THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

I. Suggested Study Plan for MIEG (entrants via ENGG Faculty in 2019)

University Core Requirements

English	9
Chinese	6
Foundation GE	6
University GE	9
College GE	6
PE	2
IT	1 (exempted for course but not unit)
	39

Major Requirements

Faculty Package	9
Foundation Science	6
Foundation Math	6 (MATH1510, ENGG2440/ESTR2004)
IE Required	28
MATH Required	18 (MATH1050/2020/2040/2050/2070/2230)
Major Electives	14
Major FYP	6
	87

126 (Minimum unit requirement for graduation)

	Recommended Course Pattern	Units
First Year of Attendance	**1st term** Faculty Package: ENGG1110/ESTR1002 Language: CHLT1100 Major Required: MATH1510 Physical Education: 1 course College General Education: 1 course	3 3 3 1 3
		13
	2nd term Faculty Package: ENGG1120/ESTR1005, ENGG1130/ESTR1006 Language: ELTU1001 Major Required: Any one from AIST1110, CHEM1280, 1380, CSCI1120/ESTR1100, CSCI1130/ESTR1102, ELEG2700, ENGG1310/ESTR1003, FTEC2101/ESTR2520, LSCI1001, 1003, MAEG1020, PHYS1003, 1110, SEEM2440/ESTR2500, SEEM2460/ESTR2540 Physical Education: 1 course General Education: UGFH/UGFN (1 course)	6 4 3 1 3
		17

Second Year of Attendance	**1st term** Language: CHLT1200 Major Required: ENGG2440/ESTR2004 IERG1810 IERG2060/ESTR2304 IERG2080/ESTR2306 MATH1050		3 3 1 3 3 3
			16
	2nd term Language: ELTU2014 Major Required: CSCI2100/ESTR2102 IERG2470/ESTR2308 IERG2602 MATH2020 General Education: UGFH/UGFN (1 course)		3 3 3 1 3 3
			16
Third Year of Attendance	**1st term** Major Required: IERG2051/ESTR2302 IERG3080/ESTR3308 IERG3310/ESTR3310 IERG3800 MATH2050 MATH2230		 3 3 3 1 3 3
			16
	2nd term Language: ELTU3014 Major Required: IERG2310/ESTR2300 IERG3820 MATH2040 MATH2070 Major Elective(s): 1 course General Education: UGE (1 course)		2 3 1 3 3 3 3
			18
Fourth Year of Attendance	**1st term** Major Required: CSCI3160/ESTR3104 IERG4998/ESTR4998 Major Elective: 2 courses General Education: UGE (1 course) College General Education: 1 course		 3 3 6 3 3
			18
	2nd term Major Required: IERG4999/ESTR4999 General Education: UGE (1 course) Major Elective(s): 2 courses		 3 3 5-6
			11-12
Total (including Faculty Package):		**126-127**	

THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

II. Suggested Study Plan for MIEG (entrants via SCIENCE Faculty in 2019)

University Core Requirements

English	9	
Chinese	6	
Foundation GE	6	
University GE	9	
College GE	6	
PE	2	
IT	1	(exempted for course but not unit)
	39	

Major Requirements

Faculty Package	9	
Foundation Science	6	
Foundation Math	9	(MATH1030, MATH1510, MATH2010)
IE Required	28	
MATH Required	18	(MATH1050/2020/2040/2050/2070/2230)
Major Electives	11	
Major FYP	6	
	87	
	126	(Minimum unit requirement for graduation)

	Recommended Course Pattern	Units
First Year of Attendance	**1ˢᵗ term** Faculty Package:	
	STAT1011	3
	MATH1010	3
	Language: CHLT1100	3
	Physical Education: 1 course	1
	College General Education: 1 course	3
		13
	2ⁿᵈ term ENGG1120/ESTR1005 (or MATH1030)	3
	A course from Science Faculty Package Group A, B or D	3
	Language: ELTU1001	4
	Major Required: MATH1050	3
	Physical Education: 1 course	1
	General Education: UGFH/UGFN (1 course)	3
		17

Second Year of Attendance	**1st term** Language: CHLT1200	3
	Major Required: ENGG1110/ESTR1002	3
	ENGG2440/ESTR2004	3
	IERG1810	1
	IERG2060/ESTR2304	3
	IERG2080/ESTR2306	3
	ENGG1130/ESTR1006 (or MATH2010)	3
		19
	2nd term Language: ELTU2014	3
	Major Required: CSCI2100/ESTR2102	3
	IERG2470/ESTR2308	3
	IERG2602	1
	MATH2020	3
	General Education: UGFH/UGFN (1 course)	3
		16
Third Year of Attendance	**1st term** Major Required: IERG2051/ESTR2302	3
	IERG3080/ESTR3308	3
	IERG3310/ESTR3310	3
	IERG3800	1
	MATH2050	3
	MATH2230	3
		16
	2nd term Language: ELTU3014	2
	Major Required: IERG2310/ESTR2300	3
	IERG3820	1
	MATH2040	3
	MATH2070	3
	Major Elective: 1 course	3
	General Education: UGE (1 course)	3
		18
Fourth Year of Attendance	**1st term** Major Required: CSCI3160/ESTR3104	3
	IERG4998/ESTR4998	3
	Major Elective: 1 course	3
	General Education: UGE (1 course)	3
	College General Education: 1 course	3
		15
	2nd term Major Required: IERG4999/ESTR4999	3
	General Education: UGE (1 course)	3
	Major Elective(s): 2 courses	5-6
		11-12
	Total (including Faculty Package):	**126-127**

Course List

(Note: For quick reference of the courses appeared on the study plan(s).
Please refer to CUSIS for course information)

Course Code	Course Title	Unit(s)
AIST1110	Introduction to Computing using Python	3
CHEM1280	Introduction to Organic Chemistry and Biomolecules	3
CHEM1380	Basic Chemistry for Engineers	3
CHLT1100	University Chinese I	3
CHLT1200	University Chinese II	3
CSCI1120/ESTR1100	Introduction to Computing Using C++	3
CSCI1130/ESTR1102	Introduction to Computing Using Java	3
CSCI2100/ESTR2102	Data Structures	3
CSCI2110	Discrete Mathematics	3
CSCI3130	Formal Languages and Automata Theory	3
CSCI3150/ESTR3102	Introduction to Operating Systems	3
CSCI3160/ESTR3104	Design and Analysis of Algorithms	3
CSCI3230/ESTR3108	Fundamentals of Artificial Intelligence	3
CSCI3320	Fundamentals of Machine Learning	3
CSCI4180	Introduction to Cloud Computing and Storage	3
CSCI4190	Introduction to Social Networks	3
CSCI5320	Topics in Graph Algorithms	3
ELEG2700	Introduction to Electronic System Design	3
ELEG5491	Introduction to Deep Learning	3
ELTU1001	Foundation English for University Studies	4
ELTU2014	English for Engineering I	3
ELTU3014	English for Engineering II	2
ENGG1110/ESTR1002	Problem Solving by Programming	3
ENGG1120/ESTR1005	Linear Algebra for Engineers	3
ENGG1130/ESTR1006	Multivariable Calculus for Engineers	3
ENGG1310/ESTR1003	Engineering Physics: Electromagnetics, Optics and Modern Physics	3
ENGG1820	Engineering Internship	1
ENGG2440/ESTR2004	Discrete Mathematics for Engineers	3
ENGG2460/ESTR2010	Complex Numbers, Differential Equations, and Discrete Mathematics for Engineers	3
ENGG5301	Information Theory	3
ENGG5302	Random Processes	3
ENGG5303	Advanced Wireless Communications	3
ENGG5383	Applied Cryptography	3
ENGG5392	Lightwave System Technologies	3
FTEC2101/ESTR2520	Optimization Methods	3
IERG1810	Electronic Circuit Design Laboratory	1
IERG2051/ESTR2302	Signals and Systems	3
IERG2060/ESTR2304	Basic Analog and Digital Circuits	3
IERG2080/ESTR2306	Introduction to Systems Programming	3
IERG2310/ESTR2300	Principles of Communication Systems	3
IERG2470/ESTR2308	Probability Models and Applications	3
IERG2602	Engineering Practicum	1
IERG3010/ESTR3300	Digital Communications	3
IERG3050	Simulation and Statistical Analysis	3
IERG3060	Microcontrollers and Embedded Systems	3
IERG3080/ESTR3308	Information and Software Engineering Practice	3

Course Code	Course Title	Unit(s)
IERG3280/ESTR3302	Networks: Technology, Economics, and Social Interactions	3
IERG3300/ESTR3304	Introduction to Stochastic Processes	3
IERG3310/ESTR3310	Computer Networks	3
IERG3320/ESTR3306	Social Media and Human Information Interaction	3
IERG3800	Information Infrastructure Design Lab	1
IERG3810	Microcontrollers and Embedded System Laboratory	1
IERG3820	Communications Laboratory	1
IERG3830	Product Design and Development	3
IERG4004	E-payment Systems and Cryptocurrency Technologies	3
IERG4030/ESTR4320	Optical Communications	3
IERG4080/ESTR4312	Building Scalable Internet-based Services	3
IERG4090/ESTR4302	Networking Protocols and Systems	3
IERG4100/ESTR4304	Wireless Communication Systems	3
IERG4110/ESTR4314	Hands-on Wireless Communication	3
IERG4130/ESTR4306	Introduction to Cyber Security	3
IERG4150/ ESTR4322	Introduction to Cryptography	3
IERG4160	Image and Video Processing	3
IERG4180/ESTR4308	Network Software Design and Programming	3
IERG4190	Multimedia Coding and Processing	3
IERG4210	Web Programming and Security	3
IERG4220	Secure Software Engineering	3
IERG4230	Introduction to Internet of Things	3
IERG4300/ESTR4300	Web-scale Information Analytics	3
IERG4330/ESTR4316	Programming Big Data Systems	3
IERG4340	Emerging Technologies in Information Engineering	3
IERG4350	Cloud Computing Security	3
IERG4831	Networking Laboratory I	2
IERG4841	Networking Laboratory II	2
IERG4998/ESTR4998	Final Year Project I	3
IERG4999/ESTR4999	Final Year Project II	3
IERG5020	Telecommunication Switching and Network Systems	3
IERG5040	Lightwave System Technologies	3
IERG5090	Advanced Networking Protocols and Systems	3
IERG5100	Advanced Wireless Communications	3
IERG5130	Probabilistic Models and Inference Algorithms for Machine Learning	3
IERG5140	Lightwave Networks	3
IERG5154	Information Theory	3
IERG5200	Channel Coding and Modulation	3
IERG5230	Algorithms and Realization of Internet of Things Systems	3
IERG5240	Applied Cryptography	3
IERG5280	Mobile Networking	3
IERG5290	Network Coding Theory	3
IERG5300	Random Processes	3
IERG5310	Security and Privacy in Cyber Systems	3
IERG5320	Digital Forensics	3
IERG5330	Network Economics	3
IERG5340	IT Innovation and Entrepreneurship	3
IERG5590	Advanced Topics in Blockchain	3
LSCI1001	Basic Concepts in Biological Sciences	3
LSCI1003	Life Sciences for Engineers	3
MAEG1020	Computational Design and Fabrication	3
MATH1010	University Mathematics	3

Course Code	Course Title	Unit(s)
MATH1020	General Mathematics	3
MATH1030	Linear Algebra I	3
MATH1050	Foundation of Modern Mathematics	3
MATH1510	Calculus for Engineers	3
MATH2010	Advanced Calculus I	3
MATH2020	Advanced Calculus II	3
MATH2040	Linear Algebra II	3
MATH2050	Mathematical Analysis I	3
MATH2060	Mathematical Analysis II	3
MATH2070	Algebraic Structures	3
MATH2230	Complex Variables with Applications	3
MATH3010	Higher Geometry	3
MATH3030	Abstract Algebra	3
MATH3040	Fields and Galois Theory	3
MATH3070	Introduction to Topology	3
MATH3080	Number Theory	3
MATH3093	Fourier Analysis	3
MATH3215	Operations Research	3
MATH3230	Numerical Analysis	3
MATH3250	Discrete Mathematics	3
MATH3260	Graph Theory	3
MATH3270	Ordinary Differential Equations	3
MATH3290	Mathematical Modeling	3
MATH3310	Computational and Applied Math	3
MATH3320	Foundation of Data Analytics	3
MATH3330	Big Data Computing	3
MATH3360	Mathematical Imaging	3
MATH4010	Functional Analysis	3
MATH4020	Calculus of Variations	3
MATH4030	Differential Geometry	3
MATH4230	Optimization Theory	3
MATH4240	Stochastic Processes	3
MATH4260	Coding Theory and Cryptography	3
MATH4280	Data Analytics in Design and Innovation	3
PHYS1003	General Physics for Engineers	3
PHYS1110	Engineering Physics: Mechanics and Thermodynamics	3
SEEM2440/ESTR2500	Engineering Economics	3
SEEM2460/ESTR2540	Introduction to Data Science	3
STAT1011	Introduction to Statistics	3
UGFH1000/ UGFN1000	University General Education Foundation Course	3