

# CHECKLIST Bachelor of Engineering (Honours)/Master of Engineering – Mechatronic Engineering (2350): Completion of pre-2021 program

## 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.

You must complete for the BE(Hons)/ME (Mechatronic Engineering Plan code: MECTRX2350), 80 units comprising -

1. 58 units, being all courses from [part A](#) - compulsory; and
2. 16 units from a combination of parts [B1](#), [C](#) and [N – electives](#), with;
  - (i) a minimum of 10 units from [part B1](#) including at least 6 units at level three or higher; and
  - (ii) a minimum of 2 units from [part N – electives](#); and
3. 6 units from electives, being courses on the BE(Hons)/ME list or other courses approved by the Executive Dean; and
  - (i) a maximum of 4 units from [part B0](#); and
  - (ii) a maximum of 4 units from level one courses not on the BE(Hons)/ME list

Tick the courses you have completed and nominate the alternative course you plan to choose (if required). Discontinued courses are coloured red.

✓/X compl.	Pre-2021 Part A list	#	Last offered	If NOT completed – you can choose*:	Sem offering	#	First offered
58 units, being all courses from Part A – compulsory							
	<b>ENGG1100</b> Engineering Design (2) and <b>ENGG1200</b> Engineering Modelling & Problem Solving (2) (discontinued) OR <b>ENGG1211</b> Engineering Design, Modelling & Problem Solving (4) (discontinued)	2 2 4	2/20 2/20	<b>ENGG1100</b> Professional Engineering and * If you have not completed ENGG1200, please contact EAIT Student Admin for replacement	1,2	2	
	<b>MATH1051</b> Calculus & Linear Algebra I OR <b>MATH1071</b> Advanced Calculus & Linear Algebra I	2		<b>MATH1051</b> Calculus & Linear Algebra I OR <b>MATH1071</b> Advanced Calculus & Linear Algebra I	1,2	2	
	<b>MATH1052</b> Multivariate Calculus & Ordinary Differential Equations OR <b>MATH1072</b> Advanced Multivariate Calculus & Ordinary Differential Equations	2		<b>MATH1052</b> Multivariate Calculus & Ordinary Differential Equations OR <b>MATH1072</b> Advanced Multivariate Calculus & Ordinary Differential Equations	1,2	2	
	<b>ENGG1300</b> Introduction to Electrical Systems	2		<b>ENGG1300</b> Introduction to Electrical Systems	1,2	2	
	<b>ENGG1400</b> Engineering Mechanics: Statics & Dynamics (discontinued)	2	2/20	<b>ENGG1700</b> Statics & Materials	1,2	2	1/21
	<b>CSSE1001</b> Introduction to Software Engineering	2		<b>CSSE1001</b> Introduction to Software Engineering or <b>ENGG1001</b> Programming for Engineers	1,2	2	
	<b>CSSE2010</b> Introduction to Computer Systems	2		<b>CSSE2010</b> Introduction to Computer Systems	1,2	2	
	<b>MATH2001</b> Advanced Calculus & Linear Algebra II	2		<b>MATH2001</b> Calculus & Linear Algebra II	1,2,S	2	
	<b>MECH2300</b> Structures & Materials	2		<b>MECH2300</b> Structures & Materials	1	2	
	<b>ELEC2004</b> Circuits, Signals & Systems	2		<b>ELEC2004</b> Circuits, Signals & Systems	2	2	
	<b>MATH2010</b> Analysis of Ordinary Differential Equations	1		<b>MATH2010</b> Analysis of Ordinary Differential Equations	1,2	1	

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	<b>MECH2210</b> Intermediate Mechanical & Space Dynamics	2		<b>MECH2210</b> Dynamics I	2	2	
	<b>METR2800</b> Mechatronic System Design Project I	2		<b>METR2800</b> Mechatronic System Design Project I	2	2	
	<b>STAT2202</b> Probability Models for Engineering & Science (discontinued)	1	<b>2/20</b>	<b>STAT2201</b> Analysis of Eng. & Scientific Data (1)	1,2	1	
	<b>ELEC2003</b> Electromechanics & Electronics (discontinued)	2	<b>1/21</b>	<b>ELEC2300</b> Fundamentals of Electromagnetism & Electromechanics	1	2	<b>1/22</b>
	<b>ELEC3004</b> Signals, Systems & Control	2		<b>ELEC3004</b> Signals, Systems & Control	1	2	
	<b>METR3100</b> Control System Implementation	2		<b>METR3100</b> Control System Implementation	1	2	
	<b>METR4201</b> Control Engineering 1	2		<b>METR4201</b> Control Engineering 1	1	2	
	<b>MECH2100</b> Machine Element Design	2		<b>MECH2100</b> Machine Element Design	2	2	
	<b>MECH3200</b> Advanced Dynamics & Vibrations	2		<b>MECH3200</b> Advanced Dynamics & Vibrations	2	2	
	<b>METR4202</b> Robotics & Automation	2		<b>METR4202</b> Robotics & Automation	2	2	
	<b>METR4810</b> Mechatronic System Design Project II	2		<b>METR4810</b> Mechatronic System Design Project II	2	2	
	<b>ENGG4900</b> Professional Practice and the Business Environment (discontinued)	2	<b>2/23</b>	<b>ENGG4901</b> Professional Practice and the Business Environment A or <b>ENGG4902</b> Professional Practice and the Business Environment B	1,2	2	<b>1/24</b>
	<b>METR7203</b> Control Engineering 2 (discontinued)	2	<b>1/20</b>	<b>METR6203</b> Control Engineering 2	1	2	<b>1/21</b>
	<b>ENGG7290</b> Engineering Placement Semester (discontinued)	8	<b>2/22</b>	<b>ENGG7291</b> Engineering Placement A	1	8	<b>1/23</b>
	<b>ENGG7701</b> Engineering Grand Challenges	2		<b>ENGG7701</b> Engineering Grand Challenges	2	2	

✓/x compl.	Part B0 - Preparatory Mathematics & Science Electives	#	Last offered	If NOT completed – you can choose*:	Sem offering	#	First offered
	<b>CHEM1090</b> Introductory Chemistry	2		<b>CHEM1090</b> Introductory Chemistry	1	2	
	<b>MATH1050</b> Mathematical Foundations	2		<b>MATH1050</b> Mathematical Foundations	1,2	2	
	<b>PHYS1171</b> Physical Basis of Biological Systems	2		<b>PHYS1171</b> Physical Basis of Biological Systems	1,2	2	

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<b>Mechanical Design</b>							
	<b>MECH2305</b> Introduction to Engineering Design and Manufacturing	2		<b>MECH2305</b> Introduction to Engineering Design and Manufacturing	1	2	
	<b>MECH3100</b> Mechanical Systems Design	2		<b>MECH3100</b> Systems Engineering Practice	2	2	
	<b>MECH3300</b> Finite Element Method & Fracture Mechanics (discontinued)	2	1/22	<b>MECH3780</b> Computational Mechanics	1	1	1/23
<b>Materials</b>							
	<b>MECH2310</b> Science & Engineering of Metals	2		<b>MECH2310</b> Science & Engineering of Metals	2	2	
	<b>MECH3301</b> Materials Selection	2		<b>MECH3301</b> Materials Selection	2	2	
<b>Embedded Systems</b>							
	<b>CSSE2310</b> Computer Systems Principles and Programming	2		<b>CSSE2310</b> Computer Systems Principles and Programming	1,2	2	
	<b>CSSE3010</b> Embedded Systems Design & Interfacing	2		<b>CSSE3010</b> Embedded Systems Design & Interfacing	1	2	
<b>Electrical and Electronic Systems</b>							
	<b>ELEC3300</b> Electrical Energy Conversion & Utilisation (discontinued)	2	2/20	<b>ELEC3310</b> Electrical Energy Conversion & Utilisation	2	2	2/21
	<b>ELEC3400</b> Electronic Circuits (discontinued)	2	1/21	<b>ELEC2400</b> Electronic Devices & Circuits (NEW)	1	2	1/22
	<b>ELEC4400</b> Advanced Electronic & Power Electronics Design (discontinued)	2	2/20	<b>ELEC4410</b> Advanced Electronic & Power Electronics Design	2	2	2/21
<b>Intelligent Systems</b>							
	<b>CSSE2002</b> Programming in the Large	2		<b>CSSE2002</b> Programming in the Large	1,2	2	
	<b>COMP3506</b> Algorithms & Data Structures	2		<b>COMP3506</b> Algorithms & Data Structures	2	2	
	<b>COMP3702</b> Artificial Intelligence	2		<b>COMP3702</b> Artificial Intelligence	2	2	
	<b>COMP4702</b> Machine Learning	2		<b>COMP4702</b> Machine Learning	1	2	
<b>Sensors and Sensing</b>							
	<b>MECH3250</b> Engineering Acoustics	2		<b>MECH3250</b> Engineering Acoustics	2	2	
	<b>ELEC3100</b> Fundamentals of Electromagnetic Fields & Waves	2		<b>ELEC3100</b> Fundamentals of Electromagnetic Fields & Waves	2	2	
	<b>PHYS1002</b> Electromagnetism and Modern Physics	2		<b>PHYS1002</b> Electromagnetism and Modern Physics	2	2	Semester 2 only from 2022

