



الجامعة الإسلامية العالمية ماليزيا

**KULLIYAH OF SCIENCE INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
BACHELOR OF BIOTECHNOLOGY (HONOURS)
STUDY PLAN
(BATCH 251 ONWARDS)**

PROGRAMME STRUCTURE SEMESTER I, 2025/2026

In order to obtain the degree of Bachelor of Biotechnology from IIUM, a student must successfully complete 136 Credit Hours (CH) of course work consisting of the University, Kulliyah and Department requirements, as shown below:

No	Type of Courses	Local CH	Percentage %
1	University Required Courses	20	14.71
2	Kulliyah Required Courses	8	5.89
3	Core Courses	67	49.27
4	Elective Courses	21	15.45
5	Final Year Project	8	5.89
6	Internship	12	8.83
	TOTAL	136	100

Every student must complete all university required courses (20 CH in total), which consists of Philosophy, values and history courses (4 CH), soft skill courses (10 CH), Malaysian studies courses (4 CH) and Community Engagement courses (2 CH). (Table 1).

KULLIYAH REQUIRED COURSES

Students are required to complete the Kulliyah courses of 8 CH in total; which are Overview of Computational Tools (3 CH), Bahasa Melayu Kerjaya (Sains dan Teknologi) (2 CH) and Philosophy of Science (3 CH) (Table 2).

DEPARTMENTAL CORE COURSES

Students are required to complete (67 CH) of core courses. (Table 3). These courses provide the necessary foundation in Biological sciences subjects and Biotechnology.

FINAL YEAR PROJECT & INTERNSHIP

In Final year project I and II student will select a project of 8 CH in total which involve hands-on or practical experience in any given Biotechnology topic. The compulsory Internship carries a total of 12 CH. Each student must choose his/her place of internship, which could be in the areas involving management, industry, research, education or in a specialized laboratory work. Students may also have their training in medical science laboratories in hospitals or other medical institutions

TABLE 1: UNIVERSITY REQUIRED COURSES (20 CH)

YEAR 1, SEMESTER 1		
Course Code	Course Title	
SCSH 1201	Sustainable Development: Issues, Policies and Practices	2
UNGS 1301	Basic Philosophy and Islamic Worldview	3
LEED 1301	English for Academic Writing	3
CCUB 1061	Usrah 1	0.5
<i>LMBD 1131*</i>	<i>Bahasa Melayu 1*</i>	<i>1*</i>
CCSS 1010/2010/3010	Skill 1	0.5
TQTD 1001**	Tilawah**	0.5
	TOTAL	9/10.5/9.5
YEAR 1, SEMESTER 2		
Course Code	Course Title	Credit Hours
SCSH 2163	Usrah in Action 1 (SD: Community Profiling)	1
LEED 1301	English for Academic Writing	3
CCUB 1062	Usrah 2	0.5
UNGS 2290	Knowledge & Civilization in Islam	2
CCSS 1010/2010/3010	Skill 2	0.5
<i>LMBD 1132*</i>	<i>Bahasa Melayu 2*</i>	<i>1*</i>
TQTD 1002/2002**	Tilawah Al-Quran 1**	0.5
	TOTAL	7/8.5/7.5
YEAR 2, SEMESTER 1		
Course Code	Course Title	Credit Hours
UNGS 2380	Ethics and Fiqh of Contemporary Issues	3
LQAD 1003	Arabic for Ibadah 1	0.5
SCSH 3164	Usrah in Action 2	1
CCLM 2020	Leadership and Management	0.5
	TOTAL	5
YEAR 2, SEMESTER 2		
Course Code	Course Title	Credit Hours
CCFM 2061	Family Management	0.5
LQAD 2003	Arabic for Ibadah 1	0.5
	TOTAL	1

*,**for International Students

** for Malaysian Direct Intake

**To be done in CFS

TABLE 2: KULLIYAH REQUIRED COURSES (8 CH)

Course Code	Course Title	Credit Hours
BKOS 1305	Overview of Computational Tools	3
LMBD 2204	Bahasa Melayu Kerjaya (Sains dan Teknologi)	2
BKOS 1303	Philosophy of Science	3
TOTAL		8

