

**Bachelor of Engineering (Electrical Engineering)  
with Second Major in Innovation & Design**

**Cohort AY2024/2025**

Course Requirements	Units
<b>Common Curriculum</b>	
GEA1000 Quantitative Reasoning with Data	4
CS1010E Programming Methodology	4
ES2631 Critique and Communication of Thinking and Design <sup>1</sup>	4
GEC: Cultures and Connections <sup>1</sup>	4
GEN: Communities and Engagement <sup>1</sup>	4
CDE2501 Liveable Cities <sup>1, 2</sup>	4
DTK1234 Design Thinking	4
EE2211 Introduction to Machine Learning or EE2213 Introduction to Artificial Intelligence	4
EG1311 Design and Make	4
PF1101 Fundamentals of Project Management or PF1101A Project Management and Finance	4
<b>Additional technical courses for Engineering major <sup>3</sup></b>	<b>12</b>
CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up (over 2 consecutive semesters) <sup>4</sup>	8
<b>Sub-total for Common Curriculum</b>	<b>60</b>
<b>Engineering Core</b>	
MA1511 Engineering Calculus	2
MA1512 Differential Equations for Engineering	2
MA1508E Linear Algebra for Engineering	4
EG2401A Engineering Professionalism	2
EG3611A Industrial Attachment or CFG2101 NUS Vacation Internship Programme <sup>5</sup> and EG3612 Vacation Industrial Attachment	10
<b>Sub-total for Engineering Core</b>	<b>20</b>
<b>Engineering Programme Requirements</b>	
EE1111A Electrical Engineering Principles and Practice I	4
EE2111A Electrical Engineering Principles and Practice II	4
EE2012 Analytical Methods in Electrical and Computer Engineering	4
EE2022 Electrical Energy Systems	4
EE2023 Signals and Systems	4
EE2026 Digital Design or EE2028 Microcontroller Programming and Interfacing	4
EE2027 Electronic Circuits	4
PC2020 Electromagnetics for Electrical Engineers	4
Technical electives	8
<b>Sub-total for Engineering Programme Requirements</b>	<b>40</b>
<b>Unrestricted Electives</b>	
Group A course for Second Major	4
Group B course for Second Major	4
Group C courses for Second Major (Innovation & Enterprise electives)	8
CDE3301 Ideas to Proof-of-Concept (over 2 consecutive semesters)	12
CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up (over 2 consecutive semesters) <sup>4</sup>	4
Other unrestricted electives	8
<b>Sub-total for Unrestricted Electives</b>	<b>40</b>
<b>Total</b>	<b>160</b>

**NUS Innovation & Design Programme**  
**College of Design and Engineering**

Notes:

- <sup>1</sup> Students may read equivalent courses in NUS College (NUSC), University Town College Programme (UTCP), and Ridge View Residential Programme (RVRC).
- <sup>2</sup> Students who are not in NUSC, UTCP or RVRC but have read another GESS Singapore Studies course prior to CDE2501 must still complete CDE2501.

- <sup>3</sup> Students who have already read CDE2000 Creating Narratives and/or IE2141 Systems Thinking and Dynamics must still complete the 12 units of additional technical courses from their Engineering major.

The latest list of additional technical course may be found on this website:  
<https://cde.nus.edu.sg/undergraduate/curriculum-structure/>

Poly-intake students and those in the Engineering Scholars Programme only need to complete 8 units of additional technical course. The remaining 4 units may be fulfilled by CDE2501 (if not in NUSC/UTCP/RVRC and using another course to fulfil Singapore Studies), CDE2000, IE2141, or a third additional technical course.

- <sup>4</sup> The 12 units for CDE4301/CDE4301A are counted towards 8 units for the Integrated Project requirement in the Common Curriculum while 4 units are counted as unrestricted elective.
- <sup>5</sup> May be replaced by CDE2605 Undergraduate Research Opportunities Programme or CDE2605R Undergraduate Research Experience (UREx).

