AY2024-25
CURRICULUM FOR DATA SCIENCE & ARTIFICIAL INTELLIGENCE
With a Second Major in Sustainability

SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Core	MPE	ICC Common-Core	ICC Foundational-Core	BDE	Total AU
1	16	0	9	3	9	37
2	26	0	8	2	6	39
3	10	6	0	10	3	29
4	8	12	0	0	12	32
Total	60	18	17	15	30	140

Recommended Course Schedule

YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	F-Core	3	Nil
MH1805	Calculus	Core	4	Nil
MH1812	Discrete Mathematics	Core	3	Nil
CC0001	Inquiry & Communication in an Interdisciplinary World	U-Core	2	Nil
CC0002	Navigating the Digital World	U-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			17	

YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
CC0003	Ethics & Civics in a Multicultural World	U-Core	2	Nil
CC0005	Healthy Living & Wellbeing	U-Core	3	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Core	BDE	3	Refer to syllabus
			20	

Year 1 Total AU **37**

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2207	Introduction to Databases	Core	3	SC2001 (co-requisite)
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
MH2500	Probability and Introduction to Statistics	Core	4	MH1805
MH1812	Discrete Mathematics	Core	3	Nil
CC0006	Sustainability: Society, Economy & Environment	U-Core	3	Nil
ML0004	Career & Innovative Enterprise for the Future World	U-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			21	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC3000	Artificial Intelligence	Core	3	SC1007 & MH2500
SC3021	Data Science Fundamentals (Only for U24 and after)	Core	3	SC1003
MH3500	Statistics	Core	4	MH2500
MH3511	Data Analysis with Computer	Core	3	MH2500
HW0218	Communication Across the Sciences	F-Core	2	CC0001
CC0007	Science & Technology for Humanity	U-Core	3	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

Year 2 Total AU **39**

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC4000	Machine Learning	Core	3	SC1004 & SC1007 & SC2000
SC4020	Data Analytics and Mining	Core	3	SC2001
MH2100	Calculus III	Core	4	MH1805
MH/SCxxxx	Major Prescribed Elective	MPE	3	Year 3 standing
MH/SCxxxx	Major Prescribed Elective	MPE	3	Year 3 standing
	Sustainability - Elecive	BDE	3	Refer to syllabus
			19	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SD3920	Professional Internship (Graded)	F-Core	10	Year 3 Standing
			10	

Year 3 Total AU **29**

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 1)	Core	4	Year 4 Standing
MH/SC4xxx	Major Prescribed Elective	MPE	3	Year 3 standing
MH/SC4xxx	Major Prescribed Elective	MPE	3	Year 3 standing
	Sustainability - Elecive	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	3	Refer to syllabus
			16	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 2)	Core	4	Year 4 Standing
MH/SC4xxx	Major Prescribed Elective	MPE	3	Year 3 standing
MH/SC4xxx	Major Prescribed Elective	MPE	3	Year 3 standing
	Sustainability - Elecive	BDE	3	Refer to syllabus
	Sustainability - Interdisciplinary Project	BDE	3	Refer to syllabus
			16	

Year 4 Total AU **32**

Important Note for DSAI MEP:
1. Minimum 18 AU of MPE is required.
2. Different combination between 3 & 4 AU MPE is allowed for U21 and later Cohorts.
3. It is also possible to choose all 3 AU MPE to fulfil MPE requirement.
4. Students are allowed to fulfil MPE requirement by over 1 or 2 AU.
   Example: when students have 17 AU MPE currently, they are allowed to take one more 3 AU MPE.

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 the CSC MPE Courses and Specialization on CCDS website.			

Sustainability Course Lising				
Course Code	Course Title	Type	AU	Pre-requisite
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	4	Refer to syllabus
	Sustainability - Interdisciplinary Project	BDE	3	Refer to syllabus
inability webiste for Sustainability Course Listing:https://www.ntu.edu.sg/ase/admissions/undergraduate-programmes/second-major				