

Bachelor of Engineering (Honours) / Science (3767)

[Robotics and Mechatronic Engineering \(MTRNBH\)](#) / [Physics \(PHYSL1\)](#)

T1 Entry 2025 Sample Plan



Year 1		Year 2		Year 3		Year 4		Year 5	
Term 1	DESN1000 Introduction to Engineering Design and Innovation	Term 1	MATH2089 Numerical Methods and Statistics	Term 1	MTRN3210 Feedback and Control Systems	Term 1	MTRN3020 Modelling and Control of Mechatronic Systems	Term 1	MMAN4951 Research Thesis A
	MATH1131 Mathematics 1A OR MATH1141 Higher Mathematics 1A		ELEC1111 Electrical Circuit Fundamentals		COMP2521 Data Structures and Algorithms		MTRN4010 Advanced Autonomous Systems		PHYS3112 Experimental and Computational Physics
	PHYS1121 Physics 1A OR PHYS1131 Higher Physics 1A		ELEC2141 Digital Circuit Design		PHYS2111 Quantum Physics		Employability Experience Course		PHYS3113 Thermal Physics and Statistical Mechanics
	SCIF0000 (0 UoC) Introduction to University		MMAN2300 Engineering Mechanics 2		MATH2121 Theory and Applications of Differential Equations OR MATH2221 Higher Theory and Applications of Differential Equations		DES3000 Strategic Design Innovation		MMAN4952 Research Thesis B
Term 2	MATH1231 Mathematics 1B OR MATH1241 Higher Mathematics 1B	Term 2	MMAN2700* Thermodynamics	Term 2	Employability Experience Course	Term 2	MTRN3100 Robot Design	Term 2	MTRN4230 Robotics
	PHYS1221 Physics 1B OR PHYS1231 Higher Physics 1B		PHYS2114 Electromagnetism				PHYS3111 Quantum Mechanics		Recommended Discipline Elective
			MTRN2500 Computing for Mechatronic Engineers		MATH2069 Mathematics 2A		MTRN3500 Computing Applications in Mechatronics Systems		MMAN4953 Research Thesis C
Term 3	ENGG1300 Engineering Mechanics	Term 3	DESN2000 Engineering Design and Professional Practice	Term 3	SCIF1000 Skills in Science	Term 3	Physics Elective	Term 3	Physics Elective
	COMP1511 Programming Fundamentals				Discipline Elective				
	MMAN1130 Design and Manufacturing								SCIF3010 (0 UoC) Graduation Portfolio

NOTES	This is intended as a guide only. Courses do not need to be studied in the exact structure that they appear here.
	Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999
	At least 6 UOC of discipline electives must be chosen from the "Recommended Discipline Elective" list in the handbook. *Students can take MMAN2700/ENGG2400 or ENGG2500 but MMAN2700 is recommended for this stream.

