(For students admitted in 2012-13 under the 4-year degree)

BEng in Electronic Engineering

In addition to the requirements of their major programs, students are required to complete the University requirements for graduation. For details please refer to the respective section on this website.

Some courses can be used to fulfill both Major and University Common Core Requirements. Students may reuse a maximum of 6 credits of these courses to count towards both Requirements.

Major Requirements

				Credit(s)
Engineering Fundamental Course(s)				
ELEC/MATH		Note: ELEC 2600 OR MATH 2011 OR MATH 2111 OR MATH 2351 (3 courses out of 4)		9-10
	ELEC 2600	Probability and Random Processes in Engineering	4	
	MATH 2011	Introduction to Multivariable Calculus	3	
	MATH 2111	Matrix Algebra and Applications	3	
	MATH 2351	Introduction to Differential Equations	3	
COMP		Note: COMP 1021 OR COMP 1022P OR COMP 1022Q		3
	COMP 1021	Introduction to Computer Science	3	
	COMP 1022P	Introduction to Computing with Java	3	
	COMP 1022Q	Introduction to Computing with Excel VBA	3	
ENGG	1010	Academic Orientation		0
LANG	2030	Technical Communication I		3
MATH		Note: [(MATH 1013 OR MATH 1023) AND (MATH 1014 OR MATH 1024)] OR [MATH 1020]		4-6
	MATH 1013	Calculus I	3	
	MATH 1014	Calculus II	3	
	MATH 1020	Accelerated Calculus	4	
	MATH 1023	Honors Calculus I	3	
	MATH 1024	Honors Calculus II	3	
PHYS		Note: PHYS 1112 OR PHYS 1152 OR PHYS 1312		2-3
	PHYS 1112	General Physics I with Calculus	3	
	PHYS 1152	Accelerated General Physics I with Calculus	2	
	PHYS 1312	Honors General Physics I	3	
PHYS		Note: PHYS 1114 OR PHYS 1154 OR PHYS 1314		2-3
	PHYS 1114	General Physics II	3	
	PHYS 1154	Accelerated General Physics II	2	
	PHYS 1314	Honors General Physics II	3	

SENG		Engineering Introduction course (If the students take an introduction course included in their major, this course can be counted towards their major requirement.)		3-4
	ELEC 1100	Introduction to Electro-Robot Design	4	
	ELEC 1200	A System View of Communications: from Signals to Packets	4	
	CENG 1000	Introduction to Chemical and Biomolecular Engineering	3	
	CIVL 1100	Discovering Civil and Environmental Engineering	3	
	COMP 1021	Introduction to Computer Science	3	
	IELM 2010	Industrial Engineering and Modern Logistics	3	
	IELM 2200	Engineering Management	3	
	MECH 1901	Automotive Engineering	3	
	MECH 1902	Energy Systems in a Sustainable World	3	

Required Course(s)

ELEC	1100	Introduction to Electro-Robot Design	4
ELEC	1200	A System View of Communications: from Signals to Packets	4
ELEC	1991	Industrial Experience (Electronic Engineering)	0
ELEC	2100	Signals and Systems	4
ELEC	2200	Digital Circuits and Systems	4
ELEC	2300	Computer Organization	4
ELEC	2400	Electronic Circuits	4
ELEC	2910	Academic and Professional Development I	0
ELEC	3910	Academic and Professional Development II	0

ELEC		Note: ELEC 4900 OR ELEC 4901 (Students taking the Research Option must take ELEC 4901)		6
	ELEC 4900	Final Year Design Project	6	
	ELEC 4901	Final Year Thesis	6	

LANG	4031	Technical Communication II for ECE & CPEG	3

Elective(s)

ELEC		ELEC 4000-level Electives (Any 2 courses of the subject and level as specified)		6

ELEC		Area Courses (3 courses from the specified elective list)		12
	ELEC 3100	Signal Processing and Communications	4	
	ELEC 3200	System Modeling, Analysis and Control	4	
	ELEC 3300	Introduction to Embedded Systems	4	
	ELEC 3400	Introduction to Integrated Circuits and Systems	4	
	ELEC 3500	Microelectronic Devices and Technology	4	
	ELEC 3600	Electromagnetics: From Wireless to Photonic Applications	4	

Student may opt to graduate with or without an option. Students who take an option MUST complete all requirements specified in addition to the major requirements.

Option(s)

Research Option

Students in the Research Option should also take ELEC 4901 as specified in the major requirements.

Required Course(s)			
ELEC	5900	Modern Engineering Research Methodologies	1
Elective Course(s)			
		Advanced Elective Courses approved by advisor (at least one UROP course taken prior to the commencement of Final Year Thesis, and one PG-level course)	6
UROP	1000	Undergraduate Research Opportunities	0
UROP	1100	Undergraduate Research Opportunities Series 1	1
UROP	1200	Undergraduate Research Opportunities Series 2	1
UROP	1300	Undergraduate Research Opportunities Series 3	1