

# Chemical Systems

<b>Year and Campus:</b>	2011															
<b>Coordinator:</b>	Associate Professor David Shallcross Department of Chemical and Biomolecular Engineering Associate Professor Sandra Kentish Department of Chemical and Biomolecular Engineering															
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<b>Overview:</b>	<p>Students who have undertaken the Chemical Systems major will be able to rigorously integrate fundamental science in chemical engineering to provide accurate information and optimum solutions to practical problems involving basic chemical processing systems. More specifically, core skills and knowledge that will be developed include: fundamental scientific comprehension that will lead to accurate computer modelling of process systems, analytical and abstract thinking, problem-solving and design skills, ability to carry out laboratory experiments to eliminate or confirm possible solutions to complex problems. In all levels of this major, we will ensure the development of excellent communication skills that will enable our graduates to deliver complex scientific information in a clear and concise fashion.</p> <p>The Chemical Systems major provides a direct pathway for admission to Masters in Engineering programs in chemical and biomolecular engineering. These Masters programs will be accredited and recognized internationally as professional engineering degrees. Students graduating from these programs will be ready to work in a range of chemical and biomolecular engineering industries anywhere in the world.</p>															
<b>Objectives:</b>	The objective of the chemical systems major is to contribute to the academic preparation of graduates who embody the University of Melbourne graduate attributes, as well as additional attributes more specific to the Bachelor of Science.															
<b>Structure &amp; Available Subjects:</b>	Completion of 50 points of study at Level 3.															
<b>Subject Options:</b>	<p>All four of</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CHEN30001 Reactor Engineering</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>CHEN30005 Heat and Mass Transport Processes</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>ENGR30001 Fluid Mechanics &amp; Thermodynamics</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>CHEN30009 Process Dynamics and Control</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CHEN30001 Reactor Engineering	Semester 1	12.50	CHEN30005 Heat and Mass Transport Processes	Semester 1	12.50	ENGR30001 Fluid Mechanics & Thermodynamics	Semester 1, Semester 2	12.50	CHEN30009 Process Dynamics and Control	Semester 2	12.50
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<b>Notes:</b>	In addition to these four core subjects, the Level 3 subject, MAST30023 Differential Equations for Engineers (not offered after 2011), will also be required in this major for students who have taken MAST20009 Vector Calculus instead of MAST20029 Engineering Mathematics at Level 2.															
<b>Related Course(s):</b>	Bachelor of Science															