



## Program Specification

<b>Program Name:</b> Bachelor of Science in Biology-0930
<b>Qualification Level :</b> Bachelor (B.Sc.), NQF level: 6
<b>Department:</b> Biology
<b>College:</b> College of Science
<b>Institution:</b> Imam Mohammad Ibn Saud Islamic University

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## A. Program Identification and General Information

<b>1. Program Main Location:</b>
Imam Mohammad Ibn Saud Islamic University
<b>2. Branches Offering the Program:</b>
Branch 1: Main campus for the Male Section. Branch 2: King Abdullah City for the Female Section.
<b>3. Reasons for Establishing the Program:</b> (Economic, social, cultural, and technological reasons, and national needs and development, etc.)
Biology is a natural science concerned with the study of life and living organisms, including their structure, function, growth, evolution, distribution, and taxonomy. Modern biology is a vast and eclectic field, composed of many branches and sub-disciplines. The program of biology mainly contributes to: <ul style="list-style-type: none"><li>• Tell us the human worth and importance of other organisms;</li><li>• Identify basic concepts and principles of taxonomy of animal's groups, plant families, the economic and social importance of local plants;</li><li>• Know and appreciate of natural resources such as green-land, wildlife <i>etc.</i></li><li>• Devote the principles of genetics with application to the study of biological function at the level of molecules, cells, and multicellular organisms, including human physiology;</li><li>• Cope with technological developments and biotechnology;</li><li>• Use the genetic methods to analyze protein function, gene regulation and inherited diseases; and thus, biologists can provide appropriate solutions for genetic diseases through national projects in the Kingdom of Saudi Arabia;</li><li>• Identify host-microbe interactions, immunity and human infectious diseases. It helps in investigating the nature and diversity of life, from microorganisms and fungi to plants and animals;</li><li>• Facilitate an understanding of preliminary knowledge of the immune;</li><li>• System in humans and other mammals and thus helping to avoid immune diseases and thus care with community health;</li><li>• Increase the skills through operating laboratory instruments and computers; and thus increase the cognitive skills of technology tools in scientific research;</li><li>• Evaluate impacts from projects' activities on natural resources, ecological system and community;</li><li>• Understand the ecology and life cycles of a variety of host-parasite associations and thus decrease the epidemiology of diseases.</li></ul>
<b>4. Total Credit Hours for Completing the Program: (174 hours)</b>
<b>5. Professional Occupations/Jobs:</b>

2	الاختصاصيون
21	الاختصاصيون في العلوم والهندسة
213	الاختصاصيون في العلوم الحياتية
2131	الاختصاصيون في الأحياء والنبات والحيوان ومن يرتبط بهم
213101	أخصائي علوم أحياء
213102	أخصائي علوم كيمياء حيوية
213103	أخصائي علوم فيزياء حيوية
213104	أخصائي تقنية حيوية
213105	أخصائي علوم نبات
213106	أخصائي علوم حيوانات
213107	أخصائي علوم أحياء بحرية
213108	أخصائي علوم حشرات
213109	أخصائي علوم أدوية
213110	أخصائي علوم وراثية
213111	أخصائي علوم أجنة
213112	أخصائي علوم بكتيريا
213113	أخصائي علوم أوبئة
213114	أخصائي علوم أحياء دقيقة
213115	أخصائي مختبرات طبية
213116	أخصائي مختبرات سريرية

2 Specialist

21 Science and engineering professionals

213 Life sciences professionals

2131 Biology, plant and animal specialists and their disciplines

213101 Biology Specialist

213102 Biochemistry Science Specialist

213103 Biophysical Sciences Specialist

213104 Biotechnologist

213105 Plant Science Specialist

213106 Animal Science Specialist

213107 Biology Specialist

213108 Entomology Specialist

213109 Pharmaceutical Sciences Specialist

213110 Genetics Specialist

213111 Embryology Specialist

213112 Bacteriology Specialist

213113 Epidemiologist

213114 Microbiology

213115 Medical Laboratory Specialist

213116 Clinical Laboratory Specialist

**6. Major Tracks/Pathways (if any):**

Major track/pathway	Credit hours (For each track)	Professional Occupations/Jobs (For each track)
Not Applicable		

**7. Intermediate Exit Points/Awarded Degree/Professional Occupations/Jobs**

Intermediate exit point	After completion of the courses of the first two years (the first six semesters)
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Credit hours	87
Awarded degree	Diploma in Biology
Professional Occupations/Jobs	<p>3 الفنيون والاختصاصيون المساعدون  31 الاختصاصيون المساعدون في العلوم والهندسة  3141 فنيو العلوم الحياتية (عدا الطبية)  3141.1 فني أحياء  3141.2 فني علوم صيدلانية  3141.3 فني علوم نباتات  3141.4 فني علوم حشرات  3141.5 فني علوم حيوانية  3141.6 فني علوم أغذية</p>

## B. Mission, Goals, and Learning Outcomes

<b>1. Program Mission:</b>
Leading quality education and research in biological sciences as well as community service.
<b>2. Program Goals:</b>
<p>G1. Taking care of the classroom and laboratory as the most important place in the biology department space, which provides a modern educational and research environment that stimulates excellence and innovation.</p> <p>G2. Providing academic programs in a wide range of biological disciplines at various levels designed to provide adequate knowledge and skills and experimental laboratory research to contribute to meeting the needs of the labor market and to serve the community.</p> <p>G3. Providing a distinguished university education to develop students' abilities to think critically and solve problems using the experimental method and scientific analysis.</p> <p>G4. Enhancing the use of technology in improving the quality and managing the educational process.</p> <p>G5. Improving the quality of teaching and scientific research by relying on professional development, directed scholarships, and attracting distinguished faculty members, with providing excellent opportunities for students and graduates to participate in scientific research for community service.</p> <p>G6. Building qualitative and effective partnerships with institutions of the private and public sectors to enhance the department's position and open broader horizons for students and faculty members through cooperation activities and services that enhance education and the spreading of knowledge, thereby serving the community.</p>
<b>3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.</b>
The bachelor's degree in Biology leads to Imam University of openness on knowledge, cognitive, communicating skills in applied sciences and in a variety of practical activities in all fields of life. Furthermore, the university requirements (courses) included in the program curriculum is designed to reflect the intention of the program to reinforce Imam University mission, goals and values in terms of the Kingdom Identity.

#### 4. Graduate Attributes:

Biologists are investigative individuals; be very curious and often enjoy spending time alone with their ideas, especially in their laboratories; be usually very natural leaders who strive to influence and persuade others.

Graduate attributes are:

**GA1:** Commitment to university values, ethical practices and environmental concerns. **GA2:** Proficiency in reading, writing, thinking, questioning, analyzing and problem solving in a logical, critical, and creative way.

**GA3:** Manual dexterity and ability to operate scientific equipment.

**GA4:** Leading with confidence independently and collaboratively to perform tasks and contribute to volunteer works and community service.

**GA5:** Developing and using networks of colleagues, sharing and empathy with others, understanding of different points of view, and positive interaction with other cultures.

**GA6:** Ability to be independent, to adapt to circumstances with flexibility, to offer initiatives, guidance, evaluation and self-development.

**GA7:** Wiling to learn from errors and listen openly to feedback.

**GA8:** Ability to explain scientific research procedure, analyze and interpret information.

**GA9:** Knowledge and skills of basic biological principles and competitiveness in the labor market and entrepreneurship.

**GA10:** Competency and responsibility in the use of information and technology.

Program Graduate Attributes and University Graduate Attributes										
Program Graduate Attributes	University Graduate Attributes									
	UGA1	UGA2	UGA3	UGA4	UGA5	UGA6	UGA7	UGA8	UGA9	UGA10
GA1	√		√						√	
GA2		√		√	√		√	√		
GA3			√	√		√	√			
GA4								√	√	√
GA5									√	√
GA6								√		
GA7					√	√			√	
GA8		√		√	√	√	√			
GA9		√		√						
GA10				√		√	√			

## 5. Bachelor of Science in Biology learning Outcomes\*

### Knowledge and Understanding

The graduate will have to:

<b>K1</b>	Recognize a comprehensive and consistent structure of knowledge and understanding of the theories, principles and concepts involved in the science of biology needed to enter the job force.
<b>K2</b>	Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.

### Skills

The graduate will be able to:

<b>S1</b>	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.
<b>S2</b>	Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches.
<b>S3</b>	Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.

### Values

The graduate will be able to:

<b>V1</b>	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.
<b>V2</b>	Evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.
<b>V3</b>	Use teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

\* Add a table for each track and exit Point (if any)

## 6. Diploma in Biology learning Outcomes\*

### Knowledge and Understanding

The graduate will have to:

<b>K1</b>	Recall knowledge and understanding of basic biological sciences.
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### Skills

The graduate will be able to:

<b>S1</b>	Explain the concepts, principles and theories involved in addressing issues and problems in basic biology.
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<b>S2</b>	Summarize different ways of demonstrating and understanding of basic knowledge.
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### Values

The graduate will be able to:

<b>V1</b>	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some general issues, and a commitment to responsible citizenship.
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<b>V2</b>	Evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.
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## C. Curriculum

### 1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	10	20	11.5%
College Requirements	Required	6	26	15%
Program Requirements	Required	26	106	65.5%
	Elective	2	8	
Capstone Course/Project	Required	1	4	2.3%
Field Experience/ Internship	Required	1	4	2.3%
Others		3	6	3.4%
<b>Total</b>		<b>49</b>	<b>174</b>	<b>100%</b>

\* Add a table for each track (if any)

