CHECKLIST Bachelor of Engineering (Honours) – Civil Engineering Specialisation: Transition to new program (commencing 2025)

* This checklist is for the BE(Hons) component ONLY for dual programs with Bachelor of Computer Science

Important Notes:

- The information contained in this document is intended as general advice only. Students must follow the program rules & requirements listed on the Programs and Courses
 Website relevant to the year they commence. This planner must be used in conjunction with your program duration course list and program rules.
- Students need to check future course offerings, prerequisites, incompatibilities and restrictions for all courses as these are subject to change.
- Students cannot take courses that are incompatible with courses already counted towards their program, and cannot count the same course twice.
- Please view the Bachelor of Computer Science transition checklist for the requirements for the BCompSc Core, BCompSc Major and No Major Options

For the BE(Hons) component, with a specialisation in Civil Engineering:

- (a) 60 units from the BE(Hons) component, comprising—
 - I. 8 units for all BE(Hons) Core Courses; and
 - II. 36 units for one Specialisation in Civil Engineering; and
 - III. One of the following:
 - a. 16 units for one Major from Civil Engineering Major Options*, or
 - *Majors available in: Environmental Engineering; Geotechnical Engineering; Mining Engineering; Structural Engineering; Transport Engineering; Water and Marine Engineering
 - b. 16 units for Civil Engineering Specialisation No Major option

√/X compl.	BE(Hons) Core Courses (8 units)	Sem offering	#	First offered	Approved substitution	Last offered
	8 units for all Core Courses					
	ENGG1100 Professional Engineering	1,2	2		Course must be completed [ENGG1211 (4 units) will count as 2 units towards Part A in lieu of ENGG1100, and 2 units towards program electives]	
	ENGG1001 Programming for Engineers	1,2	2		Course must be completed	
	or					
	CSSE1001 Introduction to Software Engineering	1,2	2			
	MATH1051 Calculus and Linear Algebra I	1,2	2		Course must be completed	
	or					
	MATH1071 Advanced Calculus & Linear Algebra I	1	2			
	MATH1052 Multivariate Calculus & Ordinary Differential Equations	1,2	2		Course must be completed	
	or					
	MATH1072 Advanced Multivariate Calculus & Ordinary Differential Equations	2	2			

Specialisation in Civil Engineering

Complete 36 units comprising:

i. 28 units for all Civil Engineering Compulsory Courses, and

ii. 2 to 4 units from <u>Civil Engineering Research Courses</u>, and

iii. 2 to 4 units from <u>Civil Engineering Advanced Elective Courses</u>, and

iv. 2 units from <u>BE(Hons) Program Elective Courses</u>

√/X compl.	Civil Engineering Specialisation (36 units)	Sem offering	#	First offered	Approved substitution	Last offered
	28 units for all Compulsory Courses					
	ENGG1700 Statics and Materials	1,2	2		ENGG1400 Engineering Mechanics: Statics and Dynamics (discontinued)	2/20
	CIVL2131 Environmental Fluid Mechanics	1	2		Course must be completed	
	CIVL2135 Environmental Engineering: An Introduction for Civil Engineers	1	2		CIVL2135 Environmental Issues and Sustainability in Engineering	
	CIVL2210 Soil Mechanics	2	2		Course must be completed	
	CIVL2330 Structural Mechanics	1	2		Course must be completed	
	CIVL2420 Fundamentals of Transport Engineering	2	2		CIVL2410 Sustainable Transport Engineering - Traffic Analysis (discontinued)	1/21
	CIVL2530 Statistics and Data Analysis	1	2		CIVL2530 Probability and Statistics in Engineering	
	CIVL3155 Hydrology and Free Surface Flows	2	2		CIVL3141 Hydrology and Hydrological Risk (discontinued) and CIVL3140 Hydraulics of Engineered and Natural Waterways (discontinued)	2/21 1/21
					[Both courses are required to have been completed to exempt students from CIVL3155; therefore 2 units will count as a Compulsory Course and 2 units will count towards Civil Engineering Advanced Electives]	
	CIVL3210 Geotechnical Engineering	1	2		Course must be completed	
	CIVL3360 Reinforced Concrete Design	2	2		CIVL2360 Design of Concrete Structures (discontinued)	2/21
	CIVL3520 Project Management and Professional Practice	2	2		CIVL3510 Project Management with Building Information Modelling (discontinued) OR	2/22
					ENGG4900 Professional Practice and the Business Environment (discontinued)	2/23
	CIVL3530 Data Analytics in Civil Engineering	1	2		Course must be completed	
	CIVL4170 Risk Analysis in Civil Engineering	1	2		Course must be completed	
	CIVL4518 Integrated Design for the Built Environment (NEW) OR CIVL4516 Integrated Design for Environmental Management	2 2	2	2/24	CIVL4514 Integrated Design (discontinued) OR CIVL4516 Integrated Design for the Natural Environment If both courses are completed, 2 units will count as a Compulsory Course and 2 units will count towards Civil Engineering Advanced Electives	1/23

2 to 4 units from Civil Engineering Research Courses					
CIVL4600 Research Project	1,2	2		CIVL4560 Project (discontinued)	2/22
CIVL4604 Research Thesis or	1	4	1/23	CIVL4580 Research Thesis (discontinued) OR	2/20
CIVL4606 Research Thesis	2	4	2/23	CIVL4583 Research Thesis (discontinued) OR	2/22
				CIVL4582 Research Thesis (discontinued) OR	1/21
				CIVL4584 Research Thesis (discontinued)	1/23

2 to 4 units from Civil Engineering Advanced Elective Courses

2 units from BE(Hons) Program Elective Courses

Civil Engineering No Major Option

Complete 16 units comprising:

i. 8 to 16 units from <u>Civil Engineering Advanced Elective Courses</u>, and

ii. 0 to 8 units from <u>Civil Engineering Breadth Elective Courses</u>, and

iii. 0 to 4 units from BE(Hons) Program Elective Courses, and

iv. 0 to 4 units from <u>General Elective Courses</u>

√/X compl.	Civil Engineering No Major (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	8 to 16 units from Civil Engineering Advanced Elective Courses					

MATH2001 Calculus and Linear Algebra II	1,2	2	MATH2000 Calculus and Linear Algebra II (discontinued)	
Civil Engineering Breadth Electives can also be chosen from course lists for the				
following majors:				
o Environmental Engineering				
o <u>Geotechnical Engineering</u>				
o Mining Engineering				
o <u>Structural Engineering</u>				
o <u>Transport Engineering</u>				
o Water and Marine Engineering				
Courses on this list may require pre-requisites. Please seek academic advice if				

0 to 4 units from BE(Hons) Program Elective Courses

0 to 4 units from General Elective Courses

Environmental Engineering Major Option

Complete 16 units comprising:

- i. 8 units for all Environmental Engineering Compulsory Courses, and
- ii. 4 to 8 units from Environmental Engineering Elective Courses, and
- iii. 0 to 4 units from Environmental Engineering Research Elective Courses, and
- iv. 0 to 4 units from Environmental Engineering Breadth Elective Courses, and
- v. 0 to 4 units from <u>Chemical Engineering Advanced Elective Courses</u>, and
- vi. 0 to 4 units from <u>Civil Engineering Advanced Elective Courses</u>

√/X compl.	Major in Environmental Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	8 units for all Environmental Engineering Compulsory Courses					
	ENVE2501 Environmental Systems	2	2		CHEE2501 Environmental Systems Engineering I: Processes (discontinued)	2/20
	ENVE3150 Environmental System Dynamics and Modelling	2	2		CIVL3150 Modelling of Environmental Systems (discontinued)	2/20
	ENVE3160 Environmental Phenomena	1	2		Course must be completed	
	ENVE4610 Engineering the Circular Economy	1	2	1/24	Course must be completed	

CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)
CIVL4145 Groundwater Modelling and Management	2	2		CIVL4140 Contaminant Transport Modelling (discontinued)
CIVL4525 Sustainable Infrastructure Design	2	2		CIVL4180 Sustainable Built Environment (discontinued)
CIVL6111 Ocean, Coastal and Estuarine Engineering	2	2		CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both
CIVL6112 Hydro and Marine Power Renewable Energy Systems	2	2		CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both
CIVL6121 Environmental Hydraulics and Flood Management	1	2		CIVL4120 Advanced Hydraulic Engineering and Structures (discontinued)
ENGY4000 Energy Systems	1	2		No substitution
ENVM3103 Regulatory Frameworks for Environmental Management and Planning	1	2		No substitution
WATR6103 Advanced Wastewater and Biosolids Treatment	2	2		CHEE4012 Industrial Wastewater & Solid Waste Management (discontinued)
WATR6105 Integrated Urban Water Management	1	2		WATR7105 Integrated Urban Water Management (discontinued)

WATR6106 Emerging Issues in the Urban Water Cycle and Public Water	2	2	WATR7106 Emerging Issues in the Urban Water Cycle and Public Water (discontinued)	1/20
WATR6108 Advanced Unit Operations in Water Management	1	2	WATR7108 Advanced Unit Operations in Water Management (discontinued)	1/20
WATR6109 Drinking Water Supply: Source, Treatment and Distribution	1	2	WATR7109 Drinking Water Supply: Source, Treatment and Distribution (discontinued)	1/20

0 to 4 units from Environmental Engineering Research Elective Courses				
CHEE4006 Research Project	1	2	CHEE4006 Individual Inquiry	
CHEE4007 Research Project	2	2	CHEE4007 Individual Inquiry	
CHEE4026 Research Thesis OR CHEE4027 Research Thesis	2	4	CHEE4026 Thesis Project OR CHEE4027 Thesis Project	

0 to 4 units from Environmental Engineering Breadth Elective Courses			
CIVL2135 Introduction to Environmental Engineering	1	2	CIVL2135 Environmental Issues and Sustainability in Engineering
ENVM2100 Sustainable Development	2	2	ENVM2100 Sustainable Development
ENVM3201 Catchment Processes and Management	1	2	No substitution
ERTH1501 Earth Processes and Geological Materials for Engineers	1	2	No substitution
ERTH2004 Structural Geology	2	2	No substitution
ERTH3250 Groundwater Processes and Resources	2	2	ERTH3250 Hydrogeology
GEOM1000 Fundamentals of Geographic Information and Technologies	2	2	No substitution
GEOM2001 Geographical Information Systems	1	2	No substitution
GEOS1100 Environment and Society	1,2	2	No substitution
GEOS2100 Environmental Systems	1	2	No substitution
GEOS3102 Global Change: Problems and Prospects	2	2	No substitution

BIOE3001 Quantitative Methods in Biomedical Engineering	2	2		No substitution
BIOE4020 Bioprocess Engineering	1	2		CHEE4020 Bioprocess Engineering (discontinued)
BIOE4305 Biomaterials: Materials in Medicine	2	2		CHEE4305 Biomaterials: Materials in Medicine (discontinued)
BIOE6028 Metabolic Engineering	2	2		CHEE4028 Metabolic Engineering (discontinued)
BIOE6034 Cell and Tissue Engineering	1	2		CHEE4034 Cell & Tissue Engineering (discontinued)
CHEE3008 Special Topics C	1,2	2		No substitution
CHEE3301 Polymer Engineering	1	2		No substitution
CHEE4003 Special Topics A	2	2		No substitution
CHEE4009 Transport Phenomena	1	2		No substitution
ENGY4000 Energy Systems	1	2		No substitution
ENVE3150 Environmental Systems Dynamics and Modelling	2	2		CIVL3150 Modelling of Environmental Systems (discontinued)
ENVE3160 Environmental Phenomena	1	2		No substitution
ENVE4610 Engineering the Circular Economy	1	2	1/24	No substitution
MATE4302 Electrochemistry and Corrosion	2	2		CHEE4302 Electrochemistry & Corrosion (discontinued)
MATE6301 Nanomaterials	2	2		CHEE4301 Nanomaterials (discontinued)
MECH4304 Net Shape Manufacturing	1	2		No substitution
METL3219 Process Mineralogy and Comminution	1	2		MINE3219 Process Mineralogy and Comminution (discontinued)
METL4220 Physical Separations and Interfacial Engineering	2	2		No substitution
METL6204 Hydrometallurgy and Electrometallurgy	1	2		MINE4204 Aqueous Solution Processing & Electrometallurgy (discontinued)
METL6212 Pyrometallurgy	1	2		MINE3212 Pyrometallurgy (discontinued)

0 to 4 units from Civil Engineering Advanced Elective Courses

Geotechnical Engineering Major Option

Complete 16 units comprising:

