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

Full name:_____Student Number:_____Date:_____

Points to note

- **You need to ensure that you meet minimum program and major requirements (listed below)**
- **You cannot count the same course twice**
- **You need to ensure that you don't take courses that are incompatible with courses that you have already counted towards your program, and that any prerequisites have been met**

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

✓ **- course already completed   X – course to be undertaken**   **Checked by (Faculty: Name and Date):** _____

	Course	#	Last offered	Course	Sem offering	#	First offered	✓/X compl.
	MECH2210 Intermediate Mechanical & Space Dynamics	2		**MECH2210** Dynamics I	2	2		
	METR2800 Mechatronic System Design Project I	2		**METR2800** Mechatronic System Design Project I	2	2		
	STAT2202 Probability Models for Engineering & Science (discontinued)	1	2/20	**STAT2201** Analysis of Eng. & Scientific Data (1)	1,2	1		
	ELEC2003 Electromechanics & Electronics (discontinued)	2	1/21	**ELEC2300** Fundamentals of Electromagnetism & Electromechanics (NEW)	1	2	1/22	
	ELEC3004 Signals, Systems & Control	2		**ELEC3004** Signals, Systems & Control	1	2		
	METR3100 Control System Implementation	2		**METR3100** Control System Implementation	1	2		
	METR4201 Control Engineering 1	2		**METR4201** Control Engineering 1	1	2		
	MECH2100 Machine Element Design	2		**MECH2100** Machine Element Design	2	2		
	MECH3200 Advanced Dynamics & Vibrations	2		**MECH3200** Advanced Dynamics & Vibrations	2	2		
	METR4202 Robotics & Automation	2		**METR4202** Robotics & Automation	2	2		
	METR4810 Mechatronic System Design Project II	2		**METR4810** Mechatronic System Design Project II		2	Not offered in 2022	
	ENGG4900 Professional Practice and the Business Environment	2		**ENGG4900** Professional Practice and the Business Environment	1,2	2		
	METR7203 Control Engineering 2 (discontinued)	2	1/20	**METR6203** Control Engineering 2	1	2	1/21	
	ENGG7290 Engineering Placement Semester	8		**ENGG7290** Engineering Placement Semester	1,2	8		
	ENGG7701 Engineering Grand Challenges	2		**ENGG7701** Engineering Grand Challenges	2	2		
Part A units completed pre-2021:				**Part A units to be substituted/completed:**				
				Total Part A (must add up to 58):				

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

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BE(Hons)/ME Transition Plan – Mechatronic continuation   **Checked by (Faculty: Name and Date):**_____

✓/x compl.	Part B1 - Introductory Electives	#	Last offered	If NOT completed – you can choose*:	Sem offering	#	First offered	✓/x compl.
	Mechanical Design							
	MECH2305 Introduction to Engineering Design and Manufacturing	2		**MECH2305** Introduction to Engineering Design and Manufacturing	1	2		
	MECH3100 Mechanical Systems Design	2		**MECH3100** Systems Engineering Practice	2	2		
	MECH3300 Finite Element Method & Fracture Mechanics (discontinued)	2	1/22	*MECH3780 Computational Mechanics (NEW)*	1	1	**1/23**	
	Materials							
	MECH2310 Science & Engineering of Metals	2		**MECH2310** Science & Engineering of Metals	2	2		
	MECH3301 Materials Selection	2		**MECH3301** Materials Selection	2	2		
	Embedded Systems					2		
	CSSE2310 Computer Systems Principles and Programming	2		**CSSE2310** Computer Systems Principles and Programming	1,2	2		
	CSSE3010 Embedded Systems Design & Interfacing	2		**CSSE3010** Embedded Systems Design & Interfacing	1	2		
	Electrical and Electronic Systems							
	ELEC3300 Electrical Energy Conversion & Utilisation (discontinued)	2	2/20	*ELEC3310 Electrical Energy Conversion & Utilisation*	2	2	**2/21**	
	ELEC3400 Electronic Circuits (discontinued)	2	1/21	*ELEC2400 Electronic Devices & Circuits (NEW)*	1	2	**1/22**	
	ELEC4400 Advanced Electronic & Power Electronics Design (discontinued)	2	2/20	*ELEC4410 Advanced Electronic & Power Electronics Design*	2	2	**2/21**	
	Intelligent Systems							
	CSSE2002 Programming in the Large	2		**CSSE2002** Programming in the Large	1,2	2		
	COMP3506 Algorithms & Data Structures	2		**COMP3506** Algorithms & Data Structures	2	2		
	COMP3702 Artificial Intelligence	2		**COMP3702** Artificial Intelligence	2	2		
	COMP4702 Machine Learning	2		**COMP4702** Machine Learning	1	2		
	Sensors and Sensing					2		
	MECH3250 Engineering Acoustics	2		**MECH3250** Engineering Acoustics	2	2		
	ELEC3100 Fundamentals of Electromagnetic Fields & Waves	2		**ELEC3100** Fundamentals of Electromagnetic Fields & Waves	2	2		
	PHYS1002 Electromagnetism and Modern Physics	2		**PHYS1002** Electromagnetism and Modern Physics	1,2	2	Semester 2 only from 2022	
	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		
	MECH3750 Engineering Analysis II (discontinued)	2	2/22	If **MECH2700** & **MECH3780** completed, then exemption – **advanced Mech Eng elective to be taken in lieu**		2		

