

**AY2020-21 CURRICULUM FOR COMPUTER SCIENCE  
FOR POLYTECHNIC STUDENTS WITH EXEMPTIONS**

Last Updated : 5-Nov-21

**Option 1: 3-year Programme including Professional Internship**

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	Core	MPE	General Education Requirement (GER)			UE	Total AU
			Core	Prescribed Elective (PE)			
				BM	LA		
Exemption <sup>o</sup>	0	6 <sup>o</sup>	0	6 <sup>o</sup>		15 <sup>o</sup>	27 <sup>o</sup>
1	29	0	12	0	0	3	44
2	31	0	0	0	0	0	31
3	24	12	2	0	0	0	38
<b>Total</b>	<b>84</b>	<b>18</b>	<b>14</b>	<b>9</b>		<b>15</b>	<b>140 (113*)</b>

\*With exemption of 27AU

**Option 1: 3-year Programme including Professional Internship**

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
MH1810	Mathematics I	C	3	
MH1812	Discrete Mathematics	C	3	
CZ1103	Introduction to Computational Thinking & Programming	C	3	
CZ1105	Digital Logic (Engineering Fundamentals 1)	C	3	
CZ1113	Physics for Computing	C	2	
HW0188	Effective Communication	GER-Core	2	HW0111 (can be
	Science & Technology	GER-PE	3	
GC0001	Sustainability: Seeing Through the Haze	GER-Core	1	online course
HY0001	Ethics & Moral Reasoning	GER-Core	1	online course
			<b>21</b>	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ1104	Linear Algebra for Computing	C	3	MH1810
CZ1106	Computer Organisation and Architecture	C	3	CZ1105 (can be taken
CZ1107	Data Structures and Algorithms	C	3	CZ1103
	Engineering Fundamentals 2	C	3	
CZ1115	Introduction to Data Science and Artificial Intelligence	GER-Core	3	CZ1103
CZ2100	Probability and Statistics for Computing	C	3	MH1810
EG0001	Engineers and Society	GER-Core	3	
ET0001	Enterprise & Innovation	GER-Core	1	online course
ML0003	Kickstart your Career Success	GER-Core	1	online course
			<b>23</b>	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ2101	Algorithm Design and Analysis	C	3	CZ1107, MH1812
CZ2002	Object Oriented Design & Programming	C	3	CZ1103
CZ2005	Operating Systems	C	3	CZ1106, CZ1107
CZ2006	Software Engineering	C	3	CZ2002 (can be taken

CZ2007	Introduction to Databases	C	3	CZ2101 (can be taken
CZ3006	Net Centric Computing / Computer Networks	C	3	CZ1104, CZ2100
CZ3001	Advanced Computer Architecture	C	3	CZ1106
			<b>21</b>	

#### YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite
CZ3079	Professional Internship	C	10	ML0003, Year 3
			<b>10</b>	

#### YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
CZ3004	Multidisciplinary Design Project	C	4	Year 3 standing
CZ3005	Artificial Intelligence	C	3	CZ1107, CZ1115,
CZ4062	Computer Security	C	3	CZ2005
CZ4XXX	Prescribed Elective 1	MPE	3	Depends on MPE
CZ4XXX	Prescribed Elective 2	MPE	3	Depends on MPE
HW0288	Engineering Communication	GER-Core	2	HW0188, Year 3
CZ4079	Final Year Project	C	4	Final Year Standing
			<b>22</b>	

#### YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite
CZ4079	Final Year Project (cont)	C	4	Final Year Standing
CZ4031	Database System Principles	C	3	CZ2007
CZ3002	Advanced Software Engineering	C	3	CZ2006
CZ4XXX	Prescribed Elective 3	MPE	3	Depends on MPE
CZ4XXX	Prescribed Elective 4	MPE	3	Depends on MPE
			<b>16</b>	

Total AU for Graduation : **113**

#### Option 2: 3.5-year Programme including Professional Internship

##### SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Core	MPE	General Education Requirement (GER)				UE	Total AU
			Core	Prescribed Elective (PE)				
				BM	LA	STS		
Exemption°	0	6°	0	6°			15°	27°
1	32	0	10	0	0	3	0	45
2	31	0	1	0	0	0	0	32
3	17	6	3	0	0	0	0	26
4	4	6	0	0	0	0	0	10
<b>Total</b>	<b>84</b>	<b>18</b>	<b>14</b>	<b>3</b>			<b>15</b>	<b>140</b>

#### Option 2: 3.5-year Programme including Professional Internship

##### YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
MH1810	Mathematics I	C	3	
MH1812	Discrete Mathematics	C	3	
CZ1103	Introduction to Computational Thinking & Programming	C	3	

CZ1105	Digital Logic (Engineering Fundamentals 1)	C	3	
CZ1113	Physics for Computing	C	2	
HW0188	Effective Communication	GER-Core	2	HW0111 (can be
	Science & Technology	GER-PE	3	
GC0001	Sustainability: Seeing Through the Haze	GER-Core	1	online course
HY0001	Ethics & Moral Reasoning	GER-Core	1	online course
			<b>21</b>	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ1104	Linear Algebra for Computing	C	3	MH1810
CZ1106	Computer Organisation and Architecture	C	3	CZ1105 (can be taken
CZ1107	Data Structures and Algorithms	C	3	CZ1103
	Engineering Fundamentals 2	C	3	
CZ1115	Introduction to Data Science and Artificial Intelligence	GER-Core	3	CZ1103
CZ2100	Probability and Statistics for Computing	C	3	MH1810
EG0001	Engineers and Society	GER-Core	3	
			<b>21</b>	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ2101	Algorithm Design and Analysis	C	3	CZ1107, MH1812
CZ2002	Object Oriented Design & Programming	C	3	CZ1103
CZ2005	Operating Systems	C	3	CZ1106, CZ1107
CZ2006	Software Engineering	C	3	CZ2002 (can be taken
CZ2007	Introduction to Databases	C	3	CZ2101 (can be taken
ML0003	Kickstart your Career Success	GER-Core	1	online course
			<b>16</b>	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ3004	Multidisciplinary Design Project	C	4	CZ2101, CZ2006
CZ3006	Net Centric Computing	C	3	CZ1104, CZ2100
CZ3001	Advanced Computer Architecture	C	3	CZ1106
CZ3005	Artificial Intelligence	C	3	CZ1107, CZ115,
CZ3002	Advanced Software Engineering	C	3	CZ2006
			<b>16</b>	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ3179	Professional Internship	C	10	ML0003, Year 3
			<b>10</b>	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CZ4079	Final Year Project	C	4	Final Year Standing
CZ4031	Database System Principles	C	3	CZ2007
CZ4XXX	Prescribed Elective 1	MPE	3	Depends on MPE
CZ4XXX	Prescribed Elective 2	MPE	3	Depends on MPE

HW0288	Engineering Communication	GER-Core	2	HW0188, Year 3
ET0001	Enterprise & Innovation	GER-Core	1	online course
			<b>16</b>	

<b>YEAR 4 SEMESTER 1</b>				
<b>Course Code</b>	<b>Course Title</b>	<b>Type</b>	<b>AU</b>	<b>Pre-Requisite</b>
CZ4079	Final Year Project (cont)	C	4	Final Year Standing
CZ4062	Computer Security	C	3	CZ2005
CZ4XXX	Prescribed Elective 3	MPE	3	Depends on MPE
CZ4XXX	Prescribed Elective 4	MPE	3	Depends on MPE
			<b>13</b>	
Total AU for Graduation :			<b>113</b>	