

# **CURRICULUM STRUCTURE**

## ELECTRONICS & COMPUTER ENGINEERING TECHNOLOGY PROGRAMME OUTCOMES (PLO)

PLO1	Ability to apply knowledge of mathematics, science, engineering fundamentals and engineering specialization principles to defined and applied engineering procedures, processes, systems or methodologies in the field of computer/industrial electronics/telecommunication/electronics engineering technology.
PLO2	Ability to solve broadly-defined engineering problems systematically to reach substantiated conclusions, using tools and techniques appropriate to computer/industrial electronics/telecommunication/electronics engineering technology.
PLO3	Ability to design solutions for broadly-defined engineering technology problems, and to design systems, components, or processes to meet specified needs with appropriate consideration for public health and safety, as well as cultural, societal, environmental and sustainability concerns.
PLO4	Ability to plan and conduct experimental investigations of broadly-defined problems, using data from relevant sources.
PLO5	Ability to select and apply appropriate techniques, resources and modern engineering tools, with an understanding of their limitations.
PLO6	Ability to demonstrate an awareness of and consideration for societal, health, safety, legal and cultural issues and their consequent responsibilities.
PLO7	Ability to demonstrate an understanding of the impact of engineering technology practices, taking into account the need for sustainable development.
PLO8	Ability to demonstrate an understanding of professional ethics, responsibilities and norms of engineering technology practices.
PLO9	Ability to function effectively as individuals, and as members or leaders in diverse technical teams.
PLO10	Ability to communicate effectively with the engineering community and society at large.
PLO11	Ability to demonstrate an awareness of project management, business practices and entrepreneurship.
PLO12	Ability to recognize the need for professional development and to engage in independent and lifelong learning.

## Bachelor of Computer Engineering Technology (Computer Systems) with Honours (BERC)

	CODE	COURSE	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BELG 1013	Matematik Teknikal <i>Technical Mathematics</i>	P	3	
	BERE 1013	Fizik Teknikal <i>Technical Physics</i>	P	3	
	BERT 1303	Pengenalan Litar Elektrik <i>Electrical Circuit Fundamental</i>	K	3	
	BERC 1323	Bengkel Kejuruteraan Komputer I <i>Computer Engineering Workshop I</i>	K	3	
	BERC 1313	Asas Pengaturcaraan <i>Programming Fundamental</i>	K	3	
	BLLW 1142	Bahasa Inggeris untuk Akademik <i>English for Academic Purposes</i>	W	2	
	BLHW 1762	Falsafah Dan Isu Semasa <i>Philosophy and Current Issues</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>19</b>	
SEMESTER 2	BMIG 1023	Kalkulus untuk Teknologi <i>Calculus for Technology</i>	P	3	
	BERC 1303	Asas Elektronik <i>Basic Electronics</i>	K	3	
	BERC 1333	Bengkel Kejuruteraan Komputer II <i>Computer Engineering Workshop II</i>	K	3	
	BERC 2373	Organisasi & Senibina Komputer <i>Computer Organization &amp; Architecture</i>	K	3	
	**BERC 1353	Pengaturcaraan Lanjutan <i>Advanced Programming</i>	K	3	BERC 1313
	BKKX XXX1	Ko-kurikulum I <i>Co-curriculum I</i>	W	1	

	BLHW 2772	Penghayatan Etika dan Peradaban <b>(untuk pelajar tempatan)</b> <i>Appreciation of Ethics and Civilisation</i> <b>(for local students)</b>			
	BLLW 1172	Bahasa Melayu Komunikasi 1 <b>(untuk pelajar antarabangsa)</b> <i>Malay Language for Communication 1</i> <b>(for international students)</b>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>18</b>	
<b>INTERNATIONAL STUDENT</b>				<b>18</b>	
	<b>CODE</b>	<b>COURSE</b>	<b>CATEGORY</b>	<b>CREDIT</b>	<b>PRE-REQUISITE</b>
<b>SEMESTER 3</b>	BMKG 2033	Kalkulus Gunaan <i>Applied Calculus</i>	P	3	
	BERC 2363	Struktur Data & Algoritma <i>Data Structure &amp; Algorithm</i>	K	3	
	BERT 2333	Prinsip Komunikasi <i>Communication Principle</i>	K	3	
	BERT 2423	Isyarat & Sistem <i>Signal &amp; Systems</i>	K	3	
	BERE 2373	Teknologi Elektrik <i>Electrical Technology</i>	K	3	
	BLLW 2152	Penulisan Akademik <i>Academic Writing</i>	W	2	
	BKKX XXX1	Ko-kurikulum II <i>Co-curriculum II</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
<b>SEMESTER 4</b>	BERG 2043	Kaedah Statistik <i>Statistical Methods</i>	P	3	
	BERC 1343	Sistem Pengurusan Pangkalan Data <i>Database Management System</i>	K	3	
	BERC 2383	Sistem & Rangkaian Komputer <i>Computer Network &amp; System</i>	K	3	
	BERC 2393	Teknologi Internet & Multimedia <i>Internet Technology &amp; Multimedia</i>	K	3	

