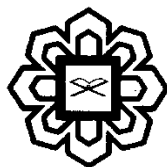


APPENDIX A



الجامعة الإسلامية العالمية ماليزيا

**INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
KULLIYAH OF SCIENCE
BACHELOR OF SCIENCE IN APPLIED CHEMISTRY (HONOURS)
(BATCH 261 ONWARDS)**

PROGRAMME STRUCTURE SEMESTER 1, SESSION 2026/2027

To obtain the degree of Bachelor of Science in Applied Chemistry (Honours) from IIUM, a student must successfully complete 133 Credit Hours (CH) of course work consisting of the University, Kulliyah and Department requirements, as shown below:

No	Type of Courses		Credit Hour (CH)	Percentage (%)
1	General	University Required Courses	18	17
2		Kulliyyah Required Courses	4	
3	Core	Common	19	57
4		Discipline	39	
5		Final Year Project	6	
6		Industrial Training	12	
7	Elective	Open Electives	23	26
8		Elective Packages	12	
TOTAL			133	100

UNIVERSITY REQUIRED COURSES

Students must complete all university required courses. The total university required courses are (18 CH) and consist of Islamic and Philosophy Fundamental Knowledge (12 CH), Leadership and Skills (4 CH) and Bahasa Melayu Kerjaya (2 CH). (Table 1)

KULLIYYAH REQUIRED COURSES

The Kulliyyah requires students in the program to complete 2 CH for Science for Service Learning and Community Engagement and 2 CH for Islam and the Scientific Knowledge. (Table 2).

DEPARTMENTAL CORE COURSES

Students are required to complete a total of 76 CH of core courses (Table 3). For internship (industrial training) which carries 12 CH, each student must choose their place of internship, which could be in the areas of management, industry, research, education or specialized laboratory work. Students may also have their training in medical science laboratories in hospitals or other medical institutions.

APPLIED CHEMISTRY OPEN ELECTIVE COURSES

Each student is also required to complete 23 CH of open elective courses (Table 4).

APPLIED CHEMISTRY ELECTIVE PACKAGES COURSES

Each student is also required to complete 12 CH of elective packages courses from any one of the three packages (Table 5).

TABLE 1: UNIVERSITY REQUIRED COURSES (18 CH)

Course Code	Course Title	Credit hour	MALAYSIAN		INTERNATIONAL	
			Muslim	Other	Muslim	Other
Islamic & Philosophy Fundamental Knowledge						
UNGS 1213	Tawhidic Epistemology and Islamic Worldview	2	2	2	2	2
TQTD1002	Tilawah Al-Quran I	0.5	0.5		0.5	
TQTD 2002	Tilawah Al-Qur'an II	0.5	0.5		0.5	
LQAD 1131	Arabic for Understanding Ibadah I	1	1		1	
LQAD 2112	Arabic for Understanding Ibadah II	1	1		1	
LQAD 1131	Arabic for Effective Communication I	1		1		1
LQAD 2232	Arabic for Effective Communication II	2		2		2
MPUG 3112	Aspirasi Negara Bangsa	2	2	2		
MPUG 3122	Falsafah dan Cabaran Semasa	2	2	2		
UNGS 3122	Philosophy and Contemporary Challenges	2			2	2
MPUG 3142	Malaysian Citra	2			2	2
MPUG 3132	Integrity and Anti-Corruption	2	2	2	2	2
CCUB 1000	Usrah	1	1	1	1	1
TOTAL			12	12	12	12
Leadership And Skills						
LEED 1201	Academic English for Sustainability	2	2	2	2	2
CCLF 2000	Leadership and Family Management	1	1	1	1	1
CCSS 3000	Skill	1	1	1	1	1
LMBD 3204	Bahasa Melayu Kerjaya (Sains dan Teknologi)	2	2	2	2	2
TOTAL			6	6	6	6
GRAND TOTAL			18	18	18	18

TABLE 2: KULLIYAH REQUIRED COURSES (4 CH)

Course Code	Course Title	Credit Hours
BKOS 1201	Science for Service Learning and Community Engagement	2
BKOS 1202	Islam and the Scientific Knowledge	2
TOTAL		4