**Recommended semester schedule – JC-intake students or equivalent**  
(for students who opt for vacation internships)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
EG1311 Design and Make	4	DTK1234 Design Thinking	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management	4
GEC/GEN	4	Group A/B course for Second Major ^	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>24</b>

Summer vacation between Semesters 2 and 3	Units
CFG2101 NUS Vacation Internship Programme	4
<b>Sub-total</b>	<b>4</b>

Semester 3	Units	Semester 4	Units
EE2023 Signals and Systems	4	CDE2501 Liveable Cities	4
EE2026 Digital Design or EE2028 Microcontroller Programming and Interfacing	4	EE2027 Electronic Circuits	4
ES2631 Critique and Communication of Thinking and Design	4	EE2211 Introduction to Machine Learning	4
Additional technical course 1	4	Additional technical course 2	4
Group A/B course for Second Major ^	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>22</b>

Summer vacation between Semesters 4 and 5	Units
EG3612 Vacation Internship Attachment	6
<b>Sub-total</b>	<b>6</b>

Semester 5	Units	Semester 6 – can be used for SEP	Units
CDE3301 Ideas to Proof-of-Concept	6	Innovation & Enterprise Elective 1	4
EE2012 Analytical Methods in Electrical and Computer Engineering	4	Additional technical course 3	4
EE2022 Electrical Energy Systems	4	GEC/GEN	4
PC2020 Electromagnetics for Electrical Engineers	4	UE	4
EG2401A Engineering Professionalism	2	UE	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>20</b>

Semester 7	Units	Semester 8	Units
CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6
Innovation & Enterprise Elective 2	4	Technical Elective 2	4
Technical Elective 1	4		
<b>Sub-total</b>	<b>14</b>	<b>Sub-total</b>	<b>10</b>

^ Students can only take CDE2310 or CDE2301 in Semester 2. Those who wish to take CDE2300 (in lieu of CDE2310) and CDE2311/CDE2605R/CDE2606B (in lieu of CDE2301) may clear both courses concurrently in Semester 3.

**Recommended semester schedule – JC-intake students or equivalent**  
(for students who opt for vacation internships **plus a specialisation**)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
EG1311 Design and Make	4	DTK1234 Design Thinking	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management	4
GEC/GEN	4	Group A/B course for Second Major ^	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>24</b>

Summer vacation between Semesters 2 and 3	Units
CFG2101 NUS Vacation Internship Programme	4
<b>Sub-total</b>	<b>4</b>

Semester 3	Units	Semester 4	Units
EE2023 Signals and Systems	4	CDE2501 Liveable Cities	4
EE2026 Digital Design or EE2028 Microcontroller Programming and Interfacing	4	EE2027 Electronic Circuits	4
ES2631 Critique and Communication of Thinking and Design	4	EE2211 Introduction to Machine Learning	4
Additional technical course 1	4	Additional technical course 2	4
Group A/B course for Second Major ^	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>22</b>

Summer vacation between Semesters 4 and 5	Units
EG3612 Vacation Internship Attachment	6
<b>Sub-total</b>	<b>6</b>

Semester 5	Units	Semester 6 – can be used for SEP	Units
CDE3301 Ideas to Proof-of-Concept	6	Innovation & Enterprise Elective 1	4
EE2012 Analytical Methods in Electrical and Computer Engineering	4	Additional technical course 3	4
EE2022 Electrical Energy Systems	4	GEC/GEN	4
PC2020 Electromagnetics for Electrical Engineers	4	Specialisation course 1	4
EG2401A Engineering Professionalism	2	Specialisation course 2	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>20</b>

Semester 7	Units	Semester 8	Units
CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6
Innovation & Enterprise Elective 2	4	Specialisation course 4	4
Specialisation course 3	4	Specialisation course 5	4
<b>Sub-total</b>	<b>14</b>	<b>Sub-total</b>	<b>14</b>

^ Students can only take CDE2310 or CDE2301 in Semester 2. Those who wish to take CDE2300 (in lieu of CDE2310) and CDE2311/CDE2605R/CDE2606B (in lieu of CDE2301) may clear both courses concurrently in Semester 3.

**Recommended semester schedule – JC-intake students or equivalent**  
(for students who opt for industrial attachment)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
EG1311 Design and Make	4	DTK1234 Design Thinking	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management	4
GEC/GEN	4	Group A/B course for Second Major ^	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>24</b>

Semester 3	Units	Semester 4	Units
EE2023 Signals and Systems	4	CDE2501 Liveable Cities	4
EE2026 Digital Design or EE2028 Microcontroller Programming and Interfacing	4	EE2027 Electronic Circuits	4
ES2631 Critique and Communication of Thinking and Design	4	EE2211 Introduction to Machine Learning	4
Additional technical course 1	4	Additional technical course 2	4
Group A/B course for Second Major ^	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>22</b>

