

## AY2025-2026 CURRICULUM FOR COMPUTER ENGINEERING

**With a Second Major in Sustainability**

### PI option : 20-WEEK Professional Internship

#### SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Major		ICC		Care, Serve, Learn	2M - SUST / BDE	Total AU
	Core	MPE	Common - Core	Professional Series			
Y1	20	0	6	3	0	6	35
Y2	27	0	8	0	3	6	44
Y3	7	6	0	12	0	3	28
Y4	11	12	0	1	0	13	37
<b>Total</b>	<b>65</b>	<b>18</b>	<b>14</b>	<b>16</b>	<b>3</b>	<b>28</b>	<b>144</b>

#### Recommended Course Schedule

##### YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1003	Introduction to Computational Thinking & Programming	P-Series	3	Nil
SC1013	Physics For Computing	Core	2	Nil
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-req)
EG1001	Engineers in Society	Core/2M-SUST (BDE)	2	Double counted to SUST-E
CC0003	Ethics & Civics in a Multicultural World	C-Core	2	Nil
CC0015	Health & Wellbeing	C-Core	2	Nil
SUST-C1	Sustainability - Core 1	2M-SUST (BDE)	3	Refer to syllabus
HW0001	Introduction to Academic Communication	-	-	For student failed QET
HW0002	Calculus	-	-	For student not done Calculus
<b>TOTAL</b>			<b>18</b>	

##### YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1005	Digital Logic	Core	3	Nil
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
MH1812	Discrete Mathematics	Core	3	Nil
CC0001	Inquiry & Communication in an Interdisciplinary World	C-Core	2	Nil
SUST-C2	Sustainability - Core 2	2M-SUST (BDE)	3	Refer to syllabus
<b>TOTAL</b>			<b>17</b>	
			<b>Year 1 Total AU</b>	<b>35</b>

##### YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-req)
SC2000	Probability & Statistics for Computing	Core	3	Nil
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
SC2103	Digital Systems Design	Core	3	SC1005
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	C-Core	2	Refer to syllabus
CC0007	Science & Technology for Humanity	C-Core	3	Nil
SUST-C3	Sustainability - Core 3	2M-SUST (BDE)	3	Refer to syllabus
<b>TOTAL</b>			<b>23</b>	

##### YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2006	Software Engineering	Core	3	SC2002 (co-req)
SC2008	Computer Network	Core	3	SC2000 & SC1004
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
SUST-C4	Sustainability - Core 4	2M-SUST (BDE)	3	Refer to syllabus
CSL	CSL (service learning course) - Part 1	CSL	3	(Continue in Y3S1)
<b>TOTAL</b>			<b>21</b>	
			<b>Year 2 Total AU</b>	<b>44</b>

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC2107	Microprocessor System Design and Development	Core	3	SC1006
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE-1	3	Refer to MPE listing
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE-2	3	Refer to MPE listing
HW0288	Engineering Communication	P-Series	2	CC0001 & Year 3 standing
SUST-C5	Sustainability - Core 5	2M-SUST (BDE)	3	Refer to syllabus
CSL	CSL (service learning course) - Part 2	CSL	-	(Continue from Y2S2)
<b>TOTAL</b>			<b>18</b>	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC3920	Professional Internship (Graded)	P-Series	10	Year 3 Standing
<b>TOTAL</b>			<b>10</b>	
<b>Year 3 Total AU</b>			<b>28</b>	

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4079	Final Year Project (Part 1)	Core	4	Year 4 Standing
SC3102	Signals, Systems and Transforms	Core	3	SC1004
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Refer to MPE listing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Refer to MPE listing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Refer to MPE listing
ES5100	Sustainability - Interdisciplinary Project	2M-SUST (BDE)	3	Refer to syllabus
ML0015	Profession Preparation	P-Series	1	Nil
<b>TOTAL</b>			<b>20</b>	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4079	Final Year Project (Part 2)	Core	4	Year 4 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SUST-E1	Sustainability-Elective 1	2M-SUST (BDE)	4	Refer to syllabus
SUST-E2	Sustainability-Elective 2	2M-SUST (BDE)	3	Refer to syllabus
SUST-E3	Sustainability-Elective 3	2M-SUST (BDE)	3	Refer to syllabus
<b>TOTAL</b>			<b>17</b>	
<b>Year 4 Total AU</b>			<b>37</b>	
<b>Grand Total (Year 1 to 4)</b>			<b>144</b>	

**Important Note:**

- Students are required to complete 6 Major Prescribed Electives (MPE) courses, of which at least 4 must be at the SC4xxx level.
- In order to graduate with **Highest Distinction**, students must achieve **minimum CGPA of 4.5** and at least a 'B+' grade for the **Final Year Project**.

MPE Structure of Computer Engineering (U24 and after)			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE
SC3xxx/SC4xxx	MPE-2	3	Any MPE
SC4xxx	MPE-3	3	Choose within SC4xxx
SC4xxx	MPE-4	3	Choose within SC4xxx
SC4xxx	MPE-5	3	Choose within SC4xxx
SC4xxx	MPE-6	3	Choose within SC4xxx
	<b>Total</b>	<b>18</b>	
<a href="#">Please refer to the CE MPE Courses and Elective Focus Areas on CCDS website.</a>			

## AY2025-2026 CURRICULUM FOR COMPUTER ENGINEERING

With a Second Major in Sustainability

### PA option : 10-WEEK Professional Attachment

#### SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Major		ICC			2M - SUST / BDE	Total AU
	Core	MPE	Common-Core	Professional Series	Care, Serve, Learn		
Y1	20	0	6	3	0	0	29
Y2	24	0	8	0	0	3	35
Y3	13	15	0	7	3	0	38
Y4	8	3	0	1	0	2	14
Total	65	18	14	11	3	5	116

#### Recommended Course Schedule

##### YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-req)
SC1013	Physics For Computing	Core	2	Nil
EG1001	Engineers in Society	Core/2M-SUST (BDE)	2	Double counted to SUST-E
CC0003	Ethics & Civics in a Multicultural World	C-Core	2	Nil
CC0015	Health & Wellbeing	C-Core	2	Nil
SC1003	Introduction to Computational Thinking & Programming	P-Series	3	Nil
SUST-C1	Sustainability - Core 1	2M-SUST (BDE)	3	Refer to syllabus
HW0001	Introduction to Academic Communication	-	-	For student failed QET
HW0002	Calculus	-	-	For student not done Calculus
TOTAL			18	

##### YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1005	Digital Logic	Core	3	Nil
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
MH1812	Discrete Mathematics	Core	3	Nil
CC0001	Inquiry & Communication in an Interdisciplinary World	C-Core	2	Nil
SUST-C2	Sustainability - Core 2	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			17	
<b>Year 1 Total AU</b>			<b>35</b>	

##### YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-req)
SC2000	Probability & Statistics for Computing	Core	3	Nil
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
SC2103	Digital Systems Design	Core	3	SC1005
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	C-Core	2	Nil
CC0007	Science & Technology for Humanity	C-Core	3	Nil
SUST-C3	Sustainability - Core 3	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			23	

##### YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2006	Software Engineering	Core	3	SC2002 (co-req)
SC2008	Computer Network	Core	3	SC2000 & SC1004
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
CSL	CSL (service learning course) - Part 1	CSL	3	(Continue in Y3S1)
SUST-C4	Sustainability - Core 4	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			18	
<b>Year 2 Total AU</b>			<b>41</b>	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC2107	Microprocessor System Design and Development	Core	3	SC1006
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE-1	3	Refer to MPE listing
HW0288	Engineering Communication	P-Series	2	CC0001 & Year 3 standing
SUST-C5	Sustainability - Core 5	2M-SUST (BDE)	3	Refer to syllabus
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
CSL	CSL (service learning course) - Part 2	CSL	-	(Continue from Y2S2)
<b>TOTAL</b>			<b>18</b>	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
SC3102	Signals, Systems and Transforms	Core	3	SC1004
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE-2	3	Refer to MPE listing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE-3	3	Refer to MPE listing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE-4	3	Refer to MPE listing
	Broadening and Deepening Elective	BDE	2	Refer to Class Schedule
<b>TOTAL</b>			<b>17</b>	

