THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Suggested Study Plans for MIEG Students admitted in 2023

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THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

I. Suggested Study Plan for MIEG (entrants admitted to the programme directly (under both the Faculty of Engineering and Faculty of Science upon admission in 2023)

University Core Requirements	
English	8
Chinese	5
Foundation GE	6
University GE (Area A, C and D)	7
College GE	6
PE	2
Understanding China	1
Hong Kong in the wider Constitutional Order	1
Digital Literacy and Computational Thinking (ENGG 1003)	3
	39

Major Requirements		
Faculty Package	9	
Foundation Science	6	
Foundation Math	3	(MATH1010/1018)
IE Required	30	
MATH Required	21	(MATH2010/2018, 2020/2028, 2040/2048, 2050/2058, 2060/2068, 2070/2078, 2230)
Major Electives	12	
Major FYP	6	
	87	

126 (Minimum unit requirement for graduation)

	Recommended Course Pattern	Units
First Year of Attendance	**1st term**	
	Faculty Package: ENGG1110/ESTR1002	3
	Language: CHLT1001	3
	Major Required:	
	MATH1010/1018	3
	Physical Education: 1 course	1
	College General Education: 1 course	3
	ENGG1003	3
		16
	2nd term	
	Faculty Package: MATH1030/1038	3
	Language: ELTU1001	3
	Major Required:	
	MATH1050/1058	3
	Any one from Foundation Science: STAT1011/ PHYS1001 or 1002 or 1111, ENGG1310	3
	Physical Education: 1 course	1
	General Education: Foundation (1 course)	3
		16

Second Year of Attendance	**1st term**	
	Language: CHLT1200	2
	Major Required:	
	Any one from AIST1110, CSCI1120/ESTR1100, CSCI1130/ESTR1102, IERG1080	3
	MATH2010/2018	3
	MATH2040/2048	3
	MIEG2051/ESTR2360	3
	General Education: Foundation (1 course)	3
		17
	2nd term	
	Language: ELTU2014	3
	Major Required:	
	IERG1810	1
	IERG2060/ESTR2304	3
	IERG2080/ESTR2306	3
	MATH2020/2028	3
	MIEG2440/ESTR2362	3
		16
Third Year of Attendance	**1st term**	
	Major Required:	
	CSCI2100/ESTR2102	3
	IERG3800	1
	MATH2050/2058	3
	MATH2230 (or 2070/2078)	3
	General Education: (2 courses) (Area A/C/D)	5-6
		15-16
	2nd term	
	Language: ELTU3014	2
	Major Required:	
	IERG2310/ESTR2300	3
	IERG3310/ESTR3310	3
	IERG3820	1
	MATH2060/2068	3
	MATH2070/2078 (or 2230)	3
	Major Elective(s): 1 course	3
		18
Fourth Year of Attendance	**1st term**	
	Major Required:	
	CSCI3160/ESTR3104	3
	IERG3080/ESTR3308	3
	IERG4998/ESTR4998	3
	Major Elective: 1 course	3
	College General Education: 1 course	3
	General Education: Understanding China	1
		15-16
	2nd term	
	Major Required:	
	IERG4999/ESTR4999	3
	Major Elective(s): 2 courses	6
	General Education: (1 course) (Area A/C/D)	2-3
	General Education: Hong Kong in the wider constitutional order	1
		12-13
	Total (including Faculty Package):	**126**

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II. Suggested Study Plan for MIEG (entrants via SCIENCE Faculty in 2023)

University Core Requirements	
English	8
Chinese	5
Foundation GE	6
University GE (Area A, C, D)	7
College GE	6
PE	2
Understanding China	1
Hong Kong in the wider Constitutional Order	1
Digital Literacy and Computational Thinking (ENGG 1003)	3
	39

Major Requirements		
Faculty Package	9	
Foundation Science	6	
Foundation Math	6	(MATH1030/1038, MATH1050/1058)
IE Required	30	
MATH Required	21	(MATH2010/2018, 2020/2028, 2040/2048, 2050/2058, 2060/2068, 2070/2078, 2230)
Major Electives	9	
Major FYP	6	
	87	

126 (Minimum unit requirement for graduation)

	Recommended Course Pattern	Units
First Year of Attendance	**1st term**	
	Faculty Package: MATH1010/1018	3
	A course from Science Faculty Package Group A, B or D	3
	Language: CHLT1001	3
	Physical Education: 1 course	1
	College General Education: 1 course	3
	ENGG 1003	3
		16
	2nd term	
	MATH1030/1038	3
	STAT1011	3
	Major Required: MATH1050/1058	3
	Language: ELTU1001	3
	Physical Education: 1 course	1
	General Education: Foundation (1 course)	3
		16