## 2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Weekly hours			Type of requirements (Institution, College or Department)
						Lec.	Lab.	Tut.	
Level 1	CHM 1101	General Chemistry (1)	Required	-	5	4	2	0	College
	BIO 1101	General Biology	Required	-	5	4	2	0	College
	ENG 1140	English (1)	Required	-	3	2	0	2	College
		متطلب جامعي اختياري (1)	Elective	-	2	2	0	0	Institution
Level 2	MAT 1101	Calculus (1)	Required	-	5	4	0	2	College
	BIO 1121	Taxonomy of Botany	Required	BIO 1101	5	4	2	0	Department
	ENG 1195	English (2)	Required	ENG 1140	3	2	0	2	College
		متطلب جامعي اختياري (2)	Elective	-	2	2	0	0	Institution
Level 3	BIO 1111	Taxonomy of Zoology	Required	BIO 1101	5	4	2	0	Department
	PHY 1101	General Physics (1)	Required		5	3	2	2	College
	BIO 1113	Cell Biology	Required	BIO 1101	3	2	2	0	Department
		متطلب جامعي اختياري (3)	Elective	-	2	2	0	0	Institution
Level 4	BIO 1231	Genetics	Required	BIO 1113	5	4	2	0	Department
	BIO 1241	General Microbiology	Required	BIO 1101	5	4	2	0	Department
	BIO 1251	Ecology and Biodiversity	Required	BIO 1121	3	2	2	0	Department
		متطلب جامعي اختياري (4)	Elective	-	2	2	0	0	Institution
Level 5	BIO 1212	Immunology	Required	BIO 1113	4	3	2	0	Department
	BIO 1232	Molecular Biology	Required	BIO 1231	4	3	2	0	Department
	BIO 1237	Biochemistry	Required	BIO 1101 and CHM 1101	4	3	2	0	Department
	1001	قرآن كريم (متطلب جامعة) (5)	Elective	-	2	2	0	0	Institution
Level 6	BIO 1242	Bacteriology	Required	BIO 1241	4	3	2	0	Department
	BIO 1244	Microtechnique	Required	-	4	3	2	0	Department
	BIO 1252	Principles of Environmental Impact Assessment	Required	BIO 1251	3	2	2	0	Department
		متطلب جامعي اختياري (6)	Elective	-	2	2	0	0	Institution
		مقرر حر *	Elective	-					Institution
<b>Exit point (87 Credit Hours, 50% of Program study Plan)</b>									
	BIO 1314	Animal Physiology	Required	BIO 1212+ BIO 1237	4	3	2	0	Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Weekly hours			Type of requirements (Institution, College or Department)
						Lec.	Lab.	Tut.	
Level 7	BIO 1322	Plant Anatomy	Required	BIO 1251	4	3	2	0	Department
	BIO 1343	Parasitology	Required	BIO 1111	4	3	2	0	Department
		مقرر حر *	Elective	-					Institution
Level 8	CHM 1337	Analytical Chemistry	Required	CHM 1101	5	4	2	0	Department
	COMH 1311	Community Health & Epidemiology	Required	BIO 1101+ BIO 1241	2	2	0	0	Department
	BIO 1323	Plant Physiology	Required	BIO 1322	4	3	2	0	Department
	XXXX	Elective Course (1)	Elective	-	4	3	2	0	Department
Level 9	BIO 1333	Biotechnology	Required	BIO 1232 + BIO 1244	5	4	2	0	Department
	BIO 1345	Virology	Required	BIO 1242	4	3	2	0	Department
	BIO 1353	Entomology	Required	BIO 1111	4	3	2	0	Department
		متطلب جامعي اختياري (7)	Elective	-	2	2	0	0	Institution
Level 10	BIO 1415	Embryology	Required	BIO 1314	5	4	2	0	Department
	STA 1217	Biostatistics	Required	MAT 1101	4	3	0	2	Department
	BIO 1436	Human and Genetic Engineering	Required	BIO 1231+ BIO 1333	4	3	2	0	Department
		مقرر حر *	Elective	-					Institution
Level 11	BIO 1434	Bioinformatics	Required	STA 1217	4	3	0	2	Department
	BIO 1454	Microbial Pollution	Required	BIO 1242 + BIO 1345	4	3	2	0	Department
	XXXX	Elective Course (2)	Elective	Upon specifying the course	4	3	2	0	Department
		متطلب جامعي اختياري (8)	Elective	-	2	2	0	0	Institution
Level 12		متطلب جامعي اختياري (9)	Elective	-	2	2	0	0	Institution
		متطلب جامعي اختياري (10)	Elective	-	2	2	0	0	Institution
	BIO 1497	Field Training	Required	The student must have completed a minimum number of 160 credit hours.	4	5			Department

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Weekly hours			Type of requirements (Institution, College or Department)
						Lec.	Lab.	Tut.	
	BIO 1499	Research Project	Required	The student must have completed a minimum number of 160 credit hours. Upon specifying the research Project STA 1417 + BIO 1244	4		5		Department

The total hours of free courses are (6) hours, which are mandatory to complete the program.

### Program elective courses

Course code	Course Title	Pre-requisite courses	Credit hours	Weekly hours		
				Tut.	Lab.	Lect.
BIO 1417	Hematology	BIO 1314	4	0	2	3
BIO 1419	Experimental Embryology	BIO 1415	4	0	2	3
BIO 1424	Plant Pathology	BIO 1322	4	0	2	3
BIO 1455	Animal Behavior	BIO 1252	4	0	2	3
BIO 1457	Biological control	BIO 1353	4	0	2	3
BIO 1458	Ecological Physiology	BIO 1353	4	0	2	3
BIO 1459	Flora & Fauna of Saudi Arabia	BIO 1353	4	0	2	3
BIO 1461	Endocrinology	BIO 1314	4	0	2	3
BIO 1471	Applied Biology		4	0	2	3
BIO 1473	Scientific methodology	BIO 1417	4	0	2	3

## University Requirements courses from (1) to (10)

University Requirements courses (1)-(10) should be chosen from the following packages and the following the appropriate rules indicated inside the table:

<i>Packages</i>	<i>Course Code</i>	<i>Course Name</i>	<i>Credit Hours</i>	<i>Rules</i>
Islamic knowledge and values	QUR 1001	Quran	2	The student chooses two courses, one of which should be the Quran course.
	HAD 1001	Studies in the Sunnah	2	
	JRS 1001	Objectives of Shariah	2	
	IDE 1001	Creed	2	
	JR 1001	Jurisprudence of Worship and Family	2	
Historical, national, and social knowledge and values	HST 1001	Studies in the Prophet's biography	2	The student chooses two courses.
	HST 1002	National History	2	
	SOS 101	Voluntary Work Skills	2	
	CUL 1001 CIS 101	Jurisprudence of Rights and Duties	2	
	GEO 1011	Environment and Sustainable Growth	2	
Professional skills and labor market	RHB 1001	Work Value and Ethics	2	The student chooses two courses.
	BUS 1001	Innovation and Entrepreneurship	2	
	EDM 1001	Leadership Skills	2	
	FIN 1001	Financial Planning Skills	2	
	ENG 1001	English Language Skills	2	
Communicative and personal skills	BC 1001	Communications Skills	2	The student chooses two courses.
	ARB 1001	Linguistic Skills	2	
	ART 1001	Editing and Speech Skills	2	
	PSY 1001	Mental Health	2	
	BIO 1001	General Knowledge of Health Care	2	
Academic skills	TCM 1001	University Education Skills	2	The student chooses two courses.
	RHE 1001	Reading Skills	2	
	IT 1001	Technical Skills	2	
	EDP 1001	Thinking Skills	2	
	STA 1001	Basics of Statistics	2	

**3. Course Specifications** Insert hyperlink for all course specifications using NCAAA template

[https://drive.google.com/file/d/1sQPhmT9TgG4OWJvT2bsJd\\_yQLgwkGcni/view?usp=share\\_link](https://drive.google.com/file/d/1sQPhmT9TgG4OWJvT2bsJd_yQLgwkGcni/view?usp=share_link)

**4. Program learning Outcomes Mapping Matrix**

Align the program learning outcomes with program courses, according to the following desired levels of performance (I = Introduced P = Practiced M = Mastered)

Course code & No.	Program Learning Outcomes										
	Knowledge and understanding				Skills				Values		
	K1	K2	--	---	S1	S2	S3	---	V1	V2	V3
CHM 1101	I	I				I	I		I	I	I
BIO 1101	I	I				I	P		I		
ENG 1140					I		I		I	I	
University requirement (1)					I		I		I	I	
MAT 1101	I	I			I	I	I		I	I	I
BIO 1121	P	I			I	I	P		I	I	
ENG 1195									I	I	I
University requirement (2)					I		I		I		
BIO 1111	I	I			I	I	P		I		
PHY 1101					I	I	P		I	I	I
BIO 1113	I	I			I	I	P		I	I	
University requirement (3)					I		I		I		
BIO 1231	P	P			P	I	P		I	I	M
BIO 1241	P	P			P	I	P		I	I	
BIO 1251	P	P			P	I	P		I	I	
University requirement (4)					I		I	I	I	I	I
BIO 1212	P	P			P	I	P		I	P	
BIO 1232	P	P			P	I	P		I	P	
BIO 1237	P	P			P	I	P		I	I	
University requirement (5)					P		P		P	P	P
BIO 1242	P	P			P	I	P		I	P	
BIO 1244	P	P			P	I	P		I	P	
BIO 1252	P	P			P	I	P		I	P	
University requirement (6)					P		P		P	P	P
Free course (1)					M		P		P	P	P

<b>BIO 1314</b>	M	P			M	M	M		M	P	
<b>BIO 1322</b>	M	P			M	M	M		M	P	
<b>BIO 1343</b>	M	P			M	M	M		M	P	P
<b>Free course (2)</b>					P		P		P	P	P
<b>CHM 1337</b>	P	P			M	M	M		P	P	P
<b>COMH 1311</b>	P	P			P	M	M		M	P	P
<b>BIO 1323</b>	M	P			M	M	M		M	P	
<b>Elective Course (1)</b>	P	P			P	I	P		P	P	P
<b>BIO 1333</b>	M	P			M	M	M		M	P	
<b>BIO 1345</b>	M	P			M	M	M		M	P	P
<b>BIO 1353</b>	M	P			M	M	M		M	P	
<b>University requirement (7)</b>					P		P		P	P	P
<b>BIO 1415</b>	M	M			M	M	M		M	M	
<b>STA 1417</b>	P	P			P	I	P		I	I	
<b>BIO 1436</b>	M	M			M	M	M		M	M	
<b>Free course (3)</b>					P		P		P	P	P
<b>BIO 1434</b>	M	M			M	M	M		M	M	M
<b>BIO 1454</b>	M	M			M	M	M		M	M	M
<b>Elective Course (2)</b>	P	P			P	I	P		P	P	P
<b>University requirement (8)</b>					P		P		P	P	P
<b>University requirement (9)</b>					P		P		P	P	P
<b>University requirement (10)</b>					P		P		P	P	P
<b>BIO 1497</b>	M	P			P	M	P		P	P	P
<b>BIO 1499</b>	M	M			M	M	M		M	M	

\* Add a table for each track (if any)

### 5. Teaching and learning strategies to achieve program learning outcomes

Describe policies, teaching and learning strategies, learning experience, and learning activities, including curricular and extra-curricular activities, to achieve the program learning outcomes.

