



Course Outline

Code: TPP103 Title: Chemistry

School:	Tertiary Access
Teaching Session:	Semester 2
Year:	2019
Course Coordinator:	Dr Kerry Rutter Tel: 54565556 Email: krutter@usc.edu.au
Course Moderator:	Judi Warmerdam

Please go to the USC website 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

Chemistry impacts every part of our daily lives-from the food we digest, how our bodies rids itself of toxins, the purification of drinking water to the materials needed to place humans in space. Our future depends on science; imagine being part of new discoveries. You will acquire knowledge in the basic principles of chemistry which will support your study in undergraduate chemistry, cell biology and related disciplines. The course is designed for those students who have not taken high school chemistry, or who have done so and wish to refresh their knowledge and understanding.

1.2 Course topics

Matter
Atomic Structure and Symbol
Chemical Formula
Periodic Table
Electron Configuration
Four types of bonding
Molecular shape
Balancing of chemical Equations.
Law of Mass Conservation
Scientific Measurement
Mole Concept
Concentration
Acids and Bases, pH.
Organic Chemistry-Hydrocarbons.

2. What level is this course?

100 level Introductory - Discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Normally associated with the first full-time year of an undergraduate program

3. What is the unit value of this course?

12 units - Please be aware units from this course cannot be counted for credit towards an award-bearing program.

4. How does this course contribute to my learning?

Specific Learning Outcomes On successful completion of this course, you should be able to:	Assessment tasks You will be assessed on the learning outcomes in task/s:	Graduate Qualities or Professional Standards mapping Completing these tasks successfully will contribute to you becoming:
Explain and describe matter, the atomic structure, decode the atomic symbol and extrapolate information from the Periodic Table.	Task 1a, 1b & 3	Empowered. Knowledgeable.
Explain chemical terms and illustrate concepts using scientific language.	Task 1b, 2 & 3	Empowered. Knowledgeable.
Explain and describe the basic chemical principles relating to matter and law of mass conservation.	Task 1a, 1b & 3	Empowered. Knowledgeable.
Interpret basic chemical principles and apply this information to chemical bonding.	Task 1b & 3	Empowered. Knowledgeable.
Memorise and apply scientific reasoning to the mathematical formulas to use in chemical calculations.	Task 2 & 3	Empowered. Knowledgeable.

5. Am I eligible to enrol in this course?

Refer to the [USC Glossary of terms](#) for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1 Enrolment restrictions

Students must be enrolled in TP000 or XE001

5.2 Pre-requisites

Nil

5.3 Co-requisites

Nil

5.4 Anti-requisites

Nil

5.5 Specific assumed prior knowledge and skills (where applicable)

Nil

6. How am I going to be assessed?

6.1 Grading scale

Standard – High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL)

6.2 Details of early feedback on progress

Early feedback will be given by doing the weekly online quizzes and the weekly end of chapter questions and answers in the Course Reader. The online quizzes can be taken as many times as you like.

6.3 Assessment tasks

Task No.	Assessment Tasks	Individual or Group	Weighting %	What is the duration/length?	When should I submit?	Where should I submit it?
1a	Atomic Structure Test	Individual	10%	60 mins	Week 4	Tutorial
1b	Bonding and Molecular Shape Test	Individual	20%	60 mins	Week 8	Tutorial
2	Chemical Calculation Assignment	Individual	20%		Week 10	Sippy Downs students to place in assignment box located in "J" block. All other campus students follow instructions from your instructor
3	Course Test	Individual	50%	2 hours	Week 13	Tutorial
			100%			

Assessment Task 1a: Atomic Structure Test

Goal:	The goal is for you to review and demonstrate knowledge of key terms and concepts in atomic theory.
Product:	Test.
Format:	The test will be held in class in week 4 in the time normally allotted for tutorial activities. This test will consist of multiple-choice and short answer questions.
Criteria:	Marks will be awarded for: <ul style="list-style-type: none"> Accuracy of responses regarding atomic structure, electronic configuration, chemical formulae, ionic bonding and information from the Periodic Table.

Assessment Task 1b: Bonding and Molecular Shape.

Goal:	The goal is for you to review and demonstrate knowledge of key terms and concepts. You need apply these concepts to describe chemical bonding, shape and polarity.
Product:	Test.
Format:	The test will be held in class in week 8 in the time normally allotted for tutorial activities. This test will consist of multiple-choice and short answer questions.
Criteria:	Marks will be awarded for: <ul style="list-style-type: none"> Accuracy of your responses regarding ionic, covalent, hydrogen and van der Waals bonding, electronegativity, determining the shape of simple molecules and balancing chemical equations. Interpretation and evaluation of information

Assessment Task 2: Chemical Calculation Assignment

Goal:	The goal is for you to apply scientific reasoning to chemical calculations.
Product:	Assignment
Format:	This assignment consists of written answers to problem-based questions due end of week 10 .
Criteria:	Marks will be awarded for: <ul style="list-style-type: none"> • Accuracy of your calculation of the mass of atoms, compounds, moles, concentration and balancing chemical equations, significant figures and units of measurement. • Application of scientific reasoning to the mathematical formulas to use in chemical calculations.

Assessment Task 3: Course Test

Goal:	You will review and demonstrate use of course terms and concepts including key themes from the whole semester.
Product:	Test
Format:	The final task is a 2-hour exam and will consist of multiple-choice and short answer questions. The test will be conducted in week 13 in your tutorial time.
Criteria:	Marks will be awarded for: <ul style="list-style-type: none"> • Accuracy of your responses • Knowledge of information presented in the course material. • Interpretation and evaluation of information given in the questions.

7. What are the course activities?

7.1 Directed study hours

The directed study hours listed here are a portion of the workload for this course. 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. Directed study hours may vary by location. Student workload is calculated at 12.5 learning hours per one unit.

Location:	Directed study hours for location:
Sippy Downs Fraser Coast Gympie Caboolture Moreton Bay (off-campus)	Lecture: 1 x 1-hour lectures per week over 13 weeks Tutorial: 1 x 2-hour tutorials per week over 13 weeks

7.2 Course content

Week # / Module #	What key concepts/content will I learn?
1	Matter, elements and compounds, atomic structure, history of the theory of the atom, chemical formulae, language of Chemistry
2	Electronic configuration and the Periodic Table: electronic configuration of atoms, relationship to the periodic table, reasons why atoms react.
3	Ionic bonding.
4	Covalent, Hydrogen and van der Waals bonding, molecular shape
5	Covalent, Hydrogen and van der Waals bonding, Electronegativity and Polarity.
6	Balancing chemical equations: law of conservation of mass, thermodynamics of chemical reactions
7	Scientific measurement: significant figures and units of measurement
8	Weighing Atoms and Compounds, The Mole, Concentration

9	Weighing Atoms and Compounds, The Mole, Concentration Continued
10	Water: relationship of water chemistry to its properties, importance of water in biology, acids and bases, basic concept of pH
11	Introduction to Organic Chemistry
12	Revision
13	Final examination

Please note that the course activities may be subject to variation.

8. What resources do I need to undertake this course?

Please note that course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Blackboard site. Please log in as soon as possible.

8.1 Prescribed text(s)

N/A

8.2 Specific requirements

N/A

9. Risk management

Health and safety risks have been assessed as low.

It is your responsibility as a student 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. It is also your responsibility to familiarise yourself with the University's general health and safety principles by reviewing the [online Health Safety and Wellbeing training module 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 Blackboard, are electronically checked through SafeAssign. This software allows for text comparisons to be made between your submitted assessment item and all other work that SafeAssign has access to.

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%
- b) The course is graded using the Standard Grading scale
- c) You have not failed an assessment task in the course due to academic misconduct

10.3 Assessment: Submission penalties

Late submission of assessment tasks will be penalised at the following maximum rate:

- 5% (of the assessment task's identified value) per day for the first two days from the date identified as the due date for the assessment task.
- 10% (of the assessment task's identified value) for the third day
- 20% (of the assessment task's identified value) for the fourth day and subsequent days up to and including seven days from the date identified as the due date for the assessment task.
- A result of zero is awarded for an assessment task submitted after seven days from the date identified as the due date for the assessment task.

Weekdays and weekends are included in the calculation of days late.

To request an extension, you must contact your Course Coordinator and supply the required documentation to negotiate an outcome.

10.4 Study help

In the first instance, you should contact your tutor, then the Course Coordinator. Additional assistance is provided to all students through Academic Skills Advisers. To book an appointment or find a drop-in session go to [Student Hub](#).

Contact Student Central for further assistance: +61 7 5430 2890 or studentcentral@usc.edu.au

10.5 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
- Administration of Central Examinations
- Deferred Examinations
- Student Academic Misconduct
- Students with a Disability

Visit the USC website:

<http://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching>

10.6 General Enquiries

In person:

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

Tel: +61 7 5430 2890

Email: studentcentral@usc.edu.au