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Signal and Image processing						
	ELEC4620 Digital Signal Processing	2		ELEC4620 Digital Signal Processing	1,2	2
	ELEC4630 Image Processing and Computer Vision	2		ELEC4630 Image Processing and Computer Vision	1,2	2
	<b>MECH3750 Engineering Analysis II (discontinued)</b>	2	<b>2/22</b>	If MECH2700 & MECH3780 completed, then exemption – <b>advanced Mech Eng elective to be taken in lieu</b>		2
Thermofluid Systems						
	MECH2410 Fundamentals of Fluid Mechanics	2		MECH2410 Fundamentals of Fluid Mechanics	1	2
	MECH3400 Thermodynamics & Heat Transfer	2		MECH3400 Thermodynamics & Heat Transfer	1	2
	MECH3410 Fluid Mechanics	2		MECH3410 Fluid Mechanics	2	2
	ENGG1500 Engineering Thermodynamics	2		ENGG1500 Thermodynamics: Energy and the Environment	1,2	2

✓/X compl.	Part C - Electives	#	Last offered	If NOT completed – you can choose*:	Sem offering	#	First offered
	AERO4300 Aerospace Composites	2		AERO4300 Aerospace Composites	2	2	
	AERO4450 Aerospace Propulsion	2		AERO4450 Aerospace Propulsion	1	2	
	AERO4470 Hypersonics	2		AERO4470 Hypersonics	1	2	
	AERO4800 Space Engineering	2		AERO4800 Space Engineering	1	2	
	<b>CHEE4302 Electrochemistry &amp; Corrosion (discontinued)</b>	2	<b>2/20</b>	MATE4302 Electrochemistry and Corrosion	2	2	<b>2/21</b>
	COMS3200 Computer Networks I	2		COMS3200 Computer Networks I	1	2	
	<b>COMS4103 Photonics (discontinued)</b>	2	<b>1/20</b>	COMS4113 Photonics	1	2	<b>1/21</b>
	COMS4104 Microwave Engineering	2		COMS4104 Microwave Engineering	1	2	
	COMS4105 Communication Systems	2		COMS4105 Communication Systems	2	2	
	<b>COMS4200 Computer Networks II (discontinued)</b>	2		COMS6200 Computer Networks II	2	2	
	COMS7305 Advanced Microwave Engineering	2		COMS7305 Advanced Microwave Engineering	2	2	
	COMS7307 Advanced Photonics (discontinued)	2	<b>2021</b>	COMS7307 Advanced Photonics (discontinued)	2	2	
	COMS7309 Computational Techniques in Electromagnetics	2		COMS7309 Computational Techniques in Electromagnetics	2	2	
	CSSE4010 Digital System Design	2		CSSE4010 Digital System Design	1	2	

