

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

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

AU requirements

Type	Total No. of AUs
Depth (Core)	96
Breadth (GER-Core + GER-BM + GER-LS)	12
Unrestricted Elective	4
Business Major (Foundation Courses + Track Courses)	27 + 12 = 39
Grand Total	151

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 Inventions and Innovations in Computing	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)						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.

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
CZ2003 Computer Graphics and Visualisation	Core	2	1	1	4	3	CZ1011
CZ2004 Human Computer Interaction	Core	2	1	1	4	3	-
CZ2005 Operating Systems	Core	2	1	1	4	3	CZ1007
AD2101 Management Accounting	Core (Bus)	3	1	-	4	4	
GC0002 Ethics & Moral Reasoning	GER core					1	Online course
TOTAL		15	6	4+1⁺	24	20	
YEAR 2 SEMESTER 2							
CZ2006 Software Engineering	Core	2	1	1	4	3	CZ2002 (can be taken concurrently)
CZ2007 Introduction to Databases	Core	2	1	1	4	3	CZ2001
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
HW0288 Engineering Communication II	GER core	2	-	-	2	2	
AB0901 Principles of Economics: A Singapore Perspective	Core (Bus)	2	1	-	3	3	
TOTAL		12	5	4	21	17	

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	
GC0003 Entrepreneurship & Innovation	GER core					1	
TOTAL		9	4	5	18	17	

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 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	1	-	3	3	
Unrestricted Elective	Unrestricted elective	1	-	-	1	1	
ML0002 Career Power Up! by MLCPS						1	Online course
CZ3029 Professional Attachment	Core	-	-	-	-	4	
TOTAL		11	4	3	19	21	

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)	2	1	-	3	3	
Bus Track Course 2*	Track course (Bus)	2	1	-	3	3	
TOTAL		10	5	3	18	15	
YEAR 4 SEMESTER 2							
CZ4079 Final Year Project	Core	-	-	-	-	8	Online course
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)	2	1	-	3	3	
Bus Track Course 4*	Track course (Bus)	2	1	-	3	3	
TOTAL		8	4	2	14	20	
GRAND TOTAL (Years 1 to 4)							151

⁺ 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.

*12 AUs of track courses will comprise 3 to 4 courses depending on the tracks chosen

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 Inventions and Innovations in Computing	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	19	
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)						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.

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
CZ2003 Computer Graphics and Visualisation	Core	2	1	1	4	3	CZ1011
CZ2004 Human Computer Interaction	Core	2	1	1	4	3	-
CZ2005 Operating Systems	Core	2	1	1	4	3	CZ1007
AD2101 Management Accounting	Core (Bus)	3	1	-	4	4	
GC0002 Ethics & Moral Reasoning	GER core					1	Online course
TOTAL		15	6	4+1⁺	24	20	
YEAR 2 SEMESTER 2							
CZ2006 Software Engineering	Core	2	1	1	4	3	CZ2002 (can be taken concurrently)
CZ2007 Introduction to Databases	Core	2	1	1	4	3	CZ2001
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
HW0288 Engineering Communication II	GER core	2	-	-	2	2	
CZ0001 Engineers & Society	GER core	2	1	-	3	3	
AB0901 Principles of Economics: A Singapore Perspective	Core (Bus)	2	1	-	3	3	
TOTAL		14	6	4	24	20	

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
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)	2	1	-	3	3	
GC0003 Entrepreneurship & Innovation	GER core					1	
TOTAL		11	5	6	22	20	

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 2							
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)	2	1	-	3	3	
Bus Track Course 3*	Track course (Bus)	2	1	-	3	3	
TOTAL		12	6	3	21	18	

YEAR 4 SEMESTER 1							
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	
Bus Track Course 4*	Track course (Bus)	2	1	-	3	3	
TOTAL		10	5	4	19	23	
YEAR 4 SEMESTER 2							
ML0002 Career Power Up! by MLCPS						1	Online course (to be taken with PI)
CZ3079 Professional Internship	Core	-	-	-	-	8	Year 3 standing Students can opt to do PI in Year 3 Sem 2
TOTAL		-	-	-	-	9	
GRAND TOTAL (Years 1 to 4)						151	

⁺ 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.

*12 AUs of track courses will comprise 3 to 4 courses depending on the tracks chosen