

CHECKLIST Bachelor of Engineering (Honours) – Civil Engineering (2455): Transition to new program (commencing 2024)

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.

Complete 64 units 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: [Environmental Engineering](#); [Geotechnical Engineering](#); [Mining Engineering](#); [Structural Engineering](#); [Transport Engineering](#); [Water and Marine Engineering](#)
 - b. 16 units for Civil Engineering [Minor Options**](#), or
**Minors: [Computing](#); [Data Science](#); [Design](#)
 - c. 16 units for [Civil Engineering Specialisation No Major option](#), and
- IV. 0 to 4 units from Preparatory Science and Mathematics Courses; and
- V. 0 to 4 units from First Year Engineering Elective Courses; and
- VI. 0 to 4 units from BE(Hons) Program Electives; and
- VII. 0 to 4 units from General Electives.

NB: Of the 64 units required for the program, students must complete at least 24 units of courses at level 3 or higher and no more than 24 units at level 1.

✓/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 or CSSE1001 Introduction to Software Engineering	1,2 1,2	2 2		Course must be completed	
	MATH1051 Calculus and Linear Algebra I or MATH1071 Advanced Calculus and Linear Algebra I	1,2 1	2 2		Course must be completed	
	MATH1052 Multivariate Calculus and Ordinary Differential Equations or MATH1072 Advanced Multivariate Calculus and Ordinary Differential Equations	1,2 2	2 2		Course must be completed	

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Specialisation in Civil Engineering

Students must complete 36 units comprising:

- i. 28 units for all [Civil Engineering Compulsory Courses](#), and
- ii. 2 to 4 units from [Civil Engineering Research Courses](#), and
- iii. 2 to 4 units from [Civil Engineering Advanced Elective Courses](#), and
- iv. 2 units from [BE\(Hons\) Program Elective Courses](#)

✓/X compl.	Specialisation in Civil Engineering (36 units)	Sem offering	#	First offered	Approved substitution	Last offered
28 units for all Civil Engineering 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) [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]	2/21 1/21
	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 ENGG4900 Professional Practice and the Business Environment (discontinued)	2/22 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

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

[2 to 4 units from Civil Engineering Advanced Elective Courses](#)

2 units from BE(Hons) Program Elective Courses

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Civil Engineering No Major Option

Students must complete 16 units comprising -

- i. 8 to 16 units from [Civil Engineering Advanced Elective Courses](#); and
- ii. 0 to 8 units from any [Civil Engineering Breadth Elective Courses](#); and
- iii. 0 to 4 units from [BE\(Hons\) Program Elective Courses](#); and
- iv. 0 to 4 units from [General Electives Courses](#).

✓/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					

0 to 8 units from Civil Engineering Breadth Elective Courses						
	MATH2001 Calculus and Linear Algebra II	1,2	2		MATH2000 Calculus and Linear Algebra II (discontinued)	2/20
	<p>Civil Engineering Breadth Electives can also be chosen from course lists for the following majors:</p> <ul style="list-style-type: none"> o Environmental Engineering o Geotechnical Engineering o Mining Engineering o Structural Engineering o Transport Engineering o Water and Marine Engineering <p><i>Courses on this list may require pre-requisites. Please seek academic advice if required..</i></p>					

2 units from BE(Hons) Program Elective Courses						
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2 units from General Elective Courses						
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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 [Chemical Engineering Advanced Elective Courses](#), and
- VI. 0 to 4 units from [Civil Engineering Advanced Elective Courses](#)

✓/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	

4 to 8 units from Environmental Engineering Elective Courses						
	CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)	1/23
	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)	2/22
	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)	2/22
	WATR6105 Integrated Urban Water Management	1	2		WATR7105 Integrated Urban Water Management (discontinued)	1/20
	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

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	CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)	1/23
	CIVL4145 Groundwater Modelling and Management	2	2		CIVL4140 Contaminant Transport Modelling (discontinued)	1/21
	CIVL4525 Sustainable Infrastructure Design	2	2		CIVL4180 Sustainable Built Environment (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	1 2	4 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	

