

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

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 Computer Science Major – Semester 1 Start

No Major

_	Tio 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 I	Materials		CEME 2003 Civil Engineering Hydraulics		CEME 2004 Introduction to Geo-engineering				
S 2	MATHS 2107 Statistics & Numerical Methods II	CEME 2002 Structural M	echanics		CEME 2005 Transportation Engineering & Surveying		COMP SCI 1102 Object Oriented Programming				
	Year 3										
S 1	ENG 3004 Systems Engineering and Industry Practice	CEME 3001 Computer A Structural D	nalysis of Structures and ynamics	ı 🗆	CEME 3002 Reinforced Concrete Design		COMP SCI 2103 Algorithm Design & Data Structures				
S 2	ENG 3005 Research Method & Project Management	CEME 3003 Structural St	eel Design		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering				
				Interns	hip						
	All Engineering students commencing fr	om 2019 are red	quired to complete a mi	nimum 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	CEME 3004 Hydrology fo	or Engineers		General Elective (see notes)		COMP SCI 2000 Computer Systems				
S 2	ENG 4001B Research Project Part B	CEME 4050 Design Pract	ice		COMP SCI 2201 Algorithm & Data Structure Analysis		# Level III Computer Science Elective				
				Year	5						
S 1	Civil Engineering Elective (see elective table)	Civil Enginee (see elective	ering Elective table)		Civil Engineering Elective (see elective table)		# Level III Computer Science Elective				
S 2	Civil Engineering Elective (see elective table)	Civil Enginee (see elective	ering Elective table)		COMP SCI 3006 Software Engineering & Project		# Level III Computer Science Elective				
Car	Courses Elective	Double Dogs	an Courses								

<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	NG LEVEL 1 ENGINEERING ELECTIVES					
S1	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 ELECT	IVES			
S1	CEME 4001 CEME 4002 CEME 4007 CEME 4008 CHEM ENG 4051	Advanced Reinforced Concrete Design Finite Element Theory and Practice Unsaturated Soils Soil and Ground Water Remediation Water and Wastewater Engineering	<b>S2</b>	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						

#### **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.

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

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#### **General electives:**

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THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Computer Science 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)		^ ENG 1001 Introduction to Engineering				
S 2	MATHS 1012 Mathematics IB		CEME 1002 Introduction to Infrastructure		CEME 2005 Transportation Engineering & Surveying		COMP SCI 1102 Object Oriented Programming				
	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		COMP SCI 2103 Algorithm Design & Data Structures		DESST 1504 Representation I				
				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		DESST 2518 Construction II				
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	hip						
	All Engineering students commencing	fron	n 2019 are required to complete a minimur	m of	8 weeks of <u>internship</u> during the course of t	:heir s	studies – see the note section below.				
			У	Year 4	4						
S 1	ENG 4001A Research Project Part A		CEME 3004 Hydrology for Engineers		Level 1 Engineering Elective (see elective table)		COMP SCI 2000 Computer Systems				
S 2	ENG 4001B Research Project Part B		CEME 4050 Design Practice		COMP SCI 2201 Algorithm & Data Structure Analysis		# Level III Computer Science Elective				



				Yea	r 5				
S 1	ENG 3301		ENG 3302		DES	ESST 3514		# Level III Computer Science Elective	
	Construction Manag	ement and	Cost Planning and Manag	gement	Cor	onstruction III	_		_
	Technology I								
	(not available in 2022 - please contact the (not available in 2022		(not available in 2022 - pled	ase contact the					
	Director of Teaching)		Director of Teaching)						
	ENG 3303		DESST 3304		CO	OMP SCI 3006		# Level III Computer Science Elective	
ς	Construction Manag	ement and	Development and Constr	uction	Sof	oftware Engineering & Project			
2	Technologies				]				
_	(not available in 2022	22 - please contact the (not available in 2022 - please contac		ase contact the					
	Director of Teaching)		Director of Teaching)						
Cor	e Courses	Major Courses	Elective	Double Degree Co	urses	S	•		

<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								
S	1		Introduction to Environmental Engineering Introduction to Process Engineering Electronic Systems	S2	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 Computer Science Major – Semester 1 Start

Geotechnical Engineering Major

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			Year	1							
S 1	MATHS 1011 Mathematics IA	CEME 1004 Engineering Mechanics- St	atics $\Box$	ENG 1002 Programming (Matlab and C)		Level 1 Engineering Elective (see elective table)					
S 2	MATHS 1012 Mathematics IB	CEME 1002 Introduction to Infrastruct	ure $\Box$	^ ENG 1001 Introduction to Engineering		COMP SCI 1102 Object Oriented Programming					
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		COMP SCI 2103 Algorithm Design & Data Structures					
	Year 3										
S 1	ENG 3004 Systems Engineering and Industry Practice	CEME 3001 Computer Analysis of Structural Dynamics	ctures and	CEME 3002 Reinforced Concrete Design		COMP SCI 2000 Computer Systems					
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 from	om 2019 are required to comp	olete a minimum of	8 weeks of internship during the course of	of their	studies – see the note section below.					
			Year •	4							
S 1	ENG 4001A Research Project Part A	CEME 3004 Hydrology for Engineers		General Elective (see notes)		MINING 3076 Geomechanics & Excavation Engineering					
S 2	ENG 4001B Research Project Part B	Civil Engineering Elective (see elective table)		COMP SCI 2201 Algorithm & Data Structure Analysis		CEME 4050 Design Practice					
			Year	5							
S 1	CEME 4007 Unsaturated Soils	GEOLOGY 2501 Structural Geology II		CEME 4008 Soil and Ground Water Remediation		# Level III Computer Science Elective					
S 2	Civil Engineering Elective (see elective table)	COMP SCI 3006 Software Engineering & Pr	oject $\Box$	# Level III Computer Science Elective		# Level III Computer Science Elective					
Cor	o Courses Major Courses	Floctivo	Double Degree Cour	ccoc							

<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	NG 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 ELECT	IVES			
\$1	CEME 4001 CEME 4002 CHEM ENG 4051	Advanced Reinforced Concrete Design Finite Element Theory and Practice Water and Wastewater Engineering	<b>S2</b>	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						

#### **NOTES**

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# THE UNIVERSITY Bachelor of Engineering (Honours) (Civil) with Bachelor of Mathematical and Computer Sciences Computer Science 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 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		COMP SCI 1102 Object Oriented Programming			
	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		COMP SCI 2103 Algorithm Design & Data Structure			
S 2	ENG 3005 Research Method & Project Management		CEME 3003 Structural Steel Design		CEME 3005 Advanced Civil Engineering Hydraulics		CEME 3006 Geotechnical Engineering			
		•	l	nterns	hip					
	All Engineering students commencing fr	rom	n 2019 are required to complete a minim	num of	8 weeks of internship during the course of t	their	studies – see the note section below.			
				Year	4					
S 1	ENG 4001A Research Project Part A		CEME 3004 Hydrology for Engineers		General Elective (see notes)		COMP SCI 2000 Computer Systems			
S 2	ENG 4001B Research Project Part B		CEME 4050 Design Practice		COMP SCI 2201 Algorithm & Data Structure Analysis		# Level III Computer Science Elective			
				Year	5					
S 1	CEME 4001 Advanced Reinforced Concrete Design		CEME 4002 Finite Element Theory and Practice		Civil Engineering Elective (see elective table)		# Level III Computer Science Elective			
S 2	CEME 4003 Wind and Earthquake Engineering		Civil Engineering Elective (see elective table)		COMP SCI 3006 Software Engineering & Project		# Level III Computer Science Elective			
Car	Adain Courses		Floative Double Doore	oo Cou						

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		CHOOSE FROM THE FOLLOWING	LEVEL :	1 ENGINEERING ELEC	TIVES		
<b>S1</b>	S1 CEME 1001 Introduction to Environmental Engineering CHEM ENG 1007 Introduction to Process Engineering ELEC ENG 1101 Electronic Systems				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 4007 CEME 4008 CHEM ENG 4051	Unsaturated Soils Soil and Ground Water Remediation Water and Wastewater Engineering	S2	CEME 2006 CEME 3007 CEME 4006 CEME 4009 CEME 4010	Climate & Environmental Change Impact Modelling Integrated Environment Planning and Impact Assessment 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 Computer Science Major – Semester 1 Start

Water Systems Major

	viator Systems rizagor										
		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	COMP SCI 1102 Object Oriented Programming							
	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	COMP SCI 2103 Algorithm Design & Data Structure							
S 2	ENG 3005 Research Method & Project Management	CEME 3003 Structural Steel Design	CEME 3005 Advanced Civil Engineering Hydraulics	CEME 3006 Geotechnical Engineering							
		Interns	ship								
	All Engineering students commencing fro	om 2019 are required to complete a minimum of	8 weeks of internship during the course of their	studies – see the note section below.							
		Year	4								
S U M	CEME 4005 Integrated Natural Hazard Risk Management										
S 1	ENG 4001A Research Project Part A	CEME 3004 Hydrology for Engineers	COMP SCI 2000 Computer Systems								
S 2	ENG 4001B Research Project Part B	CEME 4050 Design Practice	Civil Engineering Elective (see elective table)	COMP SCI 2201 Algorithm & Data Structure Analysis							



				Year	5			
S 1	CEME 4008 Soil and Ground Wa	ter Remediation	Civil Engineering Elective (see elective table)		# Lev	evel III Computer Science Elective	# Level III Computer Science Elective	
S 2	CEME 4006 Climate Risk and Res	silience	General Elective (see notes)			MP SCI 3006 ware Engineering & Project	# Level III Computer Science Elective	
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					
\$1	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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