	BERC 2403	Elektronik Digital <i>Digital Electronic</i>	K	3	
	BLLW 1XX2	Bahasa Ketiga <i>Third Language</i>	W	2	
	BLHC 4032	Pemikiran Kritis dan Kreatif <b>(untuk pelajar tempatan)</b> <i>Critical and Creative Thinking</i> <b>(for local students)</b>	W	2	
	BLHW 2752	Kebudayaan Malaysia <b>(untuk pelajar antarabangsa)</b> <i>Malaysian Culture</i> <b>(for international students)</b>			
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>19</b>	
<b>INTERNATIONAL STUDENT</b>				<b>19</b>	
	<b>CODE</b>	<b>COURSE</b>	<b>CATEGORY</b>	<b>CREDIT</b>	<b>PRE-REQUISITE</b>
<b>SEMESTER 5</b>	BERC 3453	Sistem Pengoperasian <i>Operating Systems</i>	K	3	
	BERU3803	Rekabentuk Projek Berintegrasi <i>Integrated Design Project</i>	K	3	
	**BERT 3373	Pemprosesan Isyarat Digital <i>Digital Signal Processing</i>	K	3	BERT 2423
	**BERC 3433	Komputer & Keselamatan Rangkaian <i>Computer &amp; Network Security</i>	K	3	BERC 2383
	BERC 3444	Teknologi Mikropemproses & Mikropengawal <i>Microprocessor &amp; Microcontroller Technology</i>	K	4	
	BLLW 3162	Bahasa Inggeris untuk Interaksi Profesional <i>English for Professional Interaction</i>	W	2	
	***BLHX XXX2	Elektif Umum <i>General Elective</i>	E	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>20</b>	
	BERU 3764	Projek Sarjana Muda I <i>Bachelor Degree Project I</i>	K	4	
	BERC 3463	Kejuruteraan Perisian	K	3	

		<i>Software Engineering</i>			
	BERC 3423	Kejuruteraan Sistem Komputer <i>Computer System Engineering</i>	K	3	
	BTMW 4012	Keusahawanan Teknologi <i>Technology Entrepreneurship</i>	W	2	
	*BERC 48X3	Elektif I <i>Elective I</i>	E	3	
	*BERC 48X3	Elektif II <i>Elective II</i>	E	3	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
	<b>CODE</b>	<b>COURSE</b>	<b>CATEGORY</b>	<b>CREDIT</b>	<b>PRE-REQUISITE</b>
SEMESTER 7	BERU 4053	Etika Kejuruteraan & KKPP <i>Engineering Ethics &amp; OSHE</i>	P	3	
	**BERU 4774	Projek Sarjana Muda II <i>Bachelor Degree Project II</i>	K	4	BERU 3764
	BERE 4443	Pengurusan Kualiti <i>Quality Management</i>	K	3	
	BERC 4473	Sistem Terbenam <i>Embedded System</i>	K	3	
	*BERC 48X3	Elektif III <i>Elective III</i>	E	3	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>16</b>	
SEMESTER 8	BERU48812	Latihan Industri <i>Industrial Training</i>	K	12	
	<b>TOTAL CREDITS THIS SEMESTER</b>				<b>12</b>
<b>TOTAL REDITS</b>				<b>140</b>	

\*\* Pre-requisite subject

\* For Elective I, II & III, students may choose any THREE (3) subjects from the list below:

NO.	CODE	SUBJECT
1	BERC 4803	Rekabentuk & Fabrikasi VLSI <i>VLSI Design &amp; Fabrication</i>
2	BERC 4813	Pengantaramukaan Komputer <i>Computer Interfacing</i>
3	BERC 4823	Pemprosesan Imej & Video <i>Image &amp; Video Processing</i>
4	BERC 4833	Sistem Masa Nyata <i>Real Time Systems</i>
5	BERC 4843	Pengujian Litar Bersepadu <i>Integrated Circuit Testing</i>
6	BERC 4863	Kepintaran Buatan <i>Artificial Intelligence</i>

\*\*\* For General elective, students may choose any ONE (1) subject from the list below:

CODE	SUBJECT NAME
BLHW 1722	Falsafah Sains Dan Teknologi <i>Philosophy of Science and Technology</i>
BLHC 4012	Komunikasi Keorganisasian <i>Organizational Communication</i>
BLHH 1032	Psikologi Industri dan Organisasi <i>Industrial Psychology and Organization</i>
BLHC 4022	Kemahiran Perundingan <i>Negotiation Skills</i>
BLHW 2782	Sosiologi Industri <i>Industrial Sociology</i>
BLHW 2792	Integriti dan Anti-Rasuah <i>Integrity and Anti-Corruption</i>

- # Besides the aforementioned curriculum, the Programme offers professional certificate courses as an added value for the students to increase their employability. Students may choose any ONE (1) subject from the following list.

CODE	CERTIFICATE NAME
BERT 2610	Cisco Certified Network Associate Routing & Switching (Preparation)
BERC 2210	IoT Fundamentals: Connecting Things Professional Certification
BERC 2220	IoT Fundamentals: Big Data & Analytics Professional Certification
BERE 3210	Programmable Logic Controller (PLC) Level 1 and Level 2
BERE 4210	SMCT MT1 – Practical Mechatronics 1

Number of credit hours regarding to course category is represented in the table below:

W = University compulsory subjects

P = Program core subjects

K = Course core subjects

E = Elective subjects

Programme P	P	18
Course K	K	81
University Compulsory	W	18
Industrial Training	K	12
Elective	E	11
		140

