## THE CHINESE UNIVERSITY OF HONG KONG Department of Information Engineering

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

| <b>University Core Requirement</b> | <u>ts</u>  |
|------------------------------------|------------|
| 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 | 1st term                                      |       |
| Attendance    | Faculty Package: ENGG1100/1110/ESTR1000/1002  | 3     |
|               | Language: CHLT1100                            | 3     |
|               | Major Required:                               |       |
|               | MATH1510                                      | 3     |
|               | PHYS1003/1110                                 | 3     |
|               | Physical Education: 1 course                  | 1     |
|               | College General Education: 1 course           | 3     |
|               |   |       |
|               | Term total                                    | 16    |
|               | 2 <sup>nd</sup> term                          |       |
|               | Faculty Package: ENGG1100/1110/ESTR1000/1002  | 3     |
|               | Language: ELTU1001                            | 4     |
|               | Major Required:                               |       |
|               | ENGG1410/ESTR1004                             | 3     |
|               | Any one from CHEM1380/CSCI1120/1130/ENGG1310/ | 3     |
|               | ESTR1003/1100/1102/LSCI1001/1003/PHYS1110     |       |
|               | Physical Education: 1 course                  | 1     |
|               | General Education: UGFH/UGFN (1 course)       | 3     |
|               | Term total                                    | 17    |

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| Second Year | 1st term                                |          |               |
|-------------|---|----------|---------------|
| of          | Language: CHLT1200                      |          | 3             |
| Attendance  | Major Required:                         |          |               |
|             | ENGG2460/ESTR2010                       |          | 3             |
|             | CSCI1140                                |          | 1             |
|             | IERG2060/ESTR2304                       |          | 3             |
|             | General Education: UGFH/UGFN (1 course) |          |               |
|             | Free Elective(s): 1 course              |          | 3             |
|             | Thee Elective(s). I course              |          | 3             |
|             | Tex                                     | rm total | 16            |
|             | 2 <sup>nd</sup> term                    |          |               |
|             | Faculty Package: ENGG2601, 2602         |          | 3             |
|             | Language: ELTU2014                      |          | 3             |
|             | Major Required:                         |          |               |
|             | CSCI2100/ESTR2102                       |          | 3             |
|             | ENGG2430/ESTR2002                       |          |               |
|             | IERG2051/ESTR2302                       |          | 3<br>3<br>3   |
|             | General Education: UGE (1 course)       |          | 3             |
|             | General Education. CGE (1 course)       |          | 3             |
|             | Te                                      | rm total | 18            |
| Third Year  | 1 <sup>st</sup> term                    |          |               |
| of          | Major Required:                         |          |               |
| Attendance  | ENGG2310/ESTR2300                       |          | 3             |
| retendance  | IERG3080/ESTR3308                       |          |               |
|             | IERG3310/ESTR3310                       |          | 3 3           |
|             | IERG3800                                |          | 1             |
|             | IERG3820                                |          |               |
|             |   |          | $\frac{1}{2}$ |
|             | Major Elective(s): 1 course             |          | 3             |
|             | General Education: UGE (1 course)       |          | 3             |
|             | Te                                      | rm total | 17            |
|             | 2 <sup>nd</sup> term                    |          |               |
|             | Language: ELTU3014                      |          | 2             |
|             | Major Required:                         |          | _             |
|             | IERG3060                                |          | 3             |