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T2 Entry 2025 Sample Plan



Year 1		Year 2		Year 3		Year 4		Year 5	
Term 2	ENGG1300 Engineering Mechanics	Term 2	MMAN1130 Design and Manufacturing	Term 2	DESN3000 Strategic Design Innovation	Term 2	PHYS3111 Quantum Mechanics	Term 2	MMAN4951 Research Thesis A
	MATH1131 Ⓢ Mathematics 1A		COMP2521 Data Structures and Algorithms		PHYS2114 Electromagnetism		MTRN3100 Robot Design		MTRN4230 Robotics
	PHYS1121 Physics 1A <u>OR</u> PHYS1131 Higher Physics 1A		MATH2121 Theory and Applications of Differential Equations <u>OR</u> MATH2221 Higher Theory and Applications of Differential Equations		Employability Experience Course		MMAN2300 Engineering Mechanics 2		Physics Elective
	SCIF0000 (0 UoC) Introduction to University		DESN2000 Engineering Design and Professional Practice		MATH2089 Numerical Methods and Statistics		MTRN3500 Computing Applications in Mechatronics Systems		MMAN4952 Research Thesis B
Term 3	COMP1511 Programming Fundamentals	Term 3	MATH2069 Mathematics 2A	Term 3	MTRN2500 Computing for Mechatronic Engineers	Term 3	Recommended Discipline Elective	Term 3	Physics Elective
	MATH1231 Mathematics 1B <u>OR</u> MATH1241 Higher Mathematics 1B				SCIF1000 Skills in Science		Employability Experience Course		Discipline Elective
	PHYS1221 Physics 1B <u>OR</u> PHYS1231 Higher Physics 1B				PHYS3112 Experimental and Computational Physics		MTRN3210 Feedback and Control Systems		MMAN4953 Research Thesis C
Term 1	ELEC1111 Electrical Circuit Fundamentals	Term 1	ELEC2141 Digital Circuit Design	Term 1	PHYS3113 Thermal Physics and Statistical Mechanics	Term 1	MTRN3020 Modelling and Control of Mechatronic Systems	Term 1	SCIF3010 (0 UoC) Graduation Portfolio
	DESN1000 Introduction to Engineering Design and Innovation		MMAN2700* Thermodynamics						MTRN4010 Advanced Autonomous Systems
			PHYS2111 Quantum Physics						Discipline Elective

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	Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999
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T3 Entry 2025 Sample Plan



Year 1		Year 2		Year 3		Year 4		Year 5	
Term 3	COMP1511 Programming Fundamentals	Term 3	ENGG1300 Engineering Mechanics	Term 3	MATH2069 Mathematics 2A	Term 3	MTRN3500 Computing Applications in Mechatronics Systems	Term 3	MMAN4951 Research Thesis A
	MATH1131 Mathematics 1A <u>OR</u> MATH1141 Higher Mathematics 1A		MTRN2500 Computing for Mechatronic Engineers		COMP2521 Data Structures and Algorithms		Recommended Discipline Elective		Physics Elective
	PHYS1121 Physics 1A <u>OR</u> PHYS1131 Higher Physics 1A		DESN2000 Engineering Design and Professional Practice		SCIF1000 Skills in Science		Employability Experience Course		Discipline Elective
Term 1	SCIF0000 (0 UoC) Introduction to University	Term 1	ELEC2141 Digital Circuit Design	Term 1	MATH2089 Numerical Methods and Statistics	Term 1	MTRN3210 Feedback and Control Systems	Term 1	MMAN4952 Research Thesis B
	ELEC1111 Electrical Circuit Fundamentals		MMAN2700* Thermodynamics		Employability Experience Course		PHYS3112 Experimental and Computational Physics		MTRN3020 Modelling and Control of Mechatronic Systems
	DESN1000 Introduction to Engineering Design and Innovation		PHYS2111 Quantum Physics				PHYS3113 Thermal Physics and Statistical Mechanics		MTRN4010 Advanced Autonomous Systems
Term 2	PHYS1221 Physics 1B <u>OR</u> PHYS1231 Higher Physics 1B	Term 2	MMAN2300 Engineering Mechanics 2	Term 2	PHYS2114 Electromagnetism	Term 2	MTRN3100 Robot Design	Term 2	MMAN4953 Research Thesis C
	MATH1231 Mathematics 1B <u>OR</u> MATH1241 Higher Mathematics 1B		MATH2121 Theory and Applications of Differential Equations <u>OR</u> MATH2221 Higher Theory and Applications of Differential Equations		DESN3000 Strategic Design Innovation		PHYS3111 Quantum Mechanics		MTRN4230 Robotics
	MMAN1130 Design and Manufacturing				Physics Elective				Discipline Elective
									SCIF3010 (0 UoC) Graduation Portfolio

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This is intended as a guide only. Courses do not need to be studied in the exact structure that they appear here.

Compulsory Training Component: There is a program requirement of 60 days approved [Industrial Training](#) ENGG4999

At least 6 UOC of discipline electives must be chosen from the "Recommended Discipline Elective" list in the handbook. *Students can take MMAN2700/ENGG2400 or ENGG2500 but MMAN2700 is recommended for this stream.