- Lectures and practical laboratory.
- Self-learning.
- Mini-projects/Research project.
- Office hours.
- Practical work.
- Textbooks and recommended references and some articles which will require reading, writing, and oral presentation.
- Private study, project work and finally the research project.
- Extensive use of the network for distributing teaching materials.
- A research project including an oral presentation
- Simulation of presentation monitored by the supervisor/teacher.
- Labs.

#### **6. Assessment Methods for program learning outcomes.**

Describe assessment methods (Direct and Indirect) that can be used to measure achievement of program learning outcomes in every domain of learning.

Program learning outcomes assessment methods are classified as direct (where actual student behavior is measured or assessed), and indirect (which include activities that gather impressions or opinions about the program and/or its learning goals)

##### Direct Assessment Methods:

Direct methods require students to represent, produce or demonstrate their learning.

Examples of direct assessment include but are not limited to the following:

- Course-embedded assignments, Presentations, Performances or Projects
- Capstone experiences
- Portfolios
- Senior theses
- Comprehensive exams, certification or licensure exams

##### Indirect Assessment Methods:

Indirect methods capture information about students' perceptions about their learning experiences and attitudes toward the learning processes.

Examples of indirect assessment include but are not limited to the following:

- Surveys, such as satisfaction, attitudinal, feedback, employer or alumni perceptions.
- Focus groups.
- Exit interviews.
- Self-evaluations, such as student or alumni self-ratings of learning.
- External reviews



## D. Student Admission and Support:

### 1. Student Admission Requirements

The admission of students at University is part of the responsibility of the Deanship of Admission and Registration. The students admitted in the program are part of the students already passed successfully the Preparatory Year Program (PYP) Applied Science Track according to their grades and wishes.

All newly admitted students are required to complete the PYP before starting their undergraduate study (Applied Sciences path). Students may be exempted from part or all of this program according to the related executive principles. 1. Applicant must be holding a General Secondary Certificate or Secondary Certificate or equivalent from outside Kingdom of Saudi Arabia.

2. Applicant must not be terminated from any other university for discipline rules.
3. Applicant must be medically fit.
4. Applicant must have an official approval from his manager or supervisor, both in private or governmental sectors.
5. Admission to scientific colleges including the college of science is confining to secondary school students – Scientific Section after they passing the preparatory year exams. 6. The equivalent ratio that enables students to be accepted in Applied Sciences path is 80%.

Criteria of admission onto the College programs and preparatory majors are as follows:

<i>Academic Major of Preparatory Path</i>	<i>Qualifying Disciplines</i>	<i>Weights of GPA by National Center for Assessment (<a href="http://www.qiyas.org">www.qiyas.org</a>)</i>	<i>College</i>	<i>Program</i>
Applied Sciences Path	Scientific	Secondary (40%) Formative (40%) Summative (20%)	Science	Applied Mathematics
				Physics
				Chemistry
				Biology

According to his/her GPA, the student will be accepted directly into the scientific program

he/she applies to enroll in after passing the preparatory program successfully. The admission take place only once on summer vacation, through the Unified E-Admission Portal at the public universities in Riyadh region. There are no admissions for the second semester. The applications for admission are through the Unified E-admissions Portal for Students.

Students can apply for admission to IMSIU University through the Unified E-Admissions Portal for public universities in Riyadh region. In fact, it enables the applicant to fill the admission application electronically and to choose an academic major according to his/her certifications, grades and priorities determined by himself/herself without the need of his/her presence at the university.



*The Electronic Admission for Female Students in Riyadh Region.*



*The Electronic Admission for Male Students in Riyadh Region.*

Note: PYP is required for the admission to the program, but it is not part of the program and its results are not included in the Program GPA.

## **2. Guidance and Orientation Programs for New Students**

- Students have to be prepared at the general education level through the Preparatory Year Program (PYP) in the following disciplines: English Language, Mathematics, Sciences, and Computer skills.
- Open day.
- Meetings.
- Students will be introduced to the counselling services provided by the program.

## **3. Student Counseling Services**

(academic, career, psychological and social)

- Student admitted to the Biology Bachelor Program will be assigned an academic advisor, responsible for pastoral support, guidance and counseling.
- The lecturer for each course allocates 6 office hours per week advertised on his /her own timetable, and reserved as part of his/her teaching schedule to help the students on any academic problems/difficulties.
- Student is able to get individual consultation and academic advice appointment with teaching staff via e-mail or phone calls.
- A list of teaching staff members with their room numbers, their phone numbers and their e-mail addresses is given in the Bachelor's biology Handbook and Department website. □  
University support services include careers, financial advice, housing, counseling etc. Excellent library facilities.

- University, college and department handbooks provide information about the course structure and University regulations etc.
- Feedback is provided for all assessments.

#### **4. Special Support**

(low achievers, disabled, gifted and talented)

- Students with physical disabilities are welcomed in the program. If they wish to receive special accommodations while enrolled, they should contact the Counseling and Advising Unit at the College.
- Classrooms, toilets, elevators, and parking are accessible to disabled students.
- Labs

## E. Teaching and Administrative Staff

### 1. Needed Teaching and Administrative Staff

Academic Rank	Specialty		Special Requirements / Skills ( if any )	Required Numbers		
	General	Specific		M	F	T
Professors	Plant science		None	1	1	2
	Zoology			1	1	2
	Microbiology			1	1	2
	Parasitology			1	1	2
Associate Professors	Plant science		None	1	1	2
	Zoology			1	1	2
	Microbiology			1	1	2
	Parasitology			1	1	2
Assistant Professors	Plant science		None	2	2	4
	Zoology			2	2	4
	Microbiology			2	2	4
	Parasitology			2	2	4
Lecturers	Plant science		None	2	2	4
	Zoology			2	2	4
	Microbiology			2	2	4
Teaching Assistants	Plant science		None	2	2	4
	Zoology			2	2	4
	Microbiology			2	2	4
Technicians and Laboratory Assistants			None	2	2	4
Administrative and Supportive Staff			None	2	2	4
Others ( specify )						

## 2. Professional Development

### 2.1 Orientation of New Teaching Staff

Describe briefly the process used for orientation of new, visiting and part-time teaching staff

One of the main tasks of the manager of the program are:

1. Equipping new faculty members with the knowledge and skills that they will need in their first semester in order to progress toward types of objectives, targeted skills, assessment methods, nature of research, role of funding and graduate students etc...
2. Explaining to the new, visiting or part time teaching staff how to design, and deliver a course and assess the learning outcomes.
3. Explaining to the new, visiting or part time teaching staff the nature of the university environment and constraints.
4. These responsibilities will be carried by the Head of the Department, Faculty members, through seminars and Departmental meetings

### 2.2 Professional Development for Teaching Staff

Describe briefly the plan and arrangements for academic and professional development of teaching staff (e.g., teaching & learning strategies, learning outcomes assessment, professional development, etc.)

Teaching staff are encouraged to attend trainings and workshops for improving their teaching and student assessment skills.

Teaching staff members are encouraged to reflect on their teaching and research, in order to develop innovative teaching methods and knowledge of research.

Indeed, each year University awards are presented to academic staff for outstanding contributions to teaching, research supervision and publishing.

## F. Learning Resources, Facilities, and Equipment

### 1. Learning Resources.

Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)

STEP 1: For each course the department assigned a faculty members committee to do the followings:

- Course description (preliminary syllabus),
- Recommend Lists of Required Textbooks, Essential References Materials (Journals, Reports, *etc.*), Recommended Textbooks and Reference Material (Journals, Reports, *etc.*), Electronic Materials (eg. Web Sites, Social Media, Blackboard, *etc.*), and other learning material such as computer-based programs/CD, professional standards or regulations and software.

STEP 2: A committee collects learning resources of all courses and submits the required lists to the Head of the department to get the approbation of the department council.

STEP 3: After the department council approbation the Department Head asks the College Dean to provide the Required lists of Learning Resources through the University Central Library and/or the IT Deanship.

### 2. Facilities and Equipment

(Library, laboratories, medical facilities, classrooms, *etc.*).

- Classrooms are equipped with all facilities needed to provide modern educational environment.
- The library is equipped with Textbooks, Essential References Materials (Journals, Reports, *etc.*).
- The laboratories are equipped with
  - Beakers
  - Bunsen Burners
  - Burettes
  - Coverslips
  - Crucibles
  - Droppers
  - Filter Papers
  - Flasks
  - Forceps
  - Funnels
  - Hot Plates
  - Inoculating Loops
  - Litmus Papers
  - Measuring Cylinders
  - Petri Dishes
  - Pipettes
  - Spatulas
  - Test Tubes
  - Thermometers
  - Wash Bottles
  - 
  - Analytical Lab Balance
  - Autoclave
  - Centrifuge
  - Dissecting trays
  - Dyes
  - Forceps
  - Freezers
  - Hybridization oven
  - Incubators
  - Light Microscopes
  - Magnetic stirrers
  - Microcentrifuge
  - Petri dishes
  - Refrigerators
  - Scalpels
  - Shakers
  - Slides
  - Spectrophotometers
  - Thermomixers
  - Vortexers

- Water baths

For the planning and acquisition resources for library, laboratories, and classrooms the department proceeds as follows:

STEP 1: Evaluation of the locals assigned for graduated programs: Library, Laboratories, and classrooms.

