College of Design and Engineering
Bachelor of Engineering (Engineering Science)
Cohort 2025/2026

Course Requirements	Units
COMMON CURRICULUM REQUIREMENTS – *see Annex A*	
• Singapore Studies	4
• Cultures and Connections	4
• Communities and Engagement	4
• Critique and Expression	4
• Digital Literacy	4
• Data Literacy	4
Sub-total for General Education Pillars	24
• Design Thinking	4
• Maker Space	4
• Artificial Intelligence	4
• Project Management	4
Sub-total for CDE Common Curriculum requirements	16
MAJOR REQUIREMENTS	
Engineering Core:	
• MA1511 Engineering Calculus	2
• MA1512 Differential Equations for Engineering	2
• MA1508E Linear Algebra for Engineering	4
• EG2401A Engineering Professionalism	2
• EG3611A Industrial Attachment[1] (or equivalent)	10
Sub-total for Engineering Core	20
Major Programme:	
• ESP1111 Engineering Principles in Action	4
• ESP2111 Sensor System Electronics	4
• ESP2106 Principles of Continua	4
• ESP2107 Numerical Methods & Statistics	4
• ESP2110 Design Project 2	4
• ESP3903 Major Design Project 2	4
• ESP3201A Machine Learning in Engineering Science	4
• ME2121 Engineering Thermodynamics & Heat Transfer	4
• PC2020 Electromagnetics for Electrical Engineers	4
• EE2023 Signals and Systems	4
• PC2130B Applied Quantum Physics	4
• PC3235B Applied Solid State Physics	4
• Choose **ONE** from the following list: – EE3331C Feedback Control Systems (4 Units) – ME3142 Feedback Control Systems (4 Units)	4
• Integrated Project	8
Sub-total for Major Programme	60
UNRESTRICTED ELECTIVES	
• [Build Your Own Degree](#)	40
Total	160

---

[1] Engineering 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. This limit does not apply to students enrolled in the co-op degree programme.

Annex A: Catalogue of courses in the Common Curriculum

Common Curriculum Pillar		B.Eng.
		Basket of Courses[2]
General Education Pillars (info)	Singapore Studies	CDE2501 Liveable Cities
	Cultures and Connections	Students may read any course from the curated list of courses as approved by the NUS General Education Committee for this pillar. [GEC%]
	Communities and Engagement	Students may read any course from the curated list of courses as approved by the NUS General Education Committee for this pillar. [GEN%]
	Critique and Expression	ES2631 Critique and Communication of Thinking and Design
	Digital Literacy	CS1010% Programming Methodology (any variant)
	Data Literacy	GEA1000 Quantitative Reasoning
CDE common curriculum (info)	Design Thinking	DTK1234 Design Thinking
	Maker Space	EG1311 Design and Make
	Artificial Intelligence	EE2211 Introduction to Machine Learning OR EE2213 Introduction to Artificial Intelligence
	Project Management	PF1101A Project Management and Finance
Major Programme	Integrated Project	Complete 8 Unit from the following list of courses: • ESP4901 Research Project • XFE4401 Integrated Honours Project • CDE4301 DCP Dissertation[3] • CDE4301A Ideas to Start-up[3]

---

[2] The listing of courses is expected to grow and evolve over time, to suit curricular needs.
[3] CDE4301 is a 12 Unit course that forms part of the Innovation and Design Second Major. Students taking this will fulfil the Integrated Project pillar (8 Units) and an additional 4 Units of Unrestricted Electives.