|             | IERG3810                                |          | 1             |
|             | Major Elective(s): 2 courses            |          | 6             |
|             | 3                                       |          | 3             |
|             | General Education: UGE (1 course)       |          | 3             |
|             | Free Elective(s): 1 course              |          | 3             |
|             | Te                                      | rm total | 18            |

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

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## **Course List**

| CHEM1380   | Course Code       | Course Title                                    | Unit(s) |
|--|-------------------|---|---------|
| CSCI1130/ESTR1102 Introduction to Computing Using Java 3 CSCI1140 Programming Laboratory 1 CSCI2100/ESTR2102 Data Structures 3 CSCI3150/ESTR3102 Introduction to Operating Systems 3 CSCI3150/ESTR3104 Design and Analysis of Algorithms 3 CSCI3320 Fundamentals of Machine Learning 3 CSCI3320 Introduction to Cloud Computing and Storage 3 CSCI4180 Introduction to Social Networks 3 ELEG5491 Introduction to Social Networks 3 ELEG5491 Introduction to Deep Learning 3 ELT'U2014 English for Engineering 1 3 ELT'U3014 English for Engineering I 2 ENGG1100/ESTR1000 Introduction to Engineering I 2 ENGG1100/ESTR1001 Introduction to Engineering I 2 ENGG1110/ESTR1002 Problem Solving by Programming 3 ENGG1110/ESTR1003 Engineering Physics: Electromagnetics, Optics and Modern Physics ENGG1440/ESTR1004 Linear Algebra and Vector Calculus for Engineers 3 ENGG1820 Engineering Internship 1 ENGG2310/ESTR2000 Principles of Communication Systems 3 ENGG240/ESTR2000 Complex Analysis and Differential Equations for Engineers 2 ENGG240/ESTR2012 Probability for Engineers 3 ENGG5301 Information Theory 3 ENGG5302 Random Processes 3 ENGG5303 Advanced Wireless Communications 3 ENGG5303 Advanced Wireless Communication Systems 3 ENGG5303 Lightwave System Technologies 3 ENGG5303 Advanced Wireless Communication 3 ERG2051/ESTR2300 Engineering Practicum 1 ERG2060/ESTR2304 Basic Analog and Digital Circuits 3 ERG2060/ESTR2305 Introduction to Systems Programming 2 ERGG2060/ESTR2304 Basic Analog and Digital Circuits 3 ERGG3060 Microcontrollers and Embedded Systems 3 ERGG300 Simulation and Statistical Analysis 3 ERG3000/ESTR3308 Information and Software Engineering Practicum 1 ERG3000/ESTR3309 Digital Communications 3 ERG3300/ESTR3300 Networks: Technology, Economics, and Social Interactions 1 ERG3300/ESTR3304 Introduction to Systems Programming 1 ERG3300/ESTR3304 Information and Embedded Systems 3 ERGG3300 Networks: Technology, Economics, and Social Interactions 1 ERG3300/ESTR3300 Networks: Technology, Economics, and Social Interactions 1 ERG3300/ESTR3300 Product | CHEM1380          | Basic Chemistry for Engineers                   | 3       |
| CSCI140         Programming Laboratory         1           CSCI2100/ESTR2102         Data Structures         3           CSCI3150/ESTR3104         Introduction to Operating Systems         3           CSCI3150/ESTR3104         Design and Analysis of Algorithms         3           CSCI3180         Fundamentals of Machine Learning         3           CSCI4180         Introduction to Could Computing and Storage         3           CSCI4190         Introduction to Deep Learning         3           ELEG5491         Introduction to Deep Learning         3           ELTU2014         English for Engineering I         2           ENGG1100/ESTR1000         Introduction to Engineering Design         3           ENGG110/ESTR1001         Introduction to Engineering Design         3           ENGG110/ESTR1002         Problem Solving by Programming         3           ENGG1410/ESTR1003         Engineering Physics: Electromagnetics, Optics and Modern Physics         3           ENGG1410/ESTR1004         Linear Algebra and Vector Calculus for Engineers         3           ENGG2310/ESTR2300         Engineering Internship         1           ENGG52310/ESTR2300         Principles of Communication Systems         3           ENGG5301         Information Theory         3  | CSCI1120/ESTR1100 | Introduction to Computing Using C++             | 3       |
