

**COURSE CHECKLIST****PROGRAMME: BACHELOR OF SCIENCE IN MICROBIOLOGY WITH HONOURS****University Courses (25 credits)**

	Code	Course Name	Credit Hours	Status
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1	LPE2301	<i>Academic Interaction and Presentation</i>	3(3+0)	
2	LPE2501	<i>Academic Writing</i>	3(3+0)	
3	FCE3204	<i>Kemahiran Berfikir / Thinking Skills</i>	2(2+0)	
4	KOM3403	<i>Pengucapan Awam / Public Oratation</i>	3(3+0)	
5	MGM3180	<i>Asas Keusahawanan / Basic Entrepreneurship</i>	3(2+1)	
6	PRT2009	<i>Pertanian dan Kehidupan / Agriculture and Life</i>	2(1+1)	
7	SKP2101	<i>Kenegaraan Malaysia / Malaysian Nationhood</i>	3(3+0)	
8	SKP2203	<i>Tamadun Islam dan Tamadun Asia / Asian and Islamic Civilizations</i>	2(2+0)	
9	SKP2204	<i>Hubungan Etnik / Ethnic Relation</i>	2(2+0)	
10	XXX1234	<i>Ko-Kurikulum / Co-curriculum</i>	1(0+1)	
11	YYY1234	<i>Ko-Kurikulum / Co-curriculum</i>	1(0+1)	

**Core Course (68 credits)**

	Code	Course Name	Credit Hours	Status
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1	BCH3003	<i>Kimia Biologi / Biological Chemistry</i>	3(2+1)	
2	BCH3106	<i>Teknik dan Pengiraan Asas dalam Biokimia / Basic Techniques and Calculations in Biochemistry</i>	2(1+1)	
3	BCH3107	<i>Biomolekul / Biomolecules</i>	3(3+0)	
4	BCH3108	<i>Enzimologi / Enzymology</i>	4(3+1)	
5	BGY3701	<i>Biostatistik / Biostatistics</i>	3(2+1)	
6	BMY3101	<i>Mikrobiologi I / Microbiology I</i>	4(4+0)	
7	BMY3102	<i>Mikrobiologi II / Microbiology II</i>	4(4+0)	
8	BMY3103	<i>Fisiologi Mikrob / Microbial Physiology</i>	3(3+0)	
9	BMY3201	<i>Teknik Asas Mikrobiologi / Basic Microbiology Techniques</i>	2(0+2)	
10	BMY3202	<i>Teknik Pencirian Mikroorganisma / Techniques in Microbial Characterization</i>	3(0+3)	
11	BMY3203	<i>Teknik Mikrobiologi Lanjutan / Advanced Microbiological Techniques</i>	3(0+3)	

12	BMY4301	Bakteriologi / <i>Bacteriology</i>	3(3+0)	
13	BMY4302	Virologi / <i>Virology</i>	3(3+0)	
14	BMY4303	Mikologi / <i>Mycology</i>	3(3+0)	
15	BMY4304	Imunologi / <i>Imunology</i>	3(3+0)	
16	BMY4310*	Genetik Mikrob / <i>Microbial Genetic</i>	4(3+1)	
17	BMY4901	Latihan Industri / <i>Industrial Training</i>	6(0+6)	
18	BMY4904	Pembelajaran Perkhidmatan dalam Mikrobiologi / <i>Service Learning in Microbiology</i>	1(0+1)	
19	BMY4959	Disertasi Bachelo / <i>Bachelor Dissertation</i>	6(0+6)	
20	BMY4992	Topik Terkini Mikrobiologi / <i>Current Topics in Microbiology</i>	2(0+2)	
21	BSM4301	Bioinformatik / <i>Bioinformatic</i>	3(2+1)	

