



## 1. General Course Information

### 1.1 Course Details

<b>Course Code:</b>	1041SCG
<b>Course Name:</b>	Biological Systems
<b>Trimester:</b>	Trimester 1, 2020
<b>Program:</b>	Diploma of Science
<b>Credit Points:</b>	10
<b>Course Coordinator:</b>	Dr. Mahsa Khorramdelazad
<b>Document modified:</b>	30 January 2020

### Course Description

Biological Systems is an introductory course that provides an appreciation of the main concepts of modern biology. Students will gain an understanding of the origin, function and structure of living organisms by examining life at increasing levels of biological complexity, from the molecular and cellular level to whole organisms and ecosystems. Course content will be delivered through a combination of lectures, workshops, laboratory sessions and online material.

### Assumed Knowledge

This course introduces the biology of organisms. It is a basic biology course that can be used as a foundation for those not wishing to study biology further but is essential background for students wishing to undertake further study in the biological, ecological, biomedical and biomolecular sciences. It includes an understanding of the classification of biological organisms, the underlying differences in cell structure and function of prokaryotes and eukaryotes. The course also covers plant and animal biology through the understanding of central metabolic pathways, plant and animal diversity with emphasis on how the structure of organisms influences how they function in different environments.

### 1.2 Teaching Team

Your lecturer/tutor can be contacted via the email system on the portal.

Name	Email
Dr. Mahsa Azad	mahsa.azad@staff.griffithcollege.edu.au

### 1.3 Staff Consultation

Your lecturer/tutor is available each week for consultation outside of normal class times. Times that your lecturer/tutor will be available for consultation will be given in the first week of lectures. A list of times and rooms will be published on the Griffith College Portal under the "Support and Services/Teacher Consultation Times" link.

### 1.4 Timetable

Your timetable is available on the Griffith College Portal at Class Timetable in Student and Services.

### 1.5 Technical Specifications

All students must have access to a computer or suitable mobile device.

## 2. Aims, Outcomes & Generic Skills

### 2.1 Course Aims

This course introduces cell biology and biological systems, including cell structure and introductory animal and plant biology. The aim is to provide the essential understanding of cells and biological systems necessary for further study in the biological, ecological, biomedical and biomolecular sciences.

### 2.2 Learning Outcomes

After successfully completing this course you should be able to:

1. Explain biological organisms at both the cellular and whole organism level.
2. Use developed set of skills to examine the form and function of biological systems.
3. Analyse data generated from experiments to write a scientific report.
4. Apply specific biological knowledge gained towards some global challenges such as safe food production.

### 2.3 Generic skills

For further details on the Generic Skills please refer to the Graduate Generic Skills and Capabilities policy.

Griffith College aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

Generic Skills	Taught	Practised	Assessed
Knowledge and skills with critical judgement	✓	✓	✓
Communication and collaboration skills	✓	✓	✓

Self-directed and active learning skills	✓	✓	✓
Creative and future thinking skills	✓	✓	✓
Social responsibility and ethical awareness	✓	✓	
Cultural competence and awareness in a culturally diverse environment	✓	✓	

### 3. Learning Resources

#### 3.1 Required Resources

Hillis, D.M., Sadava, D. Hill, R.W. and Price, M.V. (2014) Principles of Life. Second Edition Sinauer Associates MA U.S.A.

#### 3.2 Recommended Resources

Reece, J. B., & Campbell, N. A. (2011). Campbell biology. Boston: Benjamin Cummings / Pearson.

#### 3.3 College Support Services and Learning Resources

The College provides many facilities and support services to assist students in their studies. Links to information about College support resources that are available to students are included below for easy reference.

[Digital Library](#) – Databases to which Griffith College students have access to through the Griffith Library Databases.

MyStudy – there is a dedicated website for this course via MyStudy on the Griffith College Portal.

[Academic Integrity Tutorial](#) - this tutorial helps students to understand what academic integrity is and why it matters. You will be able to identify types of breaches of academic integrity, understand what skills you will need in order to maintain academic integrity, and learn about the processes of referencing styles.

Services and Support provides a range of services to support students throughout their studies including personal support such as Counselling; Academic support; and Welfare support.

Jobs and Employment in the [Student Hub](#) can assist students with career direction, resume and interview preparation, job search tips, and more.

[IT Support](#) provides details of accessing support, information on s numbers and internet access and computer lab rules.

#### 3.4 Other Learning Information

##### **Attendance**

You are expected to attend all lectures and tutorials and to actively engage in learning during these sessions. You are expected to bring all necessary learning resources to class such as the required textbook and /or Workbook. In addition, you may BYOD (bring your own device) to class such as a laptop or tablet. This is not a requirement as computer lab facilities are available on campus, however, the use of such devices in the classroom is encouraged with appropriate and considerate use principles being a priority.

