

## Bachelor of Engineering (Engineering Science Programme)

Recommended Semester Schedule for A-level/IB/NUSHS Students

For Cohort AY2024/2025

(Assuming the Physics bridging course PC1201 is required)

Semester 1		Semester 2	
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning	4
DTK1234 Design Thinking	4	EG1311 Design and Make	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management or PF1101A Project Management and Finance	4
ESP1111 Engineering Principles In-Action	4	ESP2111 Sensor System Electronics	4
PC1201 Fundamentals of Physics	4		
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>20</b>
Semester 3		Semester 4	
EG2501 / CDE2501 Liveable Cities	4	ESP2107 Numerical Methods and Statistics	4
EE2211 Introduction to Machine Learning or EE2213 Introduction to Artificial Intelligence	4	ESP2110 Design Project	4
CDE2000 Creating Narratives#	4	PC3235B Applied Solid State Physics	4
IE2141 Systems Thinking and Dynamics#	4	GE course / Unrestricted Elective	4
ME2121 Engineering Thermodynamics & Heat Transfer	4	GE course / Unrestricted Elective	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>20</b>
Semester 5		Semester 6	
EG3611A Industrial Attachment	10	ES2631 Critique and Communication of Thinking and Design	4
ESP2106 Principles of Continua	4	PC2130B Applied Quantum Physics	4
GE course / Unrestricted Elective	4	EG2401A Engineering Professionalism	2
		Choose ONE	
		* PC2020 Electromagnetics for Electrical Engineers	4
		* EE2023 Signals and Systems	
		GE course / Unrestricted Elective	4
		GE course / Unrestricted Elective	4
<b>Sub-total</b>	<b>18</b>	<b>Sub-total</b>	<b>22</b>
Semester 7		Semester 8	
ESP4901 Research Project	4	ESP4901 Research Project	4
ESP3903 Major Design Project	4	GE course / Unrestricted Elective	4
GE course / Unrestricted Elective	4	GE course / Unrestricted Elective	4
GE course / Unrestricted Elective	4	GE course / Unrestricted Elective	4
GE course / Unrestricted Elective	4	GE course / Unrestricted Elective	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>20</b>

[GE course - General Education Pillar](#)

[\\*Bridging courses](#)

[Internships](#)

**Students may take up to 20 Units of credit-bearing internships, of which up to 10 Units can be used to fulfil the major internship requirement and the remaining will be counted towards Unrestricted Electives:**

EG3611A Industrial Attachment (10 Units)

EG3612 Vacation Industrial Attachment (6 Units)

CFG2101 Vacation Internship Programme (4 Units)

EG2605 Undergraduate Research Opportunities Programme (4 Units)

CDE2605R Undergraduate Research Experience (4 Units)

**#Read 1 from each basket (to complete 3):**

Basket A: EE3331C or ME2142 or ME3142

Basket B: EE2023 or PC2020

Basket C: ESP3201A

These courses can be used to replace the Systems Thinking, Sustainable Futures and Creating Narratives Pillars

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ESP1111 Engineering Principles In-Action	4	ESP2111 Sensor System Electronics	4
GE course / Unrestricted Elective	4		
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EG2501 / CDE2501 Liveable Cities	4	ESP2107 Numerical Methods and Statistics	4
EE2211 Introduction to Machine Learning or EE2213 Introduction to Artificial Intelligence	4	ESP2110 Design Project	4
CDE2000 Creating Narratives#	4	PC3235B Applied Solid State Physics	4
IE2141 Systems Thinking and Dynamics#	4	GE course / Unrestricted Elective	4
ME2121 Engineering Thermodynamics & Heat Transfer	4	GE course / Unrestricted Elective	4
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ESP2106 Principles of Continua	4	PC2130B Applied Quantum Physics	4
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		Choose ONE	
		* PC2020 Electromagnetics for Electrical Engineers	4
		* EE2023 Signals and Systems	
		GE course / Unrestricted Elective	4
		GE course / Unrestricted Elective	4
<b>Sub-total</b>	<b>18</b>	<b>Sub-total</b>	<b>22</b>
Semester 7		Semester 8	
ESP4901 Research Project	4	ESP4901 Research Project	4
ESP3903 Major Design Project	4	GE course / Unrestricted Elective	4
GE course / Unrestricted Elective	4	GE course / Unrestricted Elective	4
GE course / Unrestricted Elective	4	GE course / Unrestricted Elective	4
GE course / Unrestricted Elective	4	GE course / Unrestricted Elective	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>20</b>

[GE course - General Education Pillar](#)

[\\*Bridging courses](#)

[Internships](#)

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Basket B: EE2023 or PC2020

Basket C: ESP3201A

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