| CSCI310/ESTR3102   Data Structures   3   CSCI3150/ESTR3104   Design and Analysis of Algorithms   3   CSCI3160/ESTR3104   Design and Analysis of Algorithms   3   CSCI31320   Fundamentals of Machine Learning   3   CSCI4180   Introduction to Cloud Computing and Storage   3   CSCI4190   Introduction to Deep Learning   3   ELEG5491   Introduction to Deep Learning   3   ELTU2014   English for Engineering I   3   ELTU2014   English for Engineering I   2   ENGG1100/ESTR1000   Introduction to Engineering I   2   ENGG1110/ESTR1001   Problem Solving by Programming   3   ENGG1310/ESTR1002   Problem Solving by Programming   3   ENGG1310/ESTR1003   Engineering Physics: Electromagnetics, Optics and Modern Physics   ENGG1310/ESTR1004   Linear Algebra and Vector Calculus for Engineers   3   ENGG2310/ESTR2300   Principles of Communication Systems   3   ENGG2420/ESTR2000   Principles of Communication Systems   3   ENGG2310/ESTR2012   Probability for Engineers   3   ENGG5301   Information Theory   3   ENGG5302   Random Processes   3   ENGG5303   Advanced Wireless Communications   3   ENGG5303   Advanced Wireless Communications   3   ENGG5303   Advanced Wireless Communications   3   ENGG6390   Engineering Practicum   1   ERG2060/ESTR2304   Basic Analog and Digital Circuits   3   ERG2060/ESTR2306   Introduction to Systems   3   ERG2060/ESTR2306   Engineering Practicum   1   ERG3006   Microcontrollers and Embedded Systems   3   ERGG300   Simulation and Statistical Analysis   3   ERGG300/ESTR3300   Digital Communications   3   ERG300/ESTR3300   Information and Software Engineering Practice   3   ERGG3300/ESTR3304   Information and Software Engineering Practice   3   ERG3300/ESTR3304   Information and Software Engineering Practice   3   ERGG3300/ESTR3306   Social Media and Human Information Interaction   3   ERGG3300/ESTR3306   Information and Embedded System Laboratory   1   ERG3820   Communications Laboratory   1   ERG3820   Communications   3   ERGG3300/ESTR3300   Optical Communications   3   ERGG3300/ESTR3300   Optical Communicatio | CSCI1130/ESTR1102 | Introduction to Computing Using Java            | 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 Deep Learning         3           ELEG5491         Introduction to Deep Learning         3           ELTU2014         English for Engineering I         2           ENGG1100/ESTR1000         Introduction to Engineering Design         3           ENGG110/ESTR1000         Introduction to Engineering Design         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           ENGG5301         Information Theory         3           ENGG5302         Random Processes         3           ENGG5303         Advanced Wireless Communications         3     <   | CSCI1140          | Programming Laboratory                          | 1       |
| 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 ELTU2014 English for Engineering I 2 ENGG1100/ESTR1000 Introduction to Engineering I 2 ENGG1100/ESTR1000 Introduction to Engineering Design 3 ENGG1110/ESTR1001 Problem Solving by Programming 3 ENGG1110/ESTR1002 Engineering Physics: Electromagnetics, Optics and Modern Physics ENGG1820 Engineering Internship 1 ENGG2310/ESTR2300 Principles of Communication Systems 3 ENGG2420/ESTR2000 Complex Analysis and Differential Equations for Engineers ENGG5301 Information Theory 3 ENGG5302 Random Processes 3 ENGG5303 Advanced Wireless Communications 3 ENGG5303 Advanced Wireless Communications 3 ENGG5303 Applied Cryptography 3 ENGG5303 Applied Cryptography 3 ENGG5303 EngG00/ESTR2304 Basic Analog and Digital Circuits 3 ERG2060/ESTR2304 Engineering Practicum 1 ERG2050/ESTR2305 Signals and Systems 3 ERG2060/ESTR2306 Introduction to Systems Programming 2 ERGG602 Engineering Practicum 1 ERG3050 Simulation and Statistical Analysis 3 ERGG300 Microcontrollers and Embedded Systems 3 ERGG300 Microcontrollers and Embedded Systems 3 ERGG3300/ESTR3300 Information and Statistical Analysis 3 ERGG3300/ESTR3301 Introduction to Stochastic Processes 3 ERGG3300/ESTR3304 Introduction to Stochastic Processes 3 ERGG3300/ESTR3305 Information and Embedded System Laboratory 1 ERG3300/ESTR3306 Social Media and Human Information Interaction 3 ERG3300/ESTR3301 Information Infrastructure Design Lab 1 ERG3300/ESTR3301 Ommunications Laboratory 1 ERG3300 Product Design and Development 3 ERGG3300 Product Design and Development 3 ERGG3300 Product Design and Development 3 ERGG3300 Engineering Product Design and Development 3 ERGG3300 Engineering Product Design and Development 3 ERGG40800 Engineering Product Design and Development 3 ERGG40800 Engineering Product Design and Development 3        | CSCI2100/ESTR2102 | Data Structures                                 | 3       |
