

AY2025-2026 CURRICULUM FOR DATA SCIENCE & ARTIFICIAL INTELLIGENCE

With a Second Major in Sustainability

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	16	0	6	3	0	9	34
Y2	27	0	8	2	3	6	46
Y3	10	6	0	10	0	3	29
Y4	8	12	0	1	0	12	33
Total	61	18	14	16	3	30	142

Recommended Course Schedule

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
MH1805	Calculus	Core	4	Nil
MH1812	Discrete Mathematics	Core	3	Nil
CC0001	Inquiry & Communication in an Interdisciplinary World	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 who failed QET
TOTAL			15	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC3021	Data Science Fundamentals (Only for U24 and after)	Core	3	SC1003
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
CC0003	Ethics & Civics in a Multicultural World	C-Core	2	Nil
CC0015	Health & Wellbeing	C-Core	2	Nil
SUST-C2	Sustainability - Core 2	2M-SUST (BDE)	3	Refer to syllabus
SUST-E1	Sustainability-Elective 1	2M-SUST (BDE)	3	Refer to syllabus
			19	
		Year 1 Total AU	34	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC2207	Introduction to Databases	Core	3	SC2001 (co-req)
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
MH2500	Probability and Introduction to Statistics	Core	4	MH1805
MH2802	Linear Algebra for Scientists	Core	3	Nil
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	C-Core	2	Nil
SUST-C3	Sustainability - Core 3	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			21	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC3000	Artificial Intelligence	Core	3	SC1007 & MH2500
SC2006	Software Engineering	Core	3	SC2002 (co-req)
MH3500	Statistics	Core	4	MH1805 & MH2510 (co-req)
MH2510	Statistics I	Core	4	MH2500
CC0007	Science & Technology for Humanity	C-Core	3	Nil
HW0218	Communication Across the Sciences	P-Series	2	CC0001
CSL	CSL (service learning course)- Part 1	CSL	3	(Continue in Semester 2)
SUST-C4	Sustainability - Core 4	2M-SUST (BDE)	3	Refer to syllabus
			25	
		Year 2 Total AU	46	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4000	Machine Learning	Core	3	SC1004 & SC1007 & SC2000 OR MH2802 & SC1007 & SC2000
SC4020	Data Analytics and Mining	Core	3	SC2001
MH2100	Calculus III	Core	4	MH1805
MH/SCxxxx	Major Prescribed Elective	MPE-1	3	Year 3 standing
MH/SCxxxx	Major Prescribed Elective	MPE-2	3	Year 3 standing
	CSL (service learning course)- Part 2	CSL	-	(Continue from Semester 1)
SUST-C5	Sustainability - Core 5	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			19	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SD3920	Professional Internship (Graded)	P-Series	10	Year 3 Standing
TOTAL			10	
			Year 3 Total AU	29

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4079	Final Year Project (Part 1)	Core	4	Year 4 Standing
MH/SC4xxx	Major Prescribed Elective	MPE-3	3	Year 3 standing
MH/SC4xxx	Major Prescribed Elective	MPE-4	3	Year 3 standing
ML0015	Profession Preparation	P-Series	1	Nil
ES5100	Sustainability - Interdisciplinary Project	2M-SUST (BDE)	3	Refer to syllabus
SUST-E2	Sustainability-Elective 2	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			17	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite/Remarks
SC4079	Final Year Project (Part 2)	Core	4	Year 4 Standing
MH/SC4xxx	Major Prescribed Elective	MPE-6	3	Year 3 standing
MH/SC4xxx	Major Prescribed Elective	MPE-7	3	Year 3 standing
SUST-E3	Sustainability-Elective 3	2M-SUST (BDE)	3	Refer to syllabus
SUST-E4	Sustainability-Elective 4	2M-SUST (BDE)	3	Refer to syllabus
			16	
			Year 4 Total AU	33
Grand Total (Year 1 to 4)			142	

Important Note:

1. A minimum of **18 AU** of Major Prescribed Electives (MPEs) is required.
2. For U21 and later cohorts, a **combination of 3 AU and 4 AU** MPEs is permitted
3. In order to graduate with **Highest Distinction**, students must achieve **minimum CGPA of 4.5**

MPE Structure of DSAI (U24 and after)			
Course Code	Type	AU	Remarks
MH/SCxxxx	MPE-1	3	Any MPE
MH/SCxxxx	MPE-2	3	Any MPE
MH/SC4xxx	MPE-3	3	MPE (Choose within Level 4 courses)
MH/SC4xxx	MPE-4	3	MPE (Choose within Level 4 courses)
MH/SC4xxx	MPE-5	3	MPE (Choose within Level 4 courses)
MH/SC4xxx	MPE-6	3	MPE (Choose within Level 4 courses)
Total		18	
Please refer to the DSAI MPE Course List 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	Pre-requisite/Remark
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
Choose 12 AU of Core/Elective from any knowledge areas	Sustainability - Elective 1	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective 2	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective 3	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective 4	2M-SUST (BDE)	3	Refer to syllabus
ES5100	Sustainability - Interdisciplinary Project	2M-SUST (BDE)	3	Refer to syllabus
TOTAL			30	
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				