STEP 2: In the shortage case of supplies, a committee will report that to the Department Head in order to ask the College Dean to provide such supplies.

**3. Arrangements to Maintain a Healthy and Safe Environment** (According to the nature of the program)

- Ventilation system
- Sprinkler systems
- Safety showers
- Eyewash units
- Fire extinguishers

## G. Program Management and Regulations

### 1. Program Management

#### 1.1 Program Structure

(including boards, councils, units, committees, etc.)

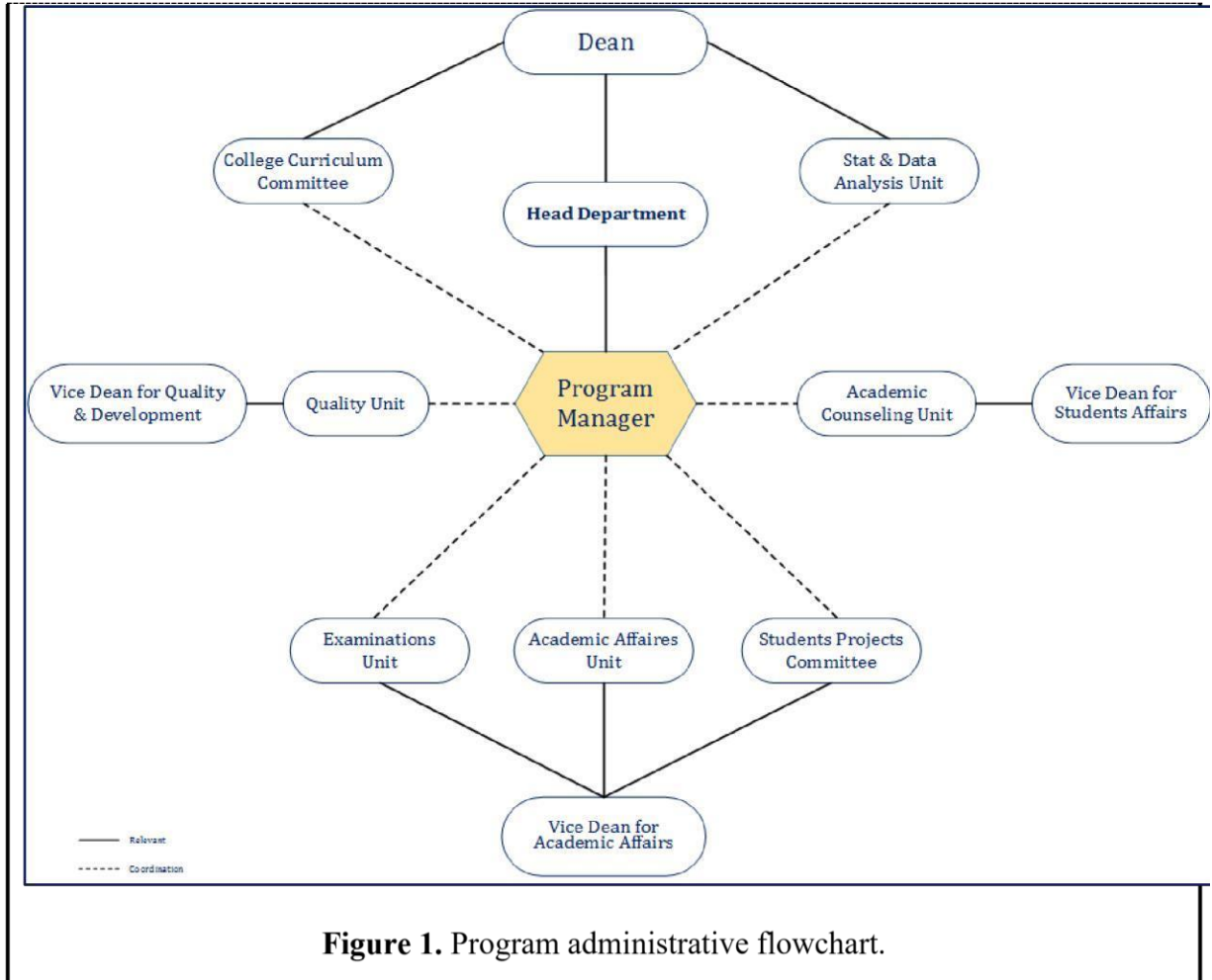


Figure 1. Program administrative flowchart.

#### 1.2 Stakeholders Involvement

Describe the representation and involvement of stakeholders in the program planning and development. (students, professional bodies, scientific societies, alumni, employers, etc.)

The program includes an advisory committee composed of representatives from the scientific research sector and industrial companies such as water companies and pharmaceuticals, as well as representatives of students studying in the program and graduates.

#### 2. Program Regulations

Provide a list of related program regulations, including their link to online version: admission, study and exams, recruitment, appeals and complaint regulations, etc.)



### **Internal Policies and Regulations**

Consistently with [OTH 1], IMSIU has written policies applying to students [IMSIU 3-5, 19-22, 26, 29, 31-34], faculty members [IMSIU 6-10, 12, 14, 31-32,] and other employees [IMSIU 17, 39-40, 42] that are clear and fair; these are detailed and explain the processes for almost all issues and concerns. Policies and regulations are regularly updated to reflect IMSIU's mission [IMSIU 1], and any policy changes are thoroughly discussed before being approved by the University Council.

### **Organization of exams (letter of Dean)**

Course specification document provides detailed information about examination methods, date, duration and topics whose will be covered/ midterms, lab exams, quizzes and homework and mini/project. The syllabus is given to students at the beginning of class and it is published in Google Classroom and College website. Also the course syllabus gives more details on: learning outcomes, material, topic outlines, exams and grading system, student attendance/absence, Executive Rules for Study Regulations and Exams. However, the final examination is specified with University's calendar and it is published in form of table regrouping all course examinations through College website.

The examination event are managed by:

- follow up and exam unit
- departmental exam committee
- vice-deanship of graduate studies and scientific research
- College Scoring Committee
- Second examiners

### **Assessment Forms**

The assessment forms are basically aimed to intensively, continually and compressively cover course learning objectives in order to monitor the individual student's achievement. Most of forms of the assessment are the final exam, as well as a multitude of other assessment forms a (midterm(s), lab exam, quiz, homework, participation, mini-project,...), and during the semester intensively, comprehensively and continuously (see subsection C.5 of course specifications for the forms of exams .

Students are informed at the beginning of semester about examination requirements and forms through:

- Syllabus
- College website page
- Google Classroom

### **Final exams and University calendar**

Final Examination timetables are published and available for each semester including summer session. However course syllabi specify the midterms and lab-exams during the first class.

The final exam timetable is released four weeks before the examination period information regarding these timetables will not be available before these dates.

The exam timetables can be accessed via the College website.

The College equivalency committee was established to verify documents of student (official transcript with student assignment completed out-side of the university) with respect to quality assurance and level of compliance to quality with the quality expectation.

### **Exams Regulations**

Exam regulations are governed by "Rules and Regulations for Undergraduate Studies and Exams" amended by the decision of the Higher Education Council No. 33/45/1428 as well as the Executive Rules of IMSIU No. 2401-1432 / 1433H, (2012 G.) [IMSIU 3-4].

If a candidate is not able to assist to a final exam due to chronic illness or physical disability, the

College council may allow the candidate to take an alternative exam provide a medical certificate as evidence for his/her conditions.

### **Recruitment**

The administration staff is appointed by the university after running a competition among the applicants. For the academic staff, jobs are advertised nationally and internationally through all kinds of media (like internet, newspapers and magazines) or through the Saudi Cultural Attaché's Office. Next the Recruitment Committee appointed by the department examines submitted applications and classifies them, those to be considered for a position and those who do not meet the academic standards of the department. Some of the candidates applicants are interviewed via the online process (Skype) and others (particularly for the candidates in Saudi Arabia and neighboring countries) are interviewed personally by the college recruitment committee which includes the head of the department. The Saudi assistants are appointed by the Recruitment Committee after selection and passing a writing exam.

The responsible for the degree program recognize that the number and the academic qualification of the teaching staff are sufficient for teaching and supervision:

1. Through the recruitment processes:

a. For Saudi PhD owners: They are invited to do a presentation in the corresponding department and a personal interview with the department recruitment committee.

b. For Non-Saudi PhD owners: They are invited via a web announcement to send their CVs. If they are selected, they will have a personal interview with the department recruitment committee via Skype application.

c. For Saudi BSc or MSc owners: They are invited to do a written exam according to their specialties via a web announcement. If they are selected, they will.

## **H. Program Quality Assurance**

### **1. Program Quality Assurance System**

Provide online link to quality assurance manual

## Purpose

The purpose of the College Development and Quality Unit (CDQU) is to be responsible for the monitoring of quality assurance process covering: planning, implementation and procedures, assessment, and improvement according to both NCAAA and University quality requirements within the College community.

On behalf of vice-deanship for academic affairs and quality, CDQU is accountable to the College Board for all aspects of academic quality assurance: the coordination, maintenance and enhancement of quality and academic standards within College. CDQU shall supervise all committees of accreditation of departments committees and related working teams.

