



Queensland, Australia

Course Code:	CHE001A
Course Name:	Chemistry
Semester:	Semester 1, 2016
Program:	Certificate IV Tertiary Preparation Program
Credit Points:	10
Course Coordinator:	Dr Carolyn Munce
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Teaching Team

Your lecturer/tutor can be contacted via the email system on the portal.	
Name	Email
Dr Gretel Heber	gretel.heber@staff.griffithcollege.edu.au

Staff Consultation

Your lecturer/tutor is available each week for consultation outside of normal class times. Times that your lecturer/tutor will be available for consultation will be given in the first week of lectures. A list of times and rooms will be published on the Griffith College Portal under the "myTimetable" link.

Prerequisites

There are no prerequisites for this course

Brief Course Description

This course provides students with an introduction to the molecular basis of physical properties of materials, the reasons chemical reactions occur and the energy changes involved.

Rationale

The purpose of this course is to introduce students to the study of matter and its interactions, therefore providing a link with other branches of natural science. The course is designed to assist students in coming to appreciate the impact of chemical knowledge and technology on society. The course provides a foundation for students who wish to continue to tertiary level courses in science, engineering or health science.

Aims

The aim of this course is to provide students with an understanding of the basic concepts and processes of chemistry. Students will develop analytical, problem solving, calculation and technical report writing skills. Students will also develop an appreciation of safe and effective manipulative skills in the laboratory environment.

Learning Outcomes

Upon successful completion of this course you will be able to:...

1. Use scientific terminology to demonstrate an understanding of basic chemical knowledge.
2. Classify matter by its state and bonding behaviour using the periodic table as a reference.
3. Predict and explain the electronic and molecular structures of common substances.
4. Identify and compare the different types of chemical reactions.
5. Solve qualitative and quantitative chemical problems and demonstrate reasoning clearly and completely.

6. Identify and compare the chemical behaviour of ionic and molecular substances in aqueous solutions.
7. Identify simple organic chemical compounds.
8. Perform simple laboratory experiments demonstrating safe and proper use of standard chemistry glassware and equipment.
9. Demonstrate the ability to think critically, abstractly and logically.

Texts and Supporting Materials

The following Textbook and Resources will be used throughout the semester:

- Cracolice, M & Peters, E. (2013). *Introductory Chemistry, an active learning approach*, 5th ed. Brooks/Cole. ISBN 978-1-111-99007-7
Course notes will be available on the Griffith College portal. Students are expected to download these prior to each class.
- A scientific calculator is essential in this course
- An approved laboratory coat and safety glasses are also required for laboratory classes.

Details regarding where you can purchase some of the above resources will be provided during class time.

Organisation and Teaching Strategies

The teaching and assessment portion of the semester is of 14 weeks duration - inclusive. Classes are usually provided in four (4) hour blocks during each of the first thirteen (13) weeks of semester. For each of Weeks 1-13 you are expected to attend the entire teaching session each week.

In weeks 1-3, 6-13 classes will be scheduled as indicated below:

- A) Two [2] hours will be spent during class time each week presenting and discussing concepts and techniques that you need to know to pass the course.
- B) Two [2] hours of class time will also be spent each week undertaking chemistry tutorials.

In weeks 4 and 5 classes will be scheduled as indicated below:

- A) Four [4] hours will be spent completing laboratory exercises relating to concepts that have been taught in previous weeks. These will be held in G16_4.24. Further details will be provided during class time.

Where class times conflict with Public Holidays, "makeup" classes may be organised on a different day. You are advised to make inquiries about these Public Holidays to determine when the relevant class will be held. Further time is made available for individual consultation with teaching staff each week [see myTimetables>Consultation for further details].

Class Contact Summary

Attendance:

Your attendance in class will be marked twice during a four hour class. To receive full attendance, you must be present in the classroom on both occasions. Therefore, you are encouraged to attend and participate in all classes throughout the semester.

Participation in Class:

During classes each week you are expected to actively participate in exercises covering the current topic.

Consultation Times:

Attendance during consultation times is optional but you are encouraged to use this extra help to improve your learning outcomes.

Course Materials:

Before attending classes each week you are expected to prepare by pre-reading the class notes, and skim-reading the relevant readings from the text and other sources. You are also required to bring the required readings/textbook, class notes and worksheets to class each week so that extra notes can be added.

Laboratory Sessions:

In order to participate in the laboratory classes, you **must** have successfully completed the appropriate online safety quizzes, wear closed in shoes, a lab coat and safety glasses.

Before attending Laboratory classes, you must read the appropriate section in the laboratory notes. If you do not have the necessary laboratory equipment/resources, for safety reasons you may be excluded from participating in the laboratory class.

