

Biodiversity and Ecology 254: Vertebrate Life (Continuous Evaluation Module)

Module Specifications in 2022

- Second semester module offered four times per week (3 lectures and 1 practical per week).
- 16 module credits.
- Language: English – Option 3 (paragraph 7.1.7 of the language policy document of Stellenbosch University).

Module Coordinator: Dr RV Rambau (VR); Email: rvr2@sun.ac.za; Tel 021 808 2862; Office: Room 4005, Natural Sciences Building.

Lecturers

Dr RV Rambau (VR); Email: rvr2@sun.ac.za; Tel 021 808 2862; Office: Room 4005, Natural Sciences Building.

Dr AF Flemming (AF); Email: aff@sun.ac.za; Room 1040, Natural Sciences Building.

Module Assistant: Ms Shula Johnson-Abrahams, shulaj@sun.ac.za, 021 808 3231; Room 2018, Natural Sciences Building.

Aim of Module: The module primarily focuses on the diversity of vertebrates. At the end of the module students will be expected to have knowledge of the origins and evolutionary history of vertebrates. To this end the following concepts will be covered:

- Adaptation of vertebrates to aquatic environments (cartilaginous and bony fish)
- An understanding of the interaction between environment and animals through comparison of the cost of life in terrestrial vertebrates (low cost in amphibians and high cost in birds and mammals).
- Evolution of vertebrate form and function (relationship between morphology and ecology)
- Diversification of the major vertebrate lineages: fishes, amphibians, reptiles, birds, and mammals.

Recommended Textbook: Pough F & Janis C 2019. Vertebrate Life. 10th Edition.

Lecture programme: This module consists of 39 lectures that are held on Mondays (09h00-09h50), Wednesdays (12h00-12h50) and Thursdays (08h00-08h50).

Practicals: There are 12 practicals and seminars sessions that will be held on Friday 14:00-17:00

Venues: Lectures: Room 1030 Natural Sciences Building; Practical: Room 2025 Natural Sciences Building; Seminars: Room 3005, Natural Sciences Building.

Deadlines and class attendance:

Assignments must be handed in to Ms Shula Johnson-Abrahams by 12:00 on the day of the deadline. Assignments handed in late will have marks deducted at a rate of 5% per day. In instances where a deadline or practical is missed, an original doctor's certificate is required within one week (7 days). If a practical is missed for medical reasons, the student still needs to complete the practical in their own time, and a test (oral) on that practical will be scheduled by responsible lecturers in consultation with Ms Shula Johnson-Abrahams.

Important Information:

Attendance of ALL practicals and seminars is COMPULSORY (to be monitored through an attendance register.). This is a flexible assessment module and therefore All tests need to be written. Failure to write a test without a valid doctor's certificate means a fail for that particular test.

Assessments:

Formative assessments will be done in the form of Practical, Seminars and Review questions for the various topics/concepts that will be covered. Three **Summative Assessments** will be implemented.

Vertebrate Life

2nd Semester

53953-254

Students ~60 students	Lectures (N=39) NatSci 1030 (Revamped Annex)			Practicals (N=8) Natural Sciences Building Room 2025 Natwet building Room 3005	
Week (Mon-Fri)	Monday 09:00 - 09:50	Wednesday 12:00 - 12:50	Thursday 08:00 - 08:50	FRIDAY 14:00 - 17:00	PRACTICALS & SEMINARS
18 July - 22 July 1	VR1 - Fish module intro	VR2- Fish Fish classification and evolution	VR3- Fish Fish - Buoyancy	VR Practical 1 FISH body plan	22-Jul
25- 29 July 2	VR4- Fish fish - sensory systems	VR5- Fish Fish - communication	VR6- Fish Fish - communication	VR Practical 2 FISH body plan	29-Jul
01 - 05 Aug 3	VR - Fish Fish - reproduction	VR8- Fish Fish - Respiration	VR 9- Fish Fish - migration and diadromy	VR Seminar Dr Andreotti	05-Aug
08 - 12 Aug 4	VR 10 - Fish Fish - Habitat adaptation	VR 11- Fish Climate Change	VR 12- Fish Climate Change	VR- Practical 3 Video on Mammals	12-Aug
15 - 19 Sept 5	VR 13 Mammals Early Synapsida	VR-14 Mammals Emergence of Synapsida	VR-15 Mammals Extant Mammals & Diversity	VR Practical 4 Mammalian Sketelon - Cranial	19-Aug
22 - 26 Aug 6	VR16 Mammals Mammalian Diversity	VR17 Mammals Mammalian Diversity	VR18 Mammals Mammalian Diversity	VR-seminar Review Paper	26-Aug
29 Aug - 02 Sept 7	VR19 Mammals Mammalian specializations	VR 20 Mammals Mammalian specializations	VR 21 Mammals Mammalian specializations	VR Practical 5 Mammalian Skeleton Post Cranial	Test 30 Aug 02-Sep
VACATION: 05-09 SEPTEMBER 2022					
12 - 18 Sept 8	VR-22 Mammals Primate Evolution- Latest Dev	VR-23 Mammals Primate Evolution- Latest Dev	VR-24 Mammals Primate Evolution- Latest Dev	AF-Seminar Seminar	RECESS 16-Sep
19 - 23 Sept 9	AF - 1 'paleozoic landscape'	AF-2 'paleozoic landscape'	AF-3 water to land transition'	AF-Practical 6 Avian bauplan	23-Sep
26 - 30 Sept 10	AF-4 'amphibian biology'	AF-5 'amphibian biology'	AF-6 'amniote origins and early reptiles'	AF-Practical 7 Amphibian bauplan	30-Sep
03 - 07 Oct 11	AF-7 amniote origins and early reptiles'	AF-8 'amniote origins and early reptiles'	AF-9 'squamate reptiles'	AF-Practical 8 Amphibian bauplan	07-Oct
10 - 14 Oct 12	AF-10 'squamate reptiles'	AF-11 'squamate reptiles'	AF-12 'crocodiles and birds'	AF-Seminar Revisions	14-Oct
17 - 21 Oct 13	AF-13 'crocodiles and birds'	AF-14 'crocodiles and birds'	AF-15 'crocodiles and birds'	No Practical	21 Oct -No Prac

NB DATES
Test1a: 12 August 2022, Tuesday (Not Official Date) Scope Fish Biology
Test 1b: 30 August October - SCOPE Synapsida (OFFICIAL DATE is 30 August but has been moved to 02 September)
Test 2 (Exam period): 31 October (Examination Period) Monday 09h00 (Official Date) - SCOPE FLEMMING SECTION

Assessment

Prac mark Tests: 8 x 10 = 80

Test / Theory mark: 3 x 40 = 120

Final mark (200) = Test (120) + Practical Mark (80%) = 200

Course Coordinator

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Course Assistant

Ms. S. Johnson-Abrahams

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Lecturers:

Dr A. Flemming (AF)

Dr. R.V. Rambau (VR)

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