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	<b>CSSE4011</b> Advanced Embedded Systems	2		<b>CSSE4011</b> Advanced Embedded Systems	1	2	
	<b>ELEC4000</b> Special Topics in Electrical Engineering 4A	2		<b>ELEC4000</b> Special Topics in Electrical Engineering 4A	1,2	2	
	<b>ELEC4001</b> Special Topics in Electrical Engineering 4B	2		<b>ELEC4001</b> Special Topics in Electrical Engineering 4B	1,2	2	
	<b>ELEC4300</b> Power Systems Analysis (discontinued)	2	<b>1/20</b>	<b>ELEC4310</b> Power Systems Analysis	1	2	<b>1/21</b>
	<b>ELEC4302</b> Power System Protection	2		<b>ELEC4302</b> Power System Protection	2	2	
	<b>ELEC4320</b> Modern Asset Management and Condition Monitoring in Power System	2		<b>ELEC4320</b> Modern Asset Management and Condition Monitoring in Power System	2	2	
	<b>ELEC6403</b> Biomedical Instrumentation (discontinued)	2	<b>2/20</b>	<b>BIOE6403</b> Biomedical Instrumentation	2	2	<b>2/21</b>
	<b>ELEC6601</b> Medical Imaging (discontinued)	2	<b>2/20</b>	<b>BIOE6601</b> Medical Imaging	2	2	<b>2/21</b>
	<b>ELEC7051</b> Transformer Technology Design and Operation	2		<b>ELEC7051</b> Transformer Technology Design and Operation	2		
	<b>ELEC7309</b> Power System Planning and Reliability	2		<b>ELEC7309</b> Power System Planning and Reliability	2	2	
	<b>ELEC7310</b> Electricity Market Operation and Security	2		<b>ELEC7310</b> Electricity Market Operation and Security	1	2	
	<b>ELEC7313</b> Renewable Energy Integration: Technologies to Technical Challenges	2		<b>ELEC7313</b> Renewable Energy Integration: Technologies to Technical Challenges	1	2	
	<b>ELEC7901</b> Advanced Medical Device Engineering (discontinued)	2	<b>1/20</b>	<b>BIOE6901</b> Medical Device Engineering	1	2	<b>1/21</b>
	<b>ELEC7902</b> Biomedical Signal Processing (discontinued)	2	<b>2/20</b>	<b>BIOE7902</b> Biomedical Signal Processing	2	2	<b>2/21</b>
	<b>ENGG4103</b> Engineering Asset Management	2		<b>ENGG4103</b> Engineering Asset Management	1	2	
	<b>ENGG4800</b> Project Management	2		<b>ENGG4800</b> Project Management	1	2	
	<b>ENGY4000</b> Energy Systems	2		<b>ENGY4000</b> Energy Systems	1	2	
	<b>FIRE3700</b> Introduction to Fire Safety Engineering	2		<b>FIRE3700</b> Introduction to Fire Safety Engineering	1	2	
	<b>MECH4304</b> Net Shape Manufacturing	2		<b>MECH4304</b> Net Shape Manufacturing	1	2	
	<b>MECH4950</b> Advanced Manufacturing in Practice	2		<b>MECH4950</b> Advanced Manufacturing in Practice	2	2	
	<b>MECH4951</b> Special Topics D	2		<b>MECH4951</b> Special Topics D	1	2	
	<b>MECH6480</b> Computational Fluid Dynamics	2		<b>MECH6480</b> Computational Fluid Dynamics	2	2	
	<b>PHYS2082</b> Space Science & Stellar Astrophysics	2		<b>PHYS2082</b> Space Science & Stellar Astrophysics	2	2	
	<b>TIMS3309</b> Fundamentals of Technology and Innovation Management	2		<b>TIMS3309</b> Fundamentals of Technology and Innovation Management	2	2	

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	<b>COMS7000</b> Advanced Topics in Communications I	2		<b>COMS7000</b> Advanced Topics in Communications I	1	2	
	<b>CSSE7080</b> Advanced Topics in Computer Systems A	2		<b>CSSE7080</b> Advanced Topics in Computer Systems A	Ad-hoc	2	
	<b>CSSE7081</b> Advanced Topics in Computer Systems B	2		<b>CSSE7081</b> Advanced Topics in Computer Systems B	Ad-hoc	2	
	<b>ELEC7300</b> Advanced Topics in Power	2		<b>ELEC7300</b> Advanced Topics in Power	Ad-hoc	2	

✓/x compl.	Part N - Electives	#	Last offered	If NOT completed – you can choose*:	Sem offering	#	First offered
	<b>CSSE7610</b> Concurrency: Theory and Practice	2		<b>CSSE7610</b> Concurrency: Theory and Practice	2	2	
	<b>ENGG7302</b> Advanced Computational Techniques in Engineering	2		<b>ENGG7302</b> Advanced Computational Techniques in Engineering	1,2	2	
	<b>ENGG7811</b> Research Methods	2		<b>ENGG7811</b> Research Methods	1,2	2	
	<b>MATE7014</b> Advanced Materials Characterization	2		<b>MATE7014</b> Advanced Materials Characterization	2	2	
	<b>MATE7015</b> Additive Manufacturing	2		<b>MATE7015</b> Additive Manufacturing	2	2	
	<b>MATE7016</b> Materials for Energy Conversion and Storage	2		<b>MATE7016</b> Materials for Energy Conversion and Storage	1	2	
	<b>MECH7101</b> Design of Experiments	2		<b>MECH7101</b> Design of Experiments	2	2	
	<b>Courses offered on an occasional basis</b>						
	<b>ENGG7300</b> Advanced Topics in Engineering I	2		<b>ENGG7300</b> Advanced Topics in Engineering I	1	2	

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