| CSC13320 Fundamentals of Machine Learning 3 CSC14180 Introduction to Cloud Computing and Storage 3 CSC14190 Introduction to Social Networks 3 ELF05491 Introduction to Deep Learning 3 ELTU2014 English for Engineering I 2 ENGG1100/ESTR1000 Introduction to Engineering I 2 ENGG1100/ESTR1000 Introduction to Engineering Design 3 ENGG1110/ESTR1002 Problem Solving by Programming 3 ENGG1110/ESTR1003 Engineering Physics: Electromagnetics, Optics and Modern Physics ENGG1410/ESTR1004 Linear Algebra and Vector Calculus for Engineers 3 ENGG130/ESTR1004 Engineering Internship 1 ENGG2310/ESTR200 Engineering Internship 1 ENGG2310/ESTR200 Principles of Communication Systems 3 ENGG2420/ESTR2000 Complex Analysis and Differential Equations for Engineers 3 ENGG5301 Information Theory 3 ENGG5301 Information Theory 3 ENGG5302 Random Processes 3 ENGG5303 Advanced Wireless Communications 3 ENGG5303 Advanced Wireless Communications 3 ENGG5302 Lightwave System Technologies 3 ERGG051/ESTR2304 Basic Analog and Digital Circuits 3 ERGG000/ESTR2304 Engineering Practicum 1 ERGG200 Engineering Practicum 1 ERGG3000 Simulation and Statistical Analysis 3 ERGG000 Engineering Practicum 1 ERGG3000 Simulation and Statistical Analysis 3 ERGG3000 Simulation and Immachinor Interaction 3 ERGG3000 Information Interaction 3 ERGG3300/ESTR3300 Digital Communications Laboratory 1 ERGG3820 Communications Laboratory 1 ERGG3820 Communications Laboratory 1 ERGG3820 Communications Laboratory 1 ERGG3820 Communications Scalable Internet-based Services 3   | CSCI3150/ESTR3102 | Introduction to Operating Systems               |         |
| 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         ENGG110/ESTR1003       Introduction to Engineering Design       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         ENGG2310/ESTR2300       Principles of Communication Systems       3         ENGG5301       Information Theory       3         ENGG5302       Probability for Engineers       3         ENGG5303       Advanced Wireless Communications       3         ENGG5303       Advanced Wireless Communications       3         ENGG5392       Lightwave System Technologies       3         ENGG5392       Lightwave System Programming       2         EERG  | CSCI3160/ESTR3104 |   |         |
| CSCI4190Introduction to Social Networks3ELEG5491Introduction to Deep Learning3ELTU2014English for Engineering I2ENGG1100/ESTR1000Introduction to Engineering Design3ENGG1110/ESTR1001Introduction to Engineering Design3ENGG1110/ESTR1002Problem Solving by Programming3ENGG1310/ESTR1003Engineering Physics: Electromagnetics, Optics and Modern Physics3ENGG1410/ESTR1004Linear Algebra and Vector Calculus for Engineers3ENGG2310/ESTR2300Engineering Internship1ENGG2310/ESTR2300Principles of Communication Systems3ENGG240/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5383Applied Cryptography3ENGG5392Lightwave System Technologies3IERG2061/ESTR2304Basic Analog and Digital Circuits3IERG2060/ESTR2306Introduction to Systems Programming2IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3080/ESTR3304Interactions3IERG3300/ESTR3305Interactions3IERG3310/ESTR3306Introduction to Stochastic Processes3<   | CSCI3320          | Fundamentals of Machine Learning                | 3       |
| ELG5491Introduction to Deep Learning3ELTU2014English for Engineering I3ELTU3014English for Engineering II2ENGG1100/ESTR1000Introduction to Engineering Design3ENGG1110/ESTR1002Problem Solving by Programming3ENGG1310/ESTR1003Engineering Physics: Electromagnetics, Optics and Modern Physics3ENGG1410/ESTR1004Linear Algebra and Vector Calculus for Engineers3ENGG1820Engineering Internship1ENGG2310/ESTR2300Principles of Communication Systems3ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5304Lightwave System Technologies3ERG2051/ESTR2302Eignals and Systems3ERG2051/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG2080/ESTR3300Digital Communications3IERG3010/ESTR3308Information and Statistical Analysis3IERG3080/ESTR3308Information and Statistical Analysis3IERG3080/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3306Info  | CSCI4180          | Introduction to Cloud Computing and Storage     | 3       |
| ELTU2014 English for Engineering I 2 ENGG1100/ESTR1000 Introduction to Engineering Design 3 ENGG1110/ESTR1002 Problem Solving by Programming 3 ENGG1310/ESTR1003 Engineering Physics: Electromagnetics, Optics and Modern Physics Electromagnetics, Optics and Modern Physics Engineering Physics: Electromagnetics, Optics and Modern Physics Engineering Physics: Electromagnetics, Optics and Modern Physics Engineering Physics: Electromagnetics, Optics and Modern Physics Engineering Internship 1 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 2 ENGG2470/ESTR2012 Probability for Engineers 3 ENGG5301 Information Theory 3 ENGG5302 Random Processes 3 ENGG5303 Advanced Wireless Communications 3 ENGG5303 Applied Cryptography 3 ENGG5303 Applied Cryptography 3 ENGG5303 Applied Cryptography 3 ENGG5304 Elightwave System Technologies 3 ERG2051/ESTR2302 Eightwave System Technologies 3 ERGG2051/ESTR2304 Basic Analog and Digital Circuits 