TABLE 3: DEPARTMENTAL CORE COURSES

Course Code	Course Title	Credit Hours	Pre-requisite
BSCH 1311	Organic Chemistry I	3 (3+0)	-
BSCH 1212	Introduction to Practical Organic Chemistry	2 (0+2)	-
BSCH 1313	Physical Chemistry I	3 (2+1)	-
BSCH 1214	Statistic	2 (2+0)	-
BSCH 1321	Inorganic Chemistry I	3 (3+0)	-
BSCH 1222	Practical Inorganic Chemistry	2 (0+2)	-
BSCH 1323	Analytical Chemistry I	3 (2+1)	-
BSCH 1324	Introduction to Biochemistry	3 (3+0)	-
BSCH 2411	Organic Chemistry II	4 (3+1)	BSCH 1311
BSCH 2312	Inorganic Chemistry II	3 (2+1)	BSCH 1321
BSCH 2313	Physical Chemistry II	3 (2+1)	BSCH 1313
BSCH 2314	Analytical Chemistry II	3 (2+1)	BSCH 1323
BSCH 2215	Computational Chemistry	2 (1+1)	-
BSCH 2321	Spectroscopy	3 (2+1)	BSCH 1311 BSCH 2411
BSCH 2322	Polymer Chemistry	3 (2+1)	BSCH 1311 BSCH 2312
BSCH 2223	Organometallic and Bioinorganic Chemistry	2 (2+0)	BSCH 1321
BSCH 2224	Organic Reaction Mechanisms	2 (2+0)	BSCH 1311
BSCH 3311	Natural Product Chemistry	3 (2+1)	BSCH 1311 BSCH 2411
BSCH 3312	Environmental Chemistry	3 (2+1)	-
BSCH 3213	Chemical Health & Safety Management	2 (2+0)	-
BSCH 3121	Generic Skills for Chemistry Students	1 (1+0)	-
BSCH 3222	Final Year Project I	2 (0+2)	-
BSCH 4411	Final Year Project II	4 (0+4)	-
BSCH 4312	Industrial Chemistry	3 (3+0)	-
BSCH 4122	Industrial Training	12 (0+12)	-
TOTAL		76	

STUDY PLAN

The curriculum structure of the program is shown in the following table.

YEAR 1

SEMESTER I		
University Required Courses		
Course Code	Title	Credit Hours
UNGS 1213	Tawhidic Epistemology and Islamic Worldview	2
CCSS 3000	Skill	1
LEED 1201	Academic English for Sustainability	2
TQTD 1002	Tilawah Al-Qur'an 1 [#]	0.5
LQAD 1113	Arabic for Understanding Ibadah I [#]	1
LQAD 1131	Arabic for Effective Communication I [*]	1
CCUB 1000	Usrah	1
Kulliyyah Required Courses		
Course Code	Title	Credit Hours
BKOS 1202	Islam and the Scientific Knowledge	2
Department Core Courses		
Course Code	Title	Credit Hours
BSCH 1311	Organic Chemistry I	3 (3+0)
BSCH 1212	Introduction to Practical Organic Chemistry	2 (0+2)
BSCH 1313	Physical Chemistry I	3 (2+1)
BSCH 1214	Statistic	2 (2+0)
TOTAL		19.5[#] 19[*]

- for Muslim; * - for non-Muslim

YEAR 1

SEMESTER II		
University Required Courses		
Course Code	Title	Credit Hours
LQAD 2113	Arabic for Understanding Ibadah II [#]	1
TQTD 2002	Tilawah Al-Quran 2 [#]	0.5
LQAD 2232	Arabic for Effective Communication II*	2
MPUG 3122	Falsafah dan Cabaran Semasa (Malaysian)	2
UNGS 3122	Philosophy and Contemporary Challenges (Non-Malaysian)	
Kulliyyah Required Course		
Course Code	Title	Credit Hours
BKOS 1201	Science for Service Learning and Community Engagement	2
Department Core Courses		

Course Code	Title	Credit Hours
BSCH 1321	Inorganic Chemistry I	3 (3+0)
BSCH 1222	Practical Inorganic Chemistry	2 (0+2)
BSCH 1323	Analytical Chemistry I	3 (2+1)
BSCH 1324	Introduction to Biochemistry	3 (3+0)
TOTAL		16.5# 17 *

- for Muslim; * - for non-Muslim

YEAR 2

SEMESTER I		
University Required Courses		
Course Code	Title	Credit Hours
MPUG 3112	Aspirasi Negara Bangsa (Malaysian)	2
MPUG 3142	Malaysian Citra (Non-Malaysian)	
CCLF 2000	Leadership and Family Management	1
Department Core Courses		
Course Code	Title	Credit Hours
BSCH 2411	Organic Chemistry II	4 (3+1)
BSCH 2312	Inorganic Chemistry II	3 (2+1)
BSCH 2313	Physical Chemistry II	3 (2+1)
BSCH 2314	Analytical Chemistry II	3 (2+1)
BSCH 2215	Computational Chemistry	2 (1+1)
TOTAL		18

