

2022 Study Plan Bachelor of Engineering (Honours) (Chemical)

with Bachelor of Mathematical and Computer Sciences – Mathematics Major – Semester 1 Start

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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. Internships are self-sourced and further information can be found on the Engineering Internships web page: https://ecms.adelaide.edu.au/study-with-us/student-support/internships/engineering.

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



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No Major

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	Year 1								
S 1	MATHS 1011 Mathematics IA		*CHEM 1100 Chemistry IA OR CHEM 1101 Foundations of Chemistry IA		CHEM ENG 1007 Introduction to Process Engineering		^ENG 1001 Introduction to Engineering		
S 2	MATHS 1012 Mathematics IBs		*CHEM 1200 Chemistry IB OR CHEM 1201 Foundations of Chemistry IB		ENG 1002 Programming (Matlab and C)		CHEM ENG 1009 Materials I		
	Year 2								
S 1	MATHS 2106 Differential Equations for Engineers II		CHEM ENG 2010 Process Design II		CHEM ENG 2018 Process Fluid Mechanics		Level I/ II Science Electives		
S 2	MATHS 2107 Statistics & Numerical Methods II		CHEM ENG 2011 Process Engineering Thermodynamics		CHEM ENG 2014 Heat and Mass Transfer		Level II Chemical Engineering Elective (see elective table)		
				Year	3				
S 1	CHEM ENG 3035 Fluid & Particle Mechanics		CHEM ENG 3034 Chemical Reactor Engineering		Level II or III Mathematics Elective		Level II or III Mathematics Elective		
S 2	CHEM ENG 3033 Separation Process Engineering		CHEM ENG 3030 Process Design III		Level II or III Mathematics Elective		Level II or III Mathematics Elective		
	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 page 2.								
		<u>-</u>		Year		<u> </u>		_	
S 1	ENG 3005 Research Methodology & Project Management		CHEM ENG 3029 Material Science and Engineering		Level III Mathematics Elective		Level III Mathematics Elective		
S 2	CHEM ENG 3031 Process Control and Instrumentation		CHEM ENG 3036 Unit Operations Laboratory		Level III Mathematics Elective		Level III Mathematics Elective		
	Year 5								
S 1	CHEM ENG 4056 Process Design IV		CHEM ENG 4034 Chemical Engineering Practice		CHEM ENG 4050 Advanced Chemical Engineering		Level IV Chemical Engineering Elective (see elective table)		
S 2	CHEM ENG 4054 Research Project		CHEM ENG 4014 Plant Design Project (6 units)				Level IV Chemical Engineering Elective (see elective table)		
Cor	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.



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Food and Beverage Engineering Major

