BE (Honours) in Telecommunications (Program code: 3707 Plan code: TELEAH3707)

Duration: 4 years - Total 192uoc are required to the completion of this single degree program.

Course (each 6uoc)	Course Name	Pre-requisite course passed	
Year 1/Session 1			
Math1131 or 1141	Maths1A or Higher Maths 1A		
Phys1131	Higher Physics 1A		
Comp1511 or Comp1911	Introduction to Programming Computing 1A		
Engg1000	Introduction to Eng Design & Innovation		
Year 1/Session 2			
Math1231 or 1241	Maths 1B or Higher Maths 1B	Math1131 or math1141	
Phys1231	Higher Physics 1B	Phys1131	
Comp1521	Computer Systems Fundamentals	Comp1511	
Elec1111	Electrical & Telecommunications Eng		
Year 2/Session 1			
Math2069	Maths 2A	Math1231	
Elec2141	Digital Circuit Design	Elec1111	
Elec2134	Circuits and Signals	Elec1111	
Genxxxxx	6uoc of GE course		
Year 2/Session 2			
Math2099	Maths2B	Math1231 or Math1241	
Elec2142	Embedded Systems Design	Elec2141& (Comp1511 or Comp1521)	
Elec2133	Analogue Electronics	Elec2134	
Genxxxxx	6uoc of GE course		
Year 3/Session 1			
Elec3115	Electromagnetic Engineering	Phys1231 and Math2069	
Elec3106	Electronics	Elec2133 and Elec2141	
Elec3104	Digital Signal Process	Elec2134	
Tele3118	Network Technologies	Elec2142	
Year 3/Session 2			
Tele3113	Analogue & Digital Communications	Elec2134	
Elec3114	Control Systems	Elec2134	
Tele3117	Electrical Engineering Design	Elec2133	
Tele3119	Trusted Networks	Tele3118	
Year 4/Session 1			
Tele4120	Thesis A	Elec3117 and 120uoc passed	
Tele4123	Electrical Design Proficiency	Passed all L3 core courses	
L4 elective	choose from L4 elective list	pre-requisite shown in L4 elective list	
L4 elective	choose from L4 elective list	pre-requisite shown in L4 elective list	
Year 4/Session 2			
Tele4121	Thesis B	Elec4120	
Elec4122	Strategic Leadership and Ethics	Passed 120uoc	
L4 elective	choose from L4 elective list	pre-requisite shown in L4 elective list	
L4 elective	choose from L4 elective list	pre-requisite shown in L4 elective list	

L3 elective courses list

Elec3111	Distributed Energy Generation	Pre-requisite: Elec2134
Elec3145	Real Time Instrumentation	Pre-requisite: Comp1511 & Elec2134
Elec2146	Engineering Modelling and Simulation	Pre-requisite: Comp1511 & Elec2134
Comp2041	Software Construction	Pre-requisite: Comp1511 or C1921 or C1917
Elec3105	Electrical Energy	Pre-requisite: Elec3115 & Elec2134
Elec3705	Fundamentals of Quantum Engineering	Pre: Math2099 & (Phys1231 or Phys1221)
Math3411	Information, Codes and Ciphers	
Math3101	Computational Mathematics	Pre-requisite:Math2069 & Math2099
Math3121	Mathematical Methods and Partial	Pre-requisite:Math2069 & Math2099
Math3161	Optimization	Pre-requisite: Math2069 & Math2099
Math3201	Dynamical Systems and Chaos	Pre-requisite:Math2069 & Math2099
Math3261	Fluids, Oceans and Climate	Pre-requisite:Math2069 & Math2099
Comp3211	Computer Architecture	Pre-requisite: Elec2141 or Comp3222
Comp3231	Operating Systems	Pre-requisite: (Comp1521 or Comp2121) & (Elec2142 or Comp2521)