YEAR 2

SEMESTER II		
University Required Courses		
Course Code	Title	Credit Hours
MPUG 3132	Integrity and Anti-Corruption	2
LMBD 3204	Bahasa Melayu Kerjaya (Science & Technology)	2
Department Core Courses		
Course Code	Title	Credit Hours
BSCH 2321	Spectroscopy	3 (2+1)
BSCH 2322	Polymer Chemistry	3 (2+1)
BSCH 2223	Organometallic and Bioinorganic Chemistry	2 (2+0)
BSCH 2224	Organic Reaction Mechanisms	2 (2+0)
Department Open Elective Courses		

(Select 2 subjects for a total of 4 CH)		
Course Title	Title	Credit Hours
BSCH 2225	Colloid Chemistry	2 (2+0)
BSCH 2226	Catalysis	2 (2+0)
BSCH 2227	Cosmetic Science & Technology	2 (2+0)
TOTAL		18

YEAR 3

SEMESTER I		
Department Core Courses		
Course Code	Title	Credit Hours
BSCH 3311	Natural Product Chemistry	3 (2+1)
BSCH 3312	Environmental Chemistry	3 (2+1)
BSCH 3213	Chemical Health & Safety Management	2 (2+0)
Department Elective Packages Courses (Select one of the packages for a total of 6 CH)		
1. Chemistry in Halal Industry		
Course Code	Title	Credit Hours
BSCH 3331	Food Chemistry and Safety	3(3+0)
BSCH 3332	Chemistry of Fats, Oils and Emulsifiers	3(2+1)
2. Medicinal Chemistry		
Course Code	Title	Credit Hours
BSCH 3341	Medicinal Chemistry	3(2+1)
BSCH 3342	Drug Dosage Form	3(3+0)
3. Occupational Safety and Health Management		
Course Code	Title	Credit Hours
BSCH 3351	Occupational Safety and Health Management	3(3+0)
BSCH 3352	Industrial Chemical Hygiene	3(2+1)
Department Open Elective Courses (Select 1 subject for a total of 2 CH)		
Course Title	Title	Credit Hours
BSCH 3214	Material Chemistry	2 (2+0)
BSCH 3215	Organic Synthesis	2 (2+0)
TOTAL		16

*Students choose one of the packages and it is compulsory to take all subjects under the packages

YEAR 3

SEMESTER II		
Department Core Courses		
Course Code	Course Code	Course Code
BSCH 3121	Generic Skills for Chemistry Students	1 (1+0)
BSCH 3222	Final Year Project I	2 (0+2)
Department Elective Packages Courses (Select one of the packages for a total of 6 CH)		
1. Chemistry in Halal Industry		
Course Code	Title	Credit Hours
BSCH 3333	Halal Food Processing & Regulation	3(3+0)
BSCH 3334	Halal Food Authentication & Traceability Techniques	3(2+1)
2. Medicinal Chemistry		
Course Code	Title	Credit Hours
BSCH 3343	Drug Delivery and Application	3(3+0)
BSCH 3344	Separation Techniques for Medicinal Chemistry	3(2+1)
3. Occupational Safety and Health Management		
BSCH 3353	Analytical Techniques in Environmental Health	3(2+1)
BSCH 3354	Environmental and Industrial Toxicology	3(3+0)
Department Open Elective Courses Opt. 2 (Select the subjects for a total of 8 CH)		
Course Title	Title	Credit Hours
BSCH 3323	Special Topics in Applied Chemistry	3 (3+0)
BSCH 3324	Advanced Materials	3 (3+0)
BSCH 3225	Ethic in Science	2 (2+0)
BSBT 2325	Biodiversity and Conservation	3 (2+1)
BSBT 2222	Bioenterpreneurship	2 (2+0)
TOTAL		17

*Students choose one of the packages and it is compulsory to take all subjects under the packages.