Semester 5	Units	Semester 6	Units
CDE3301 Ideas to Proof-of-Concept	6	EG3611A Industrial Attachment	10
EE2012 Analytical Methods in Electrical and Computer Engineering	4		
EE2022 Electrical Energy Systems	4		
PC2020 Electromagnetics for Electrical Engineers	4		
EG2401A Engineering Professionalism	2		
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>10</b>

Semester 7	Units	Semester 8	Units
CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6
Innovation & Enterprise Elective 1	4	Innovation & Enterprise Elective 2	4
Technical Elective 1	4	Technical Elective 2	4
Additional technical course 3	4	UE	4
GEC/GEN	4	UE	4
<b>Sub-total</b>	<b>22</b>	<b>Sub-total</b>	<b>22</b>

^ Students can only take CDE2310 or CDE2301 in Semester 2. Those who wish to take CDE2300 (in lieu of CDE2310) and CDE2311/CDE2605R/CDE2606B (in lieu of CDE2301) may clear both courses concurrently in Semester 3.

**Recommended semester schedule – JC-intake students or equivalent**  
(for students who opt for industrial attachment **plus a specialisation**)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
EG1311 Design and Make	4	DTK1234 Design Thinking	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management	4
GEC/GEN	4	Group A/B course for Second Major ^	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>24</b>

Semester 3	Units	Semester 4	Units
EE2023 Signals and Systems	4	CDE2501 Liveable Cities	4
EE2026 Digital Design <u>or</u> EE2028 Microcontroller Programming and Interfacing	4	EE2027 Electronic Circuits	4
ES2631 Critique and Communication of Thinking and Design	4	EE2211 Introduction to Machine Learning	4
Additional technical course 1	4	Additional technical course 2	4
Group A/B course for Second Major ^	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>22</b>

Semester 5	Units	Semester 6	Units
CDE3301 Ideas to Proof-of-Concept	6	EG3611A Industrial Attachment	10
EE2012 Analytical Methods in Electrical and Computer Engineering	4		
EE2022 Electrical Energy Systems	4		
PC2020 Electromagnetics for Electrical Engineers	4		
EG2401A Engineering Professionalism	2		
GEC/GEN	4		
<b>Sub-total</b>	<b>24</b>	<b>Sub-total</b>	<b>22</b>

Semester 7	Units	Semester 8	Units
CDE4301 Innovation & Design Capstone <u>or</u> CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone <u>or</u> CDE4301A Ideas to Start-up	6
Innovation & Enterprise Elective 1	4	Innovation & Enterprise Elective 2	4
Specialisation course 1	4	Specialisation course 3	4
Specialisation course 2	4	Specialisation course 4	4
Additional technical course 3	4	Specialisation course 5	4
<b>Sub-total</b>	<b>22</b>	<b>Sub-total</b>	<b>22</b>

^ Students can only take CDE2310 or CDE2301 in Semester 2. Those who wish to take CDE2300 (in lieu of CDE2310) and CDE2311/CDE2605R/CDE2606B (in lieu of CDE2301) may clear both courses concurrently in Semester 3.

**Recommended semester schedule – JC-intake students or equivalent**  
(for students in year-long NOC programmes)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
EG1311 Design and Make	4	DTK1234 Design Thinking	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management	4
GEC/GEN	4	Group A/B course for Second Major ^	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>24</b>

Semester 3	Units	Semester 4	Units
EE2023 Signals and Systems	4	CDE2501 Liveable Cities	4
EE2026 Digital Design or EE2028 Microcontroller Programming and Interfacing	4	EE2027 Electronic Circuits	4
ES2631 Critique and Communication of Thinking and Design	4	EE2211 Introduction to Machine Learning	4
Additional technical course 1	4	Additional technical course 2	4
Group A/B course for Second Major ^	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>22</b>

Semester 5	Units	Semester 6 – NOC	Units
CDE3301 Ideas to Proof-of-Concept	6	NOC	
EE2012 Analytical Methods in Electrical and Computer Engineering	4		
EE2022 Electrical Energy Systems	4		
PC2020 Electromagnetics for Electrical Engineers	4		
<b>Sub-total</b>	<b>18</b>	<b>Sub-total</b>	<b>20</b>

Semester 7 – NOC	Units	Semester 8	Units
NOC		Technical Elective 1	4
		Technical Elective 2	4
		Additional technical course 3	4
		GEC/GEN	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>16</b>

^ Students can only take CDE2310 or CDE2301 in Semester 2. Those who wish to take CDE2300 (in lieu of CDE2310) and CDE2311/CDE2605R/CDE2606B (in lieu of CDE2301) may clear both courses concurrently in Semester 3.

