

BRC Bachelor of Engineering (Computer Science) and 2nd Major in Business Curriculum

For students matriculated in 2016 onwards

4-year BEng (CS) Programme and 2nd Major in Business

AU requirements

Type	Total No. of AUs
Depth (Core)	97
Breadth (GER-Core + GER-BM + GER-LS)	12
Unrestricted Elective	5
Business Major (Foundation Courses + Track Courses)	35
Grand Total	149

Option 1: 10-week Professional Attachment (PA)

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 Maths	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 ⁺	3	2	-
CZ1005 Digital Logic	Core	2	1	1	4	3	-
HW0188 [^] Effective Communication	GER core	2	-	-	2	2	
HW0001 English Proficiency	GER core					0	
AD1101 Financial Accounting	Core (Bus)	3	1	-	4	4	-
AB1201 Financial Management	Core (Bus)	2	1	-	3	3	-
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER core					1	Online course
TOTAL		14	6	2+2⁺	24	21	
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
AB1501 Marketing	Core (Bus)	2	1	-	3	3	-
BE1401 Business Operations and Processes*	Core (Bus)	3	1	-	4	4	-
ML0001 Absolute Basics for Career by MLCPS (Margaret Lien Centre for Professional Success)	GER core					1	Online course
TOTAL		13	6	2+1+	23	20	

^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
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
TOTAL		10	5	4+1+	20	16	
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	CZ2006 (can be taken concurrently)
CZ3003 Software Systems Analysis and Design	Core	2	1	1	4	3	CZ2004
AB0901 Principles of Economics: A Singapore Perspective	Core (Bus)	2	1	-	3	3	
TOTAL		10	5	4	19	15	

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							
CZ3002 Advanced Software Engineering	Core	2	1	1	4	3	CZ2006
CZ3004 Multidisciplinary Design Project	Core	1	-	3	4	4	Year standing 3
CZ3006 Net Centric Computing	Core	2	1	1	4	3	CZ1006, CZ2002
CZ0001 Engineers & Society	GER core	2	1	-	3	3	
AB1301 Business Law	Core (Bus)	2	1	-	3	3	
ET0001 Enterprise & Innovation	GER core					1	
HW0288 Engineering Communication II	GER core	2	-	-	2	2	HW0188, Year 3 standing
TOTAL		11	4	5	20	19	
YEAR 3 SEMESTER 2							
CZ3005 Artificial Intelligence	Core	2	1	1	4	3	CZ1003, CZ2001
CZ3007 Compiler Techniques	Core	2	1	1	4	3	CZ2001, CZ2006
Technical Elective 1 (CE200x or CE300x)	Core elective	2	1	1	4	3	
AB1601 Organisational Behaviour and Design	Core (Bus)	2	1	-	3	3	
Unrestricted Elective	Unrestricted elective	2	-	-	2	2	
Unrestricted Elective	Unrestricted elective	3	-	-	3	3	
ML0002 Career Power Up! by MLCPS	GER core					1	Online course
CZ3126 Professional Attachment	Core	-	-	-	-	5	
TOTAL		13	5	3	21	23	

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	-	-	-	-	-	
CZ4xxx Technical Elective 2	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 3	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 4	Core elective	2	1	1	4	3	
Bus Track Course 1	Track course (Bus)	3	1	-	4	4	
Bus Track Course 2	Track course (Bus)	3	1	-	4	4	
TOTAL		10	5	3	20	17	
YEAR 4 SEMESTER 2							
CZ4079 Final Year Project	Core	-	-	-	-	8	
CZ4xxx Technical Elective 5	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 6	Core elective	2	1	1	4	3	
Bus Track Course 3	Track course (Bus)	3	1	-	4	4	
TOTAL		7	3	2	12	18	
GRAND TOTAL (Years 1 to 4)						149	

* 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.

*OR AB1401 Information Technology (3AU) AND AB1402 Foundational Excel (1AU)

Option 2: 20-week Professional Internship (PI)

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 Maths	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^ Effective Communication	GER core	2	-	-	2	2	
HW0001 English Proficiency	GER core					0	
AD1101 Financial Accounting	Core (Bus)	3	1	-	4	4	-
AB1201 Financial Management	Core (Bus)	2	1	-	3	3	-
GC0001 Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER core					1	Online course
TOTAL		14	6	2+2⁺	23	21	
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
AB1501 Marketing	Core (Bus)	2	1	-	3	3	-
BE1401 Business Operations and Processes*	Core (Bus)	3	1	-	4	4	-
ML0001 Absolute Basics for Career by MLCPS (Margaret Lien Centre for Professional Success)	GER core					1	Online course
TOTAL		13	6	3+1⁺	22	20	

^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
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	
TOTAL		10	5	4+1⁺	20	16		
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	CZ2006 (can be taken concurrently)	
CZ3003 Software Systems Analysis and Design	Core	2	1	1	4	3	CZ2004	
CZ0001 Engineers & Society	GER core	2	1	-	3	3		
AB0901 Principles of Economics: A Singapore Perspective	Core (Bus)	2	1	-	3	3		
TOTAL		12	6	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							
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
Technical Elective 1 (CE200x or CE300x)	Core elective	2	1	1	4	3	
AB1301 Business Law	Core (Bus)	2	1	-	3	3	
Bus Track Course 1	Track course (Bus)	3	1	-	4	4	
ET0001 Enterprise & Innovation	GER core					1	
HW0288 Engineering Communication II	GER core	2	-	-	2	2	HW0188, Year 3 standing
TOTAL		14	5	6	25	23	
YEAR 3 SEMESTER 2							
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	

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	-	-	-	-	-	
CZ3007 Compiler Techniques	Core	2	1	1	4	3	CZ2001, CZ2006
CZ4xxx Technical Elective 2	Core elective	2	1	1	4	3	
CZ4xxx Technical Elective 3	Core elective	2	1	1	4	3	
AB1601 Organisational Behaviour and Design	Core (Bus)	2	1	-	3	3	
Bus Track Course 2	Track course (Bus)	3	1	-	4	4	
Bus Track Course 3	Track course (Bus)	3	1	-	4	4	
TOTAL		14	6	3	23	20	
YEAR 4 SEMESTER 2							
CZ4079 Final Year Project	Core	-	-	-	-	8	
CZ3005 Artificial Intelligence	Core	2	1	1	4	3	CZ1003, CZ2001
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	
TOTAL		8	4	4	16	20	
GRAND TOTAL (Years 1 to 4)						149	

+ 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.

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