

**AY2023-24 CURRICULUM FOR BACHELOR OF ENGINEERING (ENVIRONMENTAL ENGINEERING)
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN DATA ANALYTICS (ENDA)
(FIRST YEAR ADMISSION)**

Last Updated : 19-Apr-23

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYS- Core	MPE	CC	FC	BDE	Total AU
1	13	23	0	5	0	3	44
2	17	10	0	5	3	3	38
3	26	0	0	3	5	0	34
4	11	0	3	0	0	18	32
Total	67	33	3	13	8	24	148

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYS- Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
CV1011	Mechanics of Materials	C	4	
CC0002	Navigating the Digital World	CC	2	
			22	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Living with Climate Change	CNY-Core	3	CNYS- Course
CV1014^	Introduction To Computational Thinking	C	3	
CV1711	Engineering Drawing and 3D Building Information Modelling	C	1	
CV2019	Matrix Algebra & Computational Methods	BDE	3	
EN2002	Environmental Biology and Microbiology	C	3	
EG1001	Engineers In Society	C	2	
CC0005	Healthy Living & Wellbeing	CC	3	
			18	

YEAR 1 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2003	Research Attachment 3	CNY-Core	4	CNYS- Course
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYS- Course
CV1012	Fluid Mechanics	C	3	
CV2011	Structural Analysis I	C	3	CV1011
EN2004	Geo-Environment and Soil Mechanics	C	3	
EN2711	Environmental Engineering Laboratory A	C	1	
CV0003	Introduction to Data Science and Artificial Intelligence	FC	3	CV1014
			16	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS- Course
CV2001	Research Attachment 1	CNY-Core	4	CNYS- Course 2-semester long, course registered only in Sem 2 (similar to URECA)
CV2020	Water Resources Engineering	C	3	CV1012
EN2003	Water Supply Engineering	C	3	CV1012
EN2712	Environmental Engineering Laboratory B	C	1	
MH1403	Algorithms and Computing	BDE	3	CV1014
SP0061	Science & Technology for Humanity	CC	3	

ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
			22	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EN3001	Solid & Hazardous Waste Management	C	3	Year 3 Standing
EN3002	Wastewater Engineering	C	3	Year 3 Standing
EN3003	Environmental Transport Processes	C	3	
EN3004	Air Pollution Control Engineering	C	3	Year 3 Standing
EN3006	Energy Resource Engineering	C	3	
MH2814 [^]	Probability & Statistics	C	3	MH1810
CC0006	Sustainability: Society, Economy & Environment	CC	3	
			21	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EN4211	CNYSO Overseas Final Year Project	C	8	Year 4 Standing
			8	

YEAR 3 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EN3915	Professional Attachment	FC	5	Year 3 standing & completed at least 4 semesters of study
			5	

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CV4012	Project Planning & Management	C	2	Year 4 Standing
EN4001	Environmental Impact Analysis & Monitoring	C	3	
EN4711	Seminars & Site Visits	C	1	
EN4XXX	Major Prescribed Elective	MPE	3	Refer to Syllabus
EE4483	Artificial Intelligence & Data Mining	BDE	3	CV2019, CV0003
SC4024	Data Visualization	BDE	3	CV1014, MH2814
XXXXXX	DA Elective 1	BDE	3	
			18	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
EN4003	Environmental Systems Analysis	C	2	
EN4912	Integrated Design Project	C	3	Year 4 Standing
SC2207	Introduction to Database	BDE	3	MH1403
XXXXXX	DA Elective 2	BDE	3	
XXXXXX	DA Elective 3	BDE	3	
			14	

Total AU for Graduation: **148**

[^] These courses are double-counted towards both ENE as well as the Second Major in Data Analytics.

Compulsory Courses for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
Core	MH2814	Probability & Statistics	3	1	MH1810
BDE	CV2019	Matrix Algebra & Computational Methods	3	2	-
Core	CV1014	Introduction to Computational Thinking	3	2	-
BDE	MH1403	Algorithms and Computing	3	2	CV1014
BDE	SC2207	Introduction to Database	3	1, 2	MH1403
BDE	EE4483	Artificial Intelligence & Data Mining	3	1	CV2019, CV0003
BDE	SC4024	Data Visualization	3	1	CV1014, MH2814

Suggested Electives for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
BDE	SC4002	Natural Language Processing	3	1	MH1403
BDE	SC4021	Information Retrieval	3	2	MH1403

BDE	SC4022	Network Science	3	2	MH1403
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List of Eligible Electives can be found at the following link: <https://www.ntu.edu.sg/engineering/admissions/ug/allprogrammes/highlights/da>