S NATHS 1011 Mathematics IA CHEM 1100 Chemistry IA OR CHEM 1100 Chemistry IA OR CHEM 1100 Chemistry IB OR CHEM 1200 Ch		Year 1								
All Engineering students commercing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students (Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during the course of their studies – see page 2. National Students Complete a minimum of 8 weeks of internship during t	S 1			•						
S MATHS 2106 Differential Equations for Engineers II	S 2			•						
Differential Equations for Engineers Process Design Process Design Process Fluid Mechanics Microbiology for Viticulture and Oenology II		1986								
2 Statistics & Numerical Methods II	S 1									
S CHEM ENG 3035 Fluid & Particle Mechanics Chem ENG 3034 Chem ENG 3039 Chem ENG 3030 Chem ENG 4056 Chem ENG 4074 Chem ENG 4054	S 2									
Fluid & Particle Mechanics					Year	3				
2 Separation Process Engineering Process Design III 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 page 2. Year 4 S RNG 3005 S Research Methodology & Project Management Management Management Process Control and Instrumentation CHEM ENG 3036 Unit Operations Laboratory Process Control and Instrumentation CHEM ENG 4034 Chemical Engineering Practice Advanced Chemical Engineering CHEM ENG 4074 S Browery Engineering CHEM ENG 4054 CHEM ENG 4055 CHEM ENG 4054 CHEM ENG 4054 CHEM ENG 4054 CHEM ENG 4055 CHEM ENG 4056 CHEM ENG 4055 CHEM ENG 4056 CHEM ENG	S 1					Level II or III Mathematics Elective		Level II or III Mathematics Elective		
All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see page 2. Year 4 S ENG 3005 Research Methodology & Project Management CHEM ENG 3029 Material Science and Engineering	S 2					Level II or III Mathematics Elective		Level II or III Mathematics Elective		
S ENG 3005 Research Methodology & Project Management S CHEM ENG 3031 Process Control and Instrumentation CHEM ENG 3036 Unit Operations Laboratory Year 5 CHEM ENG 4036 Process Design IV CHEM ENG 4074 S Brewery Engineering CHEM ENG 4054 Research Project CHEM ENG 4014 Plant Design Project (6 units) CHEM ENG 4015 Process Control and Instrumentation CHEM ENG 4014 Plant Design Project (6 units) CHEM ENG 4025 Winery Engineering (not offered 2021)		Internship								
S CHEM ENG 3005 Research Methodology & Project Management CHEM ENG 3029 Material Science and Engineering CHEM ENG 3031 Process Control and Instrumentation CHEM ENG 3036 Unit Operations Laboratory Year 5 CHEM ENG 4056 Process Design IV CHEM ENG 4074 S Brewery Engineering CHEM ENG 4014 Research Project CHEM ENG 4014 Plant Design Project (6 units) CHEM ENG 4014 Plant Design Project (6 units) CHEM ENG 4021 Level III Mathematics Elective Level III Mathematics Elective Level III Mathematics Elective Level III Mathematics Elective Level III Mathematics Elective Level III Mathematics Elective Level III Mathematics Elective CHEM ENG 4050 Advanced Chemical Engineering CHEM ENG 4050 Advanced Chemical Engineering CHEM ENG 4075 Winery Engineering (not offered 2021)		All Engineering students commencing from 2019 are required to complete a minimum of 8 weeks of internship during the course of their studies – see page 2.								
Research Methodology & Project Management					Year					
Process Control and Instrumentation Unit Operations Laboratory Vear S S CHEM ENG 4056 1 Process Design IV CHEM ENG 4074 S Brewery Engineering Brewery Engineering Solutions CHEM ENG 4014 2 Research Project CHEM ENG 4054 2 Research Project CHEM ENG 4014 Plant Design Project (6 units) CHEM ENG 4021 Unit Operations Laboratory Vear S CHEM ENG 4056 Advanced Chemical Engineering Advanced Chemical Engineering CHEM ENG 4050 Advanced Chemical Engineering CHEM ENG 4075 Winery Engineering (not offered 2021)	S 1	Research Methodology & Project				Level III Mathematics Elective		Level III Mathematics Elective		
S CHEM ENG 4056 1 Process Design IV CHEM ENG 4034 Chemical Engineering Practice W CHEM ENG 4074 S Brewery Engineering CHEM ENG 4054 Research Project CHEM ENG 4034 Chemical Engineering Practice CHEM ENG 4050 Advanced Chemical Engineering CHEM ENG 4050 CHEM ENG 4074 Chemical Engineering CHEM ENG 4075 Winery Engineering (not offered 2021)	S 2					Level III Mathematics Elective		Level III Mathematics Elective		
1 Process Design IV Chemical Engineering Practice Advanced Chemical Engineering W CHEM ENG 4074 S Brewery Engineering CHEM ENG 4054 Research Project CHEM ENG 4014 Plant Design Project (6 units) Advanced Chemical Engineering CHEM ENG 4075 Winery Engineering (not offered 2021)		Year 5								
S Brewery Engineering S CHEM ENG 4054 2 Research Project CHEM ENG 4014 Plant Design Project (6 units) CHEM ENG 4075 Winery Engineering (not offered 2021)	S 1								_	
2 Research Project	W S	Brewery Engineering								
	S 2							0.12.11.2.10.10.10		

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Bachelor of Engineering (Honours) (Chemical)

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Minerals Processing Major

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				Year	1				
S 1	MATHS 1011 Mathematics IA		*CHEM 1100 Chemistry IA OR CHEM 1101 Foundations of Chemistry IA		CHEM ENG 1007 Introduction to Process Engineering		^ENG 1001 Introduction to Engineering		
S 2	MATHS 1012 Mathematics IB		*CHEM 1200 Chemistry IB OR CHEM 1201 Foundations of Chemistry IB		ENG 1002 Programming (Matlab and C)		CHEM ENG 1009 Materials I		
	Year 2								
S 1	MATHS 2106 Differential Equations for Engineers II		CHEM ENG 2010 Process Design II		CHEM ENG 2018 Process Fluid Mechanics		CEME 2004 Introduction to Geo-Engineering		
S 2	MATHS 2107 Statistics & Numerical Methods II		CHEM ENG 2011 Process Engineering Thermodynamics		CHEM ENG 2014 Heat and Mass Transfer		CHEM ENG 2019 Introduction to Minerals Processing		
				Year	3	_		-	
S 1	CHEM ENG 3035 Fluid & Particle Mechanics		CHEM ENG 3034 Chemical Reactor Engineering		Level II or III Mathematics Elective		Level II or III Mathematics Elective		
S 2	CHEM ENG 3033 Separation Process Engineering		CHEM ENG 3030 Process Design III		Level II or III Mathematics Elective		Level II or III Mathematics Elective		
				Interns	ship				
	All Engineering students com	men	cing from 2019 are required to complet	e a mini	mum of 8 weeks of internship during the	course	of their studies – see page 2.		
	Year 4								
S 1	ENG 3005 Research Methodology & Project Management		CHEM ENG 3029 Material Science and Engineering		Level III Mathematics Elective		Level III Mathematics Elective		
S 2	CHEM ENG 3031 Process Control and Instrumentation		CHEM ENG 3036 Unit Operations Laboratory		Level III Mathematics Elective		Level III Mathematics Elective		
	Year 5								
S 1	CHEM ENG 4056 Process Design IV		CHEM ENG 4034 Chemical Engineering Practice		CHEM ENG 4050 Advanced Chemical Engineering		MECH ENG 4112 Combustion Technologies & High Temperature Processes		
S 2	CHEM ENG 4054 Research Project		CHEM ENG 4014 Plant Design Project (6 units)				CHEM ENG 4058 Metallurgical Processes		
Cor	re Courses Double Degree Course	Mai	or Course						

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Pharmaceutical Engineering Major

	Year 1									
S 1	MATHS 1011 Mathematics IA		*CHEM 1100 Chemistry IA OR CHEM 1101 Foundations of Chemistry IA	а 🗆	CHEM ENG 1007 Introduction to Process Engineering		^ENG 1001 Introduction to Engineering			
S 2	MATHS 1012 Mathematics IB		*CHEM 1200 Chemistry IB OR CHEM 1201 Foundations of Chemistry IB		ENG 1002 Programming (Matlab and C)		CHEM ENG 1009 Materials I			
	Year 2									
S 1	MATHS 2106 Differential Equations for Engineers II		CHEM ENG 2010 Process Design II		CHEM ENG 2018 Process Fluid Mechanics		ANAT SC 1102 Human Anatomy and Physiology IA OR BIOLOGY 1101 Biology I: Molecules, Genes and Cells			
S 2	MATHS 2107 Statistics & Numerical Methods II		CHEM ENG 2011 Process Engineering Thermodynamic	cs \square	CHEM ENG 2014 Heat and Mass Transfer		CHEM ENG 2012 Pharmaceutical Production Processes			
	Year 3									
S 1	CHEM ENG 3035 Fluid & Particle Mechanics		CHEM ENG 3034 Chemical Reactor Engineering		Level II or III Mathematics Elective		Level II or III Mathematics Elective			
S 2	CHEM ENG 3033 Separation Process Engineering		CHEM ENG 3030 Process Design III		Level II or III Mathematics Elective		Level II or III Mathematics Elective			
	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 page 2.									
	Year 4									
S 1	ENG 3005 Research Methodology & Project Management		CHEM ENG 3029 Material Science and Engineering		Level III Mathematics Elective		Level III Mathematics Elective			
S 2	CHEM ENG 3031 Process Control and Instrumentation		CHEM ENG 3036 Unit Operations Laboratory		Level III Mathematics Elective		Level III Mathematics Elective			
	Year 5									
S 1	CHEM ENG 4056 Process Design IV		CHEM ENG 4034 Chemical Engineering Practice		CHEM ENG 4050 Advanced Chemical Engineering		CHEM ENG 4060 Pharmaceutical Formulation & Manufacturing			
S 2	CHEM ENG 4054 Research Project		CHEM ENG 4014 Plant Design Project (6 units)				CHEM ENG 4036 Ensuring Quality in Pharmaceutical Manufacturing			
Cor	e Courses Double Degree Course	Mai	or Course							

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Chemical Engineering Electives

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

Level II Chemical Engineering Elective										
			S2	CHEM ENG 2012 CHEM ENG 2019 CHEM ENG 2073	Pharmaceutical Production Processes Introduction to Minerals Processing Food Engineering					
		Level IV Chemical	Engine	ering Elective						
S1	MECH ENG 4112 CHEM ENG 4051	Combustion Technologies & High Temperature Processes Water and Wastewater Engineering	S2	CHEM ENG 4048 CHEM ENG 4058	Biofuels, Biomass and Wastes Metallurgical Processes					
ws	CHEM ENG 4074	Brewery Engineering	твс	CHEM ENG 4075	Winery Engineering (not offered 2022)					