TABLE 3: GENERAL CORE COURSES (67 CH)

Course code	Title	Credit Hours	Pre-requisite
BSBT 1311	General Chemistry	3	
BSBT 1312	Calculus for Biology	3	
BSBT 1313	Fundamentals of Microbiology	3	
BSBT 1321	Principles of Biochemistry	3	
BSBT 1322	Cell Biology	3	
BSBT 1323	Principles of Cell and Tissue Culture	3	
BSBT 1324	Molecular Biology	3	
BSBT 2211	Recombinant DNA Technology	2	
BSBT 2312	Genetics	3	
BSBT 2313	Enzymology	3	
BSBT 2314	Biostatistics	3	
BSBT 2221	Regulation and Ethics in Biotechnology	2	
BSBT 2222	Bio entrepreneurship	2	
BSBT 2323	Fermentation Technology	3	
BSBT 2324	Bioinformatics	3	
BSBT 2325	Biodiversity & Conservation	3	
BSBT 2326	Chemistry & Biochemistry of Natural Product	3	
BSBT 3211	Research Methodology	2	
BSBT 3312	Protein Biotechnology	3	
BSBT 3313	Instrumentation in Biotechnology Research	3	
BSBT 3314	Bioprocess Design an Optimisation	3	
BSBT 3315	Immunology	3	
BSBT 3222	Final Year Project I	2	
BSBT 3221	Concept of Halal and Haram in Food and Biotechnology Products	2	
BSBT 4311	Bionanotechnology	3	
BSBT 4122	Internship	12	
BSBT 4612	Final Year Project II	6	
TOTAL		67 + 20	

Study Plan

YEAR 1

SEMESTER I		
Course Code	Title	Credit Hours
BSBT 1311	General Chemistry	3
BSBT 1312	Calculus for Biology	3
BSBT 1313	Fundamentals of Microbiology	3
LEED 1301	English Academic Writing	3
SCSH 1201	Sustainable Development: Issues, Policies and Practices	2
UNGS 1301	Basic Philosophy and Islamic Worldview	3
CCUB 1061	Usrah 1	0.5
CCSS 1010/2010/3010	Skill 1	0.5
<i>LMBD 1131*</i>	<i>Bahasa Melayu 1*</i>	<i>1*</i>
TQTD 1001**	Tilawah**	0.5
TOTAL		18

*Total 19.5 CH for International / Non- Malay for Bahasa Melayu 1

* Total 18.5 Direct intake Malaysian

SEMESTER II		
Course Code	Title	Credit Hours
BSBT 1321	Principles of Biochemistry	3
BSBT 1322	Cell Biology	3
BSBT 1323	Principles of Cell and Tissue Culture	3
BSBT 1324	Molecular Biology	3
BKOS 1305	Overview of Computational Tools	3
SCSH 2163	Usrah in Action 1 (SD: Community Profiling)	1
LEED 1301	English for Academic Writing	3
CCUB 1062	Usrah 2	0.5
UNGS 2290	Knowledge & Civilization in Islam	2
CCSS 1010/2010/3010	Skill 2	0.5
<i>LMBD 1132*</i>	<i>Bahasa Melayu 2*</i>	<i>1*</i>
TQTD 1002/2002**	Tilawah Al-Quran 1**	0.5
TOTAL		22

*Total 23.5 CH for International / Non- Malay for Bahasa Melayu 1

* Total 22.5 Direct intake Malaysian

YEAR 2

SEMESTER III		
Course Code	Title	Credit Hours
BSBT 2211	Recombinant DNA Technology	2
BSBT 2312	Genetics	3
BSBT 2313	Enzymology	3
BSBT 2314	Biostatistics	3
BKOS 1303	Philosophy of Science	3
UNGS 2380	Ethics and Fiqh of Contemporary Issues	3
LQAD 1003	Arabic for Ibadah 1	0.5
SCSH 3164	Usrah in Action 2	1
CCLM 2020	Leadership and Management	0.5
TOTAL		19

