



# University of Pretoria Yearbook 2021

## Evolutionary physiology 354 (ZEN 354)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Natural and Agricultural Sciences</a>
<b>Module credits</b>	18.00
<b>NQF Level</b>	07
<b>Programmes</b>	<a href="#">BSc Biochemistry</a> <a href="#">BSc Entomology</a> <a href="#">BSc Genetics</a> <a href="#">BSc Human Physiology</a> <a href="#">BSc Zoology</a>
<b>Service modules</b>	Faculty of Education
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	2 practicals per week, 4 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Zoology and Entomology
<b>Period of presentation</b>	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. Many examples used in this module are directly relevant to the sustainable development goals of Good Health and Well-being, Sustainable Cities and Communities, Climate Action and Life on Land.

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.