

# CHEM30003 Physical Chemistry Practical III

<b>Credit Points:</b>	6.25												
<b>Level:</b>	3 (Undergraduate)												
<b>Dates &amp; Locations:</b>	2011, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. practical work												
<b>Time Commitment:</b>	Contact Hours: On average 7 hours of practical work per week for six weeks. Total Time Commitment: 60 hours total time commitment.												
<b>Prerequisites:</b>	<p>One of</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CHEM20014 Organic and Physical Chemistry 2</td> <td>Year Long</td> <td>12.50</td> </tr> <tr> <td>CHEM20025 Physical and Inorganic Chemistry 2</td> <td>Year Long</td> <td>12.50</td> </tr> <tr> <td>CHEM20021 Physical Chemistry 2</td> <td>Year Long</td> <td>12.50</td> </tr> </tbody> </table> <p># 610-210 Light, Matter &amp; Chemical Change A (prior to 2009)</p> <p>Or both of</p> <p># 610-211 Light, Matter &amp; Chemical Change B (prior to 2009)</p> <p># 610-215 Physical Chemistry Practical (prior to 2009)</p> <p>Concurrent enrolment in CHEM30002 Physical Chemistry IIIB is strongly recommended.</p>	Subject	Study Period Commencement:	Credit Points:	CHEM20014 Organic and Physical Chemistry 2	Year Long	12.50	CHEM20025 Physical and Inorganic Chemistry 2	Year Long	12.50	CHEM20021 Physical Chemistry 2	Year Long	12.50
Subject	Study Period Commencement:	Credit Points:											
CHEM20014 Organic and Physical Chemistry 2	Year Long	12.50											
CHEM20025 Physical and Inorganic Chemistry 2	Year Long	12.50											
CHEM20021 Physical Chemistry 2	Year Long	12.50											
<b>Corequisites:</b>	None												
<b>Recommended Background Knowledge:</b>	None												
<b>Non Allowed Subjects:</b>	<p>Credit cannot be gained for this subject and either of</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CHEM30015 Advanced Practical Chemistry</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>CHEM30001 Physical Chemistry IIIA</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CHEM30015 Advanced Practical Chemistry	Semester 1	12.50	CHEM30001 Physical Chemistry IIIA	Semester 1	12.50			
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CHEM30015 Advanced Practical Chemistry	Semester 1	12.50											
CHEM30001 Physical Chemistry IIIA	Semester 1	12.50											
<b>Core Participation Requirements:</b>	For the purposes of considering applications for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005) and Students Experiencing Academic Disadvantage Policy, this subject requires all students to actively and safely participate in laboratory activities. Students who feel their disability may impact upon their participation are encouraged to discuss this with the Subject Coordinator and the Disability Liaison Unit. Hhttp://www.services.unimelb.edu.au/disability/												
<b>Coordinator:</b>	Assoc Prof Uta Wille												
<b>Contact:</b>	Director of Third Year Studies <b>Email: <a href="mailto:third-year-lab@chemistry.unimelb.edu.au">third-year-lab@chemistry.unimelb.edu.au</a> (mailto:third-year-lab@chemistry.unimelb.edu.au)</b>												
<b>Subject Overview:</b>	This subject will build on the experience gained in second year practical chemistry through the acquisition and interpretation of advanced spectroscopic and physical data and the investigation of chemical systems through computational techniques. It consists of a series of laboratory-based experiments aimed at developing skills in the synthesis, safe handling and analysis of												

	<p>chemical substances of a range of different classes of compounds; an understanding of modern characterisation techniques (e.g. chromatography, atomic and molecular spectroscopy); and the operation of instrumentation for the acquisition of kinetic, structural and thermodynamic data.</p> <p>A component of this subject will also involve the development of skills in independent practical work through the design and implementation of experimental procedures and techniques, and data interpretation. The subject will also provide opportunities for the development of scientific writing and presentation skills, problem solving and small group collaboration, while introducing resources and software commonly used within chemical research fields (i.e. scientific databases, chemical drawing software, molecular modelling &amp; optimisation, etc).</p>
<b>Objectives:</b>	This subject aims to refine students' skills in the application and interpretation of advanced spectroscopic, computational and physical techniques; and the recording, interpretation and reporting of scientific observations.
<b>Assessment:</b>	Practical component: Ongoing assessment in the form of six written reports on laboratory-based practical exercises, in addition to two assignment-based reports, all due during semester 1.
<b>Prescribed Texts:</b>	The laboratory manual for this subject
<b>Breadth Options:</b>	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> <li># <b>Bachelor of Arts</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-ARTS">https://handbook.unimelb.edu.au/view/2011/B-ARTS</a>)</li> <li># <b>Bachelor of Commerce</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-COM">https://handbook.unimelb.edu.au/view/2011/B-COM</a>)</li> <li># <b>Bachelor of Environments</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-ENVS">https://handbook.unimelb.edu.au/view/2011/B-ENVS</a>)</li> <li># <b>Bachelor of Music</b> (<a href="https://handbook.unimelb.edu.au/view/2011/B-MUS">https://handbook.unimelb.edu.au/view/2011/B-MUS</a>)</li> </ul> <p>You should visit <b>learn more about breadth subjects</b> (<a href="http://breadth.unimelb.edu.au/breadth/info/index.html">http://breadth.unimelb.edu.au/breadth/info/index.html</a>) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>Upon completion of this subject, students should have developed the following generic skills:</p> <ul style="list-style-type: none"> <li># the ability to use conceptual models to rationalise observations;</li> <li># data recording and interpretation of scientific observations;</li> <li># ability to search databases and the scientific literature;</li> <li># ability to use advanced computational packages;</li> <li># be able to apply procedures for data and error analysis;</li> <li># ability to write scientific reports;</li> <li># an understanding and basic operations of modern techniques;</li> <li># an awareness of safe and diligent laboratory practice, including safe chemical and glassware handling, and proper instrument operation.</li> </ul>
<b>Notes:</b>	This subject is available for science credit to students enrolled in the BSc (pre-2008 degree), BASc or a combined BSc course.
<b>Related Majors/Minors/Specialisations:</b>	Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses