

# 2022 Study Plan THE UNIVERSITY of ADELAIDE Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences

No Major	2
Construction Management Major	4
Geotechnical Engineering Major	6
Structural Engineering Major	8
Water Systems Major	. 10



## THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Mathematics Major – Semester 1 Start

No Major

	Tio Major											
		Ye	ear	1								
S 1	MATHS 1011 Mathematics IA	CEME 1004 Engineering Mechanics- Statics		ENG 1002 Programming (Matlab and C)		Level 1 Engineering Elective (see elective table)						
S 2	MATHS 1012 Mathematics IB	CEME 1002 Introduction to Infrastructure		^ ENG 1001 Introduction to Engineering		General Elective (see notes)						
	Year 2											
S 1	MATHS 2106 Differential Equations for Engineers II	CEME 2001 Strength of Materials		CEME 2003 Civil Engineering Hydraulics		CEME 2004 Introduction to Geo-engineering						
S 2	MATHS 2107 Statistics & Numerical Methods II	CEME 2002 Structural Mechanics		CEME 2005 Transportation Engineering & Surveying		# Level II or III Mathematics Elective						
	Year 3											
S 1	ENG 3004 Systems Engineering and Industry Practice	CEME 3001 Computer Analysis of Structures and Structural Dynamics		CEME 3002 Reinforced Concrete Design		# Level II or III Mathematics Elective						
S 2	ENG 3005 Research Method & Project Management	CEME 3003 Structural Steel Design		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering						
		Inte	rns	hip								
	All Engineering students commencing fro	m 2019 are required to complete a minimum	of	8 weeks of internship during the course of	their	studies – see the note section below.						
		Ye	ear	4								
S 1	ENG 4001A Research Project Part A	CEME 3004 Hydrology for Engineers		Civil Engineering Elective (see elective table)		# Level II or III Mathematics Elective						
S 2	ENG 4001B Research Project Part B	CEME 4050 Design Practice		# Level II or III Mathematics Elective		# Level III Mathematics Elective						
		Ye	ear	5								
S 1	Civil Engineering Elective (see elective table)	Civil Engineering Elective (see elective table)		General Elective (see notes)		# Level III Mathematics Elective						
S 2	Civil Engineering Elective (see elective table)	Civil Engineering Elective (see elective table)		# Level III Mathematics Elective		# Level III Mathematics Elective						
T _	- Courses	Davible Dagman Carriage										

<sup>^</sup> EAL: Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering



		CHOOSE FROM THE FOLLOWING	G LEVEL 1 ENGINEERING ELECTIVES				
	CEME 1001	Introduction to Environmental Engineering		CEME 1003	Resources and Energy in a Circular Economy		
S1	CHEM ENG 1007	Introduction to Process Engineering	S2	CONMGNT 1000	Civil Engineering Construction Materials		
31	ELEC ENG 1101	Electronic Systems	32	CONMGNT 1001	Construction Estimation and Quantity Surveying		
				MECH ENG 1007	Engineering Mechanics - Dynamics		
		CHOOSE FROM THE FOLLOWING	NG CIVIL ENGINEERING ELECTIVES				
	CEME 4001	Advanced Reinforced Concrete Design		CEME 2006	Climate & Environmental Change Impact Modelling		
	CEME 4002	Finite Element Theory and Practice		CEME 3007	Integrated Environment Planning and Impact Assessment		
S1	CEME 4007	Unsaturated Soils	S2	CEME 4003	Wind and Earthquake Engineering		
31	CEME 4008	Soil and Ground Water Remediation	32	CEME 4006	Climate Risk and Resilience		
	CHEM ENG 4051	Water and Wastewater Engineering		CEME 4009	Decision Making for Sustainable Solutions		
				CEME 4010	Designing Water Resource Systems for Urban Environments		
SUM	CEME 4005	Integrated Natural Hazard Risk Management					

## **NOTES**

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

# Mathematics Electives may be chosen from the Mathematics courses listed in the Program Rules for the degree of Bachelor of Mathematical and Computer Sciences.

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

#### **General 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/studentsupport/enrolment

#### **Information and Enrolment Advice:**

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



THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Mathematics Major – Semester 1 Start

Construction Management Major

	Year 1										
S 1	MATHS 1011 Mathematics IA	CEME 1004 Engineering Mechanics- Statics		ENG 1002 Programming (Matlab and C)		Level 1 Engineering Elective (see elective table)					
S 2	MATHS 1012 Mathematics IB	CEME 1002 Introduction to Infrastructure		^ ENG 1001 Introduction to Engineering		DESST 1504 Representation I					
		Y	Year	2							
S 1	MATHS 2106 Differential Equations for Engineers II	CEME 2001 Strength of Materials		CEME 2003 Civil Engineering Hydraulics		CEME 2004 Introduction to Geo-engineering					
S 2	MATHS 2107 Statistics & Numerical Methods II	CEME 2002 Structural Mechanics		CEME 2005 Transportation Engineering & Surveying		# Level II or III Mathematics Elective					
	Year 3										
S 1	ENG 3004 Systems Engineering and Industry Practice	CEME 3001 Computer Analysis of Structures and Structural Dynamics		CEME 3002 Reinforced Concrete Design		# Level II or III Mathematics Elective					
S 2	ENG 3005 Research Method & Project Management	CEME 3003 Structural Steel Design		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering					
		Int	terns	ship							
	All Engineering students commencing fro	m 2019 are required to complete a minimur	m of	8 weeks of internship during the course of	their	studies – see the note section below.					
		Υ	Year	4							
S 1	ENG 4001A Research Project Part A	DESST 2518 Construction II		CEME 3004 Hydrology for Engineers		# Level II or III Mathematics Elective					
S 2	ENG 4001B Research Project Part B	CEME 4050 Design Practice		# Level II or III Mathematics Elective		# Level III Mathematics Elective					



				Year	5		
	ENG 3301		ENG 3302		DESST 3514	# Level III Mathematics Elective	
_	Construction Manage	ement and	Cost Planning and Manag	gement	Construction III		
3 1	Technology I						
1	(not available in 202	22 - please contact	(not available in 2022 - p	lease contact			
	the Director of Teach	hing)	the Director of Teaching)				
	ENG 3303		ENG 3304		# Level III Mathematics Elective	# Level III Mathematics Elective	
c	Construction Manage	ement and	Development and Construction				
2	Technologies						
2	(not available in 202	22 - please contact	(not available in 2022 - p	lease contact			
	the Director of Teach	hing)	the Director of Teaching)				
Cor	e Courses	Major Courses	Elective	Double Degree Cou	rses		

<sup>^</sup> EAL: Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering

	CHOOSE FROM THE FOLLOWING LEVEL 1 ENGINEERING ELECTIVES								
<b>S1</b>	CEME 1001 CHEM ENG 1007 ELEC ENG 1101	Introduction to Environmental Engineering Introduction to Process Engineering Electronic Systems	\$2	CEME 1003 CONMGNT 1000 CONMGNT 1001 MECH ENG 1007	Resources and Energy in a Circular Economy Civil Engineering Construction Materials Construction Estimation and Quantity Surveying Engineering Mechanics - Dynamics				

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THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Mathematics Major – Semester 1 Start

Geotechnical Engineering Major

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			Year	1									
S 1	MATHS 1011 Mathematics IA	CEME 1004 Engineering Mechanics-	Statics	ENG 1002 Programming (Matlab and C)		Level 1 Engineering Elective (see elective table)							
S 2	MATHS 1012 Mathematics IB	CEME 1002 Introduction to Infrastru	cture	^ ENG 1001 Introduction to Engineering		General Elective (see notes)							
	Year 2												
S 1	MATHS 2106 Differential Equations for Engineers II	CEME 2001 Strength of Materials		CEME 2003 Civil Engineering Hydraulics		CEME 2004 Introduction to Geo-engineering							
S 2	MATHS 2107 Statistics & Numerical Methods II	CEME 2002 Structural Mechanics		CEME 2005 Transportation Engineering & Surveying		# Level II or III Mathematics Elective							
	Year 3												
S 1	ENG 3004 Systems Engineering and Industry Practice	CEME 3001 Computer Analysis of Str Structural Dynamics	uctures and	CEME 3002 Reinforced Concrete Design		# Level II or III Mathematics Elective							
S 2	ENG 3005 Research Method & Project Management	CEME 3003 Structural Steel Design		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering							
			Interns	hip									
	All Engineering students commencing fr	om 2019 are required to cor	nplete a minimum of	8 weeks of internship during the course of	ftheir	studies – see the note section below.							
			Year	4									
S 1	ENG 4001A Research Project Part A	MINING 3076 Geomechanics & Excavate Engineering	tion	CEME 3004 Hydrology for Engineers		# Level II or III Mathematics Elective							
S 2	ENG 4001B Research Project Part B	Civil Engineering Elective (see elective table)		# Level II or III Mathematics Elective		# Level III Mathematics Elective							
			Year	5									
S 1	CEME 4007 Unsaturated Soils	GEOLOGY 2501 Structural Geology II		CEME 4008 Soil and Ground Water Remediation		# Level III Mathematics Elective							
S 2	CEME 4050 Design Practice	Civil Engineering Elective (see elective table)		# Level III Mathematics Elective		# Level III Mathematics Elective							
Cor	o Courses Major Courses	Elective	Double Degree Cour	rcoc									

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<sup>^</sup> EAL: Unless exempted, International students are required to take ENG 1011 Introduction to Engineering - EAL in lieu of ENG 1001 Introduction to Engineering Last published 23 December 2021



		CHOOSE FROM THE FOLLOWING	IG LEVEL 1 ENGINEERING ELECTIVES				
<b>S1</b>	CEME 1001 CHEM ENG 1007 ELEC ENG 1101	Introduction to Environmental Engineering Introduction to Process Engineering Electronic Systems	<b>S2</b>	CEME 1003 CONMGNT 1000 CONMGNT 1001 MECH ENG 1007	Resources and Energy in a Circular Economy Civil Engineering Construction Materials Construction Estimation and Quantity Surveying Engineering Mechanics - Dynamics		
		CHOOSE FROM THE FOLLOWING	NG CIVIL ENGINEERING ELECTIVES				
<b>S1</b>	CEME 4001 CEME 4002 CHEM ENG 4051	Advanced Reinforced Concrete Design Finite Element Theory and Practice Water and Wastewater Engineering	S2	CEME 2006 CEME 3007 CEME 4003 CEME 4006 CEME 4009 CEME 4010	Climate & Environmental Change Impact Modelling Integrated Environment Planning and Impact Assessment Wind and Earthquake Engineering Climate Risk and Resilience Decision Making for Sustainable Solutions Designing Water Resource Systems for Urban Environments		
SUM	CEME 4005	Integrated Natural Hazard Risk Management					

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## THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Mathematics Major – Semester 1 Start

Structural Engineering Major

	Year 1											
S 1	MATHS 1011 Mathematics IA	CEME 1004 Engineering Mechanics-	Statics	ENG 1002 Programming (Matlab and C)		Level 1 Engineering Elective (see elective table)						
S 2	MATHS 1012 Mathematics IB	CEME 1002 Introduction to Infrastru	cture	^ ENG 1001 Introduction to Engineering		General Elective (see notes)						
	Year 2											
S 1	MATHS 2106 Differential Equations for Engineers II	CEME 2001 Strength of Materials		CEME 2003 Civil Engineering Hydraulics		CEME 2004 Introduction to Geo-engineering						
S 2	MATHS 2107 Statistics & Numerical Methods II	CEME 2002 Structural Mechanics		CEME 2005 Transportation Engineering & Surveying		# Level II or III Mathematics Elective						
	Year 3											
S 1	ENG 3004 Systems Engineering and Industry Practice	CEME 3001 Computer Analysis of Structural Dynamics	ructures and	CEME 3002 Reinforced Concrete Design		# Level II or III Mathematics Elective						
S 2	ENG 3005 Research Method & Project Management	CEME 3003 Structural Steel Design		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering						
			Interns	hip								
	All Engineering students commencing fr	om 2019 are required to co	mplete a minimum of	8 weeks of internship during the course of	their	studies – see the note section below.						
			Year	4								
S 1	ENG 4001A Research Project Part A	Civil Engineering Elective (see elective table)		CEME 3004 Hydrology for Engineers		# Level II or III Mathematics Elective						
S 2	ENG 4001B Research Project Part B	General Elective (see notes)		CEME 4050 Design Practice		# Level II or III Mathematics Elective						
			Year	5								
S 1	CEME 4001 Advanced Reinforced Concrete Design	CEME 4002 Finite Element Theory ar	nd Practice	# Level III Mathematics Elective		# Level III Mathematics Elective						
S 2	CEME 4003 Wind and Earthquake Engineering	Civil Engineering Elective (see elective table)		# Level III Mathematics Elective		# Level III Mathematics Elective						
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		CHOOSE FROM THE FOLLOWING	G LEVEL 1 ENGINEERING ELECTIVES				
	CEME 1001	Introduction to Environmental Engineering		CEME 1003	Resources and Energy in a Circular Economy		
<b>S1</b>	CHEM ENG 1007 ELEC ENG 1101	Introduction to Process Engineering Electronic Systems	<b>S2</b>	CONMGNT 1000 CONMGNT 1001	Civil Engineering Construction Materials Construction Estimation and Quantity Surveying		
				MECH ENG 1007	Engineering Mechanics - Dynamics		
		CHOOSE FROM THE FOLLOWING	G CIVIL ENGINEERING ELECTIVES				
	CEME 4007	Unsaturated Soils		CEME 2006	Climate & Environmental Change Impact Modelling		
	CEME 4008	Soil and Ground Water Remediation		CEME 3007	Integrated Environment Planning and Impact Assessment		
<b>S1</b>	CHEM ENG 4051	Water and Wastewater Engineering	<b>S2</b>	CEME 4006	Climate Risk and Resilience		
				CEME 4009	Decision Making for Sustainable Solutions		
				CEME 4010	Designing Water Resource Systems for Urban Environments		
SUM	CEME 4005	Integrated Natural Hazard Risk Management					