##### **Preparation and Participation in Class**

In order to enhance learning, prepare before lectures and tutorials. Read the relevant section of your text book before a lecture, and for a tutorial read both the textbook and the relevant lecture notes. If you have been given tutorial exercises, make sure you complete them. Active participation in lectures and tutorials will improve your learning. Ask questions when something is unclear or when you want to bring some issue to your lecturer or tutor's attention; respond to questions to test your knowledge and engage in discussion to help yourself and others learn.

### **Consultation Sessions**

Teachers offer extra time each week to assist students outside the classroom. This is known as 'consultation time.' You may seek assistance from your teacher on email or in person according to how the teacher has explained this to the class. Attendance during consultation time is optional but you are encouraged to use this extra help to improve your learning outcomes.

### **Course Materials**

Lecture notes will be made available to you in MyStudy on the Griffith College Portal and you are advised to either print these out and bring them to each class so that extra notes can be added or BYOD (bring your own device) and add extra notes digitally.

### **Self-Directed Learning**

You will be expected to learn independently. This means you must organise and learn the course content even when you are not specifically asked to do so by your lecturer or tutor. This involves revising the weekly course material. It also means you will need to find additional information for some assessment items beyond that given to you in textbooks and lecture notes, and to construct your own response to a question or topic. All of this requires careful planning of your time. Expect to spend, on average, at least 10 hours per week including class time for each of your courses.

### **Program Progression**

You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at equal to or greater than 80%, and that GPA is maintained at equal to or greater than 3.5 [please see Griffith College Policy Library - Program Progression Policy - for more information].

### **Teacher and course Evaluation**

Your feedback is respected and valued by your lecturers and tutors. You are encouraged to provide your thoughts on the course and teaching, both positive and critical, directly to your lecturer and tutor or by completing course and lecturer evaluations via Griffith College's evaluation tool whenever these are available.

## 4. Learning and Teaching Activities

### 4.1 Weekly Learning Activities

Week	Topic	Activity	Readings	Learning Outcomes
1	Introduction, Principles of life, The chemistry of life	Lecture/ Tutorial	Ch.1, & 2,	1, 2 & 3
	Scientific method	Workshop		
	Microscope	<b>Lab 1</b>		
2	Nucleic Acids, Proteins and Enzymes & Cells.	Lecture/ Tutorial	Ch. 3 & 4	1, 2 & 3
	Processing data	Workshop		
	Cell	<b>Lab2</b>		
3	Cell Membranes and Signalling, Cell division	Lecture/ Tutorial	Ch. 5& 7	1, 2 & 3
	Scientific writing	Workshop		
4	Metabolism and Cell respiration, Photosynthesis	Lecture/ Tutorial	Ch. 6	1, 2 & 3
	Review on the content of week 1, 2 and 3	Workshop		
	<b>Osmosis – Lab report is based on Osmosis</b>	<b>Lab 3</b>		
5	Evolution – Reconstructing & using Phylogenies	Lecture/ Tutorial	Ch. 15 & 16	1, 2 & 3
	Review of the in-class quiz 1	Workshop		
6	Animal Origins, Diversity & Fundamentals of Function	Lecture/ Tutorial	Ch. 23 & 29	1, 2 & 3
	Review of the cell respiration, Photosynthesis and evolution	Workshop		
	Animals	<b>Lab 4</b>		
7	Nutrition, Feeding, Digestion, Gas Exchange & Circulation	Lecture/Tut orial	Ch. 30, 31 & 32	1 & 4
	Lab reports review and discussion	Workshop		
8	Nervous System, Osmoregulation and Excretion	Lecture/Tut orial	Ch. 34 & 36	1, 2 & 3
	Review of Animals biology	Workshop		
	Diversity of life	<b>Lab 5</b>		
9	Evolution of Plants & Plant Diversity	Lecture/Tut orial	Ch. 21	1 & 2
	Review of the in-class quiz 2	Workshop		
10	The Plant Body, Plant Nutrition & Transport	Lecture/Tut orial	Ch. 24, & 25	1, 2 & 3
	Review of Plants biology	Workshop		
	Plants	<b>Lab 6</b>		
11	Plant growth, development and defences	Lecture/Tut orial	Ch. 26 & 28	1 & 2
	Review of the in-class quiz 3	Workshop		
12	Revision	Tutorial		1, 2, 3 & 4

## 5. Assessment Plan

### 5.1 Assessment Summary

Item	Assessment Task	Weighting	Learning Outcomes	Due Date
1	Laboratory Activity Sheets	10%	1, 2, 3, 4	
2	Laboratory Report	10%	1,2, 3, 4	Week 8
3	3 Module Quizzes	40 %	1, 3, 4	4, 8, 10
4	Final Exam	40%	1, 4	TBA

## 5.2 Assessment Detail

### Laboratory Activity Sheets

Type: In Class Assessment

Task Description:

Laboratory Activity Sheets to be completed during lab 1 (Microscope), lab 2 (Cell), lab 3 (Osmosis), lab 4 (Animals), lab 5 (Diversity of life), and lab 6 (Plant) laboratory sessions.

