



1. General Course Information

1.1 Course Details

Course Code:	1014MSC
Course Name:	Cells, Tissues and Regulation
Trimester:	1, 2020
Program:	Diploma of Health Science
Credit Points:	10
Course Coordinator:	Dr Michael Hahn
Document modified:	11/12/2019

Course Description

Cells, Tissues and Regulation is a 10 Credit Point course within the first trimester of the Diploma of Health Science. The Diploma of Health Science is designed to provide students with a pathway to:

- * further university studies in the Health Sciences, or
- * direct employment.

This course describes the functions of cells and the features of the different tissues they form. In addition, how cells and tissues are regulated by cell-to-cell communication within the nervous and endocrine systems to control variables such as body temperature, blood glucose levels and blood pressure to maintain the body's internal balance (homeostasis) is investigated. The importance of microbiology and the mechanisms by which microbes can produce sicknesses, disrupting body homeostasis is also described. The material covered in this course will provide background knowledge that will assist in the understanding of topics covered in the Anatomy and Physiology courses in all trimesters.

Assumed Knowledge

There is no assumed knowledge for this course

1.2 Teaching Team

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

Name	Email
Dr Michael Hahn	Michael.hahn@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

Using a variety of teaching methods including lectures, practical laboratories and tutorials the aim of this course is to provide students with the necessary tools to develop a strong knowledge base in cells, tissues and regulation. Students will gain practical skills, and develop competence in teamwork and problem solving in the laboratory setting. With respect to the content this course aims to allow students upon completion to be able to:

- * discuss the cellular basis of life.
- * to describe how the human body is constructed, beginning with cells types and how these form tissues.
- * to provide an overview of how tissues provide the functional framework for the rest of the body and to cover, in some detail, the control systems which allow cells and tissues to communicate to maintain homeostasis within the body.

Cells Tissues and Regulation is one of eight courses delivered in the Diploma of Health Sciences which provides a foundation for entry into a wide range of other programs and fields of study, from microbiology and molecular genetics to biochemistry, pharmacy, physiotherapy, dentistry and medicine.

2.2 Learning Outcomes

After successfully completing this course you should be able to:

1. Discuss the cellular basis of life, including the structure and function of the components of the 2 main cell types, Prokaryotes and Eukaryotes.
2. Describe the fundamentals of human body construction with respect to the different tissues and fluid compartments of the human body.

3. Outline how cell-cell communication in the nervous and endocrine systems maintains homeostasis within the body.
4. Demonstrate competency in a number of basic laboratory skills to produce data that can subsequently be evaluated.
5. Design a poster presentation in a group setting based on the experimental research carried out by an Australian medical researcher.

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 and Capabilities	Taught	Practised	Assessed
Knowledge and skills with critical judgement	✓	✓	✓
Communication and collaboration	✓	✓	✓
Self-directed and active learning	✓	✓	
Creative and future thinking		✓	✓
Social responsibility and ethical awareness		✓	✓
Cultural competence and awareness in a culturally diverse environment		✓	

3. Learning Resources

3.1 Required Resources

Lecture notes, lecture slides and laboratory requirements, together with advice and/or links to study skill assistance etc. will be included on the course site on Griffith College's Student Portal.

Human Anatomy & Physiology Global Edition by Marieb and Hoehn (11e) (either hard copy or e-text)

Lab Manual for Foundation Year Health (Custom Edition) (3e) ISBN 9781488626050

3.2 Recommended Resources

Bear M. F., Connors B. W. and Paradiso M. A. (2016) *Neuroscience: exploring the brain*. Philadelphia: Wolters Kluwer.

Lee G., Bishop P. and MyiLibrary (2013) *Microbiology and infection control for health professionals*. Frenchs Forest, NSW: Pearson Australia. Available at:
<http://libraryproxy.griffith.edu.au/login?url=http://lib.myilibrary.com?id=760181>.

Silverthorn D. U., Johnson B. R., Ober W. C., Garrison C. W. and Silverthorn A. C. (2016) *Human physiology*:

an integrated approach. [San Francisco]: 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

Classes for Cells, Tissues and Regulation include the following:

- * **Lectures:** 3 hours per week.
- * **Tutorials/Workshops:** 2 hours per week (week 1 – 12 inclusive).
- * **Laboratories:** Five two (2) hour laboratory sessions throughout the trimester. The first lab session will include an induction session and a laboratory exam will be run in the last session. The laboratory course will include the following topics;

- Compulsory Laboratory Introduction /Induction and Light Microscopy
- Tissues
- Osmolarity and tonicity
- Introduction to microbiology
- Competency based laboratory exam

With the laboratory timetable made available on the Griffith College student portal.

Note: ATTENDANCE AT LABORATORIES IS COMPULSORY. These practical sessions provide learning activities that are essential to the learning outcomes in this course. Students will work in small groups to conduct experiments and develop problem solving skills. Students are expected to attend their scheduled laboratory class except in extenuating circumstances.

An attendance roll will be maintained for all laboratories. Students must read the Laboratory Safety requirements prior to attending their first laboratory, and comply with the dress and behaviour codes as described; Students **MUST WEAR LABORATORY GOWN AND CLOSED IN SHOES FOR ALL LABORATORIES.** Students will be required to bring their laboratory manuals to laboratories. Content covered in these laboratories complements lecture material and hence will be assessed in both laboratory reports and examinations.

IMPORTANT: All students must undertake the on-line health and safety training prior to being permitted entry into laboratories. As part of your studies you are required to complete the following online Health and Safety Induction modules before you commence your formal learning activities.

- 1. Student Basic Health and Safety Induction module (no need to print off completion certificate)**
- 2. Health Lab Safety Induction module (no need to print off completion certificate)**

4.1 Weekly Learning Activities

Week	Topic	Activity	Readings	Learning Outcomes
1	Introduction to course and assessment. Structure and function of cells Structure and function of cells	Lecture Tutorial/ Workshop	Marieb; Silverthorn	1
2	From cells to tissues: Reviews the four basic tissue types- epithelium, connective tissue, nervous tissue and muscle	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	1,2
3	The Integumentary System	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	2
4	Diffusion, Osmosis and Active Transport	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	2
5	Introduction to Microbiology	Lecture/Tutorial/ Workshop	Marieb; Silverthorn: Lee & Bishop	1
6	Cellular neuroscience: structure of the neuron, the resting membrane potential	Lecture/Tutorial/ Workshop	Marieb; Silverthorn; Bear	1,3
7	Cellular neuroscience: the action potential	Lecture/Tutorial/ Workshop	Marieb; Silverthorn; Bear	1,3
8	Cell-to-cell communication: fast (synapses)	Lecture/Tutorial/ Workshop	Marieb; Silverthorn; Bear	1,3
9	Cell-to-cell communication: slow (hormones) endocrine overview.	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	1,3
10	Principles of Homeostasis, Thermoregulation.	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	1,2,3
11	Homeostasis: renal function, control over blood pressure, fluid balance.	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	1,2,3
12	Homeostasis: blood calcium, blood glucose.	Lecture/Tutorial/ Workshop	Marieb; Silverthorn	1,2,3

5. Assessment Plan

5.1 Assessment Summary

Item	Assessment Task	Weighting	Learning Outcomes	Due Date
1	Mid trimester examination	25%	1,2	Week 6
2	Research project	15%	1,2,3,5	Week 10
3	Competency based laboratory examination	15%	1,2,3,4	Last Laboratory class
4	Final examination <i>- Students must pass this assessment with a mark of at least 20 out of 50 to pass the course</i>	45%	1,2,3	Final Exam period

5.2 Assessment Detail

1. Mid-trimester examination

Rationale: to examine student knowledge acquired up to the end of week 5 including; the ability to discuss the cellular basis of life, including the structure and function of the components of the 2 main cell types, Prokaryotes and Eukaryotes and to describe the fundamentals of human body construction with respect to the different tissues and fluid compartments of the human body.

Assessment strategy: the exam will contain multiple choice questions as well as a number of short answer questions.

Marking criteria: Answers to multiple choice questions and comparison with model short question answers.

2. Research project

Rationale: Students are to design a poster presentation in a group setting based on the experimental research carried out by an Australian medical researcher. This assessment is aimed at

developing research and referencing skills and the capacity to work in a cohesive group. The research project is designed to introduce students to scientific research and the role it plays in the creation of original knowledge. Students will complete the project in small groups and present their results in poster format in class in week 11. Details of the marking criteria will be available on the student portal.

Assessment strategy: students will work in groups throughout the trimester to prepare a poster for submission in week 10. This poster will then be presented to the rest of the class in week 11.

Marking criteria: peer and staff assessed.

3. Competency-based laboratory examination

Rationale: to assess student competency in a number of basic laboratory skills and ability to evaluate laboratory data.

Assessment strategy: This will consist of 6-10 exercises to be completed in the laboratory. Satisfactory completion of these tasks is required if students are to pass the course.

Material and skills that will be assessed will likely include:

operation of light microscope

use of oil immersion to identify bacteria identification of histological sections osmolarity calculation/estimation

Marking criteria: demonstration of procedures and written answers to questions

4. Final examination

Rationale: to examine student knowledge acquired throughout the second half of the course (Weeks 6-12), particularly students' ability to outline how cell-cell communication in the nervous and endocrine systems maintains homeostasis within the body.

Assessment strategy: This will be a three-hour examination that will contain an approximately equal weighting of multiple choice and written answer questions.

Marking criteria: answers to multiple choice questions and comparison with model short question answers.

Further detailed explanations of assessment expectations will be provided during class and where necessary on the course site on the student portal.

Requirements to pass this course:

In order to pass this course students must:

- 1. attend and attempt all assessment items; AND**
- 2. obtain at least 40% (20/50) in the final examination, AND**
- 3. achieve an overall course result (sum of all assessments) of 50%.**

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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