

ales

of Electrical

Electrical and BE in Photonic Engineering (364

**BE in Photonic Engineering (3644) – Recommended new program structure from Year 2006**

**Year 1 – Session 1**

MATH1131 Mathematics 1A or  
/Math1141 Higher Mathematics 1A

MATH2130	Mathematical Methods for Des	Pre-requisite: MATH1231	3 hrs/wk	3 uoc	
GENxxxxx	General Education courses			3 uoc	

<b>Year 3 – Session 1</b>					
ELEC3115	Electromagnetic Engineering	Pre-requisite: PHYS1231 and MATH2069	5 hrs/wk		Offered in S1
PHYS3770 or PHYS3780	Laser & Spectroscopy Laboratory Photonics Laboratory	Pre-requisite: 96 UOC	4 hrs/wk	3 uoc	Offered in S1 /S2
GENxxxxx	General Education Course			3 uoc	
ELEC3104	Digital Signal Processing	Pre-requisite: ELEC2134	5 hrs/wk	6 uoc	Offered in S1
Elective	L3 Elective course (see the L3 list below)		5 hrs/wk	6 uoc	

<b>Year 3 – Session 2</b>					
TELE3113	Analogue & Digital Communications	Pre-requisite: ELEC2134	5 hrs/wk	6 uoc	Offered in S2
PHYS3060	Advanced Optics	Pre-requisite: PHYS1231	2 hrs/wk	3 uoc	
PHYS3310	State Devices		2 hrs/wk	3 uoc	
PHTN3117	Photonic Engineering Design	Pre-requisite: ELEC2133	5 hrs/wk	6 uoc	Offered in S2
Elective	L3 Elective course (see the L3 list below)		5 hrs/wk	6 uoc	

<b>L3 Elective courses list</b>					
ELEC3145	Real Time Instrumentation	Pre-requisite: COMP1911 & ELEC2134	5 hrs/wk	6 uoc	Offered in S2
ELEC2146	Engineering Modelling and Simulation (subject to approval)	Pre-requisite: COMP1911 & ELEC2134	5 hrs/wk	6 uoc	Offered in S2
COMP2041	Software Construction (subject to approval)	Pre-requisite:COMP1921	5 hrs/wk	6 uoc	Offered in S1&2
TELE3118	Network Technologies	Pre-requisite: ELEC2142	5 hrs/wk	6 uoc	Offered in S1
ELEC3105	Electrical Energy	Pre-requisite: ELEC3115 and ELEC2134	5 hrs/wk	6 uoc	Offered in S2
TELE3119	Trusted Networks	Pre-requisite: TELE3118	5 hrs/wk	6 uoc	Offered in S2
MATH3411	Information, Codes and Ciphers			6 uoc	
MATH3101	Computational Mathematics	Pre-requisite:MATH2069 & MATH2099	5 hrs/wk	6 uoc	Offered in S1
MATH3121	Mathematical Methods and Partial Differential Equations	Pre-requisite:MATH2069 & MATH2099	5 hrs/wk	6 uoc	Offered in S2
MATH3161	Optimization	Pre-requisite: MATH2069 & MATH2099	5 hrs/wk	6 uoc	Offered in S1
MATH3201	Dynamical Systems and Chaos	Pre-requisite:MATH2069 & MATH2099	5 hrs/wk	6 uoc	Offered in S1

MATH3261	Fluids, Oceans and Climate	Pre-requisite:MATH2069 & MATH2099	5 hrs/wk	6 uoc	Offered in S2
COMP3211	Computer Architecture	Pre-requisite:COMP2021 & COMP3222 ELEC2041	5 hrs/wk	6 uoc	Offered in S2
COMP3231	Operating Systems	Pre-requisite:COMP1921 or COMP1927 & COMP2121 or ELEC2142.	5 hrs/wk	6 uoc	Offered in S1
<b>Year 4 – Session 1</b>					
PHTN4120	Thesis A	Pre-requisite: PHTN3117 and 120 UOC	4 hrs/wk	6 uoc	Offered in S1/S2

ELEC4622	Multimedia Signal Processing	Pre-requisite: ELEC3104	4 hrs/wk	6 uoc	Offered in S2
ELEC4623	Biomedical Instrumentation, Measurement and Design	Pre-requisite: ELEC3104	4 hrs/wk	6 uoc	Offered in S2
<b>Group 4</b>	<b>Systems and Control</b>				
ELEC4631	Continuous-Time Control System Design	Pre-requisite: ELEC3114	4 hrs/wk	6 uoc	Offered in S1
ELEC4632	Computer Control Systems	Pre-requisite: ELEC3114	4 hrs/wk	6 uoc	Offered in S2
ELEC4633	Real Time Engineering	Pre-requisite: ELEC3114	4 hrs/wk	6 uoc	Offered in S1
<b>Group 5</b>	<b>Data and Mobile Communications</b>				
TELE4651	Wireless Communication Technologies	Pre-requisite: TELE3113	4 hrs/wk	6 uoc	Offered in S2
TELE4652	Mobile and Satellite Communication Systems	Pre-requisite: TELE3113	4 hrs/wk	6 uoc	Offered in S2
TELE4653	Digital Modulation and Coding	Pre-requisite: TELE3113	4 hrs/wk	6 uoc	Offered in S1
TELE4642	Network Performance	Pre-requisite: TELE3118	4 hrs/wk	6 uoc	Offered in S1
<b>Group 6</b>	<b>Photonics</b>				
PHTN4661	Optical Circuits and Fibres	Pre-requisite: ELEC3115	4 hrs/wk	6 uoc	Offered in S1
PHTN4662	Photonic Networks	Pre-requisite: TELE3113	4 hrs/wk	6 uoc	Offered in S2
<b>Group 7</b>	<b>Business Administration</b>				
ELEC4445	Entrepreneurial Engineering	Pre-requisite: 132 uoc	4 hrs/wk	6 uoc	Offered in S2

**Notes:**

- x This model allows students to take two L3 electives in the thir

- f* Substitution is not normally permitted if it unduly restricts the range of courses studied to only one area of specialisation.
- f* Progression to 'next level' courses is not permitted without satisfying the nominated pre-requisites.
- f* In the case of a combined degree program, accreditation of any course in more than one program is not permitted.
- f* Prior School consent is required for any acc

standing or are in mid-year entry, as it allows them to complete required number of units of credit within the stipulated time of the normal program.