YEAR 4

SEMESTER I		
Department Core Courses		
Course Code	Course Code	Course Code
BSCH 4411	Final Year Project II	4 (0+4)
BSCH 4312	Industrial Chemistry	3 (3+0)
Department Open Elective Courses (Select the subjects for a total of 9 CH)		
Course Title	Title	Credit Hours
BSCH 4313	Quality Control & Assurance	3 (3+0)
BSCH 4314	Flavour and Fragrances	3 (3+0)
BSCH 4315	Halal Food and Related Products	3 (3+0)
BSCH 4316	Cosmetic Ingredient and Formulation	3 (2+1)
BSCH 4317	Occupational, Safety, Health Legislation & Management	3 (3+0)
TOTAL		16

*Select the subjects for a total of 9 CH

SEMESTER VIII		
Department Core Courses		
Course Code	Title	Credit Hours
BSCH 4122	Industrial Training	12 (0+12)
TOTAL		12

TABLE 4: OPEN ELECTIVE COURSES

All the open elective courses listed are offered subject to the availability of staff. The students should consult the department to determine whether the open elective courses are suitable for their needs. Students are recommended to take two subjects in Year 2, four subjects in Year 3 and three subjects in Year 4.

YEAR 2

SEMESTER II (4 CH)			
Course Code	Title	Credit Hours	Pre-Requisite
BSCH 2225	Colloid Chemistry	2 (2+0)	BSCH 2313 BSCH 2314
BSCH 2226	Catalysis	2 (2+0)	-
BSCH 2227	Cosmetic Science & Technology	2 (2+0)	-

*Select 2 subjects for a total of 4 CH

YEAR 3

SEMESTER I (2 CH)			
Course Code	Title	Credit Hours	Pre-Requisite
BSCH 3214	Material Chemistry	2 (2+0)	BSCH 2322
BSCH 3215	Organic Synthesis	2 (2+0)	BSCH 1311 BSCH 2411

*Select 1 subject for a total of 2 CH

SEMESTER II (8 CH)			
Course Code	Title	Credit Hours	Pre-Requisite
BSCH 3323	Special Topics in Applied Chemistry	3 (3+0)	-
BSCH 3324	Advanced Materials	3 (3+0)	BSCH 3214
BSCH 3225	Ethic in Science	2 (2+0)	-
BSBT 2325	Biodiversity and Conservation	3 (2+1)	-
BSBT 2222	Bioenterpreneurship	2 (2+0)	-

*Select the subjects for a total of 8 CH

YEAR 4

SEMESTER I (9 CH)			
Course Code	Title	Credit Hours	Pre-Requisite
BSCH 4313	Quality Control & Assurance	3 (3+0)	-
BSCH 4314	Flavour and Fragrances	3 (3+0)	-
BSCH 4315	Halal Food and Related Products	3 (3+0)	-
BSCH 4316	Cosmetic Ingredient and Formulation	3 (2+1)	-
BSCH 4317	Occupational, Safety, Health Legislation & Management	3 (3+0)	-

*Select the subjects for a total of 9 CH

TABLE 5: ELECTIVE PACKAGES COURSES

This is a proposed schedule only. Students should choose one out of three elective packages offered in Year 3 and it is compulsory to take all subjects under Package I and II.

1. Chemistry in Halal Industry

Package I (6 CH):		
Course Code	Title	Credit Hours
BSCH 3331	Food Chemistry and Safety	3(3+0)
BSCH 3332	Chemistry of Fats, Oils and Emulsifiers	3(2+1)

Package II (6 CH):		
Course Code	Title	Credit Hours
BSCH 3333	Halal Food Processing & Regulation	3(3+0)
BSCH 3334	Halal Food Authentication & Traceability Techniques	3(2+1)

2. Medicinal Chemistry

Package I (6 CH):		
Course Code	Title	Credit Hours
BSCH 3341	Medicinal Chemistry	3(2+1)
BSCH 3342	Drug Dosage Form	3(3+0)

Package II (6 CH):		
Course Code	Title	Credit Hours
BSCH 3343	Drug Delivery and Application	3(3+0)
BSCH 3344	Separation Techniques for Medicinal Chemistry	3(2+1)

3. Occupational Safety and Health Management

Package I (6 CH):		
Course Code	Title	Credit Hours
BSCH 3351	Occupational Safety and Health Management	3(3+0)
BSCH 3352	Industrial Chemical Hygiene	3(2+1)

Package II (6 CH):		
Course Code	Title	Credit Hours
BSCH 3353	Analytical Techniques in Environmental Health	3(2+1)
BSCH 3354	Environmental and Industrial Toxicology	3(3+0)