

Functional Vertebrate Anatomy (ZOO 3713C), Spring 2018

Lectures: Monday, Wednesday, Friday, 11.45am – 12.35pm (period 5)

Laboratories:

- Monday 1.55 - 6.00 pm (periods 7-10)
- Tuesday 1.55 - 6.00 pm (periods 7-10)
- Tuesday 8.30 – 11.45am (periods 2 – 5)
- Tuesday 6.15 – 10.10pm (periods 11-E3)
- Wednesday 1.55 - 6.00 pm (periods 7-10)

Course Description and Objectives:

A thorough understanding of Vertebrate anatomy is essential for appreciation of many fields of biology, including whole organism biology, molecular and cellular biology, paleontology, evolutionary development, biomechanics, sports therapy, medicine and veterinary medicine. This course presents a functional perspective of comparative vertebrate anatomy, taking advantage of both the diversity and conservation of morphological structure in the animal kingdom to increase appreciation for how form can dictate function of select organ systems and of the organism as a whole. Form is studied not only at the anatomical level but also at the cellular and molecular level as well as at the developmental level as these are the basic building blocks on which anatomy is moulded. The organisms studied are the Chordates which range from Tunicates to Mammals.

Three-weekly lectures and the once-weekly laboratories are intended to be mostly co-ordinated such that the laboratory work solidifies and expands upon what is discussed in the lectures and reinforces anatomical terminology, structure and form. The systems covered include all the major components of the vertebrate body and the understanding of these systems is achieved by lectures, dissection, examinations of prepared tissues, histological studies and practical work.

Course requirements: Consistent and punctual attendance to all parts of the course is expected and required and a component of the marks is specifically laid aside for this. There will be a total of three non-cumulative examinations on the lecture material spaced out during the course with the third examination during finals week and these examinations will be multiple choice. There are also several quizzes during the laboratory periods which all contribute towards the final grade as well as two lab exams. There is also a short essay required on a topic of contemporary interest in biology.

Instructor:

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Teaching Assistants:

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Required Texts (lectures):

Functional Anatomy of the Vertebrates: An Evolutionary Perspective
by K.F. Liem, W.E. Bemis, W.F. Walker and L. Grande, 3rd Edition, Brooks Cole, 2001.

Required Texts (labs):

Kardong, K.V. and Zalisko, E.J. *Comparative Vertebrate Anatomy – A laboratory dissection guide* 7th Edition. 2014.

Lectures, Handouts and Supplemental Readings:

Lectures will be posted on the course Canvas site at least the day before class and it is expected that you will either print the appropriate handouts and bring them to class with you or follow them on Canvas and they will be available there for revision. Papers for the essay will be posted the previous week.

Handouts and readings for the lab will be posted on the course site. Laboratory handouts will be posted by Thursday of the preceding week. Several pre-lab quizzes will be conducted on the Canvas site.

Examinations and Grading:

Final grades will be determined as a combination of exams, quizzes, attendance at both lecture and lab, and participation in the course. It is very difficult to learn when one is not engaged and actively interacting with one's peers and with the instructors.

Exams 1, 2 and 3 approx 200 each	580
Short essay	100
Lab	280
Attendance (all parts of the course)	40
Total	1000