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THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Mathematics Major – Semester 1 Start

Water Systems Major

	Year 1											
S 1	MATHS 1011 Mathematics IA		CEME 1004 Engineering Mechanics- Statics [		ENG 1002 Programming (Matlab and C)		Level 1 Engineering Elective (see elective table)					
S 2	MATHS 1012 Mathematics IB		CEME 1002 Introduction to Infrastructure		^ ENG 1001 Introduction to Engineering		General Elective (see notes)					
	Year 2											
S 1	MATHS 2106 Differential Equations for Engineers II		CEME 2001 Strength of Materials		CEME 2003 Civil Engineering Hydraulics		CEME 2004 Introduction to Geo-engineering					
S 2	MATHS 2107 Statistics & Numerical Methods II		CEME 2002 Structural Mechanics [		CEME 2005 Transportation Engineering & Surveying		# Level II or III Mathematics Elective					
	Year 3											
S 1	ENG 3004 Systems Engineering and Industry Practice	$\Box   c$	CEME 3001 Computer Analysis of Structures and [ Structural Dynamics		CEME 3002 Reinforced Concrete Design		# Level II or III Mathematics Elective					
S 2	ENG 3005 Research Method & Project Management		CEME 3003 Structural Steel Design [		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering					
			Inte	erns	hip							
	All Engineering students commencing fr	rom :	2019 are required to complete a minimum	of	8 weeks of <u>internship</u> during the course of	their	studies – see the note section below.					
			Yo	ear 4	4							
S U M	CEME 4005 Integrated Natural Hazard Risk Management	7										
S 1	ENG 4001A Research Project Part A		CEME 3004 Hydrology for Engineers [		General Elective (see notes)		# Level II or III Mathematics Elective					
S 2	ENG 4001B Research Project Part B		CEME 4050 Design Practice [		# Level II or III Mathematics Elective							



	Year 5									
S	CEME 4008		# Level III Mathematics E	lective	# Level III Mathematics Elective		# Level III Mathematics Elective			
1	Soil and Ground Wat	ter Remediation $\square$								
S	CEME 4006		Civil Engineering Elective	]	Civil Engineering Elective	]	# Level III Mathematics Elective			
2	Climate Risk and Res	silience	(see elective table)		(see elective table)	Ш		Ш		
Cor	e Courses	Major Courses	Elective	Double Degree Cou	rses					

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CHOOSE FROM THE FOLLOWING LEVEL 1 ENGINEERING ELECTIVES					
<b>S1</b>	CEME 1001 CHEM ENG 1007 ELEC ENG 1101	Introduction to Environmental Engineering Introduction to Process Engineering Electronic Systems	<b>S2</b>	CEME 1003 CONMGNT 1000 CONMGNT 1001 MECH ENG 1007	Resources and Energy in a Circular Economy Civil Engineering Construction Materials Construction Estimation and Quantity Surveying Engineering Mechanics - Dynamics
CHOOSE FROM THE FOLLOWING CIVIL ENGINEERING ELECTIVES					
S1	CEME 4001 CEME 4002 CEME 4007 CHEM ENG 4051	Advanced Reinforced Concrete Design Finite Element Theory and Practice Unsaturated Soils Water and Wastewater Engineering	S2	CEME 2006 CEME 3007 CEME 4003 CEME 4009 CEME 4010	Climate & Environmental Change Impact Modelling Integrated Environment Planning and Impact Assessment Wind and Earthquake Engineering Decision Making for Sustainable Solutions Designing Water Resource Systems for Urban Environments

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