

**Bachelor of Engineering (Honours) (Chemical)
with Bachelor of Mathematical and Computer Sciences – Mathematics Major Study Plans – Semester 1 Start**

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Bachelor of Engineering (Honours)(Chemical)
with Bachelor of Mathematical and Computer Sciences – Mathematics Major – Study Plan Notes

Internships

All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies. The 8 weeks of internship must be supervised by a qualified engineer and may be completed in one placement or a series of placements. The Faculty recommends students undertake internships upon commencement of third year engineering courses. Internships are self-sourced and resources are available through [Careers Service](#). Register with CareerHub to access a database where opportunities are posted.

Electives

How to choose an elective course in your area of interest?

Please refer to the steps via the link: <https://ecms.adelaide.edu.au/study-with-us/student-support/enrolment>

Mathematics Electives

Mathematics Electives may be chosen from the Mathematics courses listed in the Program Rules for the degree of Bachelor of Mathematical and Computer Sciences:
<https://calendar.adelaide.edu.au/faculty/ecms>

Program Rules

For academic program rules please refer to the following website: <https://calendar.adelaide.edu.au/faculty/ecms>

Information and Enrolment Advice

Ask ECMS

Email: askecms@adelaide.edu.au

Website: <https://ecms.adelaide.edu.au/study-with-us/student-support>

Bachelor of Engineering (Honours) (Chemical)
with Bachelor of Mathematical and Computer Sciences - Mathematics Major

Year 1				
S 1	MATHS 1011 Mathematics IA <input type="checkbox"/>	*CHEM 1100 Chemistry IA <input type="checkbox"/> OR CHEM 1101 Foundations of Chemistry IA <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	▲ENG 1001 Introduction to Engineering <input type="checkbox"/>
S 2	MATHS 1012 Mathematics IB <input type="checkbox"/>	*CHEM 1200 Chemistry IB <input type="checkbox"/> OR CHEM 1201 Foundations of Chemistry IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	Level I Specified Elective (see elective table) <input type="checkbox"/>
Year 2				
S 1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	Level I/ II Science Electives <input type="checkbox"/>
S 2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2014 Heat and Mass Transfer <input type="checkbox"/>	Level II Chemical Engineering Elective (see elective table) <input type="checkbox"/>
Year 3				
S 1	CHEM ENG 3035 Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Chemical Reactor Engineering <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3033 Separation Process Engineering <input type="checkbox"/>	CHEM ENG 3030 Process Synthesis and Design <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see note on page 2.				
Year 4				
S 1	ENG 3004 Systems Engineering and Industry Practice <input type="checkbox"/>	CHEM ENG 3029 Material Science and Engineering <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3031 Process Control and Instrumentation <input type="checkbox"/>	CHEM ENG 3036 Unit Operations <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
Year 5				
S 1	CHEM ENG 4056 Design Practice <input type="checkbox"/>	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	Level IV Chemical Engineering Elective (see elective table) <input type="checkbox"/>
S 2	CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		Level IV Chemical Engineering Elective (see elective table) <input type="checkbox"/>

Core Courses Elective (see table) Double Degree Course

▲EAL: Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering

*Chemistry: Students with at least C+ in SACE Stage 2 Chemistry (or equivalent) must enrol in CHEM 1100 Chemistry IA and CHEM 1200 Chemistry IB. All other students must enrol into CHEM 1101 Foundations of Chemistry IA and CHEM 1201 Foundations of Chemistry IB.