**NUS Innovation & Design Programme**  
**College of Design and Engineering**

A year-long NOC programme comprises the following courses (up to 40 units):

- ETP3206L Innovation & Enterprise Internship (16 units) – replaces EG3611A (10 units), EG2401A (2 units), and UE (4 units)
- ETP3202L Innovation & Enterprise Case Study & Analysis (8 units) – replaces CDE4301A (8 units out of 12 units)
- ETP3203L Innovation & Enterprise Internship Practicum (8 units) – replaces CDE4301A (4 units out of 12 units) and UE (4 units)
- Entrepreneurship courses (up to 8 units) – replaces Innovation & Enterprise electives (up to 8 units – students will need to complete additional Innovation & Enterprise Electives in NUS if they are unable to complete 8 units of entrepreneurship courses during NOC)



**Recommended semester schedule – JC-intake students or equivalent**  
(for students in one-semester NOC programmes)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
EG1311 Design and Make	4	DTK1234 Design Thinking	4
MA1511 Engineering Calculus	2	MA1508E Linear Algebra for Engineering	4
MA1512 Differential Equations for Engineering	2	PF1101 Fundamentals of Project Management	4
GEC/GEN	4	Group A/B course for Second Major ^	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>24</b>

Semester 3	Units	Semester 4	Units
EE2023 Signals and Systems	4	CDE2501 Liveable Cities	4
EE2026 Digital Design <u>or</u> EE2028 Microcontroller Programming and Interfacing	4	EE2027 Electronic Circuits	4
ES2631 Critique and Communication of Thinking and Design	4	EE2211 Introduction to Machine Learning	4
Additional technical course 1	4	Additional technical course 2	4
Group A/B course for Second Major ^	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>22</b>

Semester 5	Units	Semester 6 – NOC	Units
CDE3301 Ideas to Proof-of-Concept	6	NOC	
EE2012 Analytical Methods in Electrical and Computer Engineering	4		
EE2022 Electrical Energy Systems	4		
PC2020 Electromagnetics for Electrical Engineers	4		
<b>Sub-total</b>	<b>18</b>	<b>Sub-total</b>	<b>20</b>

Semester 7	Units	Semester 8	Units
CDE4301 Innovation & Design Capstone <u>or</u> CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone <u>or</u> CDE4301A Ideas to Start-up	6
Technical Elective 1	4	Technical Elective 2	4
Additional technical course 3	4	UE	4
GEC/GEN	4	UE	4
<b>Sub-total</b>	<b>18</b>	<b>Sub-total</b>	<b>18</b>

^ Students can only take CDE2310 or CDE2301 in Semester 2. Those who wish to take CDE2300 (in lieu of CDE2310) and CDE2311/CDE2605R/CDE2606B (in lieu of CDE2301) may clear both courses concurrently in Semester 3.

A one-semester NOC programme comprises the following courses (up to 20 units):

- ETP3201S Innovation & Enterprise Internship (12 units) – replaces EG3611A (10 units) and EG2401A (2 units)
- ETP3204S Innovation & Enterprise Internship Practicum (4 units) – replaces Innovation & Enterprise Elective 1 (4 units)
- Entrepreneurship course (4 units) – replaces Innovation & Enterprise Elective 2 (4 units)

**Recommended semester schedule – JC-intake students or equivalent**  
(for students in Engineering Scholars Programme)

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
MA1512 Differential Equations for Engineering	2	EE2023 Signals and Systems	4
UTCP course 1 (replaces GE)	4	GEA1000 Quantitative Reasoning with Data	4
Group B course for Second Major	4	DTK1234 Design Thinking	4
UE (or IE2141 Systems Thinking & Dynamics if not in UTCP)	4	UTCP course 2 (replaces GE)	4
UE	4	CDE3301 Ideas to Proof-of-Concept	6
<b>Sub-total</b>	<b>22</b>	<b>Sub-total</b>	<b>26</b>