Note: a combined assessment will be done in the second lab session for the labs 1 & 2.

Criteria & Marking:

Students need to provide answers to various questions and to show relevant drawings. Each of the 5 laboratory activities is worth 2% of the final mark.

Submission: Handed in at the end of the lab.

### Lab Report (Osmosis)

Type: Assignment - Written Assignment

Task Description:

A lab report for the Osmosis lab. The report will include:

Cover page, Abstract, Introduction, Materials and Methods, Results, Discussion, Conclusions, References.

Some of the sections will be provided. Precise instructions on the marking scheme will be given in the lab.

Criteria & Marking:

Students need to complete all required aspects of the report.

Marks will be awarded for correct labelling of graphs and figures, correct referencing, proper grammar and spelling, and logical argumentation.

More details will be given during the tutorials and labs.

Submission: Online submission via TurnItIn

### 3 In-Class Quizzes

Type: selected and constructed responses

Weight: 12, 13, 15 total 40%

Perusal: 5 minutes

Duration: 40 minutes

Format: Closed Book

Task Description:

Selected response and written short answer response.

Criteria & Marking:

Marks will be awarded for correct responses.

### Final Exam

Type: Exam - selected and constructed responses

Perusal: 10 minutes

Duration: 150 minutes

Format: Closed Book

Task Description:

Understanding of course concepts and content, including ability to apply course concepts and content to problems.

Criteria & Marking:

Marks will be awarded for correct responses.

## 5.3 Late Submission

An assessment item submitted after the due date, without an approved extension from the Course Coordinator, will be penalised. The standard penalty is the reduction of the mark allocated to the assessment item by 5% of the maximum mark applicable for the assessment item, for each working day or part working day that the item is late. Assessment items submitted more than five working days after the due date are awarded zero marks.

Please refer to the Griffith College website - Policy Library > Assessment Policy for guidelines and penalties for late submission.

## 5.4 Other Assessment Information

### Retention of Originals

You must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

### Requests for extension

To apply for an extension of time for an assignment, you must submit an [Application for Extension of Assignment](#) form to your teacher at least 24 hours before the date the assignment is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. [Griffith College Student Medical Certificate](#)]. Please refer to the Griffith College website - Policy Library - for guidelines regarding extensions and deferred assessment.

### Return of Assessment Items

1. Marks awarded for in-trimester assessment items, except those being moderated externally with Griffith University, will be available on the Student Portal within fourteen [14] days of the due date. This does not apply to the final assessment item in this course (marks for this item will be provided with the final course result).
2. Students will be advised of their final grade through the Student Portal. Students can review their exam papers after student grades have been published (see relevant Griffith College Fact Sheet for allocated times at Support> Factsheets). Review of exam papers will not be permitted after the final date to enrol.
3. Marks for **all** assessment items including the final exam (if applicable) will be recorded in the Moodle Course Site and made available to students through the Moodle Course Site.

*The sum of your marks overall assessment items in this course does not necessarily imply your final grade for the course. Standard grade cut off scores can be varied for particular courses, so you need to wait for the official release of grades to be sure of your grade for this course.*

## 6. Policies & Guidelines

Griffith College assessment-related policies can be found in the [Griffith College Policy Library](#) which include the following policies:

Assessment Policy, Special Consideration, Deferred Assessment, Alternate Exam Sitting, Medical Certificates, Academic Integrity, Finalisation of Results, Review of Marks, Moderation of Assessment, Turn-it-in Software Use. These policies can be accessed using the 'Document Search' feature within the [Policy Library](#)

**Academic Integrity** Griffith College is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual's and the College's reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which penalties, including exclusion from the College, will be applied.

However, Griffith College also recognises many students breach academic integrity standards without intent to

deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at Griffith College, your lecturers, tutors and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

In the case of an allegation of a breach of academic integrity being made against a student he or she may request the guidance and support of a Griffith College Student Learning Advisor or Student Counsellor.

Please ensure that you are familiar with the Griffith College Academic Integrity Policy; this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Griffith College website - Policy Library > Academic Integrity Policy

### **Reasonable Adjustments for Assessment – The Disability Services policy**

The Disability Services policy (accessed using the Document Search' feature with the [Policy Library](#)) outlines the principles and processes that guide the College in making reasonable adjustments to assessment for students with disabilities while maintaining academic robustness of its programs.

### **Risk Assessment Statement**

There are no out of the ordinary risks associated with this course.

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