Bachelor of Engineering (Honours) (Chemical) – Food and Beverage Engineering Major
with Bachelor of Mathematical and Computer Sciences - Mathematics Major

Year 1				
S 1	MATHS 1011 Mathematics IA <input type="checkbox"/>	*CHEM 1100 Chemistry IA <input type="checkbox"/> OR CHEM 1101 Foundations of Chemistry IA <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	▲ENG 1001 Introduction to Engineering <input type="checkbox"/>
S 2	MATHS 1012 Mathematics IB <input type="checkbox"/>	*CHEM 1200 Chemistry IB <input type="checkbox"/> OR CHEM 1201 Foundations of Chemistry IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	Level I Specified Elective (see elective table) <input type="checkbox"/>
Year 2				
S 1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	OENOLOGY 2501WT Microbiology for Viticulture and Oenology II <input type="checkbox"/>
S 2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2014 Heat and Mass Transfer <input type="checkbox"/>	CHEM ENG 2073 Food Engineering (<i>not offered 2021</i>) <input type="checkbox"/>
Year 3				
S 1	CHEM ENG 3035 Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Chemical Reactor Engineering <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3033 Separation Process Engineering <input type="checkbox"/>	CHEM ENG 3030 Process Synthesis and Design <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see note on page 2.				
Year 4				
S 1	ENG 3004 Systems Engineering and Industry Practice <input type="checkbox"/>	CHEM ENG 3029 Material Science and Engineering <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3031 Process Control and Instrumentation <input type="checkbox"/>	CHEM ENG 3036 Unit Operations <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
Year 5				
S 1	CHEM ENG 4056 Design Practice <input type="checkbox"/>	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 4074 Brewery Engineering (<i>not offered 2021</i>) <input type="checkbox"/>
S 2	CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>	<input type="checkbox"/>	CHEM ENG 4075 Winery Engineering (<i>not offered 2021</i>) <input type="checkbox"/>
Core Courses		Elective (see table)	Double Degree Course	Major Course

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Bachelor of Engineering (Honours) (Chemical) – Minerals Processing Major
with Bachelor of Mathematical and Computer Sciences - Mathematics Major

Year 1				
S 1	MATHS 1011 Mathematics IA <input type="checkbox"/>	*CHEM 1100 Chemistry IA <input type="checkbox"/> OR CHEM 1101 Foundations of Chemistry IA <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	▲ENG 1001 Introduction to Engineering <input type="checkbox"/>
S 2	MATHS 1012 Mathematics IB <input type="checkbox"/>	*CHEM 1200 Chemistry IB <input type="checkbox"/> OR CHEM 1201 Foundations of Chemistry IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	Level I Specified Elective (see elective table) <input type="checkbox"/>
Year 2				
S 1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	CEME 2004 Introduction to Geo-Engineering <input type="checkbox"/>
S 2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2014 Heat and Mass Transfer <input type="checkbox"/>	CHEM ENG 2019 Introduction to Minerals Processing <input type="checkbox"/>
Year 3				
S 1	CHEM ENG 3035 Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Chemical Reactor Engineering <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3033 Separation Process Engineering <input type="checkbox"/>	CHEM ENG 3030 Process Synthesis and Design <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see note on page 2.				
Year 4				
S 1	ENG 3004 Systems Engineering and Industry Practice <input type="checkbox"/>	CHEM ENG 3029 Material Science and Engineering <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3031 Process Control and Instrumentation <input type="checkbox"/>	CHEM ENG 3036 Unit Operations <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
Year 5				
S 1	CHEM ENG 4056 Design Practice <input type="checkbox"/>	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 4059 Pyrometallurgy <input type="checkbox"/>
S 2	CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4058 Hydrometallurgy and Electrometallurgy <input type="checkbox"/>
Core Courses	Elective (see table)	Double Degree Course	Major Course	

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Bachelor of Engineering (Honours) (Chemical) – Pharmaceutical Engineering Major with Bachelor of Mathematical and Computer Sciences - Mathematics Major