## Bachelor of Electronics Engineering Technology (Industrial Electronics) with Honours (BERE)

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BELG 1013	Matematik Teknikal <i>Technical Mathematics</i>	P	3	
	BERE 1013	Fizik Teknikal <i>Technical Physics</i>	P	3	
	BERE 1303	Bengkel Kejuruteraan I <i>Engineering Workshop I</i>	K	3	
	BERT 1303	Pengenalan Litar Elektrik <i>Electrical Circuit Fundamental</i>	K	3	
	BERC 1313	Asas Pengaturcaraan <i>Programming Fundamental</i>	K	3	
	BLLW 1142	Bahasa Inggeris untuk Akademik <i>English for Academic Purposes</i>	W	2	
	BKKX XXX1	Kokurikulum I <i>Cocurriculum I</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
SEMESTER 2	BMIG 1023	Kalkulus untuk Teknologi <i>Calculus for Technology</i>	P	3	
	BERE 1313	Bengkel Kejuruteraan II <i>Engineering Workshop II</i>	K	3	
	**BERT 1333	Litar Elektrik Lanjutan <i>Advanced Electrical Circuit</i>	K	3	BERT 1303
	BERE 1323	Pengenalan Elektronik <i>Electronic Fundamentals</i>	K	3	
	**BERC 1353	Pengaturcaraan Lanjutan <i>Advanced Programming</i>	K	3	BERC 1313
	BKKX XXX1	Kokurikulum II <i>Cocurriculum II</i>	W	1	
	BLHW 1762	Falsafah dan Isu-isu Semasa <i>Philosophy and Current Issues</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BMKG 2033	Kalkulus Gunaan <i>Applied Calculus</i>	P	3	
	BERE 2373	Teknologi Elektrik <i>Electrical Technology</i>	K	3	
	**BERE 2333	Peranti Elektronik Analog <i>Analogue Electronic Devices</i>	K	3	BERE 1323
	BERC 2403	Elektronik Digital <i>Digital Electronic</i>	K	3	
	BERE 2343	Lukisan Kejuruteraan <i>Engineering Drawing</i>	K	3	
	BLLW 2152	Penulisan Akademik <i>Academic Writing</i>	W	2	
	BLHC 4032	Pemikiran Kritis dan Kreatif <b>(untuk pelajar tempatan)</b> <i>Critical and Creative Thinking</i> <b>(for local students)</b>	W	2	
BLHW 2752	Kebudayaan Malaysia <b>(untuk pelajar antarabangsa)</b> <i>Malaysian Culture</i> <b>(for international students)</b>				
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>19</b>	
<b>INTERNATIONAL STUDENT</b>				<b>19</b>	
SEMESTER 4	BERG 2043	Kaedah Statistik <i>Statistical Methods</i>	P	3	
	BERT 2333	Prinsip Komunikasi <i>Communication Principle</i>	K	3	
	BERE 2353	Sistem Elektronik <i>Electronic Systems</i>	K	3	
	BERE 2363	Prinsip Kawalan <i>Control Principles</i>	K	3	
	BERC 3483	Fundamental of Microprocessor & Microcontroller <i>Asas Mikropemproses &amp; Pengawal Mikro</i>	K	3	

	BLHW 2772	Penghayatan Etika dan Peradaban <b>(untuk pelajar tempatan)</b> <i>Appreciation of Ethics and Civilisation</i> <b>(for local students)</b>	W	2	
	BLLW 1172	Bahasa Melayu Komunikasi 1 <b>(untuk pelajar antarabangsa)</b> <i>Malay Language for Communication 1</i> <b>(for international students)</b>			
	BLLW 1XX2	Bahasa Ketiga <i>Third Language</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>19</b>	
<b>INTERNATIONAL STUDENT</b>				<b>19</b>	
	<b>CODE</b>	<b>SUBJECT</b>	<b>CATEGORY</b>	<b>CREDIT</b>	<b>PRE-REQUISITE</b>
<b>SEMESTER 5</b>	BERE 3384	Kawalan Industri <i>Industrial Control</i>	K	4	
	BERE 3424	Aplikasi Sistem Terbenam <i>Embedded Systems Application</i>	K	4	
	BERE 3394	Proses Instrumentasi <i>Process Instrumentation</i>	K	4	
	BERE 3404	Perolehan Data & Penderia <i>Data Acquisition &amp; Sensors</i>	K	4	
	BLLW 31 62	Bahasa Inggeris untuk Interaksi Profesional <i>English for Professional Interaction</i>	W	2	
	***BLHX XXX2	Elektif Umum <i>General Elective</i>	E	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>20</b>	
	BERE 3414	Pneumatik Perindustrian <i>Industrial Pneumatics</i>	K	4	

SEMESTER 6	BERU 3803	Projek Rekabentuk Bersepadu <i>Integrated Design Project</i>	K	3	
	BERU 3764	Projek Sarjana Muda I <i>Bachelor Degree Project I</i>	K	4	
	BTMW 4012	Keusahawanan Teknologi <i>Technology Entrepreneurship</i>	W	2	
	*BEEEX XXX4	Elektif I <i>Elective I</i>	E	4	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>17</b>	
	<b>CODE</b>	<b>SUBJECT</b>	<b>CATEGORY</b>	<b>CREDIT</b>	<b>PRE-REQUISITE</b>
SEMESTER 7	BERU 4053	Etika Kejuruteraan & KKPP <i>Engineering Ethics &amp; OSHE</i>	P	3	
	BERE 4434	Automasi Perindustrian <i>Industrial Automation</i>	K	4	
	BERE 4443	Pengurusan Kualiti <i>Quality Management</i>	K	3	
	**BERU 4774	Projek Sarjana Muda II <i>Bachelor Degree Project II</i>	K	4	BERU 3764
	*BERX XXX4	Elektif II <i>Elective II</i>	E	4	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
SEMESTER 8	BERU48812	Latihan Industri <i>Industrial Training</i>	K	12	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>12</b>	
<b>TOTAL CREDITS</b>				<b>141</b>	

