

### Who administers the units?

Administration of CHEM123S is through the Division of Chemistry, who will handle all aspects of enrolment; mailing of materials; receipt, marking and return of assignments; assessment; and issuing of certificates. All assessment is carried out by qualified staff in Chemistry.

(For the HECS based external mode unit CHEM123, which is offered in first semester and again in second semester, administration is through the Teaching and Learning Centre (TLC) at UNE.)

### What concepts can I expect to learn?

The contents of Level 2 CHEM123S is identical to those of CHEM123. CHEM123 or CHEM123S focuses on basic concepts and skills/tools in chemistry, but has no organic chemistry component. Attendance for a two-day residential school to do laboratory work is optional. Its emphasis is on providing a strong working knowledge and competency in general chemistry to a level appropriate for the study of chemistry at a tertiary level. Topics covered include introductory general chemistry: fundamentals of chemistry; units and measurements; mathematical concepts in chemistry; atomic structure and bonding; formulas and equations; stoichiometry and the mole concept; chemical calculations; gases and the ideal gas laws; solutions; oxidation and reduction; acids and bases; chemical equilibrium; introductory thermochemistry.

Although CHEM 123S is an integrated unit covering the essential aspects of introductory general chemistry, for administrative convenience we have divided the Unit into Modules as follows:

Module 1	Introduction, Measurement, Energy & Matter
Module 2	Introduction to Chemical Reactions
Module 3	Chemical Composition and Quantities
Module 4	Atomic Theory and Bonding
Module 5	Gases, Liquids, Solids & Solutions
Module 6	Equilibrium, Acids, Bases, Redox & Electrochemistry

### What textbooks and additional material is required for CHEM123S?

Since CHEM123S is outside of HECS, a small up-front fee is required. A textbook, a chemistry data book and a simplest "scientific" calculator, which performs logarithm calculations, are required.

The textbook and the data book are:

**Zumdahl, S.S. *Introductory Chemistry*. 6th ed., Houghton-Mifflin, Aylward, G. and Findlay, T. *SI Chemical Data*. 6th ed. Wiley.**

A shrink wrap (cheaper) of these two books is available at UNE's campus bookshop. This data book and the calculator are also used in CHEM110 and CHEM120 at UNE.

Order these textbooks to UNE's campus bookshop: phone (02)6772-3468, fax (02)6772-3469, e-mail <[armidale@ucb.net.au](mailto:armidale@ucb.net.au)>

### Do I need a computer and internet access for CHEM 123S?

To make contact with your CHEM123S tutor by e-mail and to use the CHEM123S CD-ROM effectively, a computer with access to the internet is required. However, this is not mandatory, and the unit can still be completed using only the print-based material with telephone or mail. Even if you do not have your own computer, most communities will have facilities that can be utilised, such as your local library, TAFE, school or education centre.

### What is required for the assignments?

CHEM123S (or CHEM123) is basically to study Zumdahl's textbook comprehensively. There are six compulsory assignments to be submitted for this unit. Examination and laboratory pracs are optional.

If you do not participate the two-day residential school but if you sit for the exam, these assignments count for 50% of the final assessment and the examination counts the additional 50%. With residential school, assignments 48%, exam 40% and res school pracs 12%.

All assignment questions are closely based on textbook "Examples". It is designed that, as soon as a textbook "Example" is studied and understood, one assignment question corresponding to the "Example" be attempted immediately. The unit coordinator is your personal tutor for doing CHEM123S. Students are encouraged to use the tutorial assistance as much as possible.

Assignments will include:

- short essay/explanation questions
- short calculation questions.
- conceptual and extended problems
- possible extension work

### Where can I get further information about CHEM123S and CHEM 123?

Information is also available at

<http://www.une.edu.au/study/chemistry/>

or e-mail: [chemistry@une.edu.au](mailto:chemistry@une.edu.au) or <http://www.une.edu.au/askune>.

For general enquiries about the units, contact either Academic Coordinator, School of Science and Technology, University of New England, Armidale, NSW 2351. Phone (02)6773-2193, or (02)6773-4209, Fax (02)6773-3268, e-mail <[chemistry@une.edu.au](mailto:chemistry@une.edu.au)>, or contact Associate Professor Kiyoo Fujimori, Chemistry, University of New England, Armidale 2351. Phone (02)6773-2402, e-mail <[Kiyoo.Fujimori@une.edu.au](mailto:Kiyoo.Fujimori@une.edu.au)>, fax (02)6773-3268.