3 ERGG2060/ESTR2304 Basic Analog and Digital Circuits 3 ERGG2002 Engineering Practicum 1 ERG3010/ESTR3300 Digital Communications 3 ERGG3050 Simulation and Statistical Analysis 3 ERGG3060 Microcontrollers and Embedded Systems 3 ERGG3080/ESTR3308 Information and Statistical Analysis 3 ERGG3080/ESTR3304 Introduction to Stochastic Processes 3 ERGG330/ESTR3304 Introduction to Stochastic Processes 3 ERGG330/ESTR3306 Information Infrastructure Design Lab 1 ERGG3800 Information Infrastructure Design Lab 1 ERGG3800 Product Design and Development 3 ERGG3830 Product Design and Development 3 ERGG3830  | CSCI4190          | Introduction to Social Networks                 | 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 ENGG1310/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 8 ENGG2470/ESTR2012 Probability for Engineers 3 ENGG3301 Information Theory 3 ENGG5301 Random Processes 3 ENGG5302 Random Processes 3 ENGG5303 Advanced Wireless Communications 3 ENGG5303 Advanced Wireless Communications 3 ENGG5392 Lightwave System Technologies 3 ERGG0501/ESTR2302 Signals and Systems 3 IERG2060/ESTR2304 Basic Analog and Digital Circuits 3 IERG2060/ESTR2306 Introduction to Systems Programming 2 IERG3050 Simulation and Statistical Analysis 3 IERG3050 Microcontrollers and Embedded Systems 3 IERG3050 Simulation and Software Engineering Practice 3 IERG3050/ESTR3300 Networks: Technology, Economics, and Social Interactions 1 IERG3310/ESTR3304 Introduction to Stochastic Processes 3 IERG3300/ESTR3304 Introduction to Stochastic Processes 3 IERG3300/ESTR3306 Introduction to Stochastic Processes 3 IERG3300/ESTR3306 Introduction to Stochastic Processes 3 IERG3300/ESTR3300 Information Infrastructure Design Lab 1 IERG3310/ESTR3300 Information Infrastructure Design Lab 1 IERG3310/ESTR3300 Microcontrollers and Embedded System Laboratory 1 IERG3810 Microcontrollers and Embedded System Laboratory 1 IERG3820 Communications Laboratory 1 IERG3830 Product Design and Development 3 IERG3830 Product Design and Development 3 IERG34080/ESTR4312 Building Scalable Internet-based Services 3   | ELEG5491          | Introduction to Deep Learning                   | 3       |
| ENGG1100/ESTR1000Introduction to Engineering Design3ENGG1110/ESTR1002Problem Solving by Programming3ENGG1310/ESTR1003Engineering Physics: Electromagnetics, Optics and Modern PhysicsENGG1410/ESTR1004Linear Algebra and Vector Calculus for EngineersENGG1820Engineering Internship1ENGG2310/ESTR2300Principles of Communication Systems3ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5392Lightwave System Technologies3ERG2051/ESTR2302Signals and Systems3ERG2060/ESTR2304Basic Analog and Digital Circuits3ERG2080/ESTR2306Introduction to Systems Programming2IERG2080/ESTR2300Digital Communications3IERG3010/ESTR3300Digital Communications3IERG3060Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3300Information and Software Engineering Practice3IERG3300/ESTR3301Networks: Technology, Economics, and Social Interactions3IERG3310/ESTR3306Introduction to Stochastic Processes3IERG3810Microcontrollers and Embedded System Laboratory1   | ELTU2014          | English for Engineering I                       | 3       |
| ENGG1110/ESTR1002 Problem Solving by Programming  ENGG1310/ESTR1003 Engineering Physics: Electromagnetics, Optics and Modern Physics  ENGG1410/ESTR1004 Linear Algebra and Vector Calculus for Engineers  ENGG1820 Engineering Internship 1  ENGG2310/ESTR2300 Principles of Communication Systems 3  ENGG2420/ESTR2000 Complex Analysis and Differential Equations for Engineers  ENGG2470/ESTR2012 Probability for Engineers 3  ENGG5301 Information Theory 3  ENGG5302 Random Processes 3  ENGG5303 Advanced Wireless Communications 3  ENGG5303 Applied Cryptography 3  ENGG5392 Lightwave System Technologies 3  ERG2051/ESTR2302 Signals and Systems 3  ERG2050/ESTR2304 Basic Analog and Digital Circuits 3  ERG2080/ESTR2306 Introduction to Systems Programming 2  ERG2080/ESTR2306 Engineering Practicum 1  ERG3010/ESTR3300 Digital Communications 3  ERG3050 Simulation and Statistical Analysis 3  ERG3050 Simulation and Software Engineering Practice 3  ERG3080/ESTR3308 Information and Software Engineering Practice 3  ERG3300/ESTR3304 Introduction to Stochastic Processes 3  ERG3300/ESTR3304 Introduction to Stochastic Processes 3  ERG3300/ESTR3306 Social Media and Human Information Interaction 3  ERG3300/ESTR3306 Information Infrastructure Design Lab 1  ERG3810 Microcontrollers and Embedded System Laboratory 1  ERG3820 Communications Laboratory 1  ERG3830 Product Design and Development 3  ERG36300 Optical Communications 3  ERG3400 Optical Communications 3  ERG34000 Optical Com | ELTU3014          | English for Engineering II                      | 2       |
