



## COURSE OUTLINE

# TPP103 Chemistry

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2021 | Session 8

USC Sunshine Coast

ON CAMPUS

Most of your course is on campus but you may be able to do some components of this course online.

*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 rid 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. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
ON CAMPUS LOCATIONS			
Tutorial/Workshop 1	2hrs	Not applicable	Not Yet Determined
Lecture	1hr	Not applicable	Not Yet Determined

### 1.3. Course Topics

Matter and the structure of the atom

The periodic table and electron configuration

Ionic and covalent bonding with an introduction to organic chemistry

Electronegativity, bond and molecule polarity, intermolecular forces

Chemical reactions and the Mole

Scientific notation and measurements

Concentrations, water, acids and bases.

## 2. What level is this course?

100 Level (Introductory)

Engaging with discipline knowledge and skills at foundational level, broad application of knowledge and skills in familiar contexts and with support. Limited or no prerequisites. Normally, associated with the first full-time study year of an undergraduate program.

### 3. What is the unit value of this course?

12 units

### 4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES	GRADUATE QUALITIES
On successful completion of this course, you should be able to...	Completing these tasks successfully will contribute to you becoming...
1 Demonstrate theoretical knowledge of the atomic structure of matter in the world around us.	Knowledgeable Empowered
2 Extrapolate information from the periodic table to understand interactions and chemical bonding.	Knowledgeable Empowered
3 Explain chemical terms and concepts using scientific language.	Knowledgeable Empowered
4 Apply the law of mass conservation to balancing chemical equations.	Knowledgeable Empowered
5 Demonstrate mathematical knowledge, conceptual understanding and scientific reasoning skills with chemical calculations.	Knowledgeable Empowered

### 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. Pre-requisites

Must be enrolled in Program TP000

#### 5.2. Co-requisites

Not applicable

#### 5.3. Anti-requisites

Not applicable

#### 5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

### 6. How am I going to be assessed?

#### 6.1. Grading Scale

Standard Grading (GRD)

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

#### 6.2. Details of early feedback on progress

Early feedback will be provided by the weekly online quizzes and the weekly end of chapter questions and answers in the Course Reader. The online formative quizzes can be practised as many times as you like. Feedback is also provided for the short answer questions of graded quizzes. This will also act as feed-forward toward the next task.

### 6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1a	Quiz/zes	Individual	10%	60 mins	Week 2	Online Test (Quiz)
All	1b	Quiz/zes	Individual	25%	60 mins	Week 4	Online Test (Quiz)
All	2	Artefact - Technical and Scientific	Individual	20%		Week 5	Online Assignment Submission
All	3	Examination	Individual	45%	2 hours	Week 7	In Class

#### All - Assessment Task 1a: Atomic Structure Test

<b>GOAL:</b>	The goal is for you to review and demonstrate knowledge of key terms and concepts in atomic theory		
<b>PRODUCT:</b>	Quiz/zes		
<b>FORMAT:</b>	The quiz will be available online in week 4. This test will consist of multiple-choice and short answer questions.		
<b>CRITERIA:</b>	<b>No.</b>		<b>Learning Outcome assessed</b>
	1	Accuracy of responses regarding atomic structure, electronic configuration, chemical formulae, ionic bonding and information from the Periodic Table.	1 2 3
	2	Assessment criteria are mapped to the course learning outcomes.	

#### All - Assessment Task 1b: Bonding and Molecular Shape

<b>GOAL:</b>	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		
<b>PRODUCT:</b>	Quiz/zes		
<b>FORMAT:</b>	The quiz will be available online in week 8. This quiz will consist of multiple-choice and short answer questions.		
<b>CRITERIA:</b>	<b>No.</b>		<b>Learning Outcome assessed</b>
	1	Accuracy of your responses regarding ionic, covalent, hydrogen and van der Waals bonding, electronegativity, determining the shape of simple molecules and balancing chemical equations	1 2 3 4
	2	Interpretation and evaluation of information	1 2 3 4

#### All - Assessment Task 2: Chemical Calculation Assignment

<b>GOAL:</b>	The goal is for you to apply scientific reasoning to chemical calculations		
<b>PRODUCT:</b>	Artefact - Technical and Scientific		
<b>FORMAT:</b>	This assignment consists of written answers to problem-based questions due end of week 10.		

CRITERIA:	No.	Learning Outcome assessed
	1	Accuracy of your calculation of the mass of atoms, compounds, moles, concentration and balancing chemical equations, significant figures and units of measurement. 1 3 4 5
	2	Application of scientific reasoning to the mathematical formulas to use in chemical calculations. 5

### All - Assessment Task 3: Course Test

<b>GOAL:</b>	You will review and demonstrate use of course terms and concepts including key themes from the whole semester.	
<b>PRODUCT:</b>	Examination	
<b>FORMAT:</b>	The final task is a 2-hour quiz consisting of multiple-choice and short answer questions. The quiz will be available online during week 13.	
CRITERIA:	No.	Learning Outcome assessed
	1	Accuracy of your responses 1 2 3 4 5
	2	Knowledge of information presented in the course material. 1 2 3 4
	3	Interpretation and evaluation of information given in the questions. 1 2 3 4 5

## 7. Directed study hours

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.

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

Please note: 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) or course reader

There are no required/recommended resources for this course.

### 8.2. Specific requirements

Students require a periodic table and a calculator (recommended: Casio Fx-82 AU Plus II 2nd edition).

## 9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility 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 and to familiarise yourself with the University's general health and safety principles by reviewing the [online induction training 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:

The final mark is in the percentage range 47% to 49.4%

The course is graded using the Standard Grading scale

You have not failed an assessment task in the course due to academic misconduct

## 10.3. Assessment: Submission penalties

Late submission of assessment tasks may 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 to negotiate an outcome.

## 10.4. Study help

For help with course-specific advice, for example what information to include in your assessment, you should first contact your tutor, then your course coordinator, if needed.

If you require additional assistance, the Learning Advisers are trained professionals who are ready to help you develop a wide range of academic skills. Visit the [Learning Advisers](#) web page for more information, or contact Student Central for further assistance: +61 7 5430 2890 or [studentcentral@usc.edu.au](mailto:studentcentral@usc.edu.au).

## 10.5. Wellbeing Services

Student Wellbeing provide free and confidential counselling on a wide range of personal, academic, social and psychological matters, to foster positive mental health and wellbeing for your academic success.

To book a confidential appointment go to [Student Hub](#), email [studentwellbeing@usc.edu.au](mailto:studentwellbeing@usc.edu.au) or call 07 5430 1226.

## 10.6. AccessAbility Services

Ability Advisers ensure equal access to all aspects of university life. If your studies are affected by a disability, learning disorder mental health issue, injury or illness, or you are a primary carer for someone with a disability or who is considered frail and aged, [AccessAbility Services](#) can provide access to appropriate reasonable adjustments and practical advice about the support and facilities available to you throughout the University.

To book a confidential appointment go to [Student Hub](#), email [AccessAbility@usc.edu.au](mailto:AccessAbility@usc.edu.au) or call 07 5430 2890.

## 10.7. 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>

## 10.8. General Enquiries

### In person:

- **USC Sunshine Coast** - Student Central, Ground Floor, Building C, 90 Sippy Downs Drive, Sippy Downs
- **USC Moreton Bay** - Service Centre, Ground Floor, Foundation Building, Gympie Road, Petrie
- **USC SouthBank** - 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](mailto:studentcentral@usc.edu.au)

