

SCI18

Fundamentals of Chemistry

Unit Information

2015

This information should be read in conjunction with the online learning materials which can be found on your MyUnits page.

Unit coordinators

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Information about the unit

Unit description

This unit introduces foundational concepts to prepare students for subsequent study in chemistry that supports further study in a range of disciplines. Students enrolled in this unit come from a variety of educational backgrounds and are undertaking a wide range of degree programmes that require basic grounding in chemistry. Some of you will have studied chemistry before, but the majority will be taking chemistry for the first time. There is no doubt that some concepts involved in the study of chemistry are challenging to understand initially and you may be anxious about doing the unit. Ultimately it is up to the individual to do the work required to pass, but there are plenty of resources available to assist in this process. Make use of these resources and work consistently from the first week and you will give yourself the best chance of success.

We hope that you enjoy studying the unit and the knowledge you gain will serve you well in your future studies.

Prerequisites

This unit is for students who have not completed chemistry at secondary school (Chemistry 3A/3B in WA). However, it is expected that students will have had some exposure to chemistry to the level of Year 10 or equivalent. Students also need a reasonable grounding in basic mathematics. See the Online Unit for further information about the maths skills required and how you can assess your preparedness. If your maths background is inadequate you are encouraged to study the required maths before doing Fundamentals of Chemistry.

Aims of the unit

The overall aim of this unit is to provide grounding in the fundamentals of chemistry required for your degree programme. The specific aims are for you to develop an understanding of the nature of the matter, and to use appropriate language, symbols and representations to describe matter and chemical reactions.

Learning outcomes for the unit

There are detailed learning outcomes for each topic covered in the unit. The broad learning outcomes are:

1. Describe the nature of matter at the atomic and molecular level using appropriate language, symbols and representations
2. Use chemical equations to describe chemical reactions
3. Carry out calculations related to chemical quantities, processes and reactions

Contact details

The following team will deliver the Fundamentals of Chemistry unit in 2015 Study Period 4

- 1) Coordinator and Tutor: Dr LanChi Koenigsberger
(<http://profiles.murdoch.edu.au/myprofile/lan-chi-koenigsberger/>)
- 2) Coordinator and Tutor: Dr Erich Koenigsberger
(<http://profiles.murdoch.edu.au/myprofile/erich-koenigsberger/>)
- 3) Tutor: A/Prof Lubomir Hnedkovsky
(<http://profiles.murdoch.edu.au/myprofile/lubomir-hnedkovsky/>)

Whenever you need assistance with studying the unit, please post your query on the appropriate forum of the unit website. One of the tutors will respond by the end of the next working day. For personal matters, please send your message to the following email address:

SCI18@murdoch.edu.au

The above mailbox is monitored daily, so please use that and refrain from using any other email addresses.

How to study this unit

To give yourself the best chance of success in this unit you just need to spend the appropriate amount of time each week learning the material. If you work consistently you will learn the material and pass the unit. It is very important to integrate the fundamental chemistry covered in the unit as the knowledge is required for subsequent study in your degree. Aside from needing it for your degree, chemistry is very interesting and helps us understand things that we see in our everyday lives.

The required textbook is an essential tool for studying the unit. Other learning materials for the unit will be available to you through a special website that we call the Online Unit or LMS (stands for Learning Management System). You have most likely found this document in the Online Unit. The unit is presented as a series of modules accessible from the main page of the Online Unit. The timing for when each module must be completed is clearly shown in the weekly schedule. Additional materials needed to complete each module will be accessible through the links for each module.

Time commitment

One of the guidelines on the design of units at Murdoch University is that 1 credit point requires an average of 50 hours student work. As Fundamentals of Chemistry is a 3 point unit, this equates to 150 hours work in total. Over the study period we have 13 weeks in total. Therefore the 150 hours of work required for this unit divided over the 13 weeks equals 11.5 hours of work per week for this unit. This includes the time you spend completing the reading and online learning activities, as well as additional study time. It is very important to realise this at the beginning and start putting in the time from day 1.

Learning Activities

Details of your specific learning activities and a weekly schedule are provided through the Online Unit.

Resources for this unit

Calculator Essential	You will need to purchase a basic scientific calculator. A non-programmable scientific calculator will be the only type permitted in the test and final examination. It is vital that you obtain your calculator as soon as possible and start using it. You need to be thoroughly familiar with your calculator before using it in the test and final exam.
Textbook Essential	Essential textbook Available from Unibooks Fundamentals of Chemistry Custom Publication ISBN 9781488609879
Internet access Essential	This is essential because many learning resources and assessments are only available online.
Resources available through the Online Unit	Each module will have a range of materials, which will include things such as required textbook reading, online learning activities, lecture recordings and practice problems.

Assessment

Assessment item	Description	Weighting %
Online Quizzes	Six (6) online quizzes throughout the teaching period	20
Mid Semester Test	Approximately halfway through the teaching period Written test with short answer questions	20
Final Examination	<u>To pass Fundamentals of Chemistry students must pass the final exam</u> Two (2) hour closed book exam Multiple choice and short answer questions	60

Detailed information about the assessment items, including timing and due dates, is provided in the Online Unit.

Assessment for this unit is conducted in accordance with the Assessment Policy.