Year 1				
S 1	MATHS 1011 Mathematics IA <input type="checkbox"/>	*CHEM 1100 Chemistry IA OR CHEM 1101 Foundations of Chemistry IA <input type="checkbox"/>	CHEM ENG 1007 Introduction to Process Engineering <input type="checkbox"/>	ANAT SC 1102 Human Anatomy and Physiology IA OR BIOLOGY 1101 Biology I: Molecules, Genes and Cells <input type="checkbox"/>
S 2	MATHS 1012 Mathematics IB <input type="checkbox"/>	*CHEM 1200 Chemistry IB OR CHEM 1201 Foundations of Chemistry IB <input type="checkbox"/>	ENG 1002 Programming (Matlab and C) <input type="checkbox"/>	▲ENG 1001 Introduction to Engineering <input type="checkbox"/>
Year 2				
S 1	MATHS 2106 Differential Equations for Engineers II <input type="checkbox"/>	CHEM ENG 2010 Principles of Process Engineering <input type="checkbox"/>	CHEM ENG 2018 Process Fluid Mechanics <input type="checkbox"/>	HLTH SC 2104 Essential Understanding of Disease and Treatment <input type="checkbox"/>
S 2	MATHS 2107 Statistics & Numerical Methods II <input type="checkbox"/>	CHEM ENG 2011 Process Engineering Thermodynamics <input type="checkbox"/>	CHEM ENG 2014 Heat and Mass Transfer <input type="checkbox"/>	CHEM ENG 2012 Pharmaceutical Production Processes <input type="checkbox"/>
Year 3				
S 1	CHEM ENG 3035 Fluid & Particle Mechanics <input type="checkbox"/>	CHEM ENG 3034 Chemical Reactor Engineering <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3033 Separation Process Engineering <input type="checkbox"/>	CHEM ENG 3030 Process Synthesis and Design <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>	Level II or III Mathematics Elective <input type="checkbox"/>
Internship				
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see note on page 2.				
Year 4				
S 1	ENG 3004 Systems Engineering and Industry Practice <input type="checkbox"/>	CHEM ENG 3029 Material Science and Engineering <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
S 2	CHEM ENG 3031 Process Control and Instrumentation <input type="checkbox"/>	CHEM ENG 3036 Unit Operations <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>	Level III Mathematics Elective <input type="checkbox"/>
Year 5				
S 1	CHEM ENG 4056 Design Practice <input type="checkbox"/>	CHEM ENG 4034 Professional Practice IV <input type="checkbox"/>	CHEM ENG 4050 Advanced Chemical Engineering <input type="checkbox"/>	CHEM ENG 4060 Pharmaceutical Formulation & Manufacturing <input type="checkbox"/>
S 2	CHEM ENG 4054 Research Project <input type="checkbox"/>	CHEM ENG 4014 Plant Design Project (6 units) <input type="checkbox"/>		CHEM ENG 4036 Pharmaceutical Process Validation & Quality <input type="checkbox"/>

Core Courses Elective (see table) Double Degree Course Major Course

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Not all Majors and Double Degrees permit electives in every semester slot.

Level I Specified Elective				
S1	CEME 1004 Various	Engineering Mechanics – Statics Level I Arts, Professions, Science Courses	S2 CEME 1002 CHEM ENG 1009 MECH ENG 1007 Various	Introduction to Infrastructure Materials I Engineering Mechanics – Dynamics Level I Arts, Professions, Science Courses
Level II Chemical Engineering Elective				
			S2 CHEM ENG 2012 CHEM ENG 2019 CHEM ENG 2073	Pharmaceutical Production Processes Introduction to Minerals Processing Food Engineering (not offered 2021)
Level IV Chemical Engineering Elective				
S1	CHEM ENG 4046 CHEM ENG 4051 CHEM ENG 4059	Combustion Processes Water and Wastewater Engineering Pyrometallurgy	S2 CHEM ENG 4048 CHEM ENG 4058	Biofuels, Biomass and Wastes Hydrometallurgy and Electrometallurgy
TBC	CHEM ENG 4074 CHEM ENG 4075	Brewery Engineering (not offered 2021) Winery Engineering (not offered 2021)		