PHYS40110 *Introductory Physics*
Term 2 - 2023

Profile information current as at 24/04/2024 09:19 am

All details in this unit profile for PHYS40110 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview
This unit will prepare you for university study in engineering or the physical sciences (which may include allied health). You will gain an introductory understanding of the basic concepts in physics and learn to apply the principles of physics to solve problems of a physical nature in everyday life. Topics covered in this unit include measurement, motion, forces and mechanics, atomic and nuclear physics, properties of matter, heat and thermodynamics, electricity, magnetism and electromagnetism, waves, and optics. This unit assumes an intermediate level of mathematical knowledge.

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 - 2023

- Online

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: 30%
3. **Examination**
Weighting: 50%

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 Students

Feedback
Some students commented that they did not know what to expect in the quizzes.

Recommendation
Implement practice quizzes to provide examples of quiz solutions.

Feedback from Unit evaluations

Feedback
Live tutorials were useful for asking questions.

Recommendation
Continue live tutorials based on tutorial question sheets.

Unit Learning Outcomes

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

1. Recall fundamental physics concepts and techniques
2. Solve quantitative and qualitative problems using appropriate physics and mathematical techniques
3. Analyse information using physics techniques
4. Communicate physics in a competent, logical and professional manner
5. Improve physics comprehension through effective reflective practice.

This course has no external accreditation.

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	5
1 - Online Quiz(zes) - 20%	•	•	•		•
2 - Written Assessment - 30%	•	•	•	•	•
3 - Examination - 50%	•	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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					

Textbooks and Resources

Textbooks

PHYS40110

Prescribed

Introductory Physics
Edition: 5 (2021)
Authors: School of Access Education
CQUniversity Publishing Unit
Rockhampton , QLD , Australia
Binding: Spiral

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- PDF reader
- Computer- ability to access study materials, including instructional videos & upload assessment. Printer for printing assessment. Scanner or equivalent for uploading assessment.

Referencing Style

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

Teaching Contacts

Brijesh Kumar Unit Coordinator
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Schedule

Week 1 - 10 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Maths and Measurement	MEAS	

Week 2 - 17 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Motion - Kinematics	MOTN	

Week 3 - 24 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Forces and Motion	FORC	Quiz 1 is due on Wednesday of Week 3 (26 July 2023) at 11:45 PM AEST

Week 4 - 31 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Work, Energy and Momentum	WENM	Quiz 2 is due on Wednesday of Week 4 (2 August 2023) at 11:45 PM AEST

Week 5 - 07 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Atoms, Matter and Heat	AMAH	Assignment 1 is due on Wednesday of Week 5 (9 August 2023) at 11:45PM AEST.
Vacation Week - 14 Aug 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Week 6 - 21 Aug 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Atomic and Nuclear Physics	ATNU	
Week 7 - 28 Aug 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Properties of Matter	MATT	Quiz 3 is due on Wednesday of Week 7 (30 August 2023) at 11:45 PM AEST
Week 8 - 04 Sep 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Heat and Thermodynamics	HTTH	
Week 9 - 11 Sep 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Electricity	ELEC	Assignment 2 is due on Wednesday of Week 9 (13 September 2023) at 11:45 PM AEST.
Week 10 - 18 Sep 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Magnetism	MAGN	Quiz 4 is due on Wednesday of Week 10 (20 September 2023) at 11:45 PM AEST.
Week 11 - 25 Sep 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Two Dimensional mechanics OR Waves and Optics	2DME OR OPTC	Quiz 5 is due on Wednesday of Week 11 (27 September 2023) at 11:45 PM AEST.
Week 12 - 02 Oct 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Finish last module and review all modules		
Review/Exam Week - 09 Oct 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		Assignment 3 is due on Monday of review week (9 October) at **9:00AM AEST**
Exam Week - 16 Oct 2023		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		Examination: The date and time of the examination will be available through MyCQU approximately six weeks before the examination period.

Term Specific Information

Unit Coordinator:
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Mackay Ooralea Campus 6G.18

Assessment Tasks

1 Online quizzes

Assessment Type
Online Quiz(zes)

Task Description
This assessment item comprises five Moodle quizzes, each worth 4%. Each will require you to answer questions, solve problems and complete calculations covered by the nominated modules. They will be made available in Moodle.
Quiz 1 - MEAS module. Available from week 1 and due on Wednesday of week 3 (26 July 2023) at 11:45pm AEST.
Quiz 2 - MOTN and FORC modules. Available from week 2 and due on Wednesday of week 4 (2 August 2023) at 11:45pm AEST.
Quiz 3 - AMAH module. Available from week 5 and due on Wednesday of week 7 (30 August 2023) at 11:45pm AEST.
Quiz 4 - ELEC module. Available in Moodle from week 8 and due on Wednesday of week 10 (20 September 2023) at 11:45pm AEST.
Quiz 5 - MAGN module. Available in Moodle from week 9 and due on Wednesday of week 11 (27 September 2023) at 11:45pm AEST.
Mark allocations are indicated on the individual questions in each quiz. The quizzes are comprised of multiple-choice, matching and/or short answer questions. Follow the information provided on the quiz site about presenting formulas and/or units correctly.
The resources provided on the PHYS40110 Moodle site contain all the relevant material (content and examples) required to complete the assessment. Please ensure that you do not use the internet in seeking answers, as this assessment is not a research task, but is assessing your knowledge and understanding of topics covered in the Unit. Moreover, the information from some sites is unreliable, generalised or not as specific as is required for this assessment.

Number of Quizzes
5

Frequency of Quizzes
Other

Assessment Due Date

Quiz 1: 26 July 2023 at 11:45pm AEST. Quiz 2: 2 August 2023 at 11:45pm AEST. Quiz 3: 30 August 2023 at 11:45pm AEST. Quiz 4: 20 September 2023 at 11:45pm AEST. Quiz 5: 27 September 2023 at 11:45pm AEST.

Return Date to Students

The quiz will automatically return a result on completion.

Weighting
20%

Assessment Criteria
Marks will be awarded for the correct response to multi-choice and short answer questions.

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Recall fundamental physics concepts and techniques

- Solve quantitative and qualitative problems using appropriate physics and mathematical techniques
- Analyse information using physics techniques
- Improve physics comprehension through effective reflective practice.

2 Assignments

Assessment Type
Written Assessment

Task Description
This assessment item comprises three written assignments, weighted at 10% each. The assignments require you to answer questions, solve problems and complete calculations covered by the nominated modules.
Assignment 1 - MOTN, FORC and WENM modules. Available from Friday of week 2 and due on Wednesday of week 5 (9 August 2023) at 11:45pm AEST.
Assignment 2 - ATNU, MATT and HTTH modules. Available from Friday of week 6 and due on Wednesday of week 9 (13 September 2023) at 11:45pm AEST.
Assignment 3 - ELEC, MAGN modules, and the chosen additional module, either 2DME or OPTC. Available from Friday of week 9 and due on Monday of review week (9 October 2023) at 9:00am AEST.

Assessment Due Date

Assignment 1: 9 August 2023 at 11.45pm AEST. Assignment 2: 13 September 2023 at 11.45pm AEST. Assignment 3: 9 October 2023 at 9.00am AEST.

Return Date to Students

Two academic calendar weeks from due date or submission date, whichever is later.

Weighting
30%

Assessment Criteria
Mark allocations are indicated in the question documents. The questions are available on the unit Moodle site; follow the instructions carefully. Marks for each question will be awarded for setting out, showing the correct steps in the solution, and calculating the correct answer (including units). Answers to all questions should be neatly and clearly presented, and full working is required to obtain maximum credit for solutions.

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Recall fundamental physics concepts and techniques
- Solve quantitative and qualitative problems using appropriate physics and mathematical techniques
- Analyse information using physics techniques
- Communicate physics in a competent, logical and professional manner
- Improve physics comprehension through effective reflective practice.

Examination

Outline
Complete an invigilated examination.

Date
During the examination period at a CQUniversity examination centre.

Weighting
50%

Length
180 minutes

Minimum mark or grade
35%

Exam Conditions
Restricted.

Materials
Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).
Calculator - all non-communicable calculators, including scientific, programmable and graphics calculators are authorised

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