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0 to 4 units from Chemical Engineering Advanced Elective Courses						
	BIOE3001 Quantitative Methods in Biomedical Engineering	2	2		No substitution	
	BIOE4020 Bioprocess Engineering	1	2		CHEE4020 Bioprocess Engineering (discontinued)	1/21
	BIOE4305 Biomaterials: Materials in Medicine	2	2		CHEE4305 Biomaterials: Materials in Medicine (discontinued)	2/20
	BIOE6028 Metabolic Engineering	2	2		CHEE4028 Metabolic Engineering (discontinued)	2/20
	BIOE6034 Cell and Tissue Engineering	1	2		CHEE4034 Cell & Tissue Engineering (discontinued)	1/20
	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)	2/20
	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)	2/20
	MATE6301 Nanomaterials	2	2		CHEE4301 Nanomaterials (discontinued)	2/20
	MECH4304 Net Shape Manufacturing	1	2		No substitution	
	METL3219 Process Mineralogy and Comminution	1	2		MINE3219 Process Mineralogy and Comminution (discontinued)	1/21
	METL3220 Physical Separations and Interfacial Engineering	2	2		No substitution	
	METL6204 Hydrometallurgy and Electrometallurgy	1	2		MINE4204 Aqueous Solution Processing & Electrometallurgy (discontinued)	1/21
	METL6212 Pyrometallurgy	1	2		MINE3212 Pyrometallurgy (discontinued)	2/21
	WATR6103 Advanced Wastewater and Biosolids Treatment				CHEE4012 Industrial Wastewater & Solid Waste Management (discontinued)No substitution	2/22

[0 to 4 units from Civil Engineering Advanced Elective Courses](#)

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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 [Civil Engineering Advanced Elective Courses](#)

✓/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	

0 to 4 units from Geotechnical Engineering Breadth Elective Courses						
	CIVL4460 Highway Geometric Design	2	2		No substitution	
	CIVL4340 Wind Engineering	1	2		No substitution	
	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

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	CIVL6121 Environmental Hydraulics and Flood Management	1	2		CIVL4120 Advanced Hydraulic Engineering and Structures (discontinued)	2/20
	ERTH3250 Groundwater Processes and Resources	1	2		No substitution	
	FIRE3700 Introduction to Fire Safety Engineering	1	2		No substitution	
	MINE3129 Applied Mining Geomechanics	1	2		No substitution	

[0 to 4 units from Civil Engineering Advanced Elective Courses](#)

Mining Engineering Major Option

Complete 16 units comprising:

- i. 4 units from [Mining Engineering Courses for Civil Engineers](#), and
- ii. 12 units for all [Mining Engineering Compulsory Courses](#)

✓/X compl.	Major in Mining Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
12 units from Mining Engineering Compulsory Courses						
	MINE3110 Integrated Orebody Knowledge	2	2		MINE3120 Resource Estimation (discontinued)	1/22
	MINE3122 Mining Systems and Automation	2	2		MINE3122 Mining Systems	
	MINE3123 Mine Planning and Sustainability	1	2		MINE3123 Mine Planning	
	MINE3129 Applied Mining Geomechanics	1	2		MINE3121 Mining Geomechanics (discontinued) OR MINE4120 Mine Geotechnical Engineering (discontinued)	1/22 1/23
	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 from Mining Engineering Courses for Civil Engineers only](#)

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Structural Engineering Major Option

Complete 16 units comprising:

- i. 10 units for all [Structural Engineering Compulsory Courses](#), and
- ii. 4 to 6 units from [Structural Engineering Elective Courses](#), and
- iii. 0 to 2 units from [Civil Engineering Advanced Elective Courses](#)

✓/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						

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Transport Engineering Major Option

Complete 16 units comprising:

- i. 10 units for all [Transport Engineering Compulsory Courses](#), and
- ii. 6 units from [Civil Engineering Advanced Elective Courses](#)

✓/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	

[6 units from Civil Engineering Advanced Elective Courses](#)

Water and Marine Engineering Major Option

Complete 16 units comprising:

- i. 8 units for all [Water and Marine Engineering Compulsory Courses](#), and
- ii. 4 to 8 units from [Water and Marine Engineering Elective Courses](#), and
- iii. 0 to 4 units from [Civil Engineering Advanced Elective Courses](#)

