ESE Curriculum (2018 Cohort - Normative 4-year Degree)
[min. no. of CUs for the award: 121]

(1) Gateway Education (GE) Requirement (30 CUs)

GE Requirement			Credit Units
University Requirements	GE1401	University English	3
	GE2410	English for Engineering	3
	GE1501	Chinese Civilisation – History and Philosophy	3
Distributional Requirements	A minimum of 3 credit units from each of the three distributional areas below: - Area 1: Arts and Humanities - Area 2: Study of Societies, Social and Business Organisations - Area 3: Science and Technology		12
School-specified Requirements	MNE2016	Engineering Graphics	3
	SEE1003	Introduction to Sustainable Energy and Environmental Engineering	3
	SEE3002	Energy and Environmental Economics	3
Total			30

(2) School Requirement (18 CUs)

Course		Credit Units	Remarks
BCH1100	Chemistry	3	
BCH1200	Discovery in Biology	3	
MA1200 / MA1300	Calculus and Basic Linear Algebra I / Enhanced Calculus and Linear Algebra I	3	Select either MA1200 or MA1300
MA1201 / MA1301	Calculus and Basic Linear Algebra II / Enhanced Calculus and Linear Algebra II	3	Select either MA1201 or MA1301
PHY1201	General Physics I	3	
SEE1002	Introduction to Computing for Energy and Environment	3	

(3) Major Requirement (73 CUs)
A. Basic Core Courses (19 CUs)

Course		Credit Units
MA2181	Mathematical Methods for Engineering	3
SEE2001	Electromagnetic Principles for Energy Engineers	3
SEE2002	Chemical Sciences for Energy and Environmental Engineers	4
SEE2003	Introduction to Energy and Environmental Data Analysis	3
SEE2101	Engineering Thermofluids I	3
SEE2201	Fundamentals of Environmental Engineering	3

B. Major Core Courses (42 CUs)

Course		Credit Units
SEE3001	Energy and Environmental Policy	3
SEE3003	Climate Change and Adaptation Strategies	3
SEE3101	Engineering Thermofluids II	4
SEE3102	Power Plant Engineering	3
SEE3103	Energy Efficiency for Buildings	3
SEE3104	Sustainable and Renewable Energy	3
SEE4001	Engineers in Society	1
SEE4003	Energy and Environmental Engineering Laboratory	3
SEE4004	Environmental Impact Assessment for Sustainable Development	4
SEE4112	Sustainable Engineering Systems: Modelling and Analysis	3
SEE4217	Waste and Wastewater Treatment Engineering	3
SEE4997	Final Year Project	6
SEEM4024	Project Management	3

C. Electives (12 CUs) - *select at least FOUR courses from the following list*

Course		Credit Units	Remarks
SDSC3002	Data Mining	3	Select at least three from Courses SDSC3002, SEE4113, SEE4114, SEE4115, SEE4116, SEE4117, SEE4118, SEE4119, SEE4120, SEE4121 and SEE4122
SEE4113	Nanotechnology in Energy Conversion and Storage: Concepts and Creative Science	3	
SEE4114	Bioenergy Engineering: Principles and Applications	3	
SEE4115	Energy Catalysis and Reaction Engineering	3	
SEE4116	Energy and Carbon Auditing	3	
SEE4117	Solar Energy Engineering	3	
SEE4118	Wind and Marine Energy	3	
SEE4119	Electrical Energy Conversion	3	
SEE4120	Materials Engineering for Energy Storage Applications	3	
SEE4121	Gas Engineering	3	
SEE4122	Chemical Separations for Energy and Environmental Applications	3	
SEE3201	Atmospheric Science – An Introductory Survey	3	Select at least one from Courses SEE3201, SEE3204*, SEE3205, SEE3206, SEE3207, SEE4202, SEE4205, SEE4216 and SEE4218
SEE3204*	Urban Sustainability	3	
SEE3205	Urban Sustainability	3	
SEE3206	Environmental Social Governance	3	
SEE3207	Indoor Environmental Quality	3	
SEE4202	Atmospheric Chemistry	3	
SEE4205	Design of Smart Cities and Sustainable Building	3	
SEE4216	Combustion and Air Pollution Control	3	
SEE4218	Water and Water Resource Engineering	3	

* SEE3204 is a summer course (not offered until further notice)

ESE Curriculum (2018 Cohort – <mark>Advanced Standing I</mark>)
[min. no. of CUs for the award: 91]

(1) Gateway Education (GE) Requirement (21 CUs)

GE Requirement		Credit Units
University Requirements	GE1401　　University English	3
	GE2410　　English for Engineering	3
	GE1501　　Chinese Civilisation – History and Philosophy	3
Distributional Requirements	A minimum of 6 credit units from two of the three distributional areas below: - Area 1: Arts and Humanities - Area 2: Study of Societies, Social and Business Organisations - Area 3: Science and Technology	6
School-specified Requirements	MBE2016　Engineering Graphics	3
	SEE3002　　Energy and Environmental Economics	3
Total		21

(2) School Requirement (Not required)

(3) Major Requirement (70 CUs)

A. Basic Core Courses (16 CUs)

Course		Credit Units
MA2181	Mathematical Methods for Engineering	3
SEE2001	Electromagnetic Principles for Energy Engineers	3
SEE2002	Chemical Sciences for Energy and Environmental Engineers	4
SEE2101	Engineering Thermofluids I	3
SEE2201	Fundamentals of Environmental Engineering	3

B. Major Core Courses (42 CUs)

Course		Credit Units
SEE3001	Energy and Environmental Policy	3
SEE3003	Climate Change and Adaptation Strategies	3
SEE3101	Engineering Thermofluids II	4
SEE3102	Power Plant Engineering	3
SEE3103	Energy Efficiency for Buildings	3
SEE3104	Sustainable and Renewable Energy	3
SEE4001	Engineers in Society	1
SEE4003	Energy and Environmental Engineering Laboratory	3
SEE4004	Environmental Impact Assessment for Sustainable Development	4
SEE4112	Sustainable Engineering Systems: Modelling and Analysis	3
SEE4217	Waste and Wastewater Treatment Engineering	3
SEE4997	Final Year Project	6
SEEM4024	Project Management	3

C. Electives (12 CUs) - *select at least **FOUR** courses from the following list*

Course		Credit Units	Remarks
SDSC3002	Data Mining	3	Select at least three from Courses SDSC3002, SEE4113, SEE4114, SEE4115, SEE4116, SEE4117, SEE4118, SEE4119, SEE4120, SEE4121 and SEE4122
SEE4113	Nanotechnology in Energy Conversion and Storage: Concepts and Creative Science	3	
SEE4114	Bioenergy Engineering: Principles and Applications	3	
SEE4115	Energy Catalysis and Reaction Engineering	3	
SEE4116	Energy and Carbon Auditing	3	
SEE4117	Solar Energy Engineering	3	
SEE4118	Wind and Marine Energy	3	
SEE4119	Electrical Energy Conversion	3	
SEE4120	Materials Engineering for Energy Storage Applications	3	
SEE4121	Gas Engineering	3	
SEE4122	Chemical Separations for Energy and Environmental Applications	3	
SEE3201	Atmospheric Science – An Introductory Survey	3	Select at least one from Courses SEE3201, SEE3204*, SEE3205, SEE3206, SEE3207, SEE4202, SEE4205, SEE4216 and SEE4218
SEE3204*	Urban Sustainability	3	
SEE3205	Urban Sustainability	3	
SEE3206	Environmental Social Governance	3	
SEE3207	Indoor Environmental Quality	3	
SEE4202	Atmospheric Chemistry	3	
SEE4205	Design of Smart Cities and Sustainable Building	3	
SEE4216	Combustion and Air Pollution Control	3	
SEE4218	Water and Water Resource Engineering	3	

* SEE3204 is a summer course (not offered until further notice)