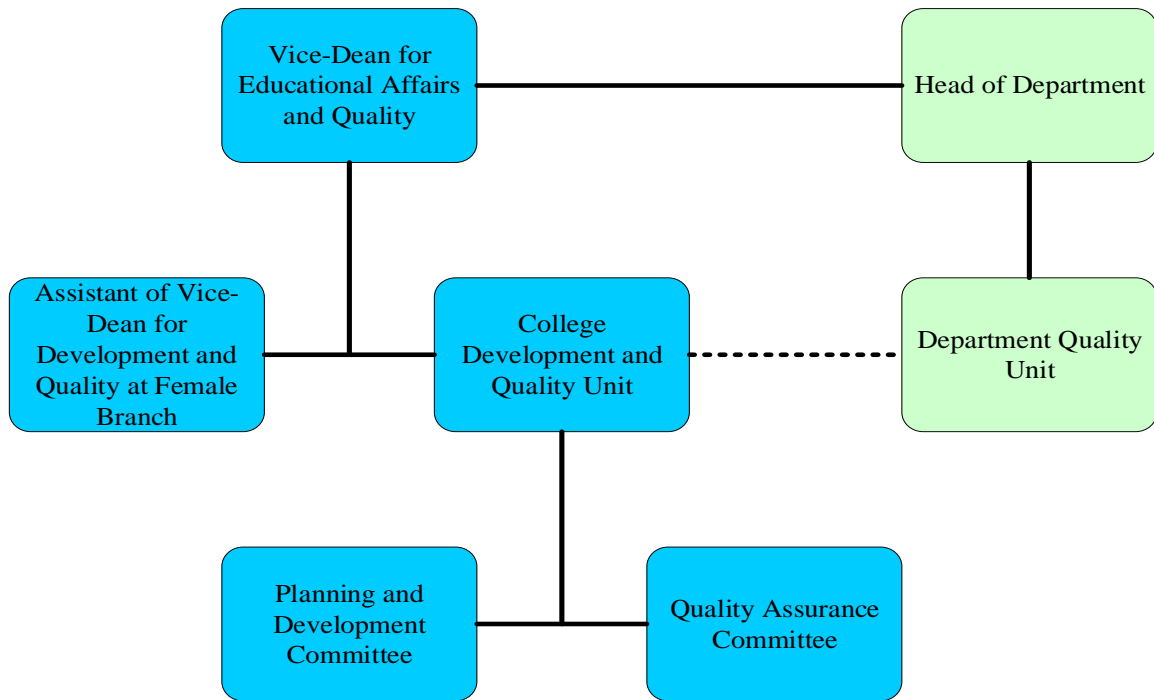


Figure 1. Organizational Quality Management

## Membership

The number of members will be variable depending on the body structure and size of the College. CDQU (head, designed by the dean of the college of science). The current membership is as follows:

- Head of the College Development and Quality Unit;
- Assistant of the Vice-Dean for Female Affairs;
- Assistant of the Vice-Den for Educational Affairs and Quality;
- Heads of Department Quality Units;
- Head of Statistical and Data Analysis Unit;
- Head of the College Training Unit;
- College Academic Advisors;
- Representatives of Departmental Quality Units at the Female Branch;
- Head of the Follow-up and Examinations Unit.

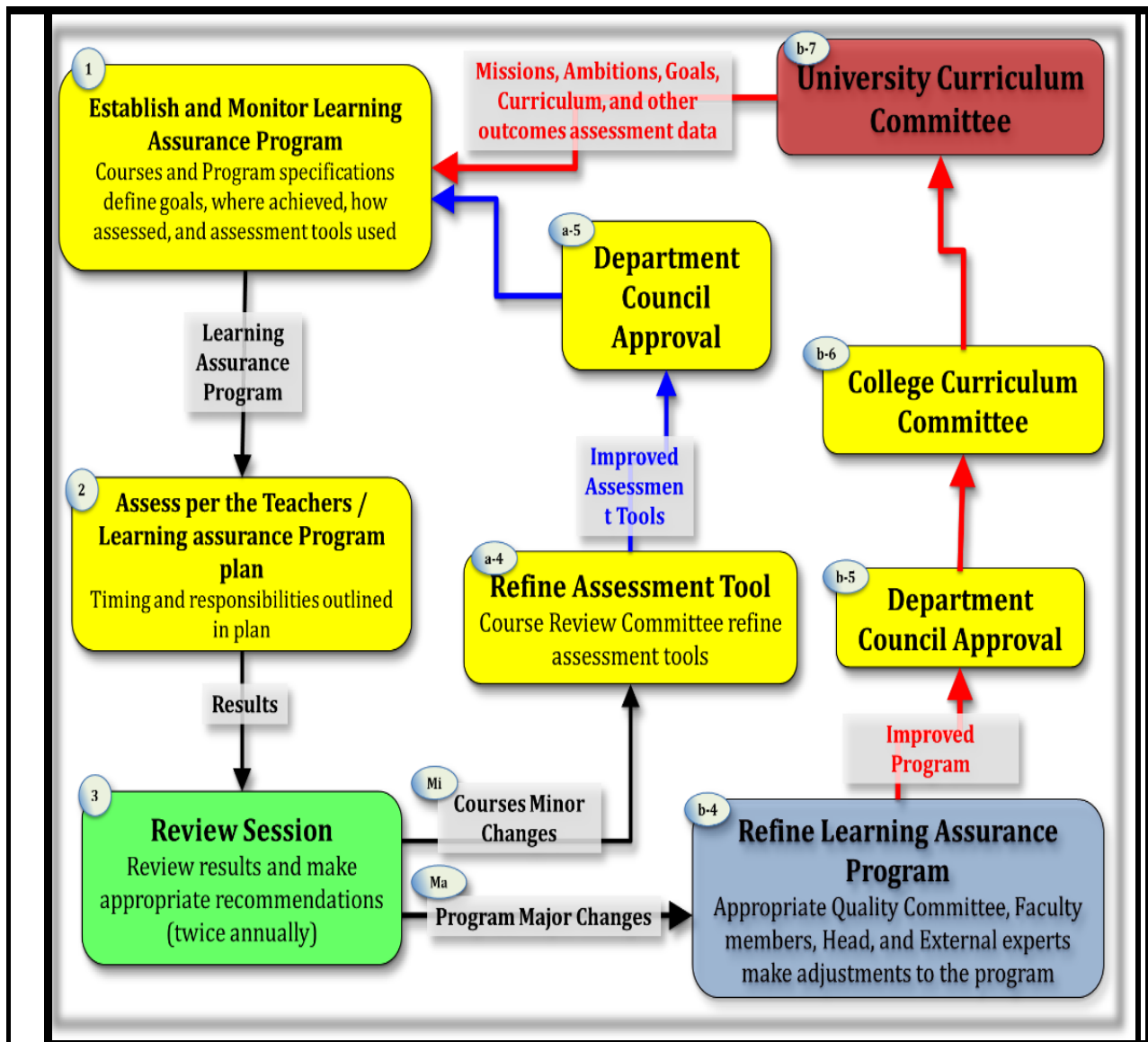
At the College, the quality management including quality assurance is governed by CDQU based on quality –oriented governance with continuous development and improvement. Globally, CDQU utilizes the following management approach: to plan; to coordinate; to implement; to assess and to orient all activities in the College towards compliance with the vision of the College and to convey its strategic goals.

At each department a quality unit is established. However, CDQU unites all procedures, methods and tools to ensure an integrated cyclical quality process over whole the College and its academic programs including teaching\learning quality.

The College considers a degree program itself as qualification process. The precise definitions and descriptions of the level, goals, objectives and learning outcomes of a program are specified in each program specification document [BScAM 2, MScMAT 2, BScPH 2, BScCH 2] and they are based on NQF [EEC 1]. In addition, handbook [EEC 2-5 and templates of NCAAA [EEC 6-12] are used. Programs and courses specifications [BScAM 4, MScMAT 4, BScPH 4, BScCH 4] and related reports are the central references to ensure ongoing monitoring and systematic improvement.

Program review and its development is periodically assessed through the following processes:

- Courses reports are submitted to the program manager every semester.
- Appropriate teaching staff committee is in the charge of assessment and modification.
- Prepare and monitor the annual program report.
- Conduct and analyze surveys opinion of the students about the courses and the program.
- Conduct and analyze surveys opinion of the employers about the program.
- Program manager reviews the proposals submitted by the previous committees and makes appropriate decision after approbation of the department council.
- Monitor a global review for the development of the program periodically each five years if necessary.
- All the previous processes follow the Teaching\Learning Quality Assurance Process Diagram:



**Figure 2.** Teaching/Learning Quality Assurance Process Diagram.

## 2. Program Quality Monitoring Procedures

Teaching staff are consulted and involved in monitoring program quality, annual review and planning for improvement, through the followings:

- Quality Department committee review
- Department council Approval of the program
- Student course evaluation feedback
- Course report
- Teaching staff program evaluation
- Annual program report

Teaching/Learning Quality Assurance Process described below (see section I).

### **3. Arrangements to Monitor Quality of Courses Taught by other Departments.**

- The course outlines are developed in consultation and in agreement with the concerned departments to ensure that the course content meets our needs.
- Communication and coordination with the relevant department(s) will be done in the future if any changes are needed.
- There are three kinds of courses in the program taught by other departments:  
University requirements: to achieve the mission and goals of the institution as Islamic University.  
College requirements: to achieve the mission and goals of the College of Science.  
Program requirements: to ensure compliance to the program's mission.
- To make sure that these courses meet the needs of students, the department adopts the following procedure:
  1. The department studies course specifications and evaluates their compatibility to make sure that these courses meet the students' needs in the program.
  2. The department of Biology communicates its needs to other departments to ensure that the courses coverage fulfill the needs of students in Bachelor of Sciences in Biology program.
  3. The syllabi of the courses taught by other departments are periodically reviewed by the department in collaboration with the concerned departments to ensure compliance to the program's requirements.
  4. Explore the professional requirements for the program through employers' surveys.