L4 elective courses list

	Microelectronics	
Elec4601	Digital and Embedded Systems	Pre-requisite: Elec3106
Elec4602	Microelectronics Design and Technology	Pre-requisite: Elec3106
Elec4603	Solid-State Electronics	Pre-requisite: Elec2133
Elec4604	RF Electronics	Pre-requisite: Elec3106
Elec4605	Quantum Devices and Computers	Pre-requisite: Elec3705
	Energy Systems	
Elec4611	Power System Equipment	Pre-requisite: Elec3105
Elec4612	Power System Analysis	Pre-requisite: Elec3105
Elec4613	Electrical Drive Systems	Pre-requisite: Elec3105
Elec4614	Power Electronics	Pre-requisite: Elec2133
Elec4617	Power System Protection	Pre-requisite: Elec4612
	Signal Processing	
Elec4621	Advanced Digital Signal Processing	Pre-requisite: Elec3104
Elec4622	Multimedia Signal Processing	Pre-requisite: Elec3104
Elec4623	Biomedical Instrumentation, Measurement and Design	Pre-requisite: Elec3104
	……..L4 elective list to be continued next page…….	

	Systems and Control	
Elec4631	Continuous-Time Control System Design	Pre-requisite: Elec3114
Elec4632	Computer Control Systems	Pre-requisite: Elec3114
Elec4633	Real Time Engineering	Pre-requisite: Elec3114
	Data and Mobile Communications	
Tele4651	Wireless Communication Technologies	Pre-requisite: Tele3113
Tele4652	Mobile and Satellite Communication Systems	Pre-requisite: Tele3113
Tele4653	Digital Modulation and Coding	Pre-requisite: Tele3113
Tele4642	Network Performance	Pre-requisite: Tele3118
	Photonics	
Phtn4661	Optical Circuits and Fibres	Pre-requisite: Elec3115
Phtn4662	Photonic Networks	Pre-requisite: Tele3113
	Business Administration	
Elec4445	Entrepreneurial Engineering	Pre-requisite: 132 uoc

Notes:

Rules governing substitutions, pre-requisites and student exchanges

To suit the special abilities or needs of individual students a limited number of course substitutions are permitted within each program. Any such substitution must have prior approval of the Head of School.

- Substitutions must be of at least the same length and level as the prescribed course.
- Core courses may not be substituted with other courses.
- Substitution is not normally permitted if it unduly restricts the range of courses studied to only one area of specialisation.
- Progression to 'next level' courses is not permitted without satisfying the nominated pre-requisites.
- In the case of a combined degree program, accreditation of any course in more than one program is not permitted.
- Prior School consent is required for any accredited substitution. This includes any courses taken from other schools at the student's own initiative.
- Substitution is not normally permitted in the first two years of the program.
- Substitution of one postgraduate course within the School is permitted, provided a similar course is not offered at the undergraduate level.
- Student exchanges are permitted, and students are encouraged to organise their exchange in the second session of their third year in order to simplify the process of accrediting substitutions.

Rules Governing Elective Courses

L3 and L4 electives provide the breadth and the depth required for an Electrical, Telecommunications and Photonic Engineering Degree. These electives are provided from the six disciplines within the School. In addition, L3 electives include courses from other Schools. Students must have completed at least 36 units of

credit of 4th year core and L4 elective courses in order to satisfy the requirements for graduation. Therefore students should choose their L3 and L4 electives accordingly.

Students are not permitted to count more than 60 units of credit (excluding the 12 units of general education courses) of 1st year courses towards the degree, as the required breadth and depth of the Electrical/Telecom/Photonics engineering program would not be obtained otherwise.

Industrial Training

All students are required to undertake 60 full days of mandatory industrial training. Each student is personally responsible for arranging and completing the compulsory industrial training. Please view the details information in this site:

https://www.engineering.unsw.edu.au/electrical-engineering/resources/shared-resources/industrial-training

Other Notes

Not all courses are offered in both sessions. You need to view the timetable website to find out each course's availability in each session:

https://www.engineering.unsw.edu.au/electrical-engineering/resources/shared-resources/timetables

For further information regarding the honours rules, please view:

https://www.engineering.unsw.edu.au/bachelor-of-engineering-honours-detail