Semester 3	Units	Semester 4 – NOC	Units
EE2026 Digital Design <u>or</u> EE2028 Microcontroller Programming and Interfacing	4	NOC	
EE2027 Electronic Circuits	4		
PC2020 Electromagnetics for Electrical Engineers	4		
UTCP course 3 (replaces CDE2501)	4		
CDE3301 Ideas to Proof-of-Concept	6		
Group A course for Second Major	4		
<b>Sub-total</b>	<b>26</b>	<b>Sub-total</b>	<b>20</b>

Semester 5	Units	Semester 6	Units
CDE4301 Innovation & Design Capstone <u>or</u> CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone <u>or</u> CDE4301A Ideas to Start-up	6
EE2012 Analytical Methods in Electrical and Computer Engineering	4	Additional technical course 1	4
EE2022 Electrical Energy Systems	4	Additional technical course 2	4
EE2211 Introduction to Machine Learning <u>or</u> EE2213 Introduction to Artificial Intelligence	4	PF1101 Fundamentals of Project Management <u>or</u> PF1101A Project Management and Finance	4
UTCP course 4 (replaces ES2631 Critique and Communication of Thinking and Design)	4	Technical Elective 2	4
Technical Elective 1	4	UE	2
<b>Sub-total</b>	<b>26</b>	<b>Sub-total</b>	<b>24</b>

Students are highly encouraged to complete the following courses before Semester 1 through advanced placement credits:

- CS1010E Programming Methodology (4 units)
- EG1311 Design and Make (4 units)
- MA1505 Mathematics I (4 units) – replaces MA1511 Engineering Calculus (2 units) and counted as UE (2 units)
- MA2001 Linear Algebra (4 units) – replaces MA1508E Linear Algebra for Engineering (4 units)

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A one-semester NOC programme comprises the following courses (up to 20 units):

- ETP3201S Innovation & Enterprise Internship (12 units) – replaces EG3611A (10 units) and EG2401A (2 units)
- ETP3204S Innovation & Enterprise Internship Practicum (4 units) – replaces Innovation & Enterprise Elective 1 (4 units)
- Entrepreneurship course (4 units) – replaces Innovation & Enterprise Elective 2 (4 units)

**Recommended semester schedule – poly-intake students**

Semester 1	Units	Semester 2	Units
EE1111A Electrical Engineering Principles and Practice I	4	EE2111A Electrical Engineering Principles and Practice II	4
CS1010E Programming Methodology	4	GEA1000 Quantitative Reasoning with Data	4
MA1301 Introductory Mathematics * (UE)	4	MA1508E Linear Algebra for Engineering	4
PC1201 Fundamentals of Physics (UE)	4	PF1101 Fundamentals of Project Management	4
Group A/B course for Second Major	4	CDE3301 Ideas to Proof-of-Concept	6
		Group A/B course for Second Major	4
<b>Sub-total</b>	<b>20</b>	<b>Sub-total</b>	<b>26</b>

Semester 3	Units	Semester 4	Units
MA1511 Engineering Calculus *	2	CDE2501 Liveable Cities	4
MA1512 Differential Equations for Engineering *	2	EE2012 Analytical Methods in Electrical and Computer Engineering	4
EE2022 Electrical Energy Systems	4	EE2023 Signals and Systems	4
EE2026 Digital Design or EE2028 Microcontroller Programming and Interfacing	4	EE2211 Introduction to Machine Learning	4
EE2027 Electronic Circuits	4	PC2020 Electromagnetics for Electrical Engineers	4
ES2631 Critique and Communication of Thinking and Design	4	Additional technical course 1	4
CDE3301 Ideas to Proof-of-Concept	6		
<b>Sub-total</b>	<b>26</b>	<b>Sub-total</b>	<b>24</b>

Semester 5	Units	Semester 6	Units
CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6	CDE4301 Innovation & Design Capstone or CDE4301A Ideas to Start-up	6
Innovation & Enterprise Elective 1	4	Innovation & Enterprise Elective 2	4
EG2401A Engineering Professionalism	2	Technical Elective 1	4
Additional technical course 2	4	Technical Elective 2	4
Additional technical course 3	4	GEC/GEN	4
GEC/GEN	4		
<b>Sub-total</b>	<b>24</b>	<b>Sub-total</b>	<b>22</b>

\* Students who are exempted from MA1301 can take MA1511 and MA1512 in Semester 1.

Poly-intake students with accredited diplomas will receive the following exemptions:

- DTK1234 Design Thinking (4 units)
- EG1311 Design and Make (4 units)
- EG3611A Industrial Attachment (10 units)
- Unrestricted electives (20 units)