### **4. Arrangements Used to Ensure the Consistency between Main Campus and Branches (including male and female sections)**

The Department adopted the following processes Ensure the Consistency between Main Campus and Branches

- Students of all branches study the same program.
- The department chooses one coordinator for each course and for all branches at the beginning of the semester.
- The coordinator of branches insures that solved exercises are the same for all branches.
- The final exam is common for all branches.

### **5. Arrangements to Apply the Institutional Regulations Governing the Educational and Research Partnerships (if any).**

N.A.

### **6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes**

### **6. 1. IMSIU's mission**

Offering high-quality academic programs and conducting high-impact research through a stimulating environment, well-governed administrative systems, advanced technology, sustainable resources, and effective partnerships to achieve competitive outputs that would meet the needs of the labor market and contribute in building knowledge economy and serving the local and global community.

Program's Goals	University's Goals							
	UG1	UG2	UG3	UG4	UG5	UG6	UG7	UG8
PG1	✓	✓	✓	✓	✓	✓		✓
PG2	✓	✓	✓	✓	✓	✓		✓
PG3	✓	✓	✓	✓	✓	✓		✓
PG4		✓	✓	✓		✓		✓
PG5	✓		✓	✓		✓		✓
PG6	✓		✓	✓		✓		✓

### **6. 1. A: Map University's Goals with the Program's Goals**

Map University's Goals with the Program's Goals									
PLOs	Program's Goals	University's Goals							
		UG1	UG2	UG3	UG4	UG5	UG6	UG7	UG8
K1; S1; S2; V1	PG1	✓	✓	✓	✓	✓	✓		✓
K2; S3; V1; V2	PG2	✓	✓	✓	✓		✓		✓
K2; S2; S3; V1; V2; V3	PG3	✓		✓	✓	✓	✓		✓
K1;S1; S2; S3; V2; V3	PG4		✓	✓	✓	✓	✓		✓
K2; S1; S3; V1	PG5	✓		✓	✓	✓			✓
K1; S2; S3; V1; V3	PG6	✓		✓	✓		✓		✓

### **6. 2 College Mission**

Providing an academic environment for students to be productive and successful in their careers, and directing scientific research on community and labor market issues.

### **Specific goals of College**

(classify them according to domains: knowledge, skills, values)



### **6. 2. A. Map College's Goals with the Program's Goals**

<b>College's Goals</b>	<b>PLOs</b>
CG1. Preparing qualified graduates with high scientific qualifications who meet the requirements of the labor market.	K2; k4; S2; V1; V3
CG2. Introducing postgraduate programs at the college and expanding undergraduate and expanding undergraduate academic programs	K1; S1; S3; V1; V2
CG3. Excellence in scientific research	K1; k2; S1; S2; V1; V2
CG4. Developing college learning resources	K1; S3; V3
CG5. Improving the role of the college in community service	K2; S2; V1; V2

### **Map College's Goals with University's Goals :**

	<b>UG1</b>	<b>UG2</b>	<b>UG3</b>	<b>UG4</b>	<b>UG5</b>	<b>UG6</b>	<b>UG7</b>	<b>UG8</b>
<b>CG1</b>	✓	✓		✓		✓		✓
<b>CG2</b>	✓		✓	✓	✓	✓		✓
<b>CG3</b>		✓	✓	✓	✓	✓	✓	✓
<b>CG4</b>	✓		✓	✓			✓	✓
<b>CG5</b>				✓	✓		✓	✓

### **6. 3. A. Map College's Goals with the Program's Goals**

<b>Map Collage's Goals with the Program's Goals</b>						
<b>PLOs</b>	<b>Program's Goals</b>	<b>Collage's Goals</b>				
		<b>CG1</b>	<b>CG2</b>	<b>CG3</b>	<b>CG4</b>	<b>CG5</b>
<b>K1; k2; S1; S3; V1; V2</b>	<b>PG1</b>	✓	✓	✓	✓	✓
<b>K2, S1; S2; V1; V3</b>	<b>PG2</b>	✓	✓	✓	✓	
<b>K1; k2; S3; S4; V1; V2</b>	<b>PG3</b>	✓		✓	✓	✓
<b>K1; S2; V2; V3</b>	<b>PG4</b>	✓		✓	✓	
<b>K2; S1; S2; V1; V3</b>	<b>PG5</b>	✓	✓	✓	✓	✓
<b>K1; K2; S2; S3; V1; V2</b>	<b>PG6</b>	✓	✓		✓	✓



- ✓ The learning outcomes of the Biology Program have been formulated according to the National Qualifications Framework (NQF). Moreover, each course has its own learning outcomes recorded in the course specification and related to the program's learning outcomes.
- ✓ The learning outcomes are mentioned in the courses and program specifications.
- ✓ The internal quality assurance system is implemented, providing continuous quality improvement. The Biology Department's Council followed the required quality standards established by NCAAA and Quality Process by the University (in collaboration with Biology Department Quality Unit).

#### Course folder:

- ✓ Through the study of the learning outcomes matrix, which is stated in the program specification. A model has to be selected from the course learning outcomes, which greatly serve the program plan.
- ✓ The Course responsible must review the exams models and learning outcomes for those courses in the course and program specification.

#### Advisory committee report:

The remarks and comments of the Advisory Committee were considered and discussed in the Biology Department's Council for discussion and approval (the committee and department's minutes)

#### Annual Report:

The learning outcomes were measured through the main KPIs that were approved by the college council. Annually, the results are documented with the improvement plans within the annual report and taking into consideration the available feedback through the following items:

- Course report.
- Student's feedback.
- Students' questionnaire.
- Employers' feedbacks.
- External assessor for the program and the exams.
- The minutes of the advisory committee.
- Besides, all of these points were discussed in the Department councils, and improvements plans were suggested and applied.

#### External Assessor:

The main objective of the review of courses leading to Program review is to assess and report the following to the head of the department, joining with Independent External Assessor Report:

- ✓ Quality of teaching;
- ✓ Learning activities;
- ✓ Course delivery methods;
- ✓ Course content;
- ✓ Teaching Strategies;
- ✓ Methods of assessment;
- ✓ Achievement of SLOs of the course;
- ✓ Adequacy of facilities and resources.

All remarks, comments, opinions, and Students' evaluations of the course mentioned in the collective report were sent to the head of the Department and discussed in the department council (report of the external assessor, department council minutes, and the replies).

#### Self-Study Report for Program:

Every five years, represented by QUD, The follow-up for all are parts of the overall management quality system at the department and College.

#### Evidences:

- ✓ Courses reports.
- ✓ Feedbacks from the course reports.
- ✓ External assessor reports for the program and exams.
- ✓ The advisory committee minutes.
- ✓ the Biology Department's Council
- ✓ The external assessor report.
- ✓ The reply on the external assessor report.
- ✓ The analysis of the student questionnaires about the courses.
- ✓ Annual report.
- ✓ The summary of the program annual report.
- ✓ The results of the student's questionnaires.
- ✓ The results of the graduate's questionnaires.
- ✓ The results of the employer's questionnaires.

#### Program Assessment process & Tools

- ✓ The Biology Department's Council identifies the program's learning outcomes nominated in Program and Courses specifications, evaluates to which extent the program achieves its outcome-oriented objectives and goals, and provides evidence for making continuous improvements.
- ✓ Assessment of student learning outcomes involves the following:
  - The systematic collection of students learning activities.
  - The continuous evaluation feedback , and
  - The use of collected data from previous items to improve: teaching, departmental effectiveness, student learning, and student development .
- ✓ The Course Responsible presents to the Program Manager, through the Head of Department, a course report (CR) for each course in the program at the end of each semester with an annual assessment report on its progress and achievement, monitoring and including student learning outcomes and all activities .
- ✓ The Program Annual Assessment Report (PAAR) has to mention: mission, goals, and objectives, the specific student learning outcomes expected upon program completion.
- ✓ The Annual Report for the Program (APR) requires addressing mission /purpose, expected student learning outcomes, assessment tools and techniques, assessment results, continuous improvement efforts, and resource needs.

To enrich the teaching\learning environment, with goals and objectives related to student learning the Biology Department's Council applies a teaching\learning assurance quality model, in order, the following issues:

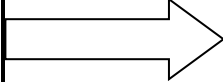
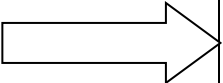
- Mission and goals;
- College strategic plan goals;
- Key Performance Indicators;
- Assessment procedures;

- Continuous improvement;
- Action plans with resources.

This process supports the Biology Department’s Council effectiveness, organizes and evaluates systematic assessment to improve the Council’s planning continuously, and making a decision making.

Program Goals 1	
Goal Code	Statement
PG 1	<b>Taking care of the classroom and laboratory as the most important place in the biology department space, which provides a modern educational and research environment that stimulates excellence and innovation</b>
Specific LOs to be assessed	Recognize a comprehensive and consistent structure of knowledge and understanding of the theories, principles and concepts involved in the science of biology needed to enter the job force.
	Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.
	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.
	Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches.
	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.
	Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.

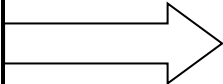
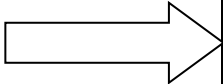
**Program Goal 1 Assessment flow**

CHM 1101 BIO 1101 MAT 1101 BIO 1121 BIO 1111 PHY 1101 BIO 1113 BIO 1231 BIO 1241 BIO 1251 BIO 1212 BIO 1232 BIO 1237 BIO 1242 BIO 1244 BIO 1252 BIO 1314 BIO 1322 BIO 1343 CHM 1337 COMH 1311 BIO 1323 BIO 1333 BIO 1345 BIO 1353 BIO 1415		<b>BIO 1497</b>		<b>BIO 1499</b>
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STA 1217 BIO 1436 BIO 1434 BIO 1454				
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Program Goals 2	
Goal Code	Statement
PG 2	<b>Providing academic programs in a wide range of biological disciplines at various levels designed to provide adequate knowledge and skills and experimental laboratory research to contribute to meeting the needs of the labor market and to serve the community.</b>
Specific LOs to be assessed	Recognize a comprehensive and consistent structure of knowledge and understanding of the theories, principles and concepts involved in the science of biology needed to enter the job force.
	Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.
	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.
	Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches.
	Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.
	Evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.

