



COURSE OUTLINE

ANM103

Animal Form, Function and Evolution

Course Coordinator: Dominique Potvin (dpotvin@usc.edu.au) **School:** School of Science, Technology and Engineering

2021 | Semester 2

USC Sunshine Coast
USC Moreton Bay

ON CAMPUS

Most of your course is on campus but you may be able to do some components of this course online.

Please go to the USC website for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

In this course you will learn the principles of evolution as relates to animal ecology. This course will introduce you to major concepts underlying the study of animal biology, including molecular and population genetics, selection, adaptation, physiology, and how these concepts among others contribute to our understanding of the diversity of animal life. You will learn about the history of experimental evolution, and design and perform your own experimental simulations in a laboratory context.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ON CAMPUS			
Tutorial/Workshop 1	1hr	Week 1	13 times
Laboratory 1	2hrs	Week 1	11 times
Lecture	2hrs	Week 1	13 times

1.3. Course Topics

1. Learn the fundamentals of genetics (on molecular, organismal and population levels) as they relate to animal evolution;
2. Gain an understanding of evolutionary theory and its role in explaining animal diversity;
3. Compare various physiological and behavioural adaptations that have enabled different taxa to survive in a range of environments;
4. Perform experiments demonstrating processes of evolution and learn how to analyse them.

2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...
1 Demonstrate and apply knowledge in the discipline of comparative animal physiolog	Knowledgeable Creative and critical thinker
2 Critically analyse and solve problems in physiology by collecting, accurately recording, interpreting, drawing conclusions from and presenting data, according to scientific conventions.	Creative and critical thinker
3 Research, organise, scientifically communicate and present information about comparative physiology in a creative and informative way.	Creative and critical thinker Empowered

5. Am I eligible to enrol in this course?

Refer to the [USC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Enrolled in Program SC012, ED112, UC103, SC201, SB303, SC301, SC320, SB301 or SA301

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

High School level science

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

Each week there are lab worksheets to hand in. By week 5 you will have handed in 5 of these, which will have been marked, so you know if you're on the right track.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Practical / Laboratory Skills	Individual	20%	11 x 200 words	Throughout teaching period (refer to Format)	In Class
All	2	Artefact - Creative, and Written Piece	Group	30%	5 min narration 350 - 500 words	Week 10	Online Assignment Submission
All	3	Report	Individual	20%	1200 words	Week 13	Online Assignment Submission with plagiarism check
All	4	Examination - Centrally Scheduled	Individual	30%	2 hr (1000 words)	Exam Period	Exam Venue

All - Assessment Task 1: - Laboratory-activity worksheets

GOAL:	Demonstrate and apply knowledge of evolution and genetics activities performed in the scheduled laboratory classes.		
PRODUCT:	Practical / Laboratory Skills		
FORMAT:	You will individually complete twelve laboratory-activity worksheets during scheduled laboratory classes. Worksheets may include written responses to questions, scientific drawings, calculations, graphing and interpretation of experimental results.		
CRITERIA:	No.		Learning Outcome assessed
	1	Solve problems in zoology	1 2
	2	Communicate your understanding of theoretical concepts or your interpretation of experimental results in an accurate manner.	1 3

All - Assessment Task 2: Animal adaptation presentation

GOAL:	Compare and contrast the adaptations of two or more animals to a shared environmental challenge		
PRODUCT:	Artefact - Creative, and Written Piece		
FORMAT:	In groups of 2-3 students, you will produce a digital presentation comparing a behavioural or physiological adaptation for survival or reproduction between two animal groups that share a specific environmental challenge, e.g., salt-excretion methods in marine fish and sea turtles, or wings in butterflies and bats.. Suggested topics will be provided on Blackboard and you will inform the Course Coordinator of your choice. You will produce a 5-minute movie (you can use software such as iMovie or Windows Movie maker) that is informative, interesting and scientifically based. A written copy of your referenced narration (approximately 350-500 words, Harvard style referencing) must be submitted to SafeAssign on Blackboard by the due date. The movie file will also be uploaded to Blackboard. Further instructions and resource material will be supplied on Blackboard.		
CRITERIA:	No.		Learning Outcome assessed
	1	Research a scientific topic and understand the relevant content	2 3
	2	Demonstrate and communicate your scientific understanding in a professional manner.	3

All - Assessment Task 3: Laboratory Report

GOAL:	Synthesise and communicate one of the laboratory experiments the the format of a formal scientific report.		
PRODUCT:	Report		
FORMAT:	You will choose one (1) of the appropriate laboratory experiments done throughout the semester and write a scientific report (Title, Introduction, Methods, Results, Discussion, References) on that experiment and its results. You may use your own results of those of the combined class (provided to you).		
CRITERIA:	No.		Learning Outcome assessed
	1	You will be assessed on the accuracy and completeness of your background research on the topic, your interpretation of the results, synthesising those results with the wider literature and your communication/presentation of the whole experiment.	1 2 3

All - Assessment Task 4: End-of-semester Examination

GOAL:	Complete a final examination testing knowledge and application of theory.		
PRODUCT:	Examination - Centrally Scheduled		
FORMAT:	The final exam is a comprehensive, two (2) hour final examination, consisting of multiple choice questions. The examination is closed book. Formative fortnightly multiple choice style quizzes will be available on Blackboard to help you to gauge your progress with your learning in the course and familiarise yourself with the level of expectation of content knowledge.		
CRITERIA:	No.		Learning Outcome assessed
	1	Demonstrate and communicate knowledge of evolutionary theory as relates to animal ecology.	1

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

Please note that you need to have regular access to the resource(s) listed below. Resources may be required or recommended.

REQUIRED?	AUTHOR	YEAR	TITLE	PUBLISHER
Required	Zimmer, Carl.	2010	The tangled bank: an introduction to evolution	Greenwood Village, Colo: Roberts and Co.

8.2. Specific requirements

You must wear a lab coat, enclosed shoes, and safety glasses during laboratory classes. You must either purchase and bring to lab classes a copy of the Introduction to Animal Physiology laboratory manual, or alternatively print out the manual from Blackboard. The lab manual is available for purchase from Mail and Print Services (MaPS). Some labs will utilize both student's own mobile devices, and/or on-site computers.

9. How are risks managed in this course?

Risk assessments have been performed for all laboratory classes and a moderate level of health and safety risk exists. Moderate risks are those associated with laboratory work such as working with chemicals and hazardous substances. You will be required to undertake laboratory induction training and it is also your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the [online induction training for students](#), and following the instructions of the University staff

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:

The final mark is in the percentage range 47% to 49.4%

The course is graded using the Standard Grading scale

You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submission of assessment tasks may be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.

- 10% (of the assessment task's identified value) for the third day - 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.

- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task. Weekdays and weekends are included in the calculation of days late. To request an extension you must contact your course coordinator to negotiate an outcome.

10.4. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au.

10.5. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email studentwellbeing@usc.edu.au or call 07 5430 1226.

10.6. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email AccessAbility@usc.edu.au or call 07 5430 2890.

10.7. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website: <http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.8. General Enquiries

In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **USC SouthBank** - Student Central, Building A4 (SW1), 52 Merivale Street, South Brisbane
- **USC Gympie** - Student Central, 71 Cartwright Road, Gympie
- **USC Fraser Coast** - Student Central, Student Central, Building A, 161 Old Maryborough Rd, Hervey Bay
- **USC Caboolture** - Student Central, Level 1 Building J, Cnr Manley and Tallon Street, Caboolture

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au