CHECKLIST Bachelor of Engineering (Honours) – Software 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 Software Engineering; and
III.   One of the following:
     a.   16 units for one Major from Software Engineering Major Options*, or
        *Major available in: Computer Engineering
     b.   16 units for Software Engineering Minor Options**, or
        **Minor available in: Data Science; Design
     c.   16 units for Software 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 Elective Courses; and
VII.   0 to 4 units from General Elective Courses.

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	2		Course must be completed	
	MATH1051 Calculus & Linear Algebra I or **MATH1071** Advanced Calculus & Linear Algebra I	1,2	2		Course must be completed	
	MATH1052 Multivariate Calculus & Ordinary Differential Equations or **MATH1072** Advanced Multivariate Calculus & Ordinary Differential Equations	1,2	2		Course must be completed	

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Specialisation in Software Engineering

Complete 36 units comprising:

i.   34 units for all Software Engineering Compulsory Courses, and
ii.   2 units from BE(Hons) Program Elective Courses

✓/x compl.	Specialisation in Software Engineering (36 units)	Sem offering	#	First offered	Approved substitution	Last offered
	34 units for all Compulsory Courses					
	ENGG1300 Introduction to Electrical Systems	1,2	2		Course must be completed	
	INFS1200 Introduction to Information Systems	1,2	2		Course must be completed	
	MATH1061 Discrete Mathematics	1,2	2		Course must be completed	
	CSSE2002 Programming in the Large	1,2	2		Course must be completed	
	CSSE2010 Introduction to Computer Systems	1,2	2		Course must be completed	
	CSSE2310 Computer Systems Principles and Programming	1,2	2		Course must be completed	
	DECO2500 Human-Computer Interaction	1	2		Course must be completed	
	STAT2203 Probability Models & Data Analysis	2	2		Course must be completed	
	COMP3400 Functional and Logic Programming	1	2		Course must be completed	
	COMP3506 Algorithms and Data Structures	2	2		Course must be completed	
	CSSE3012 The Software Process	1	2		**CSSE3002** The Software Process (discontinued)	**1/20**
	CSSE3200 Software Engineering Studio: Design, Implement and Test	2	2		**DECO2800** Design Computing Studio 2 - Testing & Evaluation	
	DECO3801 Design Computing Studio 3 - Build	2	2		Course must be completed	
	CSSE6400 Software Architecture	1	2		Course must be completed	
	ENGG4901 Professional Practice and the Business Environment A or **ENGG4902** Professional Practice and the Business Environment B	1,2	2	1/24	**ENGG4900** Professional Practice and the Business Environment (discontinued)	**2/23**
	REIT4841 Research and Development Methods and Practice or **REIT4842** Research and Development Methods and Practice	1 2	4		**ENGG4811** Thesis Project (discontinued) or **ENGG4812** Thesis Project (discontinued)	**1/21** **2/21**
	2 units from BE(Hons) Program Electives					

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Software Engineering No Major Option

Complete 16 units comprising:

i.   2 units for all Software Engineering Extension Compulsory Course; and
ii.   6 to 14 units from Software Engineering Advanced Elective Courses with 4 units at Level 3 or higher; and
iii.   0 to 8 units from Software Engineering Breadth Elective Courses; and
iv.   0 to 4 units from BE (Hons) Program Elective Courses; and
v.   0 to 4 units from General Elective Courses.

✓/✗ compl.	Software Engineering No Major (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	2 units for Software Engineering Extension Course					
	DECO3800 Design Computing Studio 3 – Proposal	1	2		Course must be completed	

✓/✗ compl.	Software Engineering No Major (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	6 to 14 units from Software Engineering Advanced Electives (4 units at level 3 or higher)					
	COMP3301 Operating Systems Architecture	2	2		No substitution	
	COMP3400 Functional & Logic Programming	1	2		No substitution	
	COMP3702 Artificial Intelligence	2	2		No substitution	
	COMP3710 Pattern Recognition and Analysis	2	2		No substitution	
	COMP3820 Digital Health Software Project	2	2		No substitution	
	COMP4403 Compilers and Interpreters	1	2		No substitution	
	COMP4500 Advanced Algorithms & Data Structures	2	2		No substitution	
	COMP4702 Machine Learning	1	2		No substitution	
	CYBR3000 Information Security	2	2		**COMS3000** Information Security (discontinued)	**2/20**
	COMS3200 Computer Networks I	1	2		No substitution	
	COMS4507 Advanced Topics in Security	1	2		No substitution	
	COMS6200 Computer Networks II	2	2		**COMS4200** Computer Networks II (discontinued)	**2/20**
	COSC3000 Visualization, Computer Graphics & Data Analysis	1	2		No substitution	
	COSC3500 High-Performance Computing	2	2		No substitution	
	CSSE3010 Embedded Systems Design & Interfacing	1	2		No substitution	
	CSSE3100 Reasoning About Programs	1	2		No substitution	

