#### **Engineering**

### Bachelor of Engineering (Honours) (3707)

## Robotics and Mechatronics Engineering (MTRNBH)

# T1 Entry 2025 Sample Plan



Year 1		Year 2		Year 3		Year 4	
Term 1	<b>DESN1000</b> Engineering Design and Innovation	Term 1	MATH2019 Engineering Mathematics 2E OR MATH2018 Engineering Mathematics 2D	Term 1	<b>MTRN3210</b> Feedback Control Systems	Term 1	<b>MMAN4951</b> (4 UoC) Research Thesis A
	PHYS1121 Physics 1A <u>OR</u> PHYS1131 Higher Physics 1A		MATH2089 Numerical Methods and Statistics		Free Elective Course		MTRN4010 Advanced Autonomous Systems
	MATH1131 Mathematics 1A <u>OR</u> MATH1141 Higher Mathematics 1A		<b>ELEC2141</b> Digital Circuit Design		Free Elective Course		MTRN3020 Modelling and Control of Mechatronic Systems
Term 2	MATH1231 Mathematics 1B <u>OR</u> MATH1241 Higher Mathematics 1B	Term 2	COMP2521 Data Structures and Algorithms	Term 2	<b>MTRN3100</b> Robot Design	Term 2	<b>MMAN4952</b> (4 UoC) Research Thesis B
	COMP1511 Programming Fundamentals		MMAN2300 Engineering Mechanics 2		<b>DESN3000</b> Strategic Design Innovation		MTRN4230 Robotics
			<b>MMAN2700*</b> Thermodynamics		General Education Course		Recommended Discipline Elective
Term 3	<b>MMAN1130</b> Design and Manufacturing	Term 3	<b>DESN2000</b> Engineering Design and Professional Practice	Term 3	MTRN3500 Computing Applications in Mechatronics Systems	Term 3	<b>MMAN4953</b> (4 UoC) Research Thesis C
	ENGG1300 Engineering Mechanics		MTRN2500 Computing for Mechatronic Engineers		General Education Course		Discipline Elective Course
	ELEC1111 Electrical Circuit Fundamentals						Discipline Elective Course

NOTES

Compulsory Training Component: There is a program requirement of 60 days approved <u>Industrial Training</u> ENGG4999

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

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#### **Engineering**

#### Bachelor of Engineering (Honours) (3707)

## Robotics and Mechatronics Engineering (MTRNBH)

# T2 Entry 2025 Sample Plan



PHYS1131 Higher Physics 1A  OR MAITH2018 Engineering Mathematics 2  Design and Manufacturing  Term 3 ENGG1300 Engineering Mechanics 1B  ELEC1111 Mathematics 1B  ELEC2141 Electrical Circuit Fundamentals  DESN12000 Engineering Mechanics 2  Term 3 Strategic Design Innovation  Res  Strategic Design Innovation  Res  Term 2 Term 2 Programming Fundamentals  Programming Fundamentals  DESN2000 Engineering Design and Professional Practice  Term 3 MTRN2500 Computing for Mechatronic Engineers  MATH2089 Numerical Methods and Statistics  Term BLEC2141 Digital Circuit Design  Term DESN12000 Term MATH3010 Modelling and Control of Mechatronic	Year 1		Year 2		Year 3		Year 4	
2 Mathematics 1A 2 Data Structures and Algorithms 2 Robot Design 2				OR MATH2018 Engineering Mathematics		7 7777		<b>MMAN4951</b> (4 UoC) Research Thesis A
Design and Manufacturing  COMP1511 Programming Fundamentals  Practice  Term 3  ENGG1300 Engineering Design and Professional Practice  Term 3  MATH1231 Mathematics 1B  ELEC1111 Electrical Circuit Fundamentals  DESN1000 Term 4  DESN1000 Term MMAN2700*  Engineering Mechanics 2  Engineering Mechanics 2  MMRN3500 Computing Applications in Mechatronics Systems  Term 3  General Education Course  Bigineering Mechanics 2  MMAP Term 3  Discipline  Engineering Mechanics 2  MMAP Res  Discipline  Term MMAN2700*  MTRN3210 Feedback Control Systems  Term MMAN2700*  MOdelling and Control of Mechatronic  Advanced of Mechatronic  Advanced of Mechatronic								MTRN4230 Robotics
Term 3 ENGG1300 Engineering Design and Professional Practice  Term 3 ENGG1300 Engineering Mechanics  MATH1231 Mathematics 1B  ELEC1111 Electrical Circuit Fundamentals  Term DESN1000  Term MARAN2700*  Term MARAN2700*  Term MARAN2700*  Term MARAN2700*  Computing Applications in Mechatronics Systems  Term 3  Computing Applications in Mechatronics Systems  Term 3  Discipline  Term MTRN3210  Feedback Control Systems  Term MARAN2700*  Term MARAN2700*  Term MARAN2700*  Term MARAN2700*  Advanced of Advanced of Mechatronic Marking and Control of Mechatronic				Free Elective				Recommended Discipline Elective
Engineering Mechanics  MATH1231 Mathematics 1B  MATH2089 Numerical Methods and Statistics  ELEC1111 Electrical Circuit Fundamentals  Discipline Elective  MATRN2500 Computing for Mechatronic Engineers  MATH2089 Numerical Methods and Statistics  ELEC2141 Digital Circuit Design  Term  DESN1000  Term  MMAN2700*  Term  MMAN2700*  MATRN3020 Modelling and Control of Mechatronic  Advanced of Advanced of Mechatronic				Engineering Design and Professional		Computing Applications in Mechatronics		<b>MMAN4952</b> (4 UoC) Research Thesis B
MATH1231 Mathematics 1B  MATH2089 Numerical Methods and Statistics  ELEC1111 Electrical Circuit Fundamentals  ELEC2141 Digital Circuit Design  Term  DESN1000 Term  MMAN2700*  Discipline Elective  General  MTRN3210 Feedback Control Systems  Term  MTRN3020 Modelling and Control of Mechatronic  Advanced of Advanced of Advanced of Mechatronic						General Education Course		Discipline Elective Course
Electrical Circuit Fundamentals  ELEC2141 Digital Circuit Design  Term  DESN1000  Term  MMAN2700*  Term  MMAN2700*  Term  Modelling and Control of Mechatronic  Advanced A		i		MATH2089		Discipline Elective		General Education Course
Term DESN1000 Term MMAN2700* Modelling and Control of Mechatronic Advanced A			Term 1				Term 1	<b>MMAN4953</b> (4 UoC) Research Thesis C
1 1 Thermodynamics Systems		<b>DESN1000</b> Engineering Design and Innovation		MMAN2700* Thermodynamics				MTRN4010 Advanced Autonomous Systems
F							Free Elective	

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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 elective list" in the handbook. \*Students can take MMAN2700/ENGG2400 or ENGG2500 but MMAN2700 is recommended for this stream.

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#### **Engineering**

### Bachelor of Engineering (Honours) (3707)

## Robotics and Mechatronics Engineering (MTRNBH)

# T3 Entry 2025 Sample Plan



Year 1		Year 2		Year 3		Year 4	
Term 3	PHYS1121 Physics 1A <u>OR</u> PHYS1131 Higher Physics 1A	Term 3	ENGG1300 Engineering Mechanics	Term 3	MTRN3500 Computing Applications in Mechatronics Systems	Term 3	MMAN4951 (4 UoC) Research Thesis A
	MATH1131 Mathematics 1A <u>OR</u> MATH1141 Higher Mathematics 1A		MTRN2500 Computing for Mechatronic Engineers		General Education Course		Discipline Elective Course
	COMP1511 Programming Fundamentals		<b>DESN2000</b> Engineering Design and Professional Practice				Discipline Elective Course
	<b>DESN1000</b> Engineering Design and Innovation	Term 1	MATH2019 Engineering Mathematics 2E OR MATH2018 Engineering Mathematics 2D	Term 1	MTRN3210 Feedback Control Systems	Term 1	MMAN4952 (4 UoC) Research Thesis B
Term 1	ELEC1111 Electrical Circuit Fundamentals		ELEC2141 Digital Circuit Design		Free Elective		MTRN4010 Advanced Autonomous Systems
	MATH1231 Mathematics 1B <u>OR</u> MATH1241 Higher Mathematics 1B		MATH2089 Numerical Methods and Statistics		Free Elective		MTRN3020 Modelling and Control of Mechatronic Systems
	COMP2521 Data Structures and Algorithms	Term 2	MMAN2300 Engineering Mechanics 2	Term 2	MTRN3100 Robot Design	Term 2	MMAN4953 (4 UoC) Research Thesis C
Term 2	<b>MMAN1130</b> Design and Manufacturing		ENGG2400 Mechanics of Solids 1 <u>OR</u> ENGG2500 Fluid Mechanics for Engineering		<b>DESN3000</b> Strategic Design Innovation		MTRN4230 Robotics
					General Education Course		Discipline Elective Course

NOTES

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 elective list" in the handbook.

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