\*\*Pre-requisite subject

\* For Elective I students may choose any ONE (1) subject from the list below:

NO.	CODE	SUBJECT
1	BERE 3804	Elektronik Kuasa <i>Power Electronic</i>
2	BERC 4814	Pengantaramukaan Komputer <i>Computer Interfacing</i>
3	BERE 3814	Proses Perindustrian Semikonduktor <i>Semiconductor Industrial Process</i>
4	BERE 3824	Aplikasi Kepintaran Buatan <i>Artificial Intelligence Application</i>

\* For Elective II, students may choose any ONE (1) subject from the list below:

NO.	CODE	SUBJECT
1	BERE 4814	Robotik Perindustrian <i>Industrial Robotic</i>
2	BERE 4824	Pemacu & Kawalan Elektrik <i>Electrical Drives &amp; Control</i>
3	BERC 4844	Pengujian Litar Bersepadu <i>IC Testing</i>

\*\*\* For General elective, students may choose any ONE (1) subject from the list below:

CODE	SUBJECT NAME
BLHW 1722	Falsafah Sains Dan Teknologi <i>Philosophy of Science and Technology</i>
BLHC 4012	Komunikasi Keorganisasian <i>Organizational Communication</i>
BLHH 1032	Psikologi Industri dan Organisasi <i>Industrial Psychology and Organization</i>
BLHC 4022	Kemahiran Perundingan <i>Negotiation Skills</i>
BLHW 2782	Sosiologi Industri <i>Industrial Sociology</i>
BLHW 2792	Integriti dan Anti-Rasuah <i>Integrity and Anti-Corruption</i>

- # Besides the aforementioned curriculum, the Programme offers professional certificate courses as an added value for the students to increase their employability. Students may choose any ONE (1) subject from the following list.

CODE	CERTIFICATE NAME
BERT 3100	Cisco Certified Network Associate Routing & Switching (Preparation)
BERC 2210	IoT Fundamentals: Connecting Things Professional Certification
BERC 2220	IoT Fundamentals: Big Data & Analytics Professional Certification
BERE 3210	Programmable Logic Controller (PLC) Level 1 and Level 2
BERE 4210	SMCT MT1 – Practical Mechatronics 1

Number of credit hours regarding to course category is represented in the table below:

W = University compulsory subjects

P = Program core subjects

K = Course core subjects

E = Elective subjects

Programme P	P	18
Course K	K	83
University Compulsory	W	18
Industrial Training	K	12
Elective	E	10
		141

## Bachelor of Electronics Engineering Technology (Telecommunications) with Honours (BERT)

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BELG 1013	Matematik Teknikal <i>Technical Mathematics</i>	P	3	
	BERE 1013	Fizik Teknikal <i>Technical Physics</i>	P	3	
	BERT 1303	Pengenalan Litar Elektrik <i>Electrical Circuit Fundamental</i>	K	3	
	BERE 1303	Bengkel Kejuruteraan I <i>Engineering Workshop I</i>	K	3	
	BLLW 1142	Bahasa Inggeris untuk Akademik <i>English for Academic Purposes</i>	W	2	
	BLHW 1762	Falsafah dan Isu Semasa <i>Philosophy and Current Issues</i>	W	2	
	BKKX XXX1	Kokurikulum I <i>Cocurriculum I</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>17</b>	
SEMESTER 2	BMIG 1023	Kalkulus untuk Teknologi <i>Calculus for Technology</i>	P	3	
	BERC 1313	Asas Pengaturcaraan <i>Programming Fundamental</i>	K	3	
	BERE 1313	Bengkel Kejuruteraan II <i>Engineering Workshop II</i>	K	3	
	**BERT 1333	Litar Elektrik Lanjutan <i>Advanced Electrical Circuit</i>	K	3	BERT 1303
	BERE 1323	Pengenalan Elektronik <i>Electronic Fundamentals</i>	K	3	
	BERE 2373	Teknologi Elektrik <i>Electrical Technology</i>	K	3	
	BLHW 2772	Penghayatan Etika dan Peradaban <b>(untuk pelajar tempatan)</b> <i>Appreciation of Ethics and Civilisation (for local students)</i>	W	2	
	BLLW 1172	Bahasa Melayu Komunikasi 1 <b>(untuk pelajar antarabangsa)</b> <i>Malay Language for Communication 1 (for international students)</i>			
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>20</b>	
<b>INTERNATIONAL STUDENT</b>				<b>20</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BMKG 2033	Kalkulus Gunaan <i>Applied Calculus</i>	P	3	
	**BERE 2333	Peranti Elektronik Analog <i>Analogue Electronic Devices</i>	K	3	BERE 1323
	BERC 2403	Elektronik Digital <i>Digital Electronic</i>	K	3	
	BERE 2363	Prinsip Kawalan <i>Control Principles</i>	K	3	
	BERT 2333	Prinsip Komunikasi <i>Communication Principle</i>	K	3	
	BLLW 2152	Penulisan Akademik <i>Academic Writing</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>17</b>	
SEMESTER 4	BERG 2043	Kaedah Statistik <i>Statistical Methods</i>	P	3	
	BERE 2353	Sistem Elektronik <i>Electronic Systems</i>	K	3	
	BERT 2324	Komunikasi & Rangkaian Data <i>Data Communication &amp; Networking</i>	K	4	
	**BERT 3403	Komunikasi Digital <i>Digital Communication</i>	K	3	BERT 2333
	BERT 2423	Isyarat & Sistem <i>Signal &amp; Systems</i>	K	3	
	BLLW 1XX2	Bahasa Ketiga <i>Third Language</i>	W	2	
	BKKX XXX1	Kokurikulum II <i>Cocurriculum II</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>19</b>	
<b>INTERNATIONAL STUDENT</b>				<b>19</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BERT 3353	Sistem Telekomunikasi <i>Telecommunication System</i>	K	3	
	BERC 3483	Asas Mikropemproses & Mikropengawal <i>Fundamental of Microprocessor &amp; Microcontroller</i>	K	3	
	BERT 3363	Elektronik Telekomunikasi <i>Telecommunication Electronic</i>	K	3	
	BERT 3373	Pemprosesan Isyarat Digital <i>Digital Signal Processing</i>	K	3	
	BERT 3383	Elektromagnetik <i>Electromagnetic</i>	K	3	
	BTMW 4012	Keusahawanan Teknologi <i>Technology Entrepreneurship</i>	W	2	
	BLLW 3162	Bahasa Inggeris untuk Interaksi Profesional <i>English for Professional Interaction</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>19</b>	
SEMESTER 6	BERU 3803	Projek Rekabentuk Berintegrasi <i>Integrated Design Project</i>	K	3	
	BERE 4443	Pengurusan Kualiti <i>Quality Management</i>	K	3	
	BERT 3393	Sistem Pensuisan Telekomunikasi <i>Telecommunication Switching System</i>	K	3	
	BERU 3764	Projek Sarjana Muda I <i>Bachelor Degree Project I</i>	K	4	
	BERT 3414	Teknik FR & Gelombang Mikro <i>RF Technique &amp; Microwave</i>	K	4	
	BLHC 4032	Pemikiran Kritis dan Kreatif <b>(untuk pelajar tempatan)</b> <i>Critical and Creative Thinking</i> <b>(for local students)</b>	W	2	

	BLHW 2752	Kebudayaan Malaysia <b>(untuk pelajar antarabangsa)</b> <i>Malaysian Culture</i> <b>(for international students)</b>			
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>19</b>	
	<b>CODE</b>	<b>SUBJECT</b>	<b>CATEGORY</b>	<b>CREDIT</b>	<b>PRE-REQUISITE</b>
SEMESTER 7	BERU 4053	Etika Kejuruteraan & KKPP <i>Engineering Ethics &amp; OSHE</i>	P	3	
	**BERU 4774	Projek Sarjana Muda II <i>Bachelor Degree Project II</i>	K	4	BERU 3764
	*BERT 48X3	Elektif I <i>Elective I</i>	E	3	
	*BERT 48X3	Elektif II <i>Elective II</i>	E	3	
	*BERT 48X3	Elektif III <i>Elective III</i>	E	3	
	***BLHW XXX2	Elektif Umum <i>General Elective</i>	E	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
SEMESTER 8	BERU 48812	Latihan Industri <i>Industrial Training</i>	K	12	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>12</b>	
<b>TOTAL CREDITS</b>				<b>141</b>	

\*\* Pre-requisite subject

\* For Elective I, II and III students may choose any THREE (3) subjects from the list below:

NO.	CODE	SUBJECT
1	BERT 4803	Komunikasi Satelit <i>Satellite Communication</i>
2	BERT 4813	Komunikasi Mudah Alih <i>Mobile Communication</i>
3	BERT 4823	Komunikasi Optik & Opto Elektronik <i>Optical Communications &amp; Optoelectronic</i>
4	BERT 4833	Kejuruteraan Antena <i>Antenna Engineering</i>
5	BERC 4863	Kepintaran Buatan <i>Artificial Intelligence</i>

\*\*\* For General elective, students may choose any ONE (1) subject from the list below:

CODE	SUBJECT NAME
BLHW 1722	Falsafah Sains dan Teknologi <i>Philosophy of Science and Technology</i>
BLHC 4012	Komunikasi Keorganisasian <i>Organizational Communication</i>
BLHH 1032	Psikologi Industri dan Organisasi <i>Industrial and Organizational Psychology</i>
BLHC 4022	Kemahiran Perundingan <i>Negotiation Skills</i>
BLHW 2782	Sosiologi Industri <i>Industrial Sociology</i>
BLHW 2792	Integriti dan Anti-Rasuah <i>Integrity and Anti-Corruption</i>

- # Besides the aforementioned curriculum, the Programme offers professional certificate subjects as an added value for the students to increase their employability. Students may choose any ONE (1) subject from the following list.

CODE	CERTIFICATE NAME
BITS 2610	Cisco Certified Network Associate Routing & Switching (Preparation)
BERC 2210	IoT Fundamentals: Connecting Things Professional Certification
BERC 2220	IoT Fundamentals: Big Data & Analytics Professional Certification
BERE 3210	Programmable Logic Controller (PLC) Level 1 and Level 2
BERE 4210	SMCT MT1 – Practical Mechatronics 1

Number of credit hours regarding to subject category is represented in the table below:

W = University compulsory subjects

P = Program core subjects

K = Course core subjects

E = Elective subjects

Programme P	P	18
Course K	K	82
University Compulsory	W	18
Industrial Training	K	12
Elective	E	11
		141