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	CSSE4010 Digital System Design	2	2		No substitution	
	CSSE4630 Principles of Program Analysis	2	2		No substitution	
	DECO3500 Social & Mobile Computing	2	2		No substitution	
	DECO3800 Design Computing Studio 3 – Proposal	1	2		No substitution	
	DECO6500 Advanced Human-Computer Interaction	2	2		No substitution	
	INFS2200 Relational Database Systems	2	2		No substitution	
	INFS3200 Advanced Database Systems	1,2	2		No substitution	
	INFS3202 Web Information Systems	1	2		No substitution	
	INFS3208 Cloud Computing	2	2		No substitution	
	INFS4203 Data Mining	2	2		No substitution	
	INFS4205 Advanced Techniques for High Dimensional Data	1	2		No substitution	
0 to 8 units from Software Engineering Breadth Electives						
	COMP3880 International Software Development	2	2		No substitution	
	ENGG4020 Systems Safety Engineering	2	2		No substitution	
	MATH2001 Calculus & Linear Algebra II	1,2,S	2		**MATH2000** Calculus & Linear Algebra II (discontinued)	
	Software Engineering Breadth Electives can also be chosen from course lists for the following major: 　o　　Computer Engineering *Courses on this list may require pre-requisites. Please seek academic advice if required.*					

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

0 to 4 units from General Elective Courses.

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Computer Engineering Major Option

Complete 16 units comprising:

  i.   6 units for all Computer Engineering Courses for Software Engineers
  ii.   4 units for all Computer Engineering Compulsory Courses, and
  iii.   0 to 8 units from Computer Engineering Elective Courses

✓/X compl.	Major in Computer Engineering (16 units)	Sem offering	#	First offered	Approved substitution	Last offered
	6 units for Computer Engineering Courses for Software Engineers only					
	CSSE3010 Embedded Systems Design & Interface	1	2		Course must be completed	
	DECO3800 Design Computing Studio 3 – Proposal	1	2		Course must be completed	
	ELEC2400 Electronic Devices and Circuits	1	2		**ELEC3400** Electronic Circuits (discontinued)	**1/21**

✓/X compl.		Sem offering	#	First offered	Approved substitution	Last offered
	4 units for Computer Engineering Compulsory Courses					
	CSSE4010 Digital System Design	2	2		Course must be completed	
	CSSE4011 Advanced Embedded Systems	1	2		Course must be completed	

✓/X compl.		Sem offering	#	First offered	Approved substitution	Last offered
	0 to 8 units from Computer Engineering Electives					
	COMP2140 Web/Mobile Programming	2	2		No substitution	
	COMP3301 Operating Systems Architecture	2	2		No substitution	
	COMP3702 Artificial Intelligence	2	2		No substitution	
	COMP3710 Pattern Recognition and Analysis	2	2		No substitution	
	COMP4403 Compilers and Interpreters	1	2		No substitution	
	COMP4500 Advanced Algorithms & Data Structures	2	2		No substitution	
	COMP4702 Machine Learning	1	2		No substitution	
	CYBR3000 Information Security	2	2		**COMS3000** Information Security (discontinued)	**2/20**
	COMS3200 Computer Networks I	1	2		No substitution	
	COMS4113 Photonics	1	2		**COMS4103** Photonics (discontinued)	**1/20**
	COMS4104 Microwave Engineering	1	2		No substitution	