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✓/x compl.		#					
	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	✓/x compl.
	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		
	CHEE4302 Electrochemistry & Corrosion (discontinued)	2	2/20	*MATE4302* Electrochemistry and Corrosion	2	2	**2/21**	
	COMS3200 Computer Networks I	2		**COMS3200** Computer Networks I	1	2		
	COMS4103 Photonics (discontinued)	2	1/20	*COMS4113* Photonics	1	2	**1/21**	
	COMS4104 Microwave Engineering	2		**COMS4104** Microwave Engineering	1	2		
	COMS4105 Communication Systems	2		**COMS4105** Communication Systems	2	2		
	COMS4200 Computer Networks II (discontinued)	2		*COMS6200* Computer Networks II	2	2		
	COMS7305 Advanced Microwave Engineering	2		**COMS7305** Advanced Microwave Engineering	2	2		
	COMS7307 Advanced Photonics (discontinued)	2	2021	**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		
	CSSE4011 Advanced Embedded Systems	2		**CSSE4011** Advanced Embedded Systems	1	2		
	ELEC4000 Special Topics in Electrical Engineering 4A	2		**ELEC4000** Special Topics in Electrical Engineering 4A	1,2	2		
	ELEC4001 Special Topics in Electrical Engineering 4B	2		**ELEC4001** Special Topics in Electrical Engineering 4B	1,2	2		
	ELEC4300 Power Systems Analysis (discontinued)	2	1/20	*ELEC4310* Power Systems Analysis	1	2	**1/21**	
	ELEC4302 Power System Protection	2		**ELEC4302** Power System Protection	2	2		

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	Course	Units	Sem		Course		Units	Sem
	ELEC4320 Modern Asset Management and Condition Monitoring in Power System	2			**ELEC4320** Modern Asset Management and Condition Monitoring in Power System	2	2	
	ELEC6403 Biomedical Instrumentation (discontinued)	2	**2/20**		*BIOE6403 Biomedical Instrumentation*	2	2	**2/21**
	ELEC6601 Medical Imaging (discontinued)	2	**2/20**		*BIOE6601 Medical Imaging*	2	2	**2/21**
	ELEC7051 Transformer Technology Design and Operation	2			**ELEC7051** Transformer Technology Design and Operation	2		
	ELEC7309 Power System Planning and Reliability	2			**ELEC7309** Power System Planning and Reliability	2	2	
	ELEC7310 Electricity Market Operation and Security	2			**ELEC7310** Electricity Market Operation and Security	1	2	
	ELEC7313 Renewable Energy Integration: Technologies to Technical Challenges	2			**ELEC7313** Renewable Energy Integration: Technologies to Technical Challenges	1	2	
	ELEC7901 Advanced Medical Device Engineering (discontinued)	2	**1/20**		*BIOE6901 Medical Device Engineering*	1	2	**1/21**
	ELEC7902 Biomedical Signal Processing (discontinued)	2	**2/20**		*BIOE7902 Biomedical Signal Processing*	2	2	**2/21**
	ENGG4103 Engineering Asset Management	2			**ENGG4103** Engineering Asset Management	1	2	
	ENGG4800 Project Management	2			**ENGG4800** Project Management	1	2	
	ENGY4000 Energy Systems	2			**ENGY4000** Energy Systems	1	2	
	FIRE3700 Introduction to Fire Safety Engineering	2			**FIRE3700** Introduction to Fire Safety Engineering	1	2	
	MECH4304 Net Shape Manufacturing	2			**MECH4304** Net Shape Manufacturing	1	2	
	MECH4950 Advanced Manufacturing in Practice	2			**MECH4950** Advanced Manufacturing in Practice	2	2	
	MECH4951 Special Topics D	2			**MECH4951** Special Topics D	1	2	
	MECH6480 Computational Fluid Dynamics	2			**MECH6480** Computational Fluid Dynamics	2	2	
	PHYS2082 Space Science & Stellar Astrophysics	2			**PHYS2082** Space Science & Stellar Astrophysics	2	2	
	TIMS3309 Fundamentals of Technology and Innovation Management	2			**TIMS3309** Fundamentals of Technology and Innovation Management	2	2	
	COMS7000 Advanced Topics in Communications I	2			**COMS7000** Advanced Topics in Communications I	1	2	
	CSSE7080 Advanced Topics in Computer Systems A	2			**CSSE7080** Advanced Topics in Computer Systems A	Ad-hoc	2	
	CSSE7081 Advanced Topics in Computer Systems B	2			**CSSE7081** Advanced Topics in Computer Systems B	Ad-hoc	2	
	ELEC7300 Advanced Topics in Power	2			**ELEC7300** Advanced Topics in Power	Ad-hoc	2	

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