YEAR 3 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC3910	Professional Attachment (Graded)	P-Series	5	Year 3 Standing
<b>TOTAL</b>			<b>5</b>	
		<b>Year 3 Total AU</b>	<b>40</b>	

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4079	Final Year Project (Part 1)	Core	4	Year 4 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE-5	3	Refer to MPE listing
ML0015	Profession Preparation	P-Series	1	Nil
ES5100	Sustainability - Interdisciplinary Project	2M-SUST (BDE)	3	Refer to syllabus
SUST-E1	Sustainability-Elective 1	2M-SUST (BDE)	4	Refer to syllabus
<b>TOTAL</b>			<b>15</b>	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4079	Final Year Project (Part 2)	Core	4	Year 4 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE-6	3	Refer to MPE listing
SUST-E2	Sustainability-Elective 2	2M-SUST (BDE)	3	Refer to syllabus
SUST-E3	Sustainability-Elective 3	2M-SUST (BDE)	3	Refer to syllabus
<b>TOTAL</b>			<b>13</b>	
		<b>Year 4 Total AU</b>	<b>28</b>	
<b>Grand Total (Year 1 to 4)</b>			<b>144</b>	

**Important Note:**

1. Students are required to complete 6 Major Prescribed Electives (MPE) courses, of which at least 4 must be at the SC4xxx level.
2. In order to graduate with **Highest Distinction**, students must achieve minimum CGPA of 4.5 and at least a 'B+' grade for the Final Year Project.

MPE Structure of Computer Engineering (U24 and after)			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE
SC3xxx/SC4xxx	MPE-2	3	Any MPE
SC4xxx	MPE-3	3	Choose within SC4xxx
SC4xxx	MPE-4	3	Choose within SC4xxx
SC4xxx	MPE-5	3	Choose within SC4xxx
SC4xxx	MPE-6	3	Choose within SC4xxx
	<b>Total</b>	<b>18</b>	

Please refer to the [CE MPE Courses and Elective Focus Areas on CCDS website.](#)

**For Second Major in Sustainability, students are required to complete a minimum total of 30 AU:**

1. 5 compulsory courses, 1 course in each knowledge area (5 courses x 3AU = 15 AU)
2. Minimum total of **12 AU** of Core and/or Elective courses of any knowledge area
3. Interdisciplinary project: **ES5100** Sustainability Capstone Project (3 AU)

Sustainability Course Listing				
Knowledge Area	Course Title	Type	AU	Remarks
People	To choose 1 of the courses under the People core courses	2M-SUST (BDE)	3	Refer to syllabus
Planet	To choose 1 of the courses under the Planet core courses	2M-SUST (BDE)	3	Refer to syllabus
Policy	To choose 1 of the courses under the Policy core courses	2M-SUST (BDE)	3	Refer to syllabus
Practice	To choose 1 of the courses under the Practice core courses	2M-SUST (BDE)	3	Refer to syllabus
Profit	To choose 1 of the courses under the Profit core courses	2M-SUST (BDE)	3	Refer to syllabus
Practice	EG1001 Engineers in Society (Sustainability - Elective)	2M-SUST (BDE)	2	<i>Double counted with CE Core</i>
Choose 9 AU of Core/Elective from any knowledge areas	Sustainability - Elective	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective	2M-SUST (BDE)	4	Refer to syllabus
ES5100	Sustainability - Interdisciplinary Project	2M-SUST (BDE)	3	Refer to syllabus
<b>TOTAL</b>			<b>30</b>	

Please refer to the [Second Major in Sustainability website for Sustainability Course Listing:](#)  
<https://www.ntu.edu.sg/ase/admissions/undergraduate-programmes/second-major-in-sustainability>