Engineering

Bachelor of Engineering (Honours) / Computer Science (3785)
Quantum Engineering (ELECCH) / Computer Science (COMPA1)
T1 Entry 2025 Sample Plan

	Year 1		Year 2		Year 3		Year 4		Year 5
Term 1	COMP1511 Programming Fundamentals	Term 1	ELEC2134 Circuits and Signals	Term 1	ELEC3106 Electronics	Term 1	ELEC4122 Strategic Leadership and Ethics	Term 1	ELEC4951 Research Thesis A
	MATH1131 Mathematics 1A OR MATH1141 Higher Mathematics 1A		COMP1531 Software Engineering Fundamentals		ELEC3115 Electromagnetic Engineering		TELE9757 Quantum Communications		Computing Elective
	PHYS1121 Physics 1A OR PHYS1131 Higher Physics 1A		ELEC2141 Digital Circuit Design				Computing Elective		Breadth/Discipline Elective
Term 2	MATH1231 Mathematics 1B OR MATH1241 Higher Mathematics 1B	Term 2	MATH2099 Mathematics 2B	Term 2	COMP2511 Object-Oriented Design and Programming	Term 2	PHYS3118* Quantum Physics of Solids and Devices	Term 2	ELEC4952 Research Thesis B
	COMP1521 Computer Systems Fundamentals		DESN2000 Engineering Design and Professional Practice		ELEC3114 Control Systems		COMP3900 Computer Science Project		Computing Elective
			ELEC2133 Analogue Electronics		ELEC3117 Electrical Engineering Design				Computing Elective
Term 3	DESN1000 Introduction to Engineering Design and Innovation	Term 3	MATH2069 Mathematics 2A	Term 3	COMP3121 Algorithm Design and Analysis OR COMP3821 Extended Algorithm Design and Analysis	Term 3	COMP4920 Professional Issues and Ethics in Information Technology	Term 3	ELEC4953 Research Thesis C
	ELEC1111 Electrical Circuit Fundamentals		COMP2521 Data Structures and Algorithms		ELEC3705 Fundamentals of Quantum Engineering		ELEC4123 Electrical Design Proficiency		Computing Elective
	PHYS1231 Higher Physics 1B				ELEC3104 Digital Signal Processing		ELEC4605 Quantum Devices and Computers		Breadth/Discipline Elective

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

*Students in Quantum Engineering do not need to meet the handbook pre-requisites, ELECCH stream must be declared.

	Year 1		Year 2		Year 3		Year 4		Year 5
Term 2	COMP1511 Programming Fundamentals	**Term 2**	COMP2521 Data Structures and Algorithms	**Term 2**	ELEC2133 Analogue Electronics	**Term 2**	ELEC3117 Electrical Engineering Design	**Term 2**	ELEC4951 Research Thesis A
	MATH1131① Mathematics 1A		DESN2000 Engineering Design and Professional Practice		ELEC3114 Control Systems		PHYS3118* Quantum Physics of Solids and Devices		Computing Elective
	PHYS1121② Physics 1A		MATH2099 Mathematics 2B		MATH2069 Mathematics 2A				Breadth/Discipline Elective
Term 3	COMP1531 Software Engineering Fundamentals	**Term 3**	COMP2511 Object-Oriented Design and Programming	**Term 3**	ELEC3104 Digital Signal Processing	**Term 3**	ELEC4123 Electrical Design Proficiency	**Term 3**	ELEC4952 Research Thesis B
	DESN1000 Introduction to Engineering Design and Innovation		ELEC1111 Electrical Circuit Fundamentals		ELEC3705 Fundamentals of Quantum Engineering		ELEC4605 Quantum Devices and Computers		Computing Elective
			ELEC2141 Digital Circuit Design				COMP4920 Professional Issues and Ethics in Information Technology		Computing Elective
Term 1	MATH1231 Mathematics 1B OR MATH1241 Higher Mathematics 1B	**Term 1**	ELEC2134 Circuits and Signals	**Term 1**	COMP3121 Algorithm Design and Analysis OR COMP3821 Extended Algorithm Design and Analysis	**Term 1**	ELEC3115 Electromagnetic Engineering	**Term 1**	ELEC4953 Research Thesis C
	PHYS1231 Higher Physics 1B		Breadth/Discipline Elective		COMP3900 Computer Science Project		ELEC4122 Strategic Leadership and Ethics		Computing Elective
	COMP1521 Computer Systems Fundamentals				ELEC3106 Electronics		TELE9757 Quantum Communications		Computing Elective

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	①Students can take MATH1131 or MATH1141 depending on term offerings ②Students can take PHYS1121 or PHYS1131 depending on term offerings. *Students in Quantum Engineering do not need to meet the Handbook pre-requisites, ELECCH stream must be declared.

Engineering

Bachelor of Engineering (Honours) / Computer Science (3785)
Quantum Engineering (ELECCH) / Computer Science (COMPA1)
T3 Entry 2025 Sample Plan

	Year 1		Year 2		Year 3		Year 4		Year 5
Term 3	COMP1511 Programming Fundamentals	**Term 3**	COMP2521 Data Structures and Algorithms	**Term 3**	COMP3121 * Algorithm Design and Analysis	**Term 3**	ELEC3104 Digital Signal Processing	**Term 3**	ELEC4951 Research Thesis A
	MATH1131 Mathematics 1A OR MATH1141 Higher Mathematics 1A		MATH2069 Mathematics 2A		ELEC2134 Circuits and Signals		ELEC3705 Fundamentals of Quantum Engineering		**Computing Elective**
	PHYS1121 Physics 1A OR PHYS1131 Higher Physics 1A						ELEC4605 Quantum Devices and Computers		**Breadth/Discipline Elective**
Term 1	MATH1231 Mathematics 1B OR MATH1241 Higher Mathematics 1B	**Term 1**	ELEC1111 Electrical Circuit Fundamentals	**Term 1**	ELEC3106 Electronics	**Term 1**	ELEC4122 Strategic Leadership and Ethics	**Term 1**	ELEC4952 Research Thesis B
	PHYS1231 Higher Physics 1B		ELEC2141 Digital Circuit Design		COMP4920 Professional Issues and Ethics in Information Technology		ELEC4123 Electrical Design Proficiency		**Computing Elective**
	COMP1521 Computer Systems Fundamentals		**Computing Elective**		ELEC3115 Electromagnetic Engineering		TELE9757 Quantum Communications		**Computing Elective**
Term 2	DESN1000 Introduction to Engineering Design and Innovation	**Term 2**	MATH2099 Mathematics 2B	**Term 2**	COMP3900 Computer Science Project	**Term 2**	ELEC3117 Electrical Engineering Design	**Term 2**	ELEC4953 Research Thesis C
	COMP1531 Software Engineering Fundamentals		DESN2000 Engineering Design and Professional Practice		ELEC3114 Control Systems		PHYS3118* Quantum Physics of Solids and Devices		**Computing Elective**
			COMP2511 Object-Oriented Design and Programming		ELEC2133 Analogue Electronics				**Breadth/Discipline Elective**

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Compulsory Training Component: There is a program requirement of 60 days approved Industrial Training ENGG4999

*Students in Quantum Engineering do not need to meet the Handbook pre-requisites, ELECCH stream must be declared.