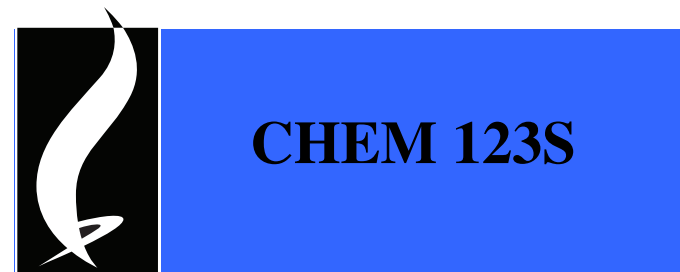
## Chemistry

School of Science and Technology  
Faculty of the Sciences

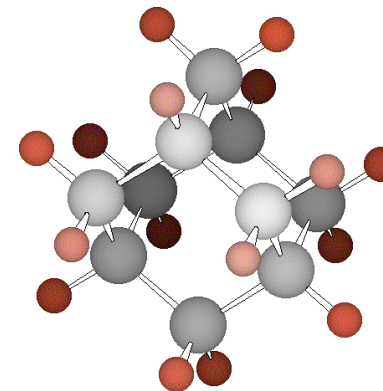
University of New England

Armidale, NSW 2351 Australia

UNE



# BRIDGING CHEMISTRY SHORT COURSE



**A bridging or foundation  
level course for beginners in  
chemistry**

**UNE**  
The University of  
NEW ENGLAND

### What is CHEM 123S?

For some students undertaking Science based degrees, and especially those enrolling in distance education or external mode, a major hurdle has been the admission requirement of "recent study in mathematics and chemistry". Likewise for enrolment in many first year chemistry units, it is often stated that "prior knowledge of chemistry up to matriculation level is assumed". To assist you to gain admission, obtain the required academic background, and work towards your degree, the University of New England offers this chemistry bridging course, called CHEM 123S, "Foundation Chemistry – Short Course".

CHEM 123S is an identical unit to HECS-based CHEM123, which is offered in first semester and again in second semester at UNE. CHEM123S or CHEM123 is a foundation level course in chemistry designed for students entering science-based degree programs who have a weak background in chemistry, but who are required to pass first year chemistry units as part of their course. It is intended as a bridging or introductory level course, specifically designed to provide the necessary assumed knowledge for entry into tertiary level chemistry units. However, it can also be used as a purely "recreational" unit for anyone who wishes to upgrade their knowledge about chemistry or science in general.

### Who is eligible to enrol in CHEM123S?

Enrolment in CHEM123S is open to anyone, irrespective of prior training or background. You do NOT need to be enrolled in any tertiary level course at any university or higher education institution.

### Can I count CHEM123S as a unit if I subsequently enrol in a science-based degree or diploma course?

You will need to make enquiries about whether you can count CHEM123S as a unit towards your degree or diploma course from the institution in which you are enrolling. At University of New England, you need to contact the "Course Coordinator" of your degree on this matter.

### What about Science degrees at UNE?

At UNE, completion of CHEM123S allows enrolment in the normal first year units of chemistry (CHEM110, CHEM120). A successful completion of CHEM123S with participation in residential school, may be counted as a six credit-point unit in BSc degree (and, in some circumstances, in BAgr, BRurSc, BEnvSc or BNatRes degree) **with the prior consent by the Course Coordinator of your degree**. However, it is restricted to those without a recent background in chemistry, and students must proceed to CHEM 110 or CHEM120 in a subsequent year. In other words, it may be allowed as an ancillary unit to CHEM110 and CHEM120, but it may not be counted as a pre-requisite, corequisite, or ancillary course to any other units.

At UNE, permission may be granted to allow CHEM123S to be counted as a 6 credit point unit of Advanced Standing in Group 1c of the BSc. Enquiries about eligibility for permission should be obtained through the Course Coordinator for the BSc at UNE prior to commencement of CHEM123S (contact the Administration Unit of the Faculty of the Sciences at UNE, see contact numbers below). For credit of CHEM123S as part of a BAgr, BRurSc, BEnvSc or BNatRes degrees, permission needs to be obtained from the relevant Course Coordinator at UNE before commencement of CHEM123S. CHEM123S may also be available as an Advanced Standing unit to other students on request to the relevant Faculty.

Advanced Standing for certain courses at other universities may also be available (you will need to make enquiries about whether you can count CHEM 123S as a unit towards your degree or diploma course from the institution in which you are enrolling).

### CHEM123, Foundation Chemistry, is also offered at UNE. What is the difference between CHEM123 and CHEM123S?

CHEM123S and HECS based CHEM123 are identical units. CHEM123 is offered at UNE as an external (distance education), full semester unit, in Semester 1 and again in Semester 2 each year, with enrolments in the normal way through the Teaching and Learning Centre at UNE. CHEM123 is a HECS liable unit, if it is being counted towards a degree or diploma. As a six credit point unit, it accumulates HECS as with any other unit in your degree.

If CHEM123 is not allowed as a unit counted towards your degree, enrolment in this unit is permitted, but you might choose to enrol in the CHEM123S unit instead with up-front payment of fees. Non-award enrolment in CHEM123 attracts a tuition fee of around \$1080, which must be paid up-front and does not attract any discount.

Assessment in both CHEM123 and CHEM123S is:  
Six assignments 48%  
Examination (optional for CHEM123S) 40%  
Laboratory practicals (a two-day residential school) 12% - optional for CHEM123S

In CHEM123S, the examination and pracs are optional, if you do not wish CHEM123S to be counted as a six-credit point unit for your degree.

### When can I enrol in CHEM 123S and when does it start?

CHEM123S can be entered at any time. The unit runs continuously, and the start and completion dates are free for you to choose!

We assume the normal period of candidature will be not less than two months and no more than twelve months from the date of enrolment registration, and an examination, if you choose to do so, should be undertaken by the arrangement of the unit coordinator. If you wish to do optional laboratory pracs, you must join CHEM123 residential school, which is normally sometime in April or in September.

### Is CHEM123S a HECS liable unit, and can I count it in my normal HECS load?

Note that CHEM123S *cannot* be counted as a HECS liable unit, and up-front fees for the unit must be paid at the time of enrolment.

Even if CHEM123S has been approved for credit as an Advanced Standing unit in a degree pattern, it cannot be added to your HECS load and so up-front fees must be paid for this unit on enrolment.

### What are the up-front fees and costs for CHEM123S?

The fee structure is

Level 1	\$450 (with optional examination)
Level 2	\$500 (with optional exam and res school)

**Refund of the fee:** No request for refund of the fee (less \$50 for administrative cost) will be accepted after 6 weeks from the enrolment date.

CHEM123S is offered as an educational product through UNE, and hence is GST free.

At both Levels, a textbook, a chemistry data book and a "scientific" calculator will be required; The books can be ordered from the campus bookshops at UNE.

CHEM123S is a non-HECS unit but the HECS based unit of CHEM123 attracts the upfront payment of ~\$1080 as a HECS for non-award unit - see above.

### What is the difference in the two Levels in CHEM123S?

The unit can be undertaken at 2 levels: **Level 1** (no lab pracs) and **Level 2** (with lab pracs).

At **Level 1 (\$450)**, the fee covers all unit material and examination (optional), except the textbook. **A personal tutor is assigned to you for studying CHEM123S**. The supplied material includes a unit outline, study guide/workbook, assignments, and a CD, which contains audio items and video items. Access to tutorial assistance can be via e-mail, telephone, fax or mail.

Satisfactory completion at Level 1 will require at least an average passing grade overall for the six assignments and will be acknowledged by a **Certificate of Completion**. If you succeed in the optional examination, the achievement will be mentioned in the Certificate.

At **Level 2 (\$500)**, which makes CHEM123S equivalent to HECS based CHEM123, the fee includes all Level 1 services including the examination. The fee allows candidates also to join CHEM123 residential school for laboratory practicals (two days in April or in September). Completion at Level 2 requires at least an average passing grade for the six assignments, the examination (if you choose to sit for the exam) and laboratory pracs. A Certificate of Achievement will be issued. If you sit for the exam, a grade of pass, credit, distinction or high distinction will be mentioned in the Certificate.

### How is CHEM123S examined?

At Levels 1 and 2, examination is optional. Candidates may undertake an examination on the day of your choosing in consultation with the unit coordinator of CHEM123S. (About two weeks notice is required for us to organise the exam paper and deliver it to you.) Additional examinations may be undertaken (for example, if you did not achieve a pass at the first attempt, or if you wish to improve your grade), but a fee of \$50 will be charged for each extra examination. A maximum of two extra examinations will be allowed for qualification for a Certificate.