Please Note: For safety reasons, you will also need to arrive on time for each of your Laboratory classes. Any student arriving more than 10 minutes after the scheduled start time will be permitted to participate but marks will be deducted for lateness.

Independent Learning:

You are expected to reinforce your learning from class time by undertaking sufficient independent study (approximately 6 hours per week outside of class time) so that you can achieve the learning outcomes of the course.

Program Progression:

You are reminded that satisfactory Program Progression requires that attendance in classes is maintained at equal to or greater than 80%, and that GPA is maintained at equal to or greater than 3.5 [please see Griffith College Policy Library - Program Progression Policy - for more information].

Content Schedule

PLEASE NOTE: Gold Coast campus students:

Lab classes for this course on Fridays from 1:00pm to 5:00pm in room G16_4.24 will be in weeks 8 & 10 only.

Mount Gravatt Campus students:

Lab classes for this course on Wednesdays from 1:30pm to 5:30pm in room N55_-1.29 (Nathan campus) will be in weeks 8 & 10 only.

Weekly Teaching Schedule

Week	Topic	Activity	Readings
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1	Introduction to chemistry-matter, change and energy	Class	Chapters 1-2 and Course Notes
	Overview of Course Assessment	Class	
2	Scientific measurement. Problem solving.	Class	Chapter 3 and class notes
3	Atomic theory: chemical periodicity, chemical bonding, structure and shape	Class	Chapter 5, 11, 12, 13 and course notes
4	Chemical nomenclature	Class	Chapter 6 and course notes
5	In class test 1	Examination	Course notes Weeks 1-4 topics
	Chemical formula relationships – molar mass, empirical formula	Class	Chapter 7
6	Chemical change and chemical reactions	Class	Chapter 8-9 and Course notes
7	Quantity relationships in chemical reactions	Class	Chapters 10 and Course Notes
8	Laboratory	Laboratory	
9	In class test 2	Examination	Weeks 5 – 7 topics
	States of matter – intermolecular forces. Gases, liquids, and solids	Class	Chapters 4, 14, 15
10	Laboratory exercises 2	Laboratory	
11	Aqueous solutions: acids and bases	Class	Chapters 16,17 and class notes
12	Organic Chemistry	Class	Class notes
13	Course Review	Workshop	
14	Final Exam	Examination	All topics

Assessment

This section sets out the assessment requirements for this course.

Summary of Assessment

Item	Assessment Task	Weighting	Relevant Learning Outcomes	Due Date
1	Class test 1	10%	1,2,3,9	5
2	Class Test 2	15%	1,2,4,5,6,9	9
3	Research Assignment	15%	1,9	7
4	Laboratory Exercises	10%	1,4,5,6,8,9	4, 5
5	Workbook	10%	1,5,9	12
6	Final Exam	40%	1-7,9	14

Assessment Details

The assessment is divided into two sections:

1) theoretical and conceptual understanding is tested in the class tests, the final exam and the research assignment.

2) the application of theoretical concepts is tested in the Laboratory exercises.

You are to complete all assessment individually.

Class Tests:

Class tests assess foundation knowledge and skills taught during the previous few weeks of the course. Class tests will provide an opportunity for you to assess your understanding of key concepts. They also act as a focal point for you to plan and monitor your current and future learning progress. (Relates to objectives 1, 2, 3 and 4).

Research Assignment:

The assignment is an essay in which you will explore an aspect of the development of chemical knowledge. You will be expected to research and demonstrate your understanding and interpretation of the literature and how it relates to our knowledge of the world today. (Relates to objectives 1-4).

Laboratory Exercises:

The laboratory investigations assess your ability to operate safely and proficiently in a chemical laboratory, to collect and organise data, and to use complex reasoning processes. As part of the laboratory exercises, you will be given instruction on how to process data and understand the different parts of written reports. You will be required to complete the laboratory workbook and write short reports - these involve presenting and interpreting the data that you have collected. (Relates to objectives 1, 4, 5, 6 and 7).

Final Exam:

The final examination assesses your knowledge and applied skills in topic areas related to and developed during the course. It gives you an opportunity to demonstrate learning throughout the semester. It provides a culmination point to encourage a planned effort and consistent application and requires you to review and apply material covered in the semester. (Relates to objectives 1, 2, 3, 4 and 5). Any material that is either a) covered in classes, b) discussed within the required reading textbook, c) referred to as 'other required reading' during semester, may be assessed in the projects, exercises and the Final Exam.

Submission and Return of Assessment Items

Normally you will be able to access your results within fourteen [14] days of the due date for submission of the assignment. ALL assessment submitted in this course must be retained by Griffith College as directed by the Australian Skills Quality Authority (ASQA) made under section 28 (1) of the National Vocational Education and Training Regulator Act 2011.

Retention of Originals

You must be able to produce a copy of all work submitted if so requested. Copies should be retained until after the release of final results for the course.

Extensions

To apply for an extension of time for an assignment, you must submit an Application for Extension of Assignment form to your teacher at least 24 hours before the date the assignment is due. Grounds for extensions are usually: serious illness, accident, disability, bereavement or other compassionate circumstances and must be able to be substantiated with relevant documentation [e.g. Griffith College Medical Certificate]. Please refer to the Griffith College website - Policy Library - for guidelines regarding extensions and deferred assessment.

Assessment Feedback

Marks awarded for assessment items will also be available on the on-line grades system on the Student Website within fourteen [14] days of the due date.

Generic Skills

Griffith College aims to develop graduates who have an open and critical approach to learning and a capacity for lifelong learning. Through engagement in their studies, students are provided with opportunities to begin the development of these and other generic skills.

Studies in this course will give you opportunities to begin to develop the following skills:

Generic Skills	Taught	Practised	Assessed
Written Communication		Yes	Yes
Oral Communication		Yes	
Information Literacy		Yes	Yes
Secondary Research	Yes	Yes	Yes
Critical and Innovative Thinking		Yes	
Academic Integrity	Yes	Yes	Yes
Self Directed Learning			
Team Work		Yes	
Cultural Intelligence			
English Language Proficiency			

Additional Course Generic Skills

Specific Skills	Taught	Practised	Assessed
Laboratory skills	Yes	Yes	Yes

Additional Course Information

Attendance at practical laboratory sessions are an integral part of any chemistry course. It is important that you attend all laboratory sessions to gain the maximum benefit from the course.

In addition to formal contact hours, you are provided with extra support through individual consultation with teaching staff, tutorials in English language, and self-access computer laboratories.

Teacher and Course Evaluations

The majority of students are satisfied with the teaching and the teacher in this course. Students have enjoyed the practical experience of participating in chemistry experiments in the science laboratory at the university. You Tube videos are also provided for students as a way to enhance further practical examples and scientific demonstrations related to the course. Students have found that the teacher is very helpful and patient particularly in relation to ensuring that students are familiar with the processes involved in the calculation of chemistry problems.

Your feedback is respected and valued by your lecturers and tutors. You are encouraged to provide your thoughts on the course and teaching, both positive and critical, directly to your lecturer and tutor or by completing course and lecturer evaluations on the Griffith College portal whenever these are available.

Academic Integrity

Griffith College is committed to maintaining high academic standards to protect the value of its qualifications. Academic integrity means acting with the values of honesty, trust, fairness, respect and responsibility in learning, teaching and research. It is important for students, teachers, researchers and all staff to act in an honest way, be responsible for their actions, and show fairness in every part of their work. Academic integrity is important for an individual's and the College's reputation.

All staff and students of the College are responsible for academic integrity. As a student, you are expected to conduct your studies honestly, ethically and in accordance with accepted standards of academic conduct. Any form of academic conduct that is contrary to these standards is considered a breach of academic integrity and is unacceptable.

Some students deliberately breach academic integrity standards with intent to deceive. This conscious, pre-meditated form of cheating is considered to be one of the most serious forms of fraudulent academic behaviour, for which the College has zero tolerance and for which penalties, including exclusion from the College, will be applied.

However, Griffith College also recognises many students breach academic integrity standards without intent to deceive. In these cases, students may be required to undertake additional educational activities to remediate their behaviour and may also be provided appropriate advice by academic staff.

As you undertake your studies at Griffith College, your lecturers, tutors and academic advisors will provide you with guidance to understand and maintain academic integrity; however, it is also your responsibility to seek out guidance if and when you are unsure about appropriate academic conduct.

Please ensure that you are familiar with the [Griffith College Academic Integrity Policy](#); this policy provides an overview of some of the behaviours that are considered breaches of academic integrity, as well as the penalties and processes involved when a breach is identified.

For further information please refer to the Academic Integrity Policy on the Griffith College website – Policy Library.

Risk Assessment Statement

This course follows Griffith College and Griffith University Workplace Health and Safety Laboratory guidelines.

The aim of workplace health and safety is to make sure that people do not get sick or injured at the workplace. The legislation dealing with this in Queensland is called the Workplace Health and Safety Act, 1995. Anyone who can affect workplace health and safety has an obligation under this Act.

As a student, you have an obligation to yourself and others to undertake activities in a safe manner. You must follow instructions which are provided for safety. You must not put yourself or anyone else at risk. Care especially needs to be taken when you are performing activities which can affect others.

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