- i. 8 units for all Geotechnical Engineering Compulsory Courses, and
- ii. 2 to 8 units from Geotechnical Engineering Elective Courses, and
- iii. 0 to 4 units from Geotechnical Engineering Breadth Elective Courses, and
- iv. 0 to 4 units from <u>Civil Engineering Advanced Elective Courses</u>

√/X compl.	Major in Geotechnical Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	8 units for all Geotechnical Engineering Compulsory Courses					
	CIVL3220 Rock Mechanics	2	2		MINE3121 Mining Geomechanics (discontinued)	1/22
	CIVL4230 Advanced Soil Mechanics	2	2		Course must be completed	
	CIVL4270 Geotechnical Investigations	1	2		Course must be completed	
	CIVL6215 Ground Improvement	1	2		Course must be completed	

2 to 8 units from Geotechnical Engineering Elective Courses									
CIVL4280 Applied Rock Mechanics	2	2		No substitution					
CIVL6210 Dam Engineering	2	2		No substitution					
CIVL6220 Mine Waste Management	1	2		MINE4000 Mine Waste Management & Landform Design (discontinued)	1/22				
CIVL6250 Underground Structures	2	2	2/24	No substitution					

CIVL4460 Highway Geometric Design	2	2	No substitution
CIVL4340 Wind Engineering	1	2	No substitution
CIVL4525 Sustainable Infrastructure Design	2	2	CIVL4180 Sustainable Built Environment (discontinued)
CIVL6111 Ocean, Coastal and Estuarine Engineering	2	2	CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both
CIVL6112 Hydro and Marine Power Renewable Energy Systems	2	2	CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both
CIVL6121 Environmental Hydraulics and Flood Management	1	2	CIVL4120 Advanced Hydraulic Engineering and Structures (discontinued)
ERTH3250 Groundwater Processes and Resources	1	2	No substitution
FIRE3700 Introduction to Fire Safety Engineering	1	2	No substitution
MINE6112 Applied Mining Geomechanics	1	2	MINE3129 Applied Mining Geomechanics (discontinued)

0 to 4 units from Civil Engineering Advanced Elective Courses

Mining Engineering Major Option

Complete 16 units comprising:

- i. 12 units for all Mining Engineering Compulsory Courses, and
- ii. 4 units from Mining Engineering Courses for Civil Engineers

√/X compl.	Major in Mining Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	12 units for Mining Engineering Compulsory Courses					
	MINE3110 Integrated Orebody Knowledge	2	2		MINE3120 Resource Estimation (discontinued)	1/22
	MINE4126 Mining Systems and Automation	2	2		MINE3122 Mining Systems and Automation (discontinued)	2/24
	MINE4127 Mine Planning and Sustainability	1	2		MINE3123 Mine Planning and Sustainability (discontinued)	1/24
	MINE6112 Applied Mining Geomechanics	1			MINE3121 Mining Geomechanics (discontinued) OR	1/22
					MINE4120 Mine Geotechnical Engineering (discontinued) OR MINE3129 Applied Mining Geomechanics (discontinued)	1/23 1/24
	MINE4124 Mine Design and Feasibility	2	2		MINE4124 Hard Rock Mine Design & Feasibility	
	MINE4129 Mine Process Optimisation	2	2		MINE3125 Explosives and Blasting Engineering (discontinued)	2/22

4 units for Mining Engineering Courses for Civil Engineers only

Structural Engineering Major Option

Complete 16 units comprising:

- i. 10 units for all <u>Structural Engineering Compulsory Courses</u>, and
- ii. 4 to 6 units from <u>Structural Engineering Elective Courses</u>, and
- iii. 0 to 2 units from <u>Civil Engineering Advanced Elective Courses</u>

√/X compl.	Major in Structural Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	10 units for all Structural Engineering Compulsory Courses					
	CIVL3340 Structural Analysis	1	2		Course must be completed	
	CIVL3380 Structural and Steel Design	1	2		CIVL2340 Design of Steel Structures (discontinued)	2/22
	CIVL3390 Integrated Structural Design	2	2		CIVL3350 Integrated Structural Design (discontinued)	2/22
	CIVL4333 Advanced Concrete Design	1	2		Course must be completed	
	CIVL4334 Design of Timber Structures	2	2		Course must be completed	

