SCIE40018 *Foundation Science*
Term 2 - 2018

Profile information current as at 04/05/2024 04:06 pm

General Information

Overview
This unit will enable you to gain the necessary understanding of the basic principles of the major branches of science that will serve as a foundation for entry into relevant courses such as nursing/health, and related areas. You will develop your knowledge of the fundamentals of chemistry, biology and physics and related mathematical concepts. On successful completion of this unit, you will be able to identify how a fundamental knowledge of these sciences is essential for further developing an understanding of their applications in real-world health related contexts.

Details
Career Level: *Non-award*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites
There are no requisites for this unit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2018

- Distance

Attendance Requirements
All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website
This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Non-award unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Online Quiz(zes)**
Weighting: 20%
2. **Written Assessment**
Weighting: 25%
3. **Written Assessment**
Weighting: 35%
4. **Written Assessment**
Weighting: 20%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Self-evaluation, feedback from other lecturers, student feedback

Feedback
Feedback on content in biology Topic module

Recommendation
Revise biology Topic module to increase explanatory detail and expand on essential themes.

Feedback from Unit evaluations

Feedback
Positive feedback for live lectures used for chemistry Topic module

Recommendation
Consider adding a live lecture component to the unit to improve student experience.

Feedback from Unit evaluations, self-evaluation

Feedback
Feedback on poor quality of recorded tutorials

Recommendation
Record new tutorials and make sure that sound and vision quality is adequate.

Feedback from Unit evaluations, self-evaluations

Feedback
Feedback on errors in the study guide

Recommendation
Proofread the study guide and correct typographical errors.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Use basic mathematical concepts to solve scientific calculations.
2. Apply fundamental chemistry principles and recognise their applications in health contexts.
3. Recall and explain fundamental principles of biology.
4. Describe fundamental physics principles and their application in health contexts .

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level ◦ Introductory Level • Intermediate Level • Graduate Level ◦ Professional Level ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Quiz(zes) - 20%	•	•	•	•

Assessment Tasks	Learning Outcomes			
	1	2	3	4
2 - Written Assessment - 25%		•		
3 - Written Assessment - 35%			•	
4 - Written Assessment - 20%				•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Self Management	—	—	—	
2 - Communication	—	—	—	
3 - Information Literacy	—	—	—	
4 - Information Technology Competence	—	—	—	
5 - Problem Solving	—	—	—	
6 - Critical Thinking	—	—	—	
7 - Cross-Cultural Competence				
8 - Ethical Practice				
9 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes								
	1	2	3	4	5	6	7	8	9
1 - Online Quiz(zes) - 20%	—	—	—	—	—	—			
2 - Written Assessment - 25%	—	—	—	—	—	—			
3 - Written Assessment - 35%	—	—	—	—	—	—			
4 - Written Assessment - 20%	—	—	—	—	—	—			

Textbooks and Resources

Textbooks

There are no required textbooks.

Additional Textbook Information
This unit is supported by comprehensive study notes (and a range of other resources, including lecture podcasts) that are available on the Foundation Science Moodle site.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Leonie Barnett Unit Coordinator
l.barnett@cqu.edu.au

Schedule

Week 1 - 09 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 1: Understanding numbers - tools of science	The number line; Ways to express numbers; Evaluating measurements and results; Units and conversions; Graphing; Simple algebraic equations	

Week 2 - 16 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 2: Understanding matter - atoms and molecules	Building blocks of matter; Bonding	

Week 3 - 23 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 2: Understanding matter - atoms and molecules	Chemical reactions; Measuring atoms and molecules; Solutions	**Assessment 1 Online Quiz** Due: Week 3 Monday (23 July 2018) 11:30 pm AEST

Week 4 - 30 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 2: Understanding matter - atoms and molecules	Electrolytes; Acids and bases; Organic compounds; Biomolecules	

Week 5 - 06 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic

Topic 3: Understanding living things - cells the basis of life	Levels of organisation in living systems; Homeostasis; A closer look at the human body	**Assessment 2** Due: Week 5 Monday (6 Aug 2018) 11:30 pm AEST

Vacation Week - 13 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Study Break		

Week 6 - 20 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3: Understanding living things - cells the basis of life	Cell structure and function	

Week 7 - 27 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3: Understanding living things - cells the basis of life	Cell structure and function continued.	

Week 8 - 03 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3: Understanding living things - cells the basis of life	Types of cells; The digestive system	

Week 9 - 10 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3: Understanding living things - cells the basis of life	The nervous system	

Week 10 - 17 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 3: Understanding living things - cells the basis of life	Microbes; Genetics and Heredity	

Week 11 - 24 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 4: Working with matter - energy and change	Density; Force; Mass and weight; Pressure; Work	**Assessment 3** Due: Week 11 Monday (24 Sept 2018) 11:30 pm AEST

Week 12 - 01 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
Topic 4: Working with matter - energy and change	Waves; the electromagnetic spectrum; Nuclear radiation	

Review/Exam Week - 08 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment 4 Due: Review/Exam Week Monday (8 Oct 2018) 11:30 pm AEST

Exam Week - 15 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The unit Coordinator for this term is Leonie Barnett (Lee), l.barnett@cqu.edu.au, +61 7 4930 9975, Building 32/G.27, Rockhampton North Campus.

Assessment Tasks

1 Assessment 1 Online Quiz

Assessment Type
Online Quiz(zes)

Task Description
Assessment 1 is available on the SCIE40018 Moodle site. It is a compulsory quiz that covers the material presented in Topic 1: Understanding numbers - tools of science.
The assessment comprises a series of multiple choice questions relating to numbers and number formats, including: fractions, decimals, percentages, scientific notation and significant figures. You are also required to perform calculations involving ratios and unit conversions.
The quiz is not timed and you are allowed two attempts. The highest score of the two attempts will be recorded. Note that questions are generated randomly, and you will receive different questions on the second attempt.
The resources provided on the SCIE40018 Moodle site contain all the relevant material (content, examples and practice quizzes) required to complete this assessment.

Number of Quizzes
1

Frequency of Quizzes

Assessment Due Date
Week 3 Monday (23 July 2018) 11:30 pm AEST
This quiz closes at this time. Ensure you access, complete and submit by this time.

Return Date to Students
Week 5 Monday (6 Aug 2018)
The quiz will automatically return a result on completion.

Weighting
20%

Minimum mark or grade
You must obtain at least 30% for this assessment.

Assessment Criteria
One mark will be awarded for each correct answer.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
This assessment must be completed as an online quiz via the SCIE40018 Moodle site.

Learning Outcomes Assessed

- Use basic mathematical concepts to solve scientific calculations.
- Apply fundamental chemistry principles and recognise their applications in health contexts.
- Recall and explain fundamental principles of biology.
- Describe fundamental physics principles and their application in health contexts .

Graduate Attributes

- Self Management
- Communication
- Information Literacy
- Information Technology Competence
- Problem Solving
- Critical Thinking

2 Assessment 2

Assessment Type
Written Assessment

Task Description
Assessment 2 is available on the SCIE40018 Moodle site. It is a compulsory written assessment that covers material presented in Topic 2: Understanding matter - atoms and molecules.
The assessment comprises various question types that require you to type responses directly into the task sheets. Depending on the question, you may be required to do one or more of the following:

- provide short written answers
- choose the correct response from a multiple choice format
- perform simple calculations.

The resources provided on the SCIE40018 Moodle site contain all the relevant material (content, examples and practice quizzes) required to complete the assessment. All working and development of answers must be shown.

Assessment Due Date
Week 5 Monday (6 Aug 2018) 11:30 pm AEST

Return Date to Students
Week 7 Monday (27 Aug 2018)
If the assessment is submitted after the due date, the assessment return will be two weeks after submission.

Weighting
25%

Minimum mark or grade
You must obtain at least 30% for this assessment.

Assessment Criteria
Marks are allocated for the following:

- presenting accurate information
- setting the solution out correctly
- writing and using units and formulas correctly.

The number of marks allocated for each question is detailed on the assessment task.
Answers to all questions must be typed directly on the assessment task sheets. Any handwritten or drawn responses need to be scanned and pasted into the Word file.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Assessment 2 is to be uploaded as a single Word document through the SCIE40018 Moodle site.

Learning Outcomes Assessed

- Apply fundamental chemistry principles and recognise their applications in health contexts.

Graduate Attributes

- Self Management
- Communication
- Information Literacy
- Information Technology Competence
- Problem Solving
- Critical Thinking

3 Assessment 3

Assessment Type
Written Assessment

Task Description
Assessment 3 is available on the SCIE40018 Moodle site. It is a compulsory written assessment that covers material presented in Topic 3: Understanding living things - cells the basis of life.
The assessment comprises various question types that require you to type responses directly into the task sheets. Depending on the question, you may be required to do one or more of the following:

- provide short or extended written responses, using examples and diagrams to support your answer

- choose the correct response from a multiple choice format.

The resources provided on the SCIE40018 Moodle site contain all the relevant material (content, examples and practice quizzes) required to complete the assessment.

Assessment Due Date
Week 11 Monday (24 Sept 2018) 11:30 pm AEST

Return Date to Students
Review/Exam Week Monday (8 Oct 2018)
If the assessment is submitted after the due date, the assessment return will be two weeks after submission.

Weighting
35%

Minimum mark or grade
You must obtain at least 30% for this assessment.

Assessment Criteria
Marks are allocated for the following:

- presenting accurate information
- using appropriate examples and diagrams.

The number of marks allocated for each question is detailed on the assessment task.
Answers to all questions must be typed directly on the assessment task sheets. Any handwritten or drawn responses need to be scanned and pasted into the Word file.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Assessment 3 is to be uploaded as a single Word document through the SCIE40018 Moodle site.

Learning Outcomes Assessed

- Recall and explain fundamental principles of biology.

Graduate Attributes

- Self Management
- Communication
- Information Literacy
- Information Technology Competence
- Problem Solving
- Critical Thinking

4 Assessment 4

Assessment Type
Written Assessment

Task Description
Assessment 4 is available on the SCIE40018 Moodle site. It is a compulsory written assessment that covers material presented in Topic 4: Working with matter - energy and change.
The assessment comprises various question types that require you to type responses directly in the task sheets. Depending on the question, you may be required to do one or more of the following:

- provide short written answers
- choose the correct response from a multiple choice format
- perform simple calculations.

The resources provided on the SCIE40018 Moodle site contain all the relevant material (content, examples and practice quizzes) required to complete the assessment. All working and development of answers must be shown.

Assessment Due Date
Review/Exam Week Monday (8 Oct 2018) 11:30 pm AEST

Return Date to Students

Two weeks after the due date, or two weeks after submitted if the assessment is submitted after the due date

Weighting
20%

Minimum mark or grade
You must obtain at least 30% for this assessment.

Assessment Criteria
Marks are allocated for the following:

- presenting accurate information
- setting the solution out correctly
- writing and using units and formulas correctly.

The number of marks allocated for each question is detailed on the assessment task.
Answers to all questions must be typed directly on the assessment task sheets. Any handwritten or drawn responses need to be scanned and pasted into the Word file.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Assessment 4 is to be uploaded as a single Word document through the SCIE40018 Moodle site.

Learning Outcomes Assessed

- Describe fundamental physics principles and their application in health contexts .

Graduate Attributes

- Self Management
- Communication
- Information Literacy
- Information Technology Competence
- Problem Solving
- Critical Thinking

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem