THE CHINESE UNIVERSITY OF HONG KONG
Department of Information Engineering

Suggested Study Plan for Broad-based Entrants Admitted to CUHK in 2016

University Core Requirements

English	9
Chinese	6
Foundation GE	6
University GE	9
College GE	6
PE	2
IT	1 (exempt)
	39

Major Requirements

Faculty Package	9
Foundation Science	9
Foundation Math	12
Major Required	22
Major Electives	17
Major FYP	6
	75
Free Electives	**9**

123 (Minimum Unit Requirement for Graduation)

	Recommended Course Pattern	Units
First Year of Attendance	**1ˢᵗ term** Faculty Package: ENGG1100/1110/ESTR1000/1002 Language: CHLT1100 Major Required: MATH1510 PHYS1003/1110 Physical Education: 1 course College General Education: 1 course	3 3 3 3 1 3
	Term total	**16**
	2ⁿᵈ term Faculty Package: ENGG1100/1110/ESTR1000/1002 Language: ELTU1001 Major Required: ENGG1410/ESTR1004 Any one from CHEM1380/CSCI1120/1130/ENGG1310/ ESTR1003/1100/1102/LSCI1001/1003/PHYS1110 Physical Education: 1 course General Education: UGFH/UGFN (1 course)	3 4 3 3 1 3
	Term total	**17**

Second Year of Attendance	**1st term** Language: CHLT1200 Major Required: ENGG2460/ESTR2010 CSCI1140 IERG2060/ESTR2304 General Education: UGFH/UGFN (1 course) Free Elective(s): 1 course	 3 3 1 3 3 3
	Term total	**16**
	2nd term Faculty Package: ENGG2601, 2602 Language: ELTU2014 Major Required: CSCI2100/ESTR2102 ENGG2430/ESTR2002 IERG2051/ESTR2302 General Education: UGE (1 course)	 3 3 3 3 3 3
	Term total	**18**
Third Year of Attendance	**1st term** Major Required: ENGG2310/ESTR2300 IERG3080/ESTR3308 IERG3310/ESTR3310 IERG3800 IERG3820 Major Elective(s): 1 course General Education: UGE (1 course)	 3 3 3 1 1 3 3
	Term total	**17**
	2nd term Language: ELTU3014 Major Required: IERG3060 IERG3810 Major Elective(s): 2 courses General Education: UGE (1 course) Free Elective(s): 1 course	 2 3 1 6 3 3
	Term total	**18**

Fourth Year of Attendance	<u>**1st term**</u> Major Required: IERG4998/ESTR4998 Major Elective(s): 2 courses College General Education: 1 course	 3 6 3
		12
	<u>**2nd term**</u> Major Required: IERG4999/ESTR4999 Major Elective(s): 1 course Free Elective(s): 1 course	 3 2 3
	Term total	**8**
	Faculty Package + Major Required **University Core Requirement** **Free Electives** **(Exempted Units)**	**75** **38** **9** **(1)**
		123

Course List

Course Code	Course Title	Unit(s)
CHEM1380	Basic Chemistry for Engineers	3
CSCI1120/ESTR1100	Introduction to Computing Using C++	3
CSCI1130/ESTR1102	Introduction to Computing Using Java	3
CSCI1140	Programming Laboratory	1
CSCI2100/ESTR2102	Data Structures	3
CSCI3150/ESTR3102	Introduction to Operating Systems	3
CSCI3160/ESTR3104	Design and Analysis of Algorithms	3
CSCI3320	Fundamentals of Machine Learning	3
CSCI4180	Introduction to Cloud Computing and Storage	3
CSCI4190	Introduction to Social Networks	3
ELEG5491	Introduction to Deep Learning	3
ELTU2014	English for Engineering I	3
ELTU3014	English for Engineering II	2
ENGG1100/ESTR1000	Introduction to Engineering Design	3
ENGG1110/ESTR1002	Problem Solving by Programming	3
ENGG1310/ESTR1003	Engineering Physics: Electromagnetics, Optics and Modern Physics	3
ENGG1410/ESTR1004	Linear Algebra and Vector Calculus for Engineers	3
ENGG1820	Engineering Internship	1
ENGG2310/ESTR2300	Principles of Communication Systems	3
ENGG2420/ESTR2000	Complex Analysis and Differential Equations for Engineers	3
ENGG2470/ESTR2012	Probability 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
IERG2051/ESTR2302	Signals and Systems	3
IERG2060/ESTR2304	Basic Analog and Digital Circuits	3
IERG2080/ESTR2306	Introduction to Systems Programming	2
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
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
IERG4030	Optical Communications	3
IERG4080/ESTR4312	Building Scalable Internet-based Services	3
IERG4090/ESTR4302	Networking Protocols and Systems	3

Course Code	Course Title	Unit(s)
IERG4100/ESTR4304	Wireless Communication Systems	3
IERG4110/ESTR4314	Hands-on Wireless Communication	3
IERG4130/ESTR4306	Introduction to Cyber Security	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
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
IERG5270	Advanced Topics in P2P Networks and Systems	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
MATH1020	General Mathematics	3
MATH1510	Calculus for Engineers	3
PHYS1003	General Physics for Engineers	3
PHYS1110	Engineering Physics: Mechanics and Thermodynamics	3
UGFH1000/ UGFN1000	University General Education Foundation Course	3

Remarks:
^ Equivalent to ENGG4030 offered in 2017-18 and before.