4 to 6 units from Structural Engineering Elective Courses									
CIVL4230 Advanced Soil Mechanics	2	2	No substitution						
CIVL4340 Wind Engineering	1	2	No substitution						
CIVL4522 Analytical methods for the Design of Construction Operations	2	2	No substitution						
CIVL4525 Sustainable Infrastructure Design	2	2	CIVL4180 Sustainable Built Environment (discontinued)	1/20					
CIVL6360 Advanced Structural Analysis	2	2	CIVL4332 Advanced Structural Analysis (discontinued)	2/22					
FIRE4610 Fire Engineering Design: Solutions for Implicit Safety	1	2	No substitution						

0 to 2 units from Civil Engineering Advanced Elective Courses

Transport Engineering Major Option

Complete 16 units comprising:

- i. 10 units for all <u>Transport Engineering Compulsory Courses</u>, and
- ii. 6 units from <u>Civil Engineering Advanced Elective Courses</u>

√/X compl.	Major in Transport Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	10 units for all Transport Engineering Compulsory Courses					
	CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)	1/23
	CIVL4450 Traffic Flow Theory and Emerging Technologies	2	2		Course must be completed	
	CIVL4460 Highway Geometric Design	2	2		Course must be completed	
	CIVL6410 Transport Network Modelling	1	2		Course must be completed	
	CIVL6415 Traffic Analysis and Simulation	2	2		Course must be completed	

<u>6 units from Civil Engineering Advanced Elective Courses</u>

Water and Marine Engineering Major Option

Complete 16 units comprising:

- i. 8 units for all <u>Water and Marine Engineering Compulsory Courses</u>, and
- ii. 4 to 8 units from Water and Marine Engineering Elective Courses, and
- iii. 0 to 4 units from <u>Civil Engineering Advanced Elective Courses</u>

√/X compl.	Major in Water and Marine Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	8 units for all Water and Marine Engineering Compulsory Courses					
	CIVL4340 Wind Engineering	1	2		CIVL4120 Advanced Hydraulic Engineering and Structures (discontinued)	2/20
	CIVL6111 Ocean, Coastal and Estuarine Engineering	2	2		CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both	2/21
	CIVL6112 Hydro and Marine Power Renewable Energy Systems	2	2		CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both	2/21
	CIVL6121 Environmental Hydraulics and Flood Management	1	2		CIVL4120 Advanced Hydraulic Engineering and Structures (discontinued)	2/20

4 to 8 units from Water and Marine Engineering Elective Courses					
CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)	
CIVL4145 Groundwater Modelling and Management	2	2		CIVL4140 Contaminant Transport Modelling (discontinued)	
CIVL4525 Sustainable Infrastructure Design	2	2		CIVL4180 Sustainable Built Environment (discontinued)	
CIVL6210 Dam Engineering	2	2		No substitution	
ENVE3150 Environmental Systems Dynamics and Modelling	2	2		CIVL3150 Modelling of Environmental System (discontinued)	
ENVE3160 Environmental Phenomena	1	2		No substitution	
ENVM3103 Regulatory Frameworks for Environmental Management and Planning	1	2		No substitution	
ENVM3115 Climate Change and Environmental Management	1	2		No substitution	
ENVM3201 Catchment Processes and Management	1	2		No substitution	
ERTH3250 Groundwater Processes and Resources	1	2		No substitution	
WATR6105 Integrated Urban Water Management	1	2		WATR7105 Integrated Urban Water Management (discontinued)	

