

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:**

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

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 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.