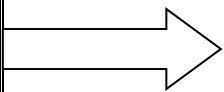
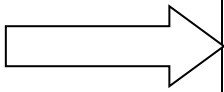
**Program Goal 2 Assessment flow**

CHM 1101 BIO 1101 BIO 1121 BIO 1111 BIO 1113 BIO 1231 BIO 1241 BIO 1251 BIO 1212 BIO 1232 BIO 1237 BIO 1242 BIO 1244 BIO 1252 BIO 1314 BIO 1322 BIO 1343 CHM 1337 COMH 1311 BIO 1323 BIO 1333		<b>BIO 1497</b>		<b>BIO 1499</b>
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BIO 1345 BIO 1353 BIO 1415 STA 1217 BIO 1436 BIO 1434 BIO 1454				
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Program Goals 3	
Goal Code	Statement
PG 3	Providing a distinguished university education to develop students' abilities to think critically and solve problems using the experimental method and scientific analysis.
Specific LOs to be assessed	Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.
	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.
	Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches.
	Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.
	Use teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.

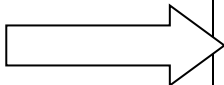
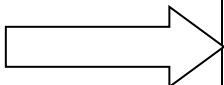
### Program Goal 3 Assessment flow

CHM 1101 BIO 1101 BIO 1121 BIO 1111 BIO 1113 BIO 1231 BIO 1241 BIO 1251 BIO 1212 BIO 1232 BIO 1237 BIO 1242 BIO 1244 BIO 1252 BIO 1314 BIO 1322 BIO 1343 CHM 1337 BIO 1323 BIO 1333 BIO 1345 BIO 1353 BIO 1415 STA 1217 BIO 1436 BIO 1434		<b>BIO 1497</b>		<b>BIO 1499</b>
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BIO 1454				
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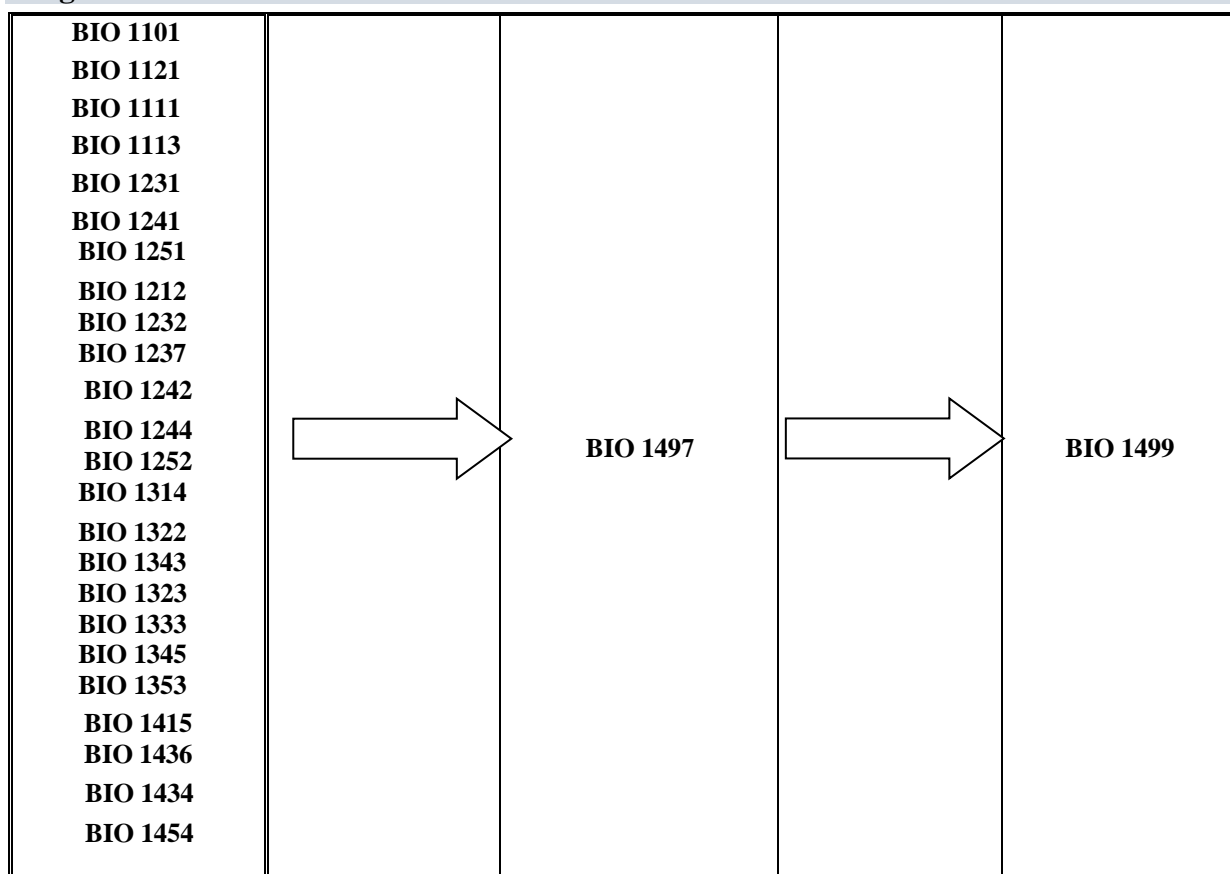
Program Goals 4	
Goal Code	Statement
PG 4	<b>Enhancing the use of technology in improving the quality and managing the educational process.</b>
Specific LOs to be assessed	Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches.
	Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.

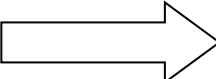
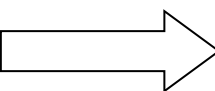
### Program Goal 4 Assessment flow

BIO 1101 BIO 1121 BIO 1111 BIO 1113 BIO 1231 BIO 1241 BIO 1251 BIO 1212 BIO 1232 BIO 1237 BIO 1242 BIO 1244 BIO 1252 BIO 1314 BIO 1322 BIO 1343 BIO 1323 BIO 1333 BIO 1345 BIO 1353 BIO 1415 BIO 1436 BIO 1434 BIO 1454		BIO 1497		BIO 1499
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Program Goals 5	
Goal Code	Statement
PG 5	<b>Improving the quality of teaching and scientific research by relying on professional development, directed scholarships, and attracting distinguished faculty members, with providing excellent opportunities for students and graduates to participate in scientific research for community service.</b>
Specific LOs to be assessed	Recognize a comprehensive and consistent structure of knowledge and understanding of the theories, principles and concepts involved in the science of biology needed to enter the job force.
	Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.
	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.
	Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches.
	Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.

### Program Goal 5 Assessment flow



Program Goals 6				
Goal Code	Statement			
PG 6	<b>Building qualitative and effective partnerships with institutions of the private and public sectors to enhance the department's position and open broader horizons for students and faculty members through cooperation activities and services that enhance education and the spreading of knowledge, thereby serving the community.</b>			
Specific LOs to be assessed	Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.			
	Evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.			
	Use teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.			
Program Goal 6 Assessment flow				
BIO 1231 BIO 1314 BIO 1322 BIO 1343 BIO 1323 BIO 1333 BIO 1345 BIO 1353 BIO 1415 BIO 1436 BIO 1434 BIO 1454		BIO 1497		BIO 1499

## 7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Effectiveness of teaching & assessment	Students	Surveys	End of academic year
Learning resources	Students	Surveys	End of semesters
External assessor	Faculty	Reports	End of academic year
Leadership	Graduates	Surveys	End of academic year

**Evaluation Areas/Aspects** (e.g., leadership, effectiveness of teaching & assessment, learning resources, partnerships, etc.)

**Evaluation Sources** (students, graduates, alumni, faculty, program leaders, administrative staff, employers, independent reviewers, and others (specify))

**Evaluation Methods** (e.g., Surveys, interviews, visits, etc.)

**Evaluation Time** (e.g., beginning of semesters, end of academic year, etc.)



program is evaluated through a process that involves collecting, analyzing, and using data to review the effectiveness and efficiency of the program. The program evaluations are used to: identify methods of improving the quality of higher education; provide feedback to students, faculty, and administrators; and ensure that program, policy, curriculum, department, and/or institution are functioning as intended and producing desirable outcomes.

Program evaluation is performed using both direct measures and indirect measures to provide a more holistic view of the impacts of the program.

Direct measures: They are the actual products such as papers, projects, and exams. They are often used to determine the degree to which students learned the content.

Indirect measures: They are used to examine perceptions, attitudes, and opinions about a program.

#### Program evaluation policy

##### 1. Planning

- Identify purpose
- Identify stakeholders
- Identify resources of the program

##### 2. Understanding Program Design

- Describe the goals and outcomes of the program
- Identify programmatic activities
- Connect the goals of the program with the activities and then the outcomes

##### 3. Design the Evaluation Plan

- Determine the scope of the evaluation
- Find or develop measures to collect data
- Write an evaluation plan

##### 4. Conduct the evaluation

- Gather the data
- Analyze the data
- Report the results to program stakeholders

##### 5. Revise the program and/or evaluation plan for continuous improvement

#### Program improvement plan

Performance indicators will reveal where the program is performing well (students rate their learning and job skills as exceptional, the program gets an exceptionally high rating by external agencies) and where it requires improvement (test scores are low, there is a low percentage of students finding jobs or advancing to other programs).

A program improvement plan is implemented to help determining and achieving specific, measurable goals for program improvement. It also allows designing and tracking the steps needed for any desired improvement. By gathering and analyzing assessment data, the program improvement plan enables the program to take a tremendous step toward ongoing improvement that leads to high-quality service.