0 to 4 units from Civil Engineering Advanced Elective Courses

CIVL3220 Rock Mechanics	2	2		MINE3121 Mining Geomechanics (discontinued)
CIVL3340 Structural Analysis	1	2		No substitution
CIVL3380 Structural Steel Design	1	2		CIVL2340 Design of Steel Structures (discontinued)
CIVL3390 Integrated Structural Design	2	2		CIVL3350 Integrated Structural Design (discontinued)
CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)
CIVL4145 Groundwater Modelling and Management	2	2		CIVL4140 Contaminant Transport Modelling (discontinued)
CIVL4230 Advanced Soil Mechanics	2	2		No substitution
CIVL4270 Geotechnical Investigation	1	2		CIVL4270 Geotechnical Investigation & Testing
CIVL4280 Applied Rock Mechanics	2	2		No substitution
CIVL4333 Advanced Concrete Design	1	2		No substitution
CIVL4334 Design of Timber Structures	2	2		No substitution
IVL4340 Wind Engineering	1	2		No substitution
IVL4450 Traffic Flow Theory and Emerging Technologies	2	2		No substitution
CIVL4460 Highway Geometric Design	2	2		No substitution
CIVL4522 Analytical Methods for the Design of Construction Operations	2	2		No substitution
CIVL4525 Sustainable Infrastructure Design	1	2		CIVL4180 Sustainable Built Environment (discontinued)
CIVL6111 Ocean, Coastal and Estuarine Engineering	2	2		CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both
CIVL6112 Hydro and Marine Power Renewable Energy Systems	2	2		* CIVL4110 Coastal & Estuarine Engineering (discontinued) * CIVL4110 may only be used as approved substitution for CIVL6111 OR CIVL6112 – not both
IVL6121 Environmental Hydraulics and Flood Management	1	2		CIVL4120 Advanced Hydraulic Engineering and Structures (discontinued)
CIVL6210 Dam Engineering	2	2		No substitution
CIVL6215 Ground Improvement	1	2		No substitution

CIVL6250 Underground Structures	2	2	2/24	No substitution	
CIVL6360 Advanced Structural Analysis	2	2		CIVL4332 Advanced Structural Analysis (discontinued)	2/22
CIVL6410 Transport Network Modelling	1	2		No substitution	
CIVL6415 Traffic Analysis and Simulation	2	2		No substitution	
ENVE3150 Environmental System Dynamics and Modelling	2	2		CIVL3150 Modelling of Environmental Systems (discontinued)	2/20
ENVE3160 Environmental Phenomena	1	2		No substitution	
ENVE4610 Engineering the Circular Economy	1	2	1/24	No substitution	
FIRE3700 Introduction to Fire Safety Engineering	1	2		No substitution	
FIRE4610 Fire Engineering Design: Solutions for Implicit Safety	1	2		No substitution	
	CIVL6360 Advanced Structural Analysis CIVL6410 Transport Network Modelling CIVL6415 Traffic Analysis and Simulation ENVE3150 Environmental System Dynamics and Modelling ENVE3160 Environmental Phenomena ENVE4610 Engineering the Circular Economy FIRE3700 Introduction to Fire Safety Engineering	CIVL6360 Advanced Structural Analysis 2 CIVL6410 Transport Network Modelling 1 CIVL6415 Traffic Analysis and Simulation 2 ENVE3150 Environmental System Dynamics and Modelling 2 ENVE3160 Environmental Phenomena 1 ENVE4610 Engineering the Circular Economy 1 FIRE3700 Introduction to Fire Safety Engineering 1	CIVL6360 Advanced Structural Analysis 2 2 CIVL6410 Transport Network Modelling 1 2 CIVL6415 Traffic Analysis and Simulation 2 2 ENVE3150 Environmental System Dynamics and Modelling 2 2 ENVE3160 Environmental Phenomena 1 2 ENVE4610 Engineering the Circular Economy 1 2 FIRE3700 Introduction to Fire Safety Engineering 1 2	CIVL6360 Advanced Structural Analysis 2 2 CIVL6410 Transport Network Modelling 1 2 CIVL6415 Traffic Analysis and Simulation 2 2 ENVE3150 Environmental System Dynamics and Modelling 2 2 ENVE3160 Environmental Phenomena 1 2 ENVE4610 Engineering the Circular Economy 1 2 1/24 FIRE3700 Introduction to Fire Safety Engineering 1 2	CIVL6360 Advanced Structural Analysis 2 2 CIVL4332 Advanced Structural Analysis (discontinued) CIVL6410 Transport Network Modelling 1 2 No substitution CIVL6415 Traffic Analysis and Simulation ENVE3150 Environmental System Dynamics and Modelling 2 2 CIVL3150 Modelling of Environmental Systems (discontinued) ENVE3160 Environmental Phenomena 1 2 No substitution ENVE4610 Engineering the Circular Economy 1 2 1/24 No substitution FIRE3700 Introduction to Fire Safety Engineering 1 2 No substitution