Second Year of Attendance	**1st term**	
	Language: CHLT1200	2
	Major Required:	
	Any one from AIST1110, CSCI1120/ESTR1100, CSCI1130/ESTR1102, IERG1080	3
	ENGG1110/ESTR1002	3
	MATH2010/2018	3
	MATH2040/2048	3
	MIEG2051/ESTR2360	3
		17
	2nd term	
	Language: ELTU2014	3
	Major Required:	
	IERG1810	1
	IERG2060/ESTR2304	3
	IERG2080/ESTR2306	3
	MATH2020/2028	3
	MIEG2440/ESTR2362	3
		16
Third Year of Attendance	**1st term**	
	Major Required:	
	CSCI2100/ESTR2102	3
	MATH2050/2058	3
	MATH2230 (or 2070/2078)	3
	Major Elective: 1 course	3
	General Education: Foundation (1 course)	3
	General Education: Four Areas (Area A/C/D)	2-3
		17-18
	2nd term	
	Language: ELTU3014	2
	Major Required:	
	IERG2310/ESTR2300	3
	IERG3820	1
	IERG3310/ESTR3310	3
	MATH2060/2068	3
	MATH2070/2078	3
	Major Elective(s): 1 course	3
		18
Fourth Year of Attendance	**1st term**	
	Major Required:	
	CSCI3160/ESTR3104	3
	IERG3080/ESTR3308	3
	IERG3800	1
	IERG4998/ESTR4998	3
	General Education: Fours Areas (Area A/C/D)	2-3
	College General Education: 1 course	3
	General Education: Understanding China	1
		16-17
	2nd term	
	Major Required:	
	IERG4999/ESTR4999	3
	Major Elective: 1 course	3
	General Education: Fours Areas (Area A/C/D)	2-3
	General Education: Hong Kong in the wider constitutional order	1
		9-10
	Total (including Faculty Package):	**126**

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
CHLT1100	University Chinese I	3
CHLT1200	University Chinese II	2
CSCI1120/ESTR1100	Introduction to Computing Using C++	3
CSCI1130/ESTR1102	Introduction to Computing Using Java	3
CSCI2100/ESTR2102	Data Structures	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
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
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
IERG1080	Introduction to Python for Engineering Applications	3
IERG1810	Electronic Circuit Design Laboratory	1
IERG2060/ESTR2304	Basic Analog and Digital Circuits	3
IERG2080/ESTR2306	Introduction to Systems Programming	3
IERG2310/ESTR2300	Principles of Communication Systems	3
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
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

Course Code	*Course Title*	*Unit(s)*
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
IERG4320/ESTR4324	Data Science in Practice	3
IERG4330/ESTR4316	Programming Big Data Systems	3
IERG4340	Emerging Technologies in Information Engineering	3
IERG4350	Cloud Computing Security	3
IERG4360/ESTR4326	Blockchain and Applications	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
IERG5110	Signal Processing in Wireless Communications and Sensing	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
IERG5254	Network Information Theory	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
IERG5350	Reinforcement Learning	3
IERG5360	Program Representation, Modeling and Understanding for Software Security	3
IERG5380	Quantum Information Processing	3
IERG5400	Theory of Probability	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
MATH1018	Honours University Mathematics	3
MATH1020	General Mathematics	3
MATH1030	Linear Algebra I	3
MATH1038	Honours Linear Algebra I	3

Course Code	*Course Title*	*Unit(s)*
MATH1050	Foundation of Modern Mathematics	3
MATH1058	Honours Foundation of Modern Mathematics	3
MATH1510	Calculus for Engineers	3
MATH2010	Advanced Calculus I	3
MATH2018	Honours Advanced Calculus I	3
MATH2020	Advanced Calculus II	3
MATH2028	Honours Advanced Calculus II	3
MATH2040	Linear Algebra II	3
MATH2048	Honours Linear Algebra II	3
MATH2050	Mathematical Analysis I	3
MATH2058	Honours Mathematical Analysis I	3
MATH2060	Mathematical Analysis II	3
MATH2068	Honours Mathematical Analysis II	3
MATH2070	Algebraic Structures	3
MATH2078	Honours 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
MIEG2051/ESTR2360	Fourier Analysis with Engineering Applications	3
MIEG2440/ESTR2362	Discrete Structures and Probability	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