SEMESTER IV		
Course Code	Title	Credit Hours
BSBT 2221	Regulation and Ethics in Biotechnology	2
BSBT 2222	Bioentrepreneurship	2
BSBT 2323	Fermentation Technology	3
BSBT 2324	Bioinformatics	3
BSBT 2325	Biodiversity & Conservation	3
BSBT 2326	Chemistry & Biochemistry of Natural Products	3
CCFM 2061	Family Management	0.5
LQAD 2003	Arabic for Ibadah 2	0.5
TOTAL		17

YEAR 3

SEMESTER V		
Course Code	Title	Credit Hours
BSBT 3211	Research Methodology	2
BSBT 3312	Protein Biotechnology	3
BSBT 3313	Instrumentation in Biotechnology Research	3
BSBT 3314	Bioprocess Design and Optimisation	3
BSBT 3315	Immunology	3
LMBD 2204	Bahasa Melayu Kerjaya (Sains dan Teknologi)	2
TOTAL		16

SEMESTER VI		
Course Code	Title	Credit Hours
BSBT 3221	Concept of Halal and Haram in Food and Biotechnology	2
BSBT 3222	Final Year Project I	2
BSBT 33XX	Elective Package Course	3
BSBT 33XX	Elective Package Course	3
BSBT 33XX	Elective Package Course	3
BSBT 33XX	Elective Package Course	3
TOTAL		16

YEAR 4

SEMESTER VII		
Course Code	Title	Credit Hours
BSBT 4311	Bionanotechnology	3
BSBT 4612	Final Year Project II	6
BSBT 43XX	Elective Packages Course	3
BSBT 43XX	Elective Packages Course	3
BSBT 43XX	Elective Packages Course	3
TOTAL		18

SEMESTER VIII		
Course Code	Title	Credit Hours
BSBT 4122	Internship	12
TOTAL		12

Elective Package I : Food Biotechnology

SEMESTER VI		
Course Code	Title	Credit Hours
BSBT 3331	Food Biotechnology	3
BSBT 3332	Applied Molecular Genetics in Food	3
BSBT 3333	Food Chemistry	3
BSBT 3334	Analytical Methods for Functional Foods and Nutraceuticals	3

*Compulsory to take all

SEMESTER VII *		
Course Code	Title	Credit Hours
BSBT 4335	Food Process Engineering	3
BSBT 4336	Fats and Oils Chemistry and Technology	3
BSBT 4337	Food Toxicology and Assessment	3
BSBT 4338	Food, Nutrition and Health	3

*Choose 3 out of 4 courses being offered

Elective Package II : Environmental Biotechnology

SEMESTER VI		
Course Code	Title	Credit Hours
BSBT 3341	Environmental Biotechnology	3
BSBT 3342	Environmental Health	3
BSBT 3343	Environmental Microbiology	3
BSBT 3344	Environmental Monitoring	3

*Compulsory to take all

SEMESTER VII*		
Course Code	Title	Credit Hours
BSBT 4345	Environmental Laws and Policies	3
BSBT 4346	Integrated Waste Management	3
BSBT 4347	Environmental Toxicology	3
BSBT 4348	Bioremediation	3

*Choose 3 out of 4 courses being offered

* Students must choose 3 out of 4 courses offered in elective package for Semester VII

Elective Package III : Medical Biotechnology

SEMESTER VI		
Course Code	Title	Credit Hours
BSBT 3351	Medical Biochemistry	3
BSBT 3352	Medical Pathology for Biotechnologist	3
BSBT 4358	Experimental Models in Medical Biotechnology	3
BSBT 3354	Computer Aided Drug Design	3

***Compulsory to take all**

SEMESTER VII*		
Course Code	Title	Credit Hours
BSBT 4355	Human Genetics and Genetic Disorders	3
BSBT 4356	Oncology and Cancer Therapy	3
BSBT 4357	Molecular Epidemiology	3
BSBT 3353	Medical Microbiology & Parasitology	3

***Choose 3 out of 4 courses being offered**

** After deliberations in the department meeting (02/2025), changes on the offering semester for BSBT 3353 and BSBT 4358 was endorsed. The changes were also endorsed in KBM 08/2025.