نموذج الخطة الزمنية لقياس نواتج التعلم

المجال	نواتج تعلم البرنامج	1444 - 1445 هـ	1445 - 1446 هـ	1446 - 1447 هـ	1447 - 1448 هـ
المعارف	K1				
	K2				
المهارات	S1				
	S2				
	S3				
القيم	V1				
	V2				
	V3				

نموذج الخطة التنفيذية لقياس نواتج التعلم:

رمز الناتج	نوع الناتج	ناتج تعلم البرنامج LOC	أسلوب التقييم	مستوى الأداء المستهدف	خطة التنفيذ كيف؟ من؟ متى؟ أين؟
K1	المعارف	Recognize a comprehensive and consistent structure of knowledge and understanding of the theories, principles and concepts involved in the science of biology needed to enter the job force	اختبارات	نسبة نجاح الطلاب لا تقل عن 80%	كيف: حساب نتائج الطلاب النهائية في مقرر حيا 1101. من: منسق المقرر (تقرير المقرر). متى: المستوى الأول أين: القسم العلمي.
K2		Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.	اختبارات	نسبة نجاح الطلاب لا تقل عن 80%	كيف: حساب نتائج الطلاب النهائية في مقرر حيا 1113، من: منسق المقرر (تقرير المقرر). متى: المستوى الثالث أين: القسم العلمي.
S1	المهارات	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.	واجبات	نسبة نجاح الطلاب لا تقل عن 60-70%	كيف: حساب نتائج الطلاب في الواجبات في مقرر حيا 1101، من: منسق المقرر (تقرير المقرر). متى: المستوى الأول أين: القسم العلمي.
S2		Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches	اختبارات	نسبة نجاح الطلاب لا تقل عن 60-70%	كيف: حساب نتائج الطلاب النهائية في حيا 1231 و حيا 1244 و حيا 1434 و حيا 1333. من: منسق المقرر (تقرير المقرر). متى: المستوى الرابع لمقرر حيا 1231، والمستوى السادس لمقرر حيا 1244، والمستوى التاسع لمقرر حيا 1333، والمستوى الحادي عشر لمقرر حيا 1434 أين: القسم العلمي.
S3		Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.	تقرير كتابي	نسبة نجاح الطلاب لا تقل عن 60-70%	كيف: حساب نتائج الطلاب النهائية في مقرر حيا 1499، من: منسق المقرر (تقرير المقرر). متى: المستوى الثاني عشر أين: القسم العلمي
V1	القيم	Demonstrate integrity, professional and academic ethics, participation in finding constructive	مقياس تقديري من 5	نسبة نجاح الطلاب لا تقل عن 70-	كيف: تقييم أداء الطلاب في حصص التدريب الميداني (حيا 1497) باستخدام مقياس تقديري من 5 درجات،

من: المشرف على التدريب بالتنسيق مع المشرف من القسم. متى: المستوى الثاني عشر أين: جهة التدريب بالتنسيق مع القسم العلمي.	%80	درجات	solutions to some societal issues, and a commitment to responsible citizenship.	
كيف: تقييم أداء الطلاب في حصص التدريب الميداني (حيا 1497) باستخدام مقياس تقديري من 5 درجات، من: المشرف على التدريب بالتنسيق مع المشرف من القسم. متى: المستوى الثاني عشر أين: جهة التدريب بالتنسيق مع القسم العلمي.	نسبة نجاح الطلاب لا تقل عن 70- %80	مقياس تقديري من 5 درجات	Evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.	V2
كيف: تقييم أداء الطلاب في حصص التدريب الميداني (حيا 1497) باستخدام مقياس تقديري من 5 درجات، من: المشرف على التدريب بالتنسيق مع المشرف من القسم. متى: المستوى الثاني عشر أين: جهة التدريب بالتنسيق مع القسم العلمي.	نسبة نجاح الطلاب لا تقل عن 70- %80	مقياس تقديري من 5 درجات	Use teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.	V3

## 8. Program KPIs\*

The period to achieve the target (01) year.

No	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	76%	Percentage of performance indicators of the operational plan objectives of the program that achieved the targeted annual level to the total number of indicators targeted for these objectives in the same year.	End of academic year
2	KPI-P-02	Students' Evaluation of quality of learning experience in the program	3.80	Average of overall rating of final year students for the quality of learning experience in the program on a five-point scale in an annual survey.	End of academic year
3	KPI-P-03	Students' evaluation of the quality of the courses	3.87	Average students overall rating for the quality of courses on a five-point scale in an annual survey.	End of semesters
4	KPI-P-04	Completion rate	50%	Proportion of undergraduate students who completed the program in minimum time in each cohort.	
5	KPI-P-05	First-year students retention rate	78%	Percentage of first-year undergraduate students who continue at the program the next year to the total number of first-year students in the same year.	End of academic year
6	KPI-P-06	Students' performance in the professional and/or national examinations	100%	Percentage of students or graduates who were successful in the professional and/or national examinations, or their score average and median (if any).	
7	KPI-P-07	Graduates' employability and enrolment in postgraduate programs	75%	Percentage of graduates from the program who within a year of graduation were: a. employed b. enrolled in postgraduate programs during the first year of their graduation to the total number of graduates in the same year.	

8	KPI-P-08	Average number of students in the class	17	Average number of students per class (in each teaching session/activity: lecture, small group, tutorial, laboratory or clinical session). DURING THE FIRST SEMESTER.	End of semesters
9	KPI-P-09	Employers' evaluation of the program graduate's proficiency	N.A	Average of overall rating of employers for the proficiency of the program graduates on a five-point scale in an annual survey.	
10	KPI-P-10	Students' satisfaction with the offered services	2.80	Average of students' satisfaction rate with the various services offered by the program (restaurants, transportation, sports facilities, academic advising <i>etc.</i> ) on a five-point scale in an annual survey.	End of semesters
11	KPI-P-11	Ratio of students to teaching staff	14	Ratio of the total number of students to the total number of full-time and full-time equivalent teaching staff in the program.	End of semesters
12	KPI-P-12	Percentage of teaching staff distribution	a- 45%/55% b- 45%/55% c- 20%,10%,50%, 20%	Percentage of teaching staff distribution based on: a. Gender b. Branches c. Academic Ranking.	End of academic year
13	KPI-P-13	Proportion of teaching staff leaving the program	3%	Proportion of teaching staff leaving the program annually for reasons other than age retirement to the total number of teaching staff.	End of academic year
14	KPI-P-14	Percentage of publications of faculty members	35%	Percentage of full-time faculty members who published at least one research during the year to total faculty members in the program.	End of academic year
15	KPI-P-15	Rate of published research per faculty member	0.85	The average number of refereed and/or published research per each faculty member during the year (total number of refereed and/or published research to the total number of full-time or equivalent faculty members during the year).	End of academic year

16	<b>KPI-P-16</b>	Citations rate in refereed journals per faculty member	24	The average number of citations in refereed journals from published research per faculty member in the program (total number of citations in refereed journals from published research for full-time or equivalent faculty members to the total research published). During 2014 to 2018.	End of academic year
17	<b>KPI-P-17</b>	Satisfaction of beneficiaries with the learning resources	2.65	Average of beneficiaries' satisfaction rate with the adequacy and diversity of learning resources (references, journals, databases <i>etc.</i> ) on a five point scale in an annual survey.	End of academic year

\* including KPIs required by NCAAA

### I. Specification Approval Data

<b>Council / Committee</b>	<b>DEPARTMENT COUNCIL</b>
<b>Reference No.</b>	<b>10</b>
<b>Date</b>	<b>16/11/2022</b>

خطة قياس نواتج تعلم البرنامج

نموذج الخطة الزمنية لقياس نواتج التعلم

المجال	نواتج تعلم البرنامج	1445 - 1444 هـ	1446 - 1445 هـ	1447 - 1446 هـ	1448 - 1447 هـ
المعارف	K1				
	K2				
المهارات	S1				
	S2				
	S3				
القيم	V1				
	V2				
	V3				



نموذج الخطة التنفيذية لقياس نواتج التعلم:

رمز الناتج	نوع الناتج	ناتج تعلم البرنامج LOC	أسلوب التقييم	مستوى الأداء المستهدف	خطة التنفيذ كيف؟ من؟ متى؟ أين؟
K1	المعارف	Recognize a comprehensive and consistent structure of knowledge and understanding of the theories, principles and concepts involved in the science of biology needed to enter the job force	اختبارات	نسبة نجاح الطلاب لا تقل عن 80%	كيف: حساب نتائج الطلاب النهائية في مقرر حيا 1101. من: منسق المقرر (تقرير المقرر). متى: المستوى الأول أين: القسم العلمي.
K2		Outline knowledge and understanding of processes, tools, methods, and practices based on recent developments in modern biology.	اختبارات	نسبة نجاح الطلاب لا تقل عن 80%	كيف: حساب نتائج الطلاب النهائية في مقرر حيا 1113، من: منسق المقرر (تقرير المقرر). متى: المستوى الثالث أين: القسم العلمي.
S1	المهارات	Explain the concepts, principles and theories involved in addressing issues and problems in a range of complex contexts in biology.	واجبات	نسبة نجاح الطلاب لا تقل عن 60-70%	كيف: حساب نتائج الطلاب في الواجبات في مقرر حيا 1101، من: منسق المقرر (تقرير المقرر). متى: المستوى الأول أين: القسم العلمي.
S2		Analyze a variety of digital technology, information, communication technology tools, and appropriate biological software	اختبارات	نسبة نجاح الطلاب لا تقل عن 60-70%	كيف: حساب نتائج الطلاب النهائية في حيا 1231 و حيا 1244 و حيا 1434 و

<p>حيا 1333. من: منسق المقرر (تقرير المقرر). متى: المستوى الرابع لمقرر حيا 1231، والمستوى السادس لمقرر حيا 1244 ، و المستوي التاسع لمقرر حيا 1333 ، و المستوي الحادي عشر لمقرر حيا 1434 أين: القسم العلمي.</p>			<p>tools to process, analyze and produce data and information; to support and promote specialized research and projects related to science of biology and related branches</p>		
<p>كيف: حