



PHYS40110 *Introductory Physics*

Term 2 - 2020

Profile information current as at 03/05/2024 12:44 pm

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. 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 - 2020

- 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. **Written Assessment**

Weighting: 50%

2. **Take Home Exam**

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 Unit Evaluation

Feedback

Students would like on campus classes/regular zoom sessions.

Recommendation

Continue to offer classes via video conference in Term 3. Enrolment numbers do not currently support an on-campus offering in any other term.

Feedback from Unit Evaluation

Feedback

Positive comments on unit structure.

Recommendation

Continue with the unit structure and lecturer support.

Feedback from Unit evaluation

Feedback

Students would like prompt feedback.

Recommendation

Convert part of the assignments to Moodle quizzes for instant feedback.

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
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 50%	•	•	•	•	•
2 - Take Home Exam - 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					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes								
	1	2	3	4	5	6	7	8	9
1 - Written Assessment - 50%	—	—	—	—	—	—			
2 - Take Home Exam - 50%	—	—			—	—			

Textbooks and Resources

Textbooks

PHYS40110

Prescribed

Introductory Physics

Edition: 4 (edited) (2020)

Authors: School of Access Education

CQUniversity Publishing Unit

Rockhampton , QLD , Australia

Binding: Spiral

Additional Textbook Information

The textbook for Introductory Physics is available on the unit Moodle site; however we strongly recommend that you print out your own copy. You will need a hard copy to make notes etc.

The textbook cannot be purchased from the CQUniversity Bookshop. Your Access Coordinator will provide you with advice on printing options.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Ability to upload documents/scans - may require scanner
- PDF reader

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Kenneth Smith Unit Coordinator

k.smith@cqu.edu.au

Schedule

Week 1 - 13 Jul 2020

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

Week 2 - 20 Jul 2020

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

Week 3 - 27 Jul 2020

Module/Topic	Chapter	Events and Submissions/Topic
Forces and Motion	FORC	

Week 4 - 03 Aug 2020

Module/Topic	Chapter	Events and Submissions/Topic
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Work, Energy and Momentum

WENM

Assignment 1 due on Wednesday of Week 4 (05 August 2020) at 11:45PM (2345 hrs) AEST.

Week 5 - 10 Aug 2020

Module/Topic

Chapter

Events and Submissions/Topic

Atoms, Matter and Heat

AMAH

Vacation Week - 17 Aug 2020

Module/Topic

Chapter

Events and Submissions/Topic

Week 6 - 24 Aug 2020

Module/Topic

Chapter

Events and Submissions/Topic

Atomic and Nuclear Physics

ATNU

Week 7 - 31 Aug 2020

Module/Topic

Chapter

Events and Submissions/Topic

Properties of Matter

MATT

Assignment 2 due Wednesday of Week 7 (02 September 2020) at 11:45PM (2345 hrs) AEST.

Week 8 - 07 Sep 2020

Module/Topic

Chapter

Events and Submissions/Topic

Heat and Thermodynamics

HTTH

Week 9 - 14 Sep 2020

Module/Topic

Chapter

Events and Submissions/Topic

Electricity

ELEC

Assignment 3 due on Wednesday of Week 9 (16 September 2020) at 11:45PM (2345 hrs) AEST.

Week 10 - 21 Sep 2020

Module/Topic

Chapter

Events and Submissions/Topic

Magnetism

MAGN

Week 11 - 28 Sep 2020

Module/Topic

Chapter

Events and Submissions/Topic

Two Dimensional mechanics

2DME

OR

OR

Waves and Optics

OPTC

Week 12 - 05 Oct 2020

Module/Topic

Chapter

Events and Submissions/Topic

Finish additional module and review

Assignment 4 due on Wednesday of Week 12 (07 October 2020) at 11:45PM (2345 hrs) AEST.

Review/Exam Week - 12 Oct 2020

Module/Topic

Chapter

Events and Submissions/Topic

Exam Week - 19 Oct 2020

Module/Topic

Chapter

Events and Submissions/Topic

Examination: The date and time of the take home exam will be available via the unit Moodle site approximately six weeks before the examination period.

Term Specific Information

Unit Coordinator:
Mr Ken Smith
(07) 49707308
k.smith@cqu.edu.au
Gladstone Marina Campus Building 601, Room G.06-6

Assessment Tasks

1 Written assessment

Assessment Type

Written Assessment

Task Description

This assessment item comprises three written assignments.

Assignment 1 requires you to answer questions, solve problems and complete calculations covered by the MEAS, MOTN, and FORC modules. Assignment 1 will be released via Moodle by Friday of week 2. It will be returned via Moodle.

Assignment 2 requires you to answer questions, solve problems and complete calculations covered by the WENM, AMAH, and ATNU modules. Assignment 2 will be released via Moodle by Friday of week 4. It will be returned via Moodle.

Assignment 3 requires you to answer questions, solve problems and complete calculations covered by the MATT and HTHH modules. Assignment 3 will be released via Moodle by Friday of week 6. It will be returned via Moodle.

Assignment 4 requires you to answer questions, solve problems and complete calculations covered by the ELEC, MAGN modules and the chosen additional module, either 2DME or OPTC. Assignment 4 will be released via Moodle by Friday of week 8. It will be returned via Moodle.

Assessment Due Date

Assignment 1: 05 August 2020. Assignment 2: 02 September 2020. Assignment 3: 16 September 2020. Assignment 4: 07 October 2020.

Return Date to Students

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

Weighting

50%

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 accuracy of the answer, setting out, showing correct steps in the solution as well as 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

Submission Instructions

Each of the four assignments is to be uploaded as a single pdf document through the unit Moodle site.

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.

Graduate Attributes

- Self Management

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

2 Take home exam

Assessment Type

Take Home Exam

Task Description

The Take Home Exam will be made available via Moodle. It is anticipated that the exam should take three hours to complete. You will be given a limited time-frame to access and download the exam from the unit Moodle site, complete it and upload it back into Moodle. The Take Home Exam covers material from all modules within the unit. The Take Home Exam is an unsupervised assessment item and you are required to do your own work, maintaining academic integrity with all honesty.

Assessment Due Date

The date and time of the Take Home Exam will be made available on the Unit Moodle site approximately six weeks before the Take Home Exam period.

Return Date to Students

Take Home Exam marks will be made available to students via the unit Moodle site on the day grades are released for the term (Certification of Grades).

Weighting

50%

Minimum mark or grade

50%

Assessment Criteria

Marks for each question will be awarded for accuracy of the answer, setting out, showing correct steps in the solution as well as 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.

Graduate Attributes

- Self Management
- Communication
- 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