

4-year BEng (CE) Programme with Professional Internship (PI)

Applicable to students matriculated in 2015

Students may do their PI in Year 3 Semester 2 (i.e. before FYP) or Year 4 Semester 2 (i.e. after FYP).

AU requirements

Type	Total No. of AUs
Depth (Core)	100
Breadth	21
Unrestricted electives	15
Grand Total	136

Suggested Curriculum

Course Code and Title	Type (i.e. Core/ Core elective/ GER core/ GER elective/ Unrestricted elective)	No of Hours Per Week				AU	Pre-requisite / Remarks
		Lec	Tut	Lab	Total		
YEAR 1 SEMESTER 1							
CE1011 Engineering Mathematics I	Core	2	1	1 ⁺	4	3	-
CE1012 Engineering Mathematics II	Core	2	1	1 ⁺	4	3	CE1011 (can be taken concurrently)
CE1003 Introduction to Computational Thinking	Core	2	1	1	4	3	-
CE1004 Inventions and Innovations in Computing	Core	1	1	1 ⁺	2	2	-
CE1005 Digital Logic	Core	2	1	1	4	3	-
HW0188^ Engineering Communication I	GER core	-	2	-	2	2	HW0001 (can be taken concurrently)
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions						1	online course
HW0001 English Proficiency	GER core					0	
TOTAL		9	7	3+2 ⁺	20	17	
YEAR 1 SEMESTER 2							
CE1006 Computer Organisation and Architecture	Core	2	1	1	4	3	CE1005 (can be taken concurrently)
CE1007 Data Structures	Core	2	1	1	4	3	CE1003
MH1812 Discrete Mathematics	Core	2	1	1 ⁺	3	3	-
CE0001 Engineers and Society	GER core	2	1	-	3	3	-
Science & Technology	GER elective	2	1	1	4	3	Student to select from the GER-PE(STS) SCSE course list shown in SCSE website

Unrestricted elective	Unrestricted elective	2	1	-	3	3	
ML0001 Absolute Basics for Career by MLCPS (Margaret Lien Centre for Professional Success)	GER core					1	online course
TOTAL		12	6	3+1⁺	21	19	

^ Should there be insufficient vacancies, students will take Eng Comm I & II in the following semester.

Course Code and Title	Type (i.e. Core/ Core elective/ GER core/ GER elective/ Unrestricted elective)	No of Hours Per Week				AU	Pre-requisite / Remarks
		Lec	Tut	Lab	Total		
YEAR 2 SEMESTER 1							
CE2001 Algorithms	Core	2	1	1 ⁺	4	3	CE1007, CE1012, MH1812
CE2002 Object Oriented Design & Programming	Core	2	1	1	4	3	CE1007
CE2003 Digital Systems Design	Core	2	1	1	4	3	CE1005
CE2004 Circuits and Signal Analysis	Core	2	1	1	4	3	CE1012
CE2005 Operating Systems	Core	2	1	1	4	3	CE1006, CE1007
HY0001 Ethics & Moral Reasoning	GER core					1	online course
Liberal Arts	GER elective	2	1	-	3	3	
TOTAL		12	6	4+1 ⁺	23	19	
YEAR 2 SEMESTER 2							
CE2006 Software Engineering	Core	2	1	1	4	3	CE2002 (can be taken concurrently)
CE2007 Microprocessor-based Systems Design	Core	2	1	1	4	3	CE1006, CE2004 (can be taken concurrently)
CE3001 Advanced Computer Architecture	Core	2	1	1	4	3	CE1006
CE3002 Sensors, Interfacing and Control	Core	2	1	1	4	3	CE2004
Business & Management	GER elective	2	1	-	3	3	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		12	8	4	24	18	

Course Code and Title	Type (i.e. Core/ Core elective/ GER core/ GER elective/ Unrestricted elective)	No of Hours Per Week				AU	Pre-requisite / Remarks
		Lec	Tut	Lab	Total		
YEAR 3 SEMESTER 1							
CE3003 Microcontroller Programming	Core	2	1	1	4	3	CE2005
CE3004 Multidisciplinary Design Project	Core	1	-	3	4	4	Year standing 3
CE3005 Computer Networks	Core	2	1	1	4	3	CE1011, CE1012
Technical Elective 1 (CZ200x or CZ300x)	Core elective	2	1	1	4	3	
Unrestricted Elective	Unrestricted elective	2	1	-	3	3	
HW0288^ Engineering Communication II	GER core	-	2	-	2	2	HW0188, Year 3 standing
ET0001 Enterprise & Innovation	GER core					1	online course
TOTAL		9	6	6	21	19	
YEAR 3 SEMESTER 2							
CE4079 Final Year Project	Core	-	-	-	-	-	
CE3007 Digital Signal Processing	Core	2	1	1	4	3	CE2004
CE4xxx Technical Elective 2	Core elective	2	1	1	4	3	
CE4xxx Technical Elective 3	Core elective	2	1	1	4	3	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		8	4	3	15	12	

Course Code and Title	Type (i.e. Core/ Core elective/ GER core/ GER elective/ Unrestricted elective)	No of Hours Per Week				AU	Pre-requisite / Remarks
		Lec	Tut	Lab	Total		
YEAR 4 SEMESTER 1							
CE4079 Final Year Project	Core	-	-	-	-	8	
CE3006 Digital Communications	Core	2	1	1	4	3	CE1011, CE2004
CE4xxx Technical Elective 4	Core elective	2	1	1	4	3	
CE4xxx Technical Elective 5	Core elective	2	1	1	4	3	
CE4xxx Technical Elective 6	Core elective	2	1	1	4	3	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		10	5	4	19	23	
YEAR 4 SEMESTER 2							
ML0002 Career Power Up! by MLCPS	GER core					1	online course (to be taken with PI)
CE3079 Professional Internship	Core	-	-	-	-	8	Year 3 standing Important Note: Students will be awarded the degrees upon successful completion of PI. However, if the PI is delayed/exte nded and/or the marks submission to CAO is delayed, students will not be in time to attend the Convocation in July and have to attend the

							Convocation in the following year. Students can opt to do PI in Year 3 Sem 2
TOTAL		-	-	-	-	9	
GRAND TOTAL (Years 1 to 4)							136

+ An additional 10 hours per semester have been allocated for these non-lab based courses for Example Classes. Faculty can use these time slots for their pedagogical needs such as to reinforce concepts, provide additional coaching, give more worked examples, allow students to do practice exercises or do research or work on the computers etc.