4-year BEng (CS) Programme with Professional Internship (PI)
Applicable to students matriculated in 2016 or later

AU requirements

Type	Total No. of AUs
Depth (Core)	102
Breadth	21
Unrestricted electives	15
Grand Total	**138**

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							
MH1812 Discrete Mathematics	Core	2	1	1+	4	3	-
CZ1003 Introduction to Computational Thinking	Core	2	1	1	4	3	-
CZ1004 *Introduction to Computing Systems	Core	1	1	1+	2	2	-
CZ1005 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	GER core					1	online course
HW0001 English Proficiency	GER core					0	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		**9**	**7**	**2+2+**	**19**	**17**	
YEAR 1 SEMESTER 2							
CZ1011 Engineering Mathematics I	Core	2	1	1+	4	3	-
CZ1012 Engineering Mathematics II	Core	2	1	1+	4	3	CZ1011 (can be taken concurrently)
CZ1006 Computer Organisation and Architecture	Core	2	1	1	4	3	CZ1005 (can be taken concurrently)
CZ1007 Data Structures	Core	2	1	1	4	3	CZ1003
CZ0001 Engineers and Society	GER core	2	1	-	3	3	
Science & Technology	GER elective	2	1	1	4	3	
ML0001 Absolute Basics for Career by MLCPS (Margaret Lien Centre for Professional Success)	GER core					1	online course
TOTAL		**12**	**6**	**3+2+**	**23**	**19**	

^ Should there be insufficient vacancies, students will take Eng Comm I & II in the following semester.
* For 2016 Cohort, CZ1004 is named as Inventions and Innovations in Computing.

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							
CZ2001 Algorithms	Core	2	1	1+	4	3	CZ1007, CZ1012, MH1812
CZ2002 Object Oriented Design & Programming	Core	2	1	1	4	3	CZ1007
CZ2004 Human Computer Interaction	Core	2	1	1	4	3	-
CZ2005 Operating Systems	Core	2	1	1	4	3	CZ1006, CZ1007
CZ2007 Introduction to Databases	Core	2	1	1	4	3	CZ2001 (can be taken concurrently)
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							
CZ2003 Computer Graphics and Visualisation	Core	2	1	1	4	3	CZ1011
CZ2006 Software Engineering	Core	2	1	1	4	3	CZ2002 (can be taken concurrently)
CZ3001 Advanced Computer Architecture	Core	2	1	1	4	3	CZ1006
CZ3003 Software Systems Analysis and Design	Core (CS)	2	1	1	4	3	CZ2006 (can be taken concurrently)
Business & Management	GER elective	2	1	-	3	3	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		**12**	**7**	**4**	**22**	**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							
ML0002 Career Power Up! by MLCPS	GER core					1	online course (to be taken with PI)
CZ3179 Professional Internship	Core	-	-	-	-	10	Year 3 standing
TOTAL		**-**	**-**	**-**	**-**	**11**	
YEAR 3 SEMESTER 2							
CZ3002 Advanced Software Engineering	Core	2	1	1	4	3	CZ2006
CZ3004 Multidisciplinary Design Project	Core	1	-	3	4	4	Year 3 standing
CZ3006 Net Centric Computing	Core	2	1	1	4	3	CZ1006, CZ2002
HW0288^ Engineering Communication II	GER core	-	2	-	2	2	HW0188, Year 3 Standing
Technical Elective 1 (CE200x or CE300x)	Core elective	2	1	1	4	3	
ET0001 Enterprise & Innovation	GER core					1	online course
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		**9**	**6**	**6**	**21**	**19**	

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							
CZ4079 Final Year Project	Core	-	-	-	-	-	
CZ3005 Artificial Intelligence	Core	2	1	1	4	3	CZ1003, CZ2001
CZ4xxx Technical Elective 2	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 3	Core elective	2	1	1	4	3	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		**8**	**4**	**3**	**15**	**12**	
YEAR 4 SEMESTER 2							
CZ4079 Final Year Project	Core	-	-	-	-	8	
CZ3007 Compiler Techniques	Core	2	1	1	4	3	CZ2001, CZ2006
CZ4xxx Technical Elective 4	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 5	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 6	Core elective	2	1	1	4	3	
Unrestricted elective	Unrestricted elective	2	1	-	3	3	
TOTAL		**10**	**5**	**4**	**19**	**23**	
GRAND TOTAL (Year 1 to 4)						**138**	

+In 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.