#### Elective Course (33 credits)

	Code	Course Name	Credits Hours	Status
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<p><b>Pelajar dikehendaki mengambil 21 kredit dari kursus yang tersenarai dalam Kursus Elektif Teras, 6 kredit dalam Elektif Pengurusan dan Kemanusiaan dan 6 kredit dari kumpulan Elektif Bebas termasuk kursus bahasa global. / Student must take 21 credits from the list in Core Elective Course, 6 credits from Management and Humanities Elective and 6 credits from Elective include global language course.</b></p>				
<b>Elektif Teras (21 kredit) / Core Elective (21 credits)</b>				
1	BMY4201	Teknik Khas dalam Mikrobiologi / <i>Specialised Techniques in Microbiology</i>	3(0+3)	
2	BMY4305	Ekologi Mikrob / <i>Microbial Ecology</i>	3(3+0)	
3	BMY4306	Mikrobiologi Patogenik / <i>Pathogenic Microbiology</i>	3(3+0)	
4	BMY4307	Fisiologi Fungus / <i>Fungal Physiology</i>	3(3+0)	
5	BMY4309	Mikrobiologi Makanan Gunaan / <i>Applied Food Microbiology</i>	3(3+0)	
6	BMY4904	Pembelajaran Perkhidmatan dalam Mikrobiologi/ <i>Service Learning in Microbiology</i>	1(0+1)	
7	BCH3109	Metabolisme Karbohidrat / <i>Carbohydrate Metabolism</i>	3(2+1)	
8	BCH3110	Metabolisme Protein dan Asid Nukleik / <i>Protein and Nucleic Acid Metabolism</i>	4(3+1)	
9	BCH3111	Metabolisme Lipid dan Membran / <i>Lipid Metabolism and Membranes</i>	4(3+1)	
10	BCH320	Analisis Biomolekul / <i>Analysis of Biomolecules</i>	2(1+1)	
11	BCH4301	Biokimia Tumbuhan / <i>Plant Biochemistry</i>	3(3+0)	
12	BCH4302	Manipulasi Genetik Tumbuhan / <i>Plant Genetic Manipulation</i>	3(2+1)	

13	BCH4303	Aplikasi Biokimia Dalam Industri / <i>Industrial Applications of Biochemistry</i>	3(3+0)	
14	BCH4304	Biokimia Makanan / <i>Food Biochemistry</i>	3(3+0)	
15	BCH4305	Biokimia Pemakanan / <i>Nutritional Biochemistry</i>	3(3+0)	
16	BCH4307	Biokimia Alam Sekitar / <i>Environmental Biochemistry</i>	3(3+0)	
17	BSM3104	Prinsip Kultur Sel dan Tisu / <i>Principles of Cell and Tissue Culture</i>	3(2+1)	
18	BSM4601	Kejuruteraan Protein / <i>Protein Engineering</i>	4(3+1)	
19	BTC3002	Komersialisasi dan Isu Semasa Bioteknologi / <i>Commercialisation and Current Issues in Biotechnology</i>	2(2+0)	
20	BTC3004	Penulisan Sainstifik dalam Bioteknologi/ <i>Scientific Writing in Biotechnology</i>	3(3+0)	
21	BTC3201	Teknologi Fermentasi / <i>Fermentation Technology</i>	4(3+1)	
22	BTC3402	Pengurusan dan Penggunaan Sisa / <i>Waste Management and Utilisation</i>	3(2+1)	
23	BTC4001	Biokeselamatan dan Bioetika / <i>Biosafety and Bioethics</i>	2(2+0)	
24	BTC4205	Mikrobiologi Industri / <i>Industrial Microbiology</i>	3(2+1)	
<b>Kursus Elektif Pengurusan Dan Kemanusiaan / <i>Management and Humanities Elective Course (6 kredit/credits)</i></b>				
1	ACT2111	Pengantar Perancangan Dan Penggunaan Maklumat Kewangan/ <i>Introduction to planning and use of financial information</i>	3(3+0)	
2	ACT3211	Pengurusan Kewangan/ <i>Financial Management</i>	3(3+0)	
3	ECN3010	Prinsip Ekonomi/ <i>Principles of Economics</i>	3(3+0)	
4	MGM3101	Prinsip Pengurusan/ <i>Principles of Management</i>	3(3+0)	
5	MGM3113	Gelagat Organisasi/ <i>Organizational Behavior</i>	3(3+0)	
6	MGM3211	Prinsip Pemasaran/ <i>Principles of Marketing</i>	3(3+0)	
7	MGM4174	Pengurusan Perkhidmatan/ <i>Services Management</i>	3(3+0)	
8	MGM4184	Pengurusan Perniagaan Kecil/ <i>Small Business Management</i>	3(3+0)	
9	MGM4187	Pengurusan Usahaniaga Baharu/ <i>New Venture Management</i>	3(3+0)	
10	SKM2300	Pengenalan Kepada Multimedia/ <i>Introduction to Multimedia</i>	3(2+1)	
<b>Kursus Elektif Bebas (6 kredit) / <i>Elective Course (6 credits)</i></b>				
1		Bahasa Gobal (Senarai kursus Bahasa Global adalah seperti di lampiran)	3	
2		Elektif Bebas	3	