COURSE OUTLINE

LFS103 Introductory Bioscience

School: School of Health - Biomedicine

2025 | Semester 1

UniSC Sunshine Coast UniSC Moreton Bay UniSC Caboolture UniSC Fraser Coast UniSC Gympie	BLENDED LEARNING	Most of your course is on campus but you may be able to do some components of this course online.
Online	ONLINE	You can do this course without coming onto campus.

Please go to usc.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

Introductory Bioscience is designed to provide you, in the health field, with the scientific principles that form the basis of human form and function. Science and technology often surround the modern health practitioner. Moreover, major advances in medicine, allied health and human functioning have come about from a greater understanding of the basic sciences. This course will introduce you to foundational concepts and principles in chemistry, biology, and microbiology that are relevant to health-care practice.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Weekly online theory eModules and associated revision activities and questions.	2hrs	Week 1	12 times
Tutorial/Workshop 1 – Weekly workshop to review the theoretical concepts presented in the theory eModule.	2hrs	Week 1	12 times
Laboratory 1 – Weekly practical sessions that apply the theoretical knowledge to experimental activities and data.	2hrs	Week 1	11 times
ONLINE			
Learning materials – Weekly online theory eModules and associated revision activities and questions.	2hrs	Week 1	12 times
Tutorial/Workshop 1 – Weekly online workshop to review the theoretical concepts presented in the theory eModule.	2hrs	Week 1	12 times
Laboratory 1 – Scheduled online laboratory classes	2hrs	Week 1	11 times

1.3. Course Topics

- Foundational cell chemistry
- The building blocks of life
- Transcription and translation
- Introduction to cellular metabolism and ATP
- Comparative human cell structure and function
- The cell cycle and replication of human cells
- Human tissue structure and function
- Characteristics of fluids in the human body
- Gas laws and respiration
- Acids and bases, and chemistry of blood buffer systems
- Human genetics and patterns of inheritance
- Microbes, infectious diseases and infection control

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	Demonstrate, explain and apply the foundational principles of cell chemistry and cell biology to human function and health.	Knowledgeable
2	Develop an understanding of laboratory skills and competencies to assess experimental outcomes in cell chemistry, cell biology and microbiology.	Knowledgeable
3	Demonstrate sound scientific reasoning skills in the context of of the broader healthcare setting.	Empowered
4	Develop strategies for self-learning and critical reasoning, and engage in self-reflection.	Empowered

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

LFS100

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

It is recommended that students have some prerequisite knowledge in core mathematics, and basic biology and chemistry. An optional Maths Diagnostic will be available before the teaching semester commences on the LFS103 Canvas site if you would like to test your core maths skills and determine whether you require maths support.

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

This course includes weekly formative concept checks which provide an opportunity for you to receive formative feedback on your academic progress.

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	40%	Approximately 2 - 4 hours per week	Throughout teaching period (refer to Format)	Online Submission
All	2	Examination - not Centrally Scheduled	Individual	20%	70 minutes	Week 8	Online Test (Quiz)
All	3	Examination - Centrally Scheduled	Individual	40%	130 minute	Exam Period	Online Test (Quiz)

All - Assessment Task 1: Practical and Theory Work Portfolio

GOAL:	To provide you with an opportunity to demonstrate your knowledge of the theory and practical components of this course. The portfolio is a suite of activities that allow you to develop your foundational knowledge for future work in Bioscience.This work includes self-assessment of your learning which is a critical skill in improving your educational performance.
PRODUCT:	Portfolio
FORMAT:	Please refer to our course Canvas site for details of how and when to submit your assessment tasks.
CRITERIA:	

No.		Learning Outcome assessed
1	Accuracy in scientific calculations and data presentation	1 2
2	Create and interpret appropriate visual representations of experimental data	1 2 3
3	Completion of pre-class eModules and active participation in class activities	1 2 3 4
4	Apply theoretical concepts to professional case studies.	1 2 4

GENERIC SKILLS:	Communication, Problem solving, Information literacy

All - Assessment Task 2: Mid-semester exam

GOAL:	To provide you with an opportunity to demonstrate, explain and apply the foundational principles of cell chemistry and cell biology as they apply to human functioning and health practice.
PRODUCT:	Examination - not Centrally Scheduled
FORMAT:	70 minutes online test - please refer to our course Canvas site for more details.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Demonstrate knowledge and understanding of the theoretical and practical content. — 1 2 3 2 Use the theoretical knowledge presented in the course to evaluate experimental results and health related outcomes. — 1 2 3
GENERIC SKILLS:	Communication, Problem solving, Information literacy

All - Assessment Task 3: End-of-semester examination

GOAL:	To provide you with an opportunity to demonstrate, explain and apply the foundational principles of cell chemistry and cell biology as they apply to human functioning and health practice.
PRODUCT:	Examination - Centrally Scheduled
FORMAT:	You will sit an End-of-Semester Examination that will be based on the theory covered in the learning materials, practical work in the labs and associated readings during weeks 1-12. The two-hour examination will be delivered online through the course Canvas site.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Demonstrate knowledge and understanding of the theoretical content. — 1 2 Use the theoretical knowledge presented in the course to evaluate experimental results and health related outcomes. — 1 2 3
GENERIC SKILLS:	Communication, Problem solving, Information literacy

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.

7.1. Schedule

PERIOD AND TOPIC	ACTIVITIES
Topic 1	Cell Chemistry: Matter and the Elements
Topic 2	Cell Chemistry: Atoms and their Ions
Topic 3	Cell Chemistry, Ionic and Covalent Compounds
Topic 4	Building Blocks of Life, Chemical Reactions in the Body and Properties of Gases
Topic 5	The Human Body: Cell Structure and Function
Topic 6	The Human Body: Cell Membrane Transport and Cell Division
Topic 7	The Human Body: Tissue Structure and Function
Topic 8	Introduction to Human Genetics
Topic 9	Introduction to Microbes, Infectious Diseases and Infection Control
Topic 10	Solutions, Concentrations and Body Fluids
Topic 11	Electrolytes, Acids and Bases and pH Balance in Body Fluids

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

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	EDITION	PUBLISHER
Recommended	Timberlake	2020	Introductory Bioscience Volume 1 & 2 LFS103 (Custom Edition and eBooks)	3rd Edition	Pearson

8.2. Specific requirements

You are required to wear appropriate personal protective equipment (PPE) during the LFS103 laboratory classes including covered, non-slip shoes, laboratory coat/gown and safety glasses. You must purchase and bring to the laboratory classes a copy of the LFS103 Practical Workbook and Course Manual, both are available for purchase from UniSC MyPrint. Alternatively, these will be available for printing on the LFS103 Canvas site.

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. SafeUniSC

UniSC is committed to a culture of respect and providing a safe and supportive environment for all members of our community. For immediate assistance on campus contact SafeUniSC by phone: 07 5430 1168 or using the SafeZone app. For general enquires contact the SafeUniSC team by phone 07 5456 3864 or email safe@usc.edu.au.

The SafeUniSC Specialist Service is a Student Wellbeing service that provides free and confidential support to students who may have experienced or observed behaviour that could cause fear, offence or trauma. To contact the service call 07 5430 1226 or email studentwellbeing@usc.edu.au.

10.5. 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.

10.6. 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.

10.7. 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.

10.8. 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

10.9. 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.

10.10. General Enquiries

In person:

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

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au