| ENGG1310/ESTR1003Engineering Physics: Electromagnetics, Optics and Modern Physics3ENGG1410/ESTR1004Linear Algebra and Vector Calculus for Engineers3ENGG1820Engineering Internship1ENGG2310/ESTR2300Principles of Communication Systems3ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5303Advanced Wireless Communications3ENGG5392Lightwave System Technologies3ERG2051/ESTR2302Signals and Systems3IERG2050/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3306Introduction to Stochastic Processes3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Computer Networks3IERG3830Product Design and Development3IERG3830Product Design and   | ENGG1100/ESTR1000 | Introduction to Engineering Design              |         |
| Modern Physics   ENGG1410/ESTR1004   Linear Algebra and Vector Calculus for Engineers   3  | ENGG1110/ESTR1002 | Problem Solving by Programming                  | 3       |
| ENGG1410/ESTR1004Linear Algebra and Vector Calculus for Engineers3ENGG1820Engineering Internship1ENGG2310/ESTR2300Principles of Communication Systems3ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5383Applied Cryptography3ENGG5392Lightwave System Technologies3IERG2051/ESTR2302Signals and Systems3IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3306Social Media and Human Information Interaction3IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3 </td <td>ENGG1310/ESTR1003</td> <td></td> <td>3</td>   | ENGG1310/ESTR1003 |   | 3       |
| ENGG1820Engineering Internship1ENGG2310/ESTR2300Principles of Communication Systems3ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5383Applied Cryptography3ENGG5392Lightwave System Technologies3ERG2051/ESTR2302Signals and Systems3ERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2060/ESTR2306Introduction to Systems Programming2IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3050Simulation and Software Engineering Practice3IERG3280/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3304Introduction to Stochastic Processes3IERG3300/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3  | ENGG1410/ESTR1004 |   | 3       |
| ENGG2310/ESTR2300Principles of Communication Systems3ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5383Applied Cryptography3ENGG5392Lightwave System Technologies3IERG2051/ESTR2302Signals and Systems3IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG2080/ESTR3300Digital Communications3IERG3010/ESTR3300Digital Communications3IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3304Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   | ENGG1820          |   | 1       |
| ENGG2420/ESTR2000Complex Analysis and Differential Equations for Engineers3ENGG2470/ESTR2012Probability for Engineers3ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5383Applied Cryptography3ENGG5392Lightwave System Technologies3ERG2051/ESTR2302Signals and Systems3IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3280/ESTR3308Information and Software Engineering Practice3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | ENGG2310/ESTR2300 | - ·   | 3       |
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| ENGG5301Information Theory3ENGG5302Random Processes3ENGG5303Advanced Wireless Communications3ENGG5383Applied Cryptography3ENGG5392Lightwave System Technologies3ERG2051/ESTR2302Signals and Systems3IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG2602Engineering Practicum1IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3308Information and Software Engineering Practice3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4030Optical Communications3  |                   |   |         |
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| ENGG5303 Advanced Wireless Communications  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 IERG3310/ESTR3304 Introduction to Stochastic Processes 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 IERG4030 Optical Communications 3 IERG4080/ESTR4312 Building Scalable Internet-based Services   | ENGG5301          |   | 3       |
| ENGG5383 Applied Cryptography 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 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 IERG4030 Optical Communications 3 IERG4080/ESTR4312 Building Scalable Internet-based Services  | ENGG5302          | Random Processes                                | 3       |
| ENGG5383 Applied Cryptography 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 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 IERG4030 Optical Communications 3 IERG4080/ESTR4312 Building Scalable Internet-based Services  | ENGG5303          | Advanced Wireless Communications                |         |
