

CHEM10004 Chemistry 2

| Credit Points: | 12.5 | | | | | | |
|--|---|----------------|----------------------------|----------------|-----------------------|------------------------|-------|
| Level: | 1 (Undergraduate) | | | | | | |
| Dates & Locations: | 2016, Parkville This subject commences in the following study period/s: Summer Term, Parkville - Taught on campus. Semester 2, Parkville - Taught on campus. | | | | | | |
| Time Commitment: | Contact Hours: Summer semester: 5 x one hour lectures per week, 6 x three-hour practical activities per week, 2 x one-hour tutorial/workshop sessions per week, 6 hours of computer aided learning during semester, 8 hours of independent learning tasks during semester. Semester 2: 3 x one hour lectures per week, 6 x 3 hours of practical activities during semester, 1 x one-hour tutorial/workshop sessions per week, 6 hours of computer aided learning during semester, 8 hours of independent learning tasks during semester. Total Time Commitment: Estimated total time commitment of 170 hours. | | | | | | |
| Prerequisites: | <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CHEM10003 Chemistry 1</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table> | Subject | Study Period Commencement: | Credit Points: | CHEM10003 Chemistry 1 | Semester 1, Semester 2 | 12.50 |
| Subject | Study Period Commencement: | Credit Points: | | | | | |
| CHEM10003 Chemistry 1 | Semester 1, Semester 2 | 12.50 | | | | | |
| Corequisites: | None | | | | | | |
| Recommended Background Knowledge: | None | | | | | | |
| Non Allowed Subjects: | None | | | | | | |
| Core Participation Requirements: | <p><p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p></p> | | | | | | |
| Coordinator: | Prof Carl Schiesser, Prof Mark Rizzacasa | | | | | | |
| Contact: | Dr Sonia Horvat shorvat@unimelb.edu.au (mailto:shorvat@unimelb.edu.au) | | | | | | |
| Subject Overview: | The subject provides an introduction to organic acids and bases; nucleophilic substitution reactions; elimination reactions; addition reactions; electrophilic aromatic substitution reactions; nucleophilic addition reactions; organic redox reactions; chemical kinetics; elementary quantum mechanics, atomic spectra and atomic structure; redox reactions and electrochemistry; and transition metal and coordination chemistry. | | | | | | |
| Learning Outcomes: | <p>The aim of the subject is to provide students with an understanding of the reactivity of organic molecules; the nature of chemical change; the structure of the atom; electrochemical processes and the structure and reactivity of metal compounds.</p> <p>In the practical component, students should develop basic laboratory skills (observation, analytical techniques, report writing); oral communication skills; independent learning skills; an appreciation of the health and safety issues associated with the safe handling and disposal of laboratory chemicals.</p> | | | | | | |

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| Assessment: | Three equally weighted 30 minute on-line tests conducted during the semester (6%) Ongoing assessment of practical work throughout the semester (20%) A three hour written examination in the examination period (74%) Satisfactory completion of practical work is necessary to pass the subject. Independent learning tasks need to be completed in order to pass the subject. |
| Prescribed Texts: | A. Burrows, J. Holman, A. Parsons, G. Pilling and G. Price, Chemistry3 2nd Ed, Oxford University Press, 2013. |
| Breadth Options: | <p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2016/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2016/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2016/B-ENVS) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2016/B-MUS) <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p> |
| Fees Information: | Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees |
| Generic Skills: | <p>This subject encompasses particular generic skills so that on completion of this subject students should have developed skills relating to:</p> <ul style="list-style-type: none"> # the organization of work schedules that permit appropriate preparation time for tutorials, practical classes and examinations; # the use of electronic forms of communication; # the utilisation of computer-aided learning activities to enhance understanding; # the performance of basic manipulations with laboratory equipment; # the recording of observations, the analysis of information and the interpretation data within a laboratory setting; # accessing information from the library employing both electronic and traditional means; # working collaboratively with other students; # the use of conceptual models; # problem solving; and # critical thinking. |
| Notes: | <p>This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BAsC or a combined BSc course.</p> <p>Students with a high level of achievement in CHEM10007 Fundamentals of Chemistry may be permitted to enrol in this subject in semester 2 upon successful completion of the computer aided learning modules of CHEM10003 Chemistry 1 during the winter recess.</p> <p>A laboratory coat and safety glasses are required for laboratory activities.</p> <p>It is recommended that students have access to a molecular model kit.</p> <p>It is recommended that students who plan to major in Chemistry also enrol in two semesters of first year mathematics, for example MAST10005 Calculus 1, MAST10006 Calculus 2 and/or MAST10007 Linear Algebra.</p> |
| Related Course(s): | Bachelor of Environments |
| Related Majors/Minors/Specialisations: | <p>B-ENG Chemical Engineering stream B-ENG Chemical and Biomolecular Engineering stream Engineering Systems Environmental Engineering Systems major Environmental Science major Environments Discipline subjects Science-credited subjects - new generation B-SCI and B-ENG.</p> |