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	COMS4105 Communication Systems	2	2		No substitution	
	COMS4507 Advanced Topics in Security	1	2		No substitution	
	COMS6200 Computer Networks II	2	2		**COMS4200** Computer Networks II (discontinued)	**2/20**
	CSSE3012 The Software Process	1	2		**CSSE3002** The Software Process (discontinued)	**1/20**
	CSSE3100 Reasoning About Programs	1	2		No substitution	
	CSSE3200 Software Engineering Studio: Design, Implement and Test	2	2		**DECO2800** Design Computing Studio 2 - Testing & Evaluation	
	CSSE6400 Software Architecture	1	2		No substitution	
	CSSE4630 Principles of Program Analysis	2	2		No substitution	
	COSC3500 High Performance Computing	2	2		No substitution	
	DECO1400 Introduction to Web Design	1	2		No substitution	
	DECO2500 Human-Computer Interaction	1	2		No substitution	
	ELEC3310 Electrical Energy Conversion & Utilisation	2	2		**ELEC3300** Electrical Energy Conversion & Utilisation (discontinued)	**2/20**
	ELEC4310 Power Systems Analysis	1	2		**ELEC4300** Power Systems Analysis (discontinued)	**1/20**
	ELEC4620 Digital Signal Processing	2	2		No substitution	
	ELEC4630 Computer Vision and Deep Learning	1	2		No substitution	
	ENGG2800 Team Project I	1,2	2		No substitution	
	ENGG3800 Team Project II	2	2		No substitution	
	ENGG4800 Project Management	1	2		No substitution	
	INFS1200 Introduction to Information Systems	1,2	2		No substitution	
	INFS2200 Relational Database Systems	2	2		No substitution	
	MATH1061 Discrete Mathematics		2		No substitution	
	METR3100 Control System Implementation	1	2		No substitution	
	METR4202 Robotics & Automation	2	2		No substitution	

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Data Science Minor Option

Complete 16 units comprising:

i.   4 units for all Data Science Compulsory Courses, and

ii.   4 units from Data Science Elective Courses, and

iii.   2 units for Software Engineering Extension Course; and

iv.   6 units from Software Engineering Advanced Elective Courses

✓/X compl.	Minor in Data Science (8 units)	Sem offering	#	First offered	Approved substitution	Last offered
	4 units for all Data Science Compulsory Courses					
	DATA2001 Introduction to 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 Electives					
	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.

	2 units for Software Engineering Extension Course					

	6 units from Software Engineering Advanced Elective Courses					

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Design Minor Option

Complete 16 units comprising:

    i.   8 units for all Design Minor Compulsory Course, and

    ii.   2 units for Software Engineering Extension Course; and

    iii.   6 units from Software Engineering Advanced Elective Courses

✓/X compl.	Minor in Design (8 units)	Sem offering	#	First offered	Approved substitution	Last offered
	8 units from all Design Minor Compulsory Course					
	DSGN1100 Design: Interaction	1	2		No substitution	
	DSGN1200 Design: Experience	2	2		No substitution	
	DSGN2100 Design: Organisation	1	2		No substitution	
	DSGN2200 Design: Environment	2	2		No substitution	

2 units for Software Engineering Extension Course

6 units from Software Engineering Advanced Elective Courses

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	2 units for Software Engineering Extension Course					
	DECO3800 Design Computing Studio 3 - Proposal	1,2	2			

	6 units from Software Engineering Advanced Electives					
	COMP3301 Operating Systems Architecture	2	2		No substitution	
	COMP3400 Functional & Logic Programming	1	2		No substitution	
	COMP3702 Artificial Intelligence	2	2		No substitution	
	COMP3710 Pattern Recognition and Analysis	2	2		No substitution	
	COMP3820 Digital Health Software Project	2	2		No substitution	
	COMP4403 Compilers and Interpreters	1	2		No substitution	
	COMP4500 Advanced Algorithms & Data Structures	2	2		No substitution	
	COMP4702 Machine Learning	1	2		No substitution	
	CYBR3000 Information Security	2	2		**COMS3000** Information Security (discontinued)	**2/20**
	COMS3200 Computer Networks I	1	2		No substitution	
	COMS4507 Advanced Topics in Security	1	2		No substitution	
	COMS6200 Computer Networks II	2	2		**COMS4200** Computer Networks II (discontinued)	**2/20**
	COSC3000 Visualization, Computer Graphics & Data Analysis	1	2		No substitution	
	COSC3500 High-Performance Computing	2	2		No substitution	
	CSSE3010 Embedded Systems Design & Interfacing	1	2		No substitution	
	CSSE3100 Reasoning About Programs	1	2		No substitution	
	CSSE4010 Digital System Design	2	2		No substitution	
	CSSE4630 Principles of Program Analysis	2	2		No substitution	
	DECO3500 Social & Mobile Computing	2	2		No substitution	
	DECO3800 Design Computing Studio 3 – Proposal	1	2		No substitution	
	DECO6500 Advanced Human-Computer Interaction	2	2		No substitution	

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	INFS2200 Relational Database Systems	2	2		No substitution	
	INFS3200 Advanced Database Systems	1,2	2		No substitution	
	INFS3202 Web Information Systems	1	2		No substitution	
	INFS3208 Cloud Computing	2	2		No substitution	
	INFS4203 Data Mining	2	2		No substitution	
	INFS4205 Advanced Techniques for High Dimensional Data	1	2		No substitution	

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