| ENGG5392Lightwave System Technologies3IERG2051/ESTR2302Signals and Systems3IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG2602Engineering Practicum1IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3820/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   | ENGG5383          |   | 3       |
| IERG2051/ESTR2302Signals and Systems3IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG2602Engineering Practicum1IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   | ENGG5392          |   | 3       |
| IERG2060/ESTR2304Basic Analog and Digital Circuits3IERG2080/ESTR2306Introduction to Systems Programming2IERG2602Engineering Practicum1IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG2051/ESTR2302 |   | 3       |
| IERG2080/ESTR2306Introduction to Systems Programming2IERG2602Engineering Practicum1IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3820/ESTR3306Social Media and Human Information Interaction3IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   | IERG2060/ESTR2304 |   | 3       |
| IERG2602Engineering Practicum1IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG2080/ESTR2306 |   | 2       |
| IERG3010/ESTR3300Digital Communications3IERG3050Simulation and Statistical Analysis3IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG2602          |   | 1       |
| IERG3060Microcontrollers and Embedded Systems3IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3010/ESTR3300 |   | 3       |
| IERG3080/ESTR3308Information and Software Engineering Practice3IERG3280/ESTR3302Networks: Technology, Economics, and Social Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3050          | Simulation and Statistical Analysis             | 3       |
| IERG3280/ESTR3302Networks: Technology, Economics, and Social<br>Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3060          | Microcontrollers and Embedded Systems           | 3       |
| IERG3280/ESTR3302Networks: Technology, Economics, and Social<br>Interactions3IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3080/ESTR3308 | Information and Software Engineering Practice   | 3       |
| IERG3300/ESTR3304Introduction to Stochastic Processes3IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   | IERG3280/ESTR3302 |   | 3       |
| IERG3310/ESTR3310Computer Networks3IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   |                   | Interactions                                    |         |
| IERG3320/ESTR3306Social Media and Human Information Interaction3IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3300/ESTR3304 | Introduction to Stochastic Processes            | 3       |
| IERG3800Information Infrastructure Design Lab1IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3310/ESTR3310 | Computer Networks                               | 3       |
| IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3320/ESTR3306 |   | 3       |
| IERG3810Microcontrollers and Embedded System Laboratory1IERG3820Communications Laboratory1IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3800          | Information Infrastructure Design Lab           | 1       |
| IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3810          | Microcontrollers and Embedded System Laboratory | 1       |
| IERG3830Product Design and Development3IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3  | IERG3820          | Communications Laboratory                       | 1       |
| IERG4030Optical Communications3IERG4080/ESTR4312Building Scalable Internet-based Services3   | IERG3830          |   | 3       |
|  | IERG4030          | Optical Communications                          | 3       |
|  | IERG4080/ESTR4312 | Building Scalable Internet-based Services       | 3       |
|  | IERG4090/ESTR4302 | Networking Protocols and Systems                | 3       |

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| 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 | 3       |
|                       | Machine Learning                                  |         |
| IERG5140              | Lightwave Networks                                | 3       |
| IERG5154              | Information Theory                                | 3       |
| IERG5200              | Channel Coding and Modulation                     | 3       |
| IERG5230              | Algorithms and Realization of Internet of Things  | 3       |
|                       | Systems   |         |
| 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/<br>UGFN1000 | University General Education Foundation Course    | 3       |
| OOLIMIOOO             |   |         |

## Remarks:

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 $<sup>^{\</sup>wedge}$  Equivalent to ENGG4030 offered in 2017-18 and before.