ESE-2023-4YR

CITY UNIVERSITY OF HONG KONG School of Energy and Environment

<u>Bachelor of Engineering in Energy Science and Engineering</u> Recommended Study Plan (for 2023 cohort with normative 4-year degree) List of 3 School-specified courses:

- (1) CA1167 Engineering Communication
- (2) SEE1003 Introduction to Sustainable Energy and Environmental Engineering
- (3) SEE3002 Energy and Environmental Economics

YEAR 1				L	
Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
MA1200 /	Calculus and Basic Linear Algebra I /	2	MA1201 /	Calculus and Basic Linear Algebra II /	3
MA1300	Enhanced Calculus and Linear Algebra I	3	MA1301	Enhanced Calculus and Linear Algebra II	3
CHEM1200	Discovery in Biology	3	PHY1201	General Physics I	3
CHEM1300	Principles of General Chemistry	3	SEE1002	Introduction to Computing for Energy and Environment	3
SEE1003	Introduction to Sustainable Energy and Environmental Engineering	3	GE2410	English for Engineering	3
GE1401	University English	3	GE Courses	(Distributional Requirements) x 2	3
GE Course (Dis	stributional Requirements)	3			3
	T	otal: 18			Total: 18
YEAR 2					
Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
SEE2000	Professional Development I	0	CA1167	Engineering Communication	3
SEE2001	Electromagnetic Principles for Energy Engineers	3	MA2181	Mathematical Methods for Engineering	3
SEE2002	Chemical Sciences for Energy and Environmental Engineers	4	SEE2101	Engineering Thermofluids I	3
SEE2003	Introduction to Energy and Environmental Data Analysis	3	SEE2201	Fundamentals of Environmental Engineering	3
GE1501	Chinese Civilisation - History and Philosophy	3	GE Course (Distributional Requirements)	3
	Т	otal: 13			Total: 15
YEAR 3			·		
Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
SEE3002	Energy and Environmental Economics	3	SEE3001	Energy and Environmental Policy	3
SEE3101	Engineering Thermofluids II	4	SEE3003	Climate Change and Adaptation Strategies	3
SEE3102	Power Plant Engineering	3	SEE3104	Sustainable and Renewable Energy	3
SEE3103	Energy Efficiency for Buildings	3	SEE4001	Engineers in Society	1
SYE4024	Project Management	3	SEE4217	Waste and Wastewater Treatment Engineering	3
	Τ	otal: 16			Total: 13
YEAR 4			i		
Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
SEE4003	Energy and Environmental Engineering Laboratory	3	SEE4004	Environmental Impact Assessment for Sustainable Development	4
SEE4112	Sustainable Engineering Systems: Modelling and Analysis	3	SEE4997	Final Year Project	3
SEE4997	Final Year Project	3	Major Electi	ives x 2	3
Major Electives x 2		3			3
		3			_
	Т	otal: 15			Total: 13

IMPORTANT NOTES re. SEE2000 Professional Development I and SEE4000 Professional Development II:

By the time SEE students graduate, they must have successfully completed SEE2000 Professional Development I and SEE4000 Professional Development II, namely 8-hour Career Training Workshops arranged by SEE plus 160-hour Professional Development experience recognized by SEE. For details, please refer to the School website at https://www.cityu.edu.hk/see >> Programmes >> Undergraduate Programmes.

ESE-2023-4YR-BSS

CITY UNIVERSITY OF HONG KONG School of Energy and Environment

List of 3 School-specified courses:

- (1) CA1167 Engineering Communication
- (2) SEE1003 Introduction to Sustainable Energy and Environmental Engineering

(3) SEE3002 Energy and Environmental Economics

Bachelor of Engineering in Energy Science and Engineering
Recommended Study Plan (for 2023 cohort with normative 4-year degree taking BSS discipline)

MA 1300	YEAR 1				(47) - 11 - 12 - 12 - 12 - 12 - 12 - 12 - 1	
MALSON Enhanced Calculus and Linear Algebra I 3	Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
MA150 Enhanced Calculus and Linear Algebra MA150 Enhanced Calculus and Linear Algebra Secretary Secreta	MA1200 /	Calculus and Basic Linear Algebra I /	3	MA1201 /	Calculus and Basic Linear Algebra II /	2
CHEM1300	MA1300	Enhanced Calculus and Linear Algebra I	3	MA1301	Enhanced Calculus and Linear Algebra II	3
SEE1003	CHEM1200	Discovery in Biology	3	PHY1201	General Physics I	3
Second University English 3	CHEM1300	Principles of General Chemistry	3	SEE1002	Introduction to Computing for Energy and Environment	3
Total: 18 Tot	SEE1003	Introduction to Sustainable Energy and Environmental Engineering	3	GE2410	English for Engineering	3
Total: 18	GE1401	University English	3	GE Courses	(Distributional Requirements) x 2	3
Semester A Semseter A Semseter A Semseter B Semseter A Semseter A SEE2000 Professional Development I CUs On CA1167 Regineering Communication CUS On CA1167 Regineering Thermofluids I CUS ON CA1167 Regineering And Environmental Engineers CUS ON CA1167 Regineering And Environmental Engineering CUS ON CA1167 Regineering Thermofluids I CUS ON CA1167 Regineering And Environmental Engineering CUS ON CA1167 Regineering And Environmental Policy CUS ON CA1167 Regineering And Environmental Policy Policy CUS ON CA1167 Regineering And Environmental Policy Policy CUS ON CA1167 Regineering And Engineering And Enginee	GE Course (Distributional Requirements) 3					3
Semester A CUs Semester B CAI167 Engineering Communication 3 SEE2001 Electromagnetic Principles frenergy Engineers 3 MA2181 Mathematical Methods for Engineering 3 SEE2003 Chemical Sciences for Energy and Environmental Engineers 4 SEE2101 Engineering Thermofluids I 3 SEE2003 Introduction to Energy and Environmental Data Analysis 3 SEE2101 Fundamentals of Environmental Engineering 3 GE1500 Chinese Civilisation - History and Philosophy 3 SEE2001 Fundamentals of Environmental Engineering 3 Total: 18 Total: 18 Total: 18 Total: 18 Total: 18 Semester A CUs Semester B Semester B CUs Semester B CUs Semester B CUs Semester B		Т	otal: 18			Total: 18
SEE2000 Professional Development I 0 CA1167 Engineering Communication 3 SEE2001 Electromagnetic Principles for Energy Engineers 3 MA2181 Mathematical Methods for Engineering 3 SEE2002 Chemical Sciences for Energy and Environmental Engineers 4 SEE2101 Engineering Thermofluids I 3 SEE2003 Introduction to Energy and Environmental Data Analysis 3 SEE2202 Fundamentals of Environmental Engineering 3 GE1501 Chinese Civilisation - History and Philosophy 3 GE Course (Distributional Requirements) 3 Total: 13 Total: 13 Total: 15 Total: 15 YEAR 3 SEE3001 Energy and Environmental Engineering 3 SEE3001 Energy and Environmental Policy 3 SEE3002 Climate Change and Adaptation Strategies 3 SEE3002 Climate Change and Adaptation Strategies 3 SEE3101 Engineering Thermofluids II 4 SEE4001 Engineering Engineering 3 SEE3102 Power Plant Engineering 3 SEE4001 Engineering Engineering 3 SEE4001 Engineering Plant Engineering 3 SEE	YEAR 2					
SEE2001 Electromagnetic Principles for Energy Engineers 3 MA2181 Mathematical Methods for Engineering 3 SEE2002 Chemical Sciences for Energy and Environmental Engineers 4 SEE2101 Engineering Thermofluids I 3 SEE2003 Introduction to Energy and Environmental Data Analysis 3 SEE2201 Fundamentals of Environmental Engineering 3 GEI501 Chinese Civilisation - History and Philosophy 3 GE Course (Distributional Requirements) 3 Total: 13 Total: 15 Total: 13 Total: 15 YEAR 3 Semester A Cus Cus Semester B Semester B Cus CA3712 Electrical Services 3 SEE3001 Energy and Environmental Policy 3 SEE3002 Energy and Environmental Economics 3 SEE3003 Climate Change and Adaptation Strategies 3 SEE3101 Engineering Thermofluids II 4 SEE4001 Engineering and Renewable Lenergy 3 SEE3102 Power Plant Engineering 3 SEE4001 Engineering Subsect Subsect Subsect Subsec	Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
SEE2002 Chemical Sciences for Energy and Environmental Engineers 4 SEE2101 Engineering Thermofluids I 3	SEE2000	Professional Development I	0	CA1167	Engineering Communication	3
SEE2003 Introduction to Energy and Environmental Data Analysis 3 SEE2201 Fundamentals of Environmental Engineering 3 GEI 501 Chinese Civilisation - History and Philosophy 3 GE Course (Distributional Requirements) 3 Total: 13 Total: 15 Total: 15 YEAR 3 Semester A CUs Semester B Cus CA3712 Electrical Services 3 SEE3001 Energy and Environmental Policy 3 CA3732 Fire Engineering and Piped Services 3 SEE3003 Climate Change and Adaptation Strategies 3 SEE3101 Engineering Thermofluids II 4 SEE4001 Engineers in Society 1 SEE3102 Power Plan Engineering 3 SEE4217 Waste and Wastewater Treatment Engineering 3 SEE3102 Power Plan Engineering 1 1 <td>SEE2001</td> <td>Electromagnetic Principles for Energy Engineers</td> <td>3</td> <td>MA2181</td> <td>Mathematical Methods for Engineering</td> <td>3</td>	SEE2001	Electromagnetic Principles for Energy Engineers	3	MA2181	Mathematical Methods for Engineering	3
Clist Chinese Civilisation - History and Philosophy 3 GE Course (Distributional Requirements) 3 Total: 15	SEE2002	Chemical Sciences for Energy and Environmental Engineers	4	SEE2101	Engineering Thermofluids I	3
Total: 13	SEE2003	Introduction to Energy and Environmental Data Analysis	3	SEE2201	Fundamentals of Environmental Engineering	3
Semester A Semester A Semester B Semester	GE1501	Chinese Civilisation - History and Philosophy	3	GE Course (Distributional Requirements)	3
Semester A CUs Semester B CUs CA3712 Electrical Services 3 SEE3001 Energy and Environmental Policy 3 CA3732 Fire Engineering and Piped Services 3 SEE3003 Climate Change and Adaptation Strategies 3 SEE3002 Energy and Environmental Economics 3 SEE3104 Sustainable and Renewable Energy 3 SEE3101 Engineering Thermoflukds II 4 SEE401 Engineers in Society 1 SEE3102 Power Plant Engineering 3 SEE4217 Waste and Wastewater Treatment Engineering 3 SEE3103 Energy Efficiency for Buildings 3 SEE4217 Waste and Wastewater Treatment Engineering 3 YEAR 4 Total: 19 Total: 19 Total: 19 Total: 19 Total: 19 Total: 19 YEAR 4 CUs Semester A CUs Semester B CUs CUs CA3722 HVAC Engineering 3 CA4718 Power Electronics and Smart Lighting Controls 3 SEE4091 Final Year Project <td< td=""><td></td><td>T</td><td>otal: 13</td><td></td><td></td><td>Total: 15</td></td<>		T	otal: 13			Total: 15
CA3712 Electrical Services 3 SEE 3001 Energy and Environmental Policy 3 CA3732 Fire Engineering and Piped Services 3 SEE 3003 Climate Change and Adaptation Strategies 3 SEE 3002 Energy and Environmental Economics 3 SEE 3104 Sustainable and Renewable Energy 3 SEE 3101 Engineering Thermofluids II 4 SEE 4001 Engineers in Society 1 SEE 3102 Power Plant Engineering 3 SEE 4217 Waste and Wastewater Treatment Engineering 3 SEE 3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 SEE 3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 YEAR 4 Total: 19 Total: 19 Total: 19 Total: 19 YEAR 4 Semester B CUs Semester B CUs CA3722 HVAC Engineering 3 SEE 4004 Environmental Impact Assessment for Sustainable Development 4 SEE 4012 Sustainable Engineering Systems: Modelling and Analysis 3 SEE 4004 Enviro	YEAR 3					
CA3732 Fire Engineering and Piped Services 3 SEE 3003 Climate Change and Adaptation Strategies 3 SEE 3002 Energy and Environmental Economics 3 SEE 3104 Sustainable and Renewable Energy 3 SEE 3101 Engineering Thermofluids II 4 SEE 4001 Engineers in Society 1 SEE 3102 Power Plant Engineering 3 SEE 4217 Waste and Wastewater Treatment Engineering 3 SEE 3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 SEE 3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 SEE 3103 Total: 19 Total: 19 Total: 19 Total: 19 YEAR 4 Semester A CUS Semester B CUs Cus CA3722 HVAC Engineering 3 CA4718 Power Electronics and Smart Lighting Controls 3 CA4737 Fire Science and Modelling 3 SEE 4004 Environmental Impact Assessment for Sustainable Development 4 SEE 4003 Energy and Environmental Engineering Laboratory	Semester A		<u>CUs</u>	Semester B		<u>CUs</u>
SEE3002 Energy and Environmental Economics 3 SEE3104 Sustainable and Renewable Energy 3 SEE3101 Engineering Thermofluids II 4 SEE4001 Engineers in Society 1 SEE3102 Power Plant Engineering 3 SEE4217 Waste and Wastewater Treatment Engineering 3 SEE3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 Total: 19 Total: 19 YEAR 4 Semester A CUs CA3722 HVAC Engineering 3 CA4718 Power Electronics and Smart Lighting Controls 3 CA4737 Fire Science and Modelling 3 SEE4004 Environmental Impact Assessment for Sustainable Development 4 SEE4003 Energy and Environmental Engineering Laboratory 3 SEE4997 Final Year Project 3 SEE4112 Sustainable Engineering Systems: Modelling and Analysis 3 Major Electives x 2 3 SYE4024 Project Management 3 Major Electives x 2 3	CA3712	Electrical Services	3	SEE3001	Energy and Environmental Policy	3
SEE 3101 Engineering Thermofluids II 4 SEE 4001 Engineers in Society 1 SEE 3102 Power Plant Engineering 3 SEE 4217 Waste and Wastewater Treatment Engineering 3 SEE 3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 YEAR 4 Semester A CUS Semester B CUS CA3722 HVAC Engineering 3 CA4718 Power Electronics and Smart Lighting Controls 3 CA4737 Fire Science and Modelling 3 SEE 4004 Environmental Impact Assessment for Sustainable Development 4 SEE 4003 Energy and Environmental Engineering Laboratory 3 SEE 4997 Final Year Project 3 SEE 4112 Sustainable Engineering Systems: Modelling and Analysis 3 Major Electives x 2 3 SEE 4997 Final Year Project 3 3 SYE 4024 Project Management 3 Major Electives x 2 3	CA3732	Fire Engineering and Piped Services	3	SEE3003	Climate Change and Adaptation Strategies	
SEE3102Power Plant Engineering3SEE4217Waste and Wastewater Treatment Engineering3SEE3103Energy Efficiency for Buildings3Major Electives x 23YEAR 4Semester ACUsSemester BCUsCA3722HVAC Engineering3CA4718Power Electronics and Smart Lighting Controls3CA4737Fire Science and Modelling3SEE4004Environmental Impact Assessment for Sustainable Development4SEE4003Energy and Environmental Engineering Laboratory3SEE4997Final Year Project3SEE4112Sustainable Engineering Systems: Modelling and Analysis3Major Electives x 23SYE4024Project Management3Wajor Electives x 23	SEE3002	Energy and Environmental Economics	3	SEE3104	Sustainable and Renewable Energy	3
SEE3103 Energy Efficiency for Buildings 3 Major Electives x 2 3 3 Total: 19 Total: 19 YEAR 4 Semester A CA3722 HVAC Engineering 3 CA4718 Power Electronics and Smart Lighting Controls 3 CA4737 Fire Science and Modelling 3 SEE4004 Environmental Impact Assessment for Sustainable Development 4 SEE4003 Energy and Environmental Engineering Laboratory 3 SEE4997 Final Year Project 3 SEE4112 Sustainable Engineering Systems: Modelling and Analysis 3 Major Electives x 2 3 SEE4997 Final Year Project 3 SYE4024 Project Management 3	SEE3101	Engineering Thermofluids II	4	SEE4001	Engineers in Society	1
Total: 19 Tota	SEE3102	Power Plant Engineering	3	SEE4217	Waste and Wastewater Treatment Engineering	3
Total: 19 YEAR 4 Semester A CA3722 HVAC Engineering Signature A Signature A Signature A Signature A CA4737 Fire Science and Modelling Signature A Signa	SEE3103	Energy Efficiency for Buildings	3	<mark>Major Electi</mark>	ves x 2	3
YEAR 4Semester ACUsSemester BCUsCA3722HVAC Engineering3CA4718Power Electronics and Smart Lighting Controls3CA4737Fire Science and Modelling3SEE4004Environmental Impact Assessment for Sustainable Development4SEE4003Energy and Environmental Engineering Laboratory3SEE4997Final Year Project3SEE4112Sustainable Engineering Systems: Modelling and Analysis3Major Electives x 23SEE4997Final Year Project33SYE4024Project Management3						3
Semester ACUsSemester BCUsCA3722HVAC Engineering3CA4718Power Electronics and Smart Lighting Controls3CA4737Fire Science and Modelling3SEE4004Environmental Impact Assessment for Sustainable Development4SEE4003Energy and Environmental Engineering Laboratory3SEE4997Final Year Project3SEE4112Sustainable Engineering Systems: Modelling and Analysis3Major Electives x 23SEE4997Final Year Project33SYE4024Project Management3		T	otal: <mark>19</mark>			Total: 19
CA3722 HVAC Engineering 3 CA4718 Power Electronics and Smart Lighting Controls 3 CA4737 Fire Science and Modelling 3 SEE4004 Environmental Impact Assessment for Sustainable Development 4 SEE4003 Energy and Environmental Engineering Laboratory 3 SEE4997 Final Year Project 3 SEE4112 Sustainable Engineering Systems: Modelling and Analysis 3 Major Electives x 2 3 SEE4997 Final Year Project 3 SYE4024 Project Management 3	YEAR 4			•		
CA4737Fire Science and Modelling3SEE4004Environmental Impact Assessment for Sustainable Development4SEE4003Energy and Environmental Engineering Laboratory3SEE4997Final Year Project3SEE4112Sustainable Engineering Systems: Modelling and Analysis3Major Electives x 23SEE4997Final Year Project33SYE4024Project Management3	Semester A		<u>CUs</u>			<u>CUs</u>
SEE4003Energy and Environmental Engineering Laboratory3SEE4997Final Year Project3SEE4112Sustainable Engineering Systems: Modelling and Analysis3Major Electives x 23SEE4997Final Year Project3SYE4024Project Management3				CA4718		
SEE4112 Sustainable Engineering Systems: Modelling and Analysis 3 Major Electives x 2 3 SEE4997 Final Year Project 3 3 SYE4024 Project Management 3	CA4737	Fire Science and Modelling	3	SEE4004	Environmental Impact Assessment for Sustainable Development	4
SEE4997 Final Year Project 3 SYE4024 Project Management 3	SEE4003	• • • •		+		
SYE4024 Project Management 3	SEE4112	Sustainable Engineering Systems: Modelling and Analysis		Major Electi	ves x 2	3
	SEE4997	J.		_		3
Total: 18 Total: 16	SYE4024	Project Management	3			
			otal: 18			Total: 16

IMPORTANT NOTES re. SEE2000 Professional Development I and SEE4000 Professional Development II:

By the time SEE students graduate, they must have successfully completed SEE2000 Professional Development I and SEE4000 Professional Development II, namely 8-hour Career Training Workshops arranged by SEE plus 160-hour Professional Development experience recognized by SEE. For details, please refer to the School website at https://www.cityu.edu.hk/see >> Programmes >> Undergraduate Programmes.