faculty of Education
Prerequisites	No prerequisites.
Contact time	2 practicals per week, 4 lectures per week
Language of tuition	English
Academic organisation	Zoology and Entomology
Period of presentation	Quarter 2

Module content

This module focuses on the integration of physiological systems in the context of animal form and function, and the ways in which evolution shapes the physiological processes that determine the energy, water and nutrient fluxes between animals and their environments. Topics covered include: (i) circulation, gas exchange and excretion; (ii) nutritional ecology; (iii) osmoregulation and thermoregulation; and (iv) reproductive physiology. The major focus of this module is to understand the major sources of physiological diversity, namely scaling, phylogenetic inertia, adaptation and phenotypic plasticity, and applying this knowledge to conceptually link physiological processes at the cellular level to macrophysiological patterns at a global scale.

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