## Bachelor of Electronic Engineering Technology with Honours (BERZ)

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BELG 1013	Matematik Teknikal <i>Technical Mathematics</i>	P	3	
	BERE 1013	Fizik Teknikal <i>Technical Physics</i>	P	3	
	BERT 1303	Pengenalan Litar Elektrik <i>Electrical Circuit Fundamental</i>	K	3	
	BERE 1303	Bengkel Kejuruteraan I <i>Engineering Workshop I</i>	K	3	
	BERC 1313	Asas Pengaturcaraan <i>Programming Fundamental</i>	K	3	
	BLLW 1142	Bahasa Inggeris untuk Akademik <i>English for Academic Purposes</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>17</b>	
SEMESTER 2	BMIG 1023	Kalkulus untuk Teknologi <i>Calculus for Technology</i>	P	3	
	BERZ 1203	Analisa Litar AC <i>AC Circuit Analysis</i>	K	3	
	BERE 1313	Bengkel Kejuruteraan II <i>Engineering Workshop II</i>	K	3	
	BERE 2343	Lukisan Kejuruteraan <i>Engineering Drawing</i>	K	3	
	BERE 1323	Pengenalan Elektronik <i>Electronic Fundamentals</i>	K	3	
	BKKX XXX1	Kokurikulum I <i>Cocurriculum I</i>	W	1	
	BLHW 1762	Falsafah dan Isu-isu Semasa <i>Philosophy and Current Issues</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BMKG 2033	Kalkulus Gunaan <i>Applied Calculus</i>	P	3	
	**BERE 2333	Peranti Elektronik Analog <i>Analogue Electronic Devices</i>	K	3	BERE 1323
	BERC 2403	Elektronik Digital <i>Digital Electronic</i>	K	3	
	BERT 2423	Isyarat & Sistem <i>Signal &amp; Systems</i>	K	3	
	BERZ 1213	Instrumentasi & Pengukuran <i>Instrumentation &amp; Measurement</i>	K	3	
	BLLW 2152	Penulisan Akademik <i>Academic Writing</i>	W	2	
	BKKX XXX1	Kokurikulum II <i>Cocurriculum II</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
SEMESTER 4	BERG 2043	Kaedah Statistik <i>Statistical Methods</i>	P	3	
	BERT 2333	Prinsip Komunikasi <i>Communication Principle</i>	K	3	
	BERE 2353	Sistem Elektronik <i>Electronic Systems</i>	K	3	
	BERE 2364	Prinsip Kawalan <i>Control Principles</i>	K	4	
	BERC 2383	Sistem & Rangkaian Komputer <i>Computer Network &amp; System</i>	K	3	
	BLLW 1XX2	Bahasa Ketiga <i>Third Language</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>18</b>	
<b>INTERNATIONAL STUDENT</b>				<b>18</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BERT 3383	Elektromagnetik <i>Electromagnetic</i>	K	3	
	BERU 3803	Rekabentuk Projek Berintegrasi <i>Integrated Design Project</i>	K	3	
	BERZ 2404	Teknologi Mikropengawal <i>Microcontroller Technology</i>	K	4	
	**BERT 3373	Pemprosesan Isyarat Digital <i>Digital Signal Processing</i>	K	3	BERT 2423
	BLHW 2772	Penghayatan Etika dan Peradaban <b>(untuk pelajar tempatan)</b> <i>Appreciation of Ethics and Civilisation</i> <b>(for local students)</b>	W	2	
	BLLW 1172	Bahasa Melayu Komunikasi 1 <b>(untuk pelajar antarabangsa)</b> <i>Malay Language for Communication 1</i> <b>(for international students)</b>			
	*BERX XXX3	Elektif I <i>Elective I</i>	E	3	
***BLHX XXX2	Elektif Umum <i>General Elective</i>	E	2		
<b>TOTAL CREDITS THIS SEMESTER</b>					
<b>LOCAL STUDENT</b>				<b>20</b>	
<b>INTERNATIONAL STUDENT</b>				<b>20</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 6	BERE 3404	Perolehan Data & Penderia <i>Data Acquisition &amp; Sensors</i>	K	4	
	BERU 3764	Projek Sarjana Muda I <i>Bachelor Degree Project I</i>	K	4	
	BLLW 3162	Bahasa Inggeris untuk Interaksi Profesional <i>English for Professional Interaction</i>	W	2	
	BTMW 4012	Keusahawanan Teknologi <i>Technology Entrepreneurship</i>	W	2	
	*BERX XXX3	Elektif II <i>Elective II</i>	E	3	
	*BERX XXX3	Elektif III <i>Elective III</i>	E	3	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 7	BERU 4053	Etika Kejuruteraan & KKPP <i>Engineering Ethics &amp; OSHE</i>	P	3	
	BERE 3424	Aplikasi Sistem Terbenam <i>Embedded Systems Application</i>	K	4	
	BERE 4443	Pengurusan Kualiti <i>Quality Management</i>	K	3	
	**BERU 4774	Projek Sarjana Muda II <i>Bachelor Degree Project II</i>	K	4	BERU 3764
	BLHC 4032	Pemikiran Kritis dan Kreatif <b>(untuk pelajar tempatan)</b> <i>Critical and Creative Thinking</i> <b>(for local students)</b>	W	2	
	BLHW 2752	Kebudayaan Malaysia <b>(untuk pelajar antarabangsa)</b> <i>Malaysian Culture</i> <b>(for international students)</b>			
BLHW 2752	Elektif IV <i>Elective IV</i>	E	3		
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>19</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 8	BERU 48812	Latihan Industri <i>Industrial Training</i>	K	12	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>12</b>	
<b>TOTAL CREDITS</b>				<b>140</b>	

\*\* Pre-requisite subject

\* For Elective I, students may choose any ONE (1) subjects from the list below:

NO.	CODE	SUBJECT
1	BERT 3353	Sistem Telekomunikasi <i>Telecommunication System</i>
2	BERT 3413	Teknik RF & Gelombang Mikro <i>RF Technique &amp; Microwave</i>
3	BERZ 4803	Anatomi & Fisiologi <i>Anatomy &amp; Physiology</i>
4	BERZ 4813	Pengimejan Perubatan dan Pemprosesan Imej <i>Medical Imaging and Image Processing</i>
5	BERZ 4923	Fabrikasi Mikroelektronik <i>Microelectronic Fabrication</i>
6	BERZ 4903	Proses Semikonduktor <i>Semiconductor Process</i>

\* For Elective II & III, students may choose any TWO (2) subjects from the list below:

NO.	CODE	SUBJECT
1	BERT 4813	Komunikasi Mudah Alih <i>Mobile Communication</i>
2	BERT 4833	Kejuruteraan Antena <i>Antenna Engineering</i>
3	BERZ 4823	Peranti Perubatan dan Peranti Instrumentasi <i>Medical Devices and Instrumentation</i>
4	BERZ 4853	Etika, Akta, Piawai & Keselamatan Bioperubatan <i>Biomedical Ethics Acts, Standards &amp; Safety</i>
5	BERZ 4873	Rekabentuk VLSI <i>VLSI Design</i>
6	BERZ 4883	Rekabentuk IC Digital <i>Digital IC Design</i>

\* For Elective IV, students may choose any ONE (1) subjects from the list below:

NO.	CODE	SUBJECT
1	BERT 4803	Komunikasi Satelit <i>Satellite Communication</i>
2	BERZ 4863	Sistem Navigasi Radio <i>Radio Navigation System</i>
3	BERZ 4843	Penyelenggaraan Kejuruteraan Bioperubatan <i>Biomedical Engineering Maintenance</i>
4	BERZ 4833	Biomekanik <i>Biomechanics</i>
5	BERZ 4913	Seni Bina VLSI <i>VLSI Architecture</i>
6	BERZ 4893	Pengujian IC Digital <i>Digital IC Testing</i>
7	BELR 4863	Kepintaran Buatan <i>Artificial Intelligence</i>

\*\*\* For General elective, students may choose any ONE (1) subject from the list below:

CODE	SUBJECT NAME
BLHW 1772	Falsafah Sains Dan Teknologi <i>Philosophy of Science and Technology</i>
BLHC 4012	Komunikasi Organisasi <i>Organizational Communication</i>
BLHC 1032	Psikologi Industri dan Organisasi <i>Industrial and Organizational Psychology</i>
BLHC 4022	Kemahiran Perundingan <i>Negotiation Skills</i>
BLHW 2782	Sosiologi Industri <i>Industrial Sociology</i>
BLHW 2792	Integriti dan Anti-Rasuah <i>Integrity and Anti-Corruption</i>

# Besides the aforementioned curriculum, the Programme offers professional certificate subjects as an added value for the students to increase their employability. Students may choose any ONE (1) subject from the following list.

CODE	CERTIFICATE NAME
BITS 2610	Cisco Certified Network Associate Routing & Switching (Preparation)
BERC 2210	IoT Fundamentals: Connecting Things Professional Certification
BERC 2220	IoT Fundamentals: Big Data & Analytics Professional Certification
BERE 3100	Programmable Logic Controller (PLC) Level 1 and Level 2
BERZ 3100	SMCT MT1 – Practical Mechatronics 1

Number of credit hours regarding to course category is represented in the table below:

W = University compulsory subjects

P = Program core subjects

K = Course core subjects

E = Elective subjects

Programme P	P	18
Course K	K	78
University Compulsory	W	18
Industrial Training	K	12
Elective	E	14
		140

**BACHELOR TECHNOLOGY OF ELECTRONIC INDUSTRIAL AUTOMATION (BERL)  
PROGRAMME EDUCATIONAL OBJECTIVES (PEO)**

1. To produce industrial electronic automation technologist who can perform automation tasks and solve problems in automation work.
2. To produce technopreneurs in electronic related technology.
3. To produce relevant, respected and referred professionals in industrial electronic automation technology.

**BACHELOR OF TECHNOLOGY IN ELECTRONIC INDUSTRIAL AUTOMATION WITH HONOURS (BERL)  
PROGRAMME LEARNING OUTCOMES (PLO)**

PLO1	Apply knowledge of technology fundamentals to broadly-defined procedures processes, systems and methodologies in industrial electronic automation.
PLO2	Able to suggest and apply latest tools and techniques to solve broadly-defined problems.
PLO3	Demonstrate strong analytical and critical thinking skills to solve broadly-defined problems in industrial electronic automation.
PLO4	Able to communicate and articulate effectively in both verbal and written among technologist communities and society at large.
PLO5	Demonstrate understanding of the societal related issues and the consequent responsibilities relevant to broadly-defined technology practices.
PLO6	Recognize the needs for professional development and to engage independent lifelong learning in specialist technologists.
PLO7	Demonstrate an awareness of management and technopreneurship practices in real perspective.
PLO8	Demonstrate professionalism and social and ethical consideration.
PLO9	Demonstrate leadership quality, mentoring and work effectively in diverse teams.