✓/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)	1/23
	CIVL4145 Groundwater Modelling and Management	2	2		CIVL4140 Contaminant Transport Modelling (discontinued)	1/21
	CIVL4525 Sustainable Infrastructure Design	2	2		CIVL4180 Sustainable Built Environment (discontinued)	1/20
	CIVL6210 Dam Engineering	2	2		No substitution	
	ENVE3150 Environmental Systems Dynamics and Modelling	2	2		CIVL3150 Modelling of Environmental System (discontinued)	2/20
	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	1/21	WATR7105 Integrated Urban Water Management (discontinued)	1/20

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[0 to 4 units from Civil Engineering Advanced Electives Courses](#)

Computing Minor

Complete 16 units comprising:

- I. 4 units for all [Computing Compulsory Courses](#), and
- II. 4 units from [Computing Elective Courses](#), and
- III. 8 units from [Civil Engineering Advanced](#)

✓/X compl.	Minor in Computing (8 units)	Sem offering	#	First offered	Approved substitution	Last offered
4 units for all Computing Minor Compulsory Courses						
	CSSE2002 Programming in the Large	1,2	2		Course must be completed	
	COMP3506 Algorithms and Data Structures	2	2		Course must be completed	
4 units from Computing Elective Courses						
	COMP4702 Machine Learning	1	2		No substitution	
	COSC2500 Numerical Methods in Computational Science	2	2		No substitution	
	COSC3000 Visualization, Computer Graphics & Data Analysis	1	2		No substitution	
	COSC3500 High Performance Computing	2	2		No substitution	
	INFS1200 Introduction to Information Systems	1,2	2		No substitution	
	INFS3208 Cloud Computing	2	2		No substitution	
	MATH3202 Operations Research & Mathematical Planning	1	2		No substitution	
8 units from Civil Engineering Advanced						

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Data Science Minor

Complete 16 units comprising:

- i. 4 units for all [Data Science Compulsory Courses](#), and
- ii. 4 units from [Data Science Elective Courses](#), and
- iii. 8 units from [Civil Engineering Advanced](#)

✓/X compl.	Minor in Data Science (8 units)	Sem offering	#	First offered	Approved substitution	Last offered
4 units for all Data Science Minor Compulsory Courses						
	DATA2001 Fundamentals of Data Science	2	2		Course must be completed	
	INFS1200 Introduction to Information Systems	1,2	2		Course must be completed	

4 units from Data Science Elective Courses						
	COMP4702 Machine Learning	1	2		No substitution	
	INFS2200 Relational Database Systems	2	2		No substitution	
	INFS3208 Cloud Computing	2	2		No substitution	
	INFS4203 Data Mining	2	2		No substitution	
	STAT2003 Mathematical Probability	1	2		No substitution	
	STAT2004 Statistical Modelling & Analysis	2	2		No substitution	

Where courses are compulsory in both the specialisation and minor, the compulsory course in the minor must be substituted by courses from Data Science Minor Electives.

8 units from Civil Engineering Advanced						
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Design Minor

Complete 16 units comprising:

- i. 8 units for all [Design Minor Compulsory Course](#)
- ii. 8 units from [Civil Engineering Advanced Elective Courses](#)

✓/X compl.	Minor in Design (8 units)	Sem offering	#	First offered	Approved substitution	Last offered
8 units for all Design Minor Compulsory Courses						
	DSGN1100 Design: Interaction	1	2		Course must be completed	
	DSGN1200 Design: Experience	2	2		Course must be completed	
	DSGN2100 Design: Organisation	1	2		Course must be completed	
	DSGN2200 Design: Environment	2	2		Course must be completed	

[8 units from Civil Engineering Advanced](#)

Civil Engineering Advanced Elective Courses						
	CIVL3220 Rock Mechanics	2	2		MINE3121 Mining Geomechanics (discontinued)	1/22
	CIVL3340 Structural Analysis	1	2		No substitution	
	CIVL3380 Structural 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
	CIVL3430 Sustainable Transport Engineering	1	2	1/24	CIVL3420 Sustainable Transport Engineering – Planning and Design (discontinued)	1/23
	CIVL4145 Groundwater Modelling and Management	2	2		CIVL4140 Contaminant Transport Modelling (discontinued)	1/21
	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	
	CIVL4340 Wind Engineering	1	2		No substitution	
	CIVL4450 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)	1/20
	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
	CIVL6210 Dam Engineering	2	2		No substitution	
	CIVL6215 Ground Improvement	1	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	

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	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	

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