COURSE OUTLINE

SCI100 Cell Diversity

School: School of Science, Technology and Engineering

2026 | Trimester 1

UniSC Sunshine Coast
UniSC Moreton Bay
UniSC Fraser Coast

BLENDED LEARNING

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

Please go to unisc.edu.au 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'll explore life on Earth, focusing on cellular structures and functions, guided by the core principles of cell theory, evolution, and the laws of matter and energy. Discover life's diversity, from common animals and plants to rock and petrol eating bacteria. Explore how cells interact with their environment and their impact on the world. Gain a deeper appreciation for cellular inter-connectedness and its role in building a resilient planet. Additionally, you will develop laboratory skills typical of professional scientists.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Learning Materials are available online and delivered asynchronously. Learning Materials consist primarily of formative quizzes and screen-casts. Other available materials include simulations and on-line demonstrations.	2hrs	Week 1	12 times
Tutorial/Workshop 1 – Tutorials/workshops are delivered face-to-face on-campus and consist of focus questions and group work.	2hrs	Week 1	6 times
Laboratory 1 – Laboratory work is conducted face-to-face on-campus. Each practical session is thematically linked to theoretical material. Students are expected to work in teams during practical sessions.	3hrs	Week 2	6 times
Seminar – Three seminars over the trimester.	1hr	Week 1	3 times

1.3. Course Topics

- Understanding biological and cellular diversity through central themes
- Cellular utilisation of matter and energy
- Cell theory and evolution
- The transmission and implementation of life's instructions
- Cellular form and function - its common themes and astonishing diversity
- Cellular interactions, from single cells to ecosystems

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 On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Summarise and discuss the fundamental processes and themes involved in cellular function and apply these to explain cellular phenomena.	Knowledgeable Engaged
2	Compare and contrast the cellular functions of different organisms using their evolutionary connections and explain the relationship between cellular function and ecological interactions and inter-dependencies.	Knowledgeable Engaged Sustainability-focussed
3	Demonstrate proficiency in experimental techniques while working safely to collect and analyse data and effectively communicate experimental outcomes.	Knowledgeable Engaged

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

Not applicable

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

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

Not applicable

5.5. Microcredential Information

Not applicable

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

Early and continuing feedback on your progress in the course is provided using each module's self-assessment questions, as well as in the laboratory quizzes.

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	Portfolio	Individual	35%	You maintain a notebook as you work through each practical.Each of the 7 laboratory quizzes are 10 minutes long.	Throughout teaching period (refer to Format)	In Class
All	2	Written Piece	Individual	25%	500-1000 words	Week 12	Online Assignment Submission with plagiarism check
All	3	Examination - Centrally Scheduled	Individual	40%	2 hours	Exam Period	Online Submission

All - Assessment Task 1: Laboratory Portfolio

GOAL:	To learn how to conduct experiments safely, work as a member of a group, accurately follow instructions, proficiently handle equipment, effectively communicate results, and relate results to underlying theoretical concepts.
PRODUCT:	Portfolio
FORMAT:	For each of the 7 practical sessions, you are to maintain a laboratory notebook. Upon each practical's satisfactory completion, as evidenced by the notebook, a quiz will follow that is based on underlying theoretical concepts.
CRITERIA:	

No.		Learning Outcome assessed
1	Follows both written and verbal instructions, demonstrating safe and competent handling and use of equipment.	3
2	Records results systematically and legibly by using appropriate units and significant figures, and effectively processes and analyses data.	3
3	Effectively communicates results and highlights any anomalies or unexpected results with a possible reason.	3
4	Relates experimental results to theoretical concepts.	3

GENERIC SKILLS:	Communication, Collaboration, Applying technologies

All - Assessment Task 2: Literature Assignment

GOAL:	To enhance your proficiency in deciphering complex scientific terminology from pertinent papers on cell diversity. This task aims to foster your capability to extract detailed information presented in expert language and contextualise it, showcasing overarching concepts in cell diversity.
PRODUCT:	Written Piece
FORMAT:	Written interpretive piece based on a scientific paper in the area of cell diversity.
CRITERIA:	

No.		Learning Outcome assessed
1	Accurately identifies the main findings, hypotheses, and conclusions of the paper.	1
2	Presents complex concepts in a manner that is accessible to first year students using appropriate terminology but also providing explanations or definitions where needed without sacrificing accuracy.	1
3	Highlights the significance of the paper in enhancing understanding of cell diversity and ecological contexts.	1 2

GENERIC SKILLS:	Communication, Organisation, Applying technologies, Information literacy

All - Assessment Task 3: Final Examination

GOAL:	To demonstrate your understanding of cellular mechanisms, articulate core themes, apply this knowledge in varied contexts, and link cellular functions to evolutionary and ecological relationships.
PRODUCT:	Examination - Centrally Scheduled
FORMAT:	Multiple choice, short and extended answer exam.
CRITERIA:	

No.		Learning Outcome assessed
1	Demonstrate a clear grasp of the essential mechanisms and pathways in cellular function and effectively summarise key themes and processes in cellular function.	1 2
2	Apply knowledge to explain and predict cellular phenomena in various contexts.	1
3	Identify and contrast the cellular functions of various organisms and relate these functions to the evolutionary lineages and ecological connections.	2

GENERIC SKILLS:	Communication, Problem solving

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. 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 Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Mary Ann Clark, Matthew Douglas, Jung Choi	0	Biology	2e	n/a

8.2. Specific requirements

Laboratory coat, safety glasses, closed in footwear in laboratories.

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 Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. 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
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central