## Bachelor of Technology in Electronic Industrial Automation with Honours (BERL)

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 1	BERL 1112	Technology Skill and Development in Electronic Automation I <i>Kemahiran Teknologi dan Pembangunan Automasi Elektronik I</i>	P	2	
	BERL 1125	Product Development Technology <i>Teknologi Pembangunan Produk</i>	P	5	
	BERL 1135	Flexible Manufacturing System I <i>Sistem Pembuatan Fleksibel I</i>	P	5	
	BERL 1142	Technology System Programming I <i>Pengaturcaraan Sistem Teknologi I</i>	P	2	
	BIPW 1132	Philosophy and Current Issues <i>Falsafah &amp; Isu Semasa</i>	W	2	
	BTMW 1112	Basic Entrepreneurship <i>Asas Keusahawanan</i>	W	2	
	BLLW 1142	English for Academic Purpose <i>Bahasa Inggeris untuk Tujuan Umum</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>20</b>	
SEMESTER 2	BERL 1214	Technology Skill and Development in Electronic Automation II <i>Kemahiran Teknologi dan Pembangunan Automasi Elektronik II</i>	P	4	**BERL 1112
	BERL 1222	Network, Switching and Routing <i>Rangkaian, Pensuisan dan Penghalaan</i>	P	2	
	BERL 1234	Technology System Programming II <i>Pengaturcaraan Sistem Teknologi II</i>	P	4	**BERL 1142
	BERL 1243	Professional Practices <i>Amalan Profesional</i>	P	3	
	BLLW 1XX2	Third Language <i>Bahasa Ketiga</i>	W	2	
	BLLW 2152	Academic Writing <i>Penulisan Akademik</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>17</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 3	BERL 2112	Technology Data Acquisition and Analysis I <i>Teknologi Capaian Data dan Analisis I</i>	P	2	
	BERL 2125	Flexible Manufacturing System II <i>Sistem Pembuatan Fleksibel II</i>	P	5	**BERL 1135
	BERL 2135	Embedded System Programming Tool <i>Peralatan Pengaturcaraan Sistem</i>	P	5	
	BERL 2143	Network Security Implementation <i>Implementasi Rangkaian Keselamatan</i>	P	3	
	BIPW 2132	Appreciation of Ethics and Civilisations <i>Penghayatan Etika &amp; Peradaban</i>	W	2	
	BKKX XXX1	Co-Curricular Activity I <i>Ko-kurikulum I</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>18</b>	
SEMESTER 4	BERL 2214	Technology Data Acquisition and Analysis II <i>Teknologi Capaian Data dan Analisis II</i>	P	4	**BERL 2112
	BERL 2222	Technology System Optimization I <i>Pengoptimuman Sistem Teknologi I</i>	P	2	
	BERL 2232	Application System Development I <i>Pembangunan Sistem Aplikasi I</i>	P	2	
	BERL 2244	Technology Operation Management <i>Pengurusan Operasi Teknologi</i>	P	4	
	BTMW 2124	Technopreneur Capstone I <i>Capstone Teknousahawan I</i>	P	4	
	BKKX XXX1	Co-Curricular Activity II <i>Ko-kurikulum II</i>	W	1	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>17</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SEMESTER 5	BERL 3114	Technology System Optimization II <i>Pengoptimuman Sistem Teknologi II</i>	P	4	**BERL 2222
	BERL 3124	Application System Development II <i>Pembangunan Sistem Aplikasi II</i>	P	4	**BERL 2232
	BERL 3215	System Integration Designing <i>Rekabentuk Sistem Integrasi</i>	P	5	
	BTMW 3134	Technopreneur Capstone II <i>Capstone Teknousahawan II</i>	P	4	**BTMW 2124
	BLLW 3162	English for Professional Interaction <i>Bahasa Inggeris untuk Interaksi Profesional</i>	W	2	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>19</b>	
SEMESTER 6 (WBL)****	BERL 3134	Technology Quality Management <i>Pengurusan Kualiti Teknologi</i>	P	4	
	BERL 3225	Maintenance Management System <i>Sistem Pengurusan Penyelenggaraan</i>	P	5	
	BERP 3234	Final Year Project I <i>Projek Tahun Akhir I</i>	P	4	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>13</b>	

	CODE	SUBJECT	CATEGORY	CREDIT	PRE-REQUISITE
SHORT SEMESTER (WBL)****	BERP 3316	Final Year Project II <i>Projek Tahun Akhir II</i>	P	6	**BERP 3234
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>6</b>	
SEMESTER 7 (WBL)****	BERP 41112	Industrial Training <i>Latihan Industri</i>	P	12	
<b>TOTAL CREDITS THIS SEMESTER</b>				<b>12</b>	
<b>TOTAL CREDITS</b>				<b>120</b>	

\*\* Pre-requisite subject

\*\*\*\* Courses that will be implemented as Work Based Learning (WBL)

**Notes:**

Definition of WBL:

'Work-based learning is the term being used to describe a class of university programmes that bring together universities and work organizations to create new learning opportunities in workplaces.'

(Source: Guidelines To Good Practices: Workbased Learning (GGP: WBL),MQA)

# Besides the aforementioned curriculum, the Programme offers professional certificate subjects as an added value for the students to increase their employability. Students may choose any ONE (1) subject from the following list.

NO.	CODE	CERTIFICATE NAME
1	BITS 2610	Cisco Certified Network Associate Routing & Switching (Preparation)
2	BEEC 2210	IoT Fundamentals: Connecting Things Professional Certification
3	BEEC 2220	IoT Fundamentals: Big Data & Analytics Professional Certification
4	BEEE 3210	Programmable Logic Controller (PLC) Level 1 and Level 2
5	BEEE 4210	SMCT MT1 – Practical Mechatronics 1

Number of credit hours regarding to course category is represented in the table below.

W = university compulsory subjects

P = program core subjects

<b>University Compulsory</b>	<b>W</b>	<b>16</b>
<b>Programme P</b>	<b>P</b>	<b>94</b>
<b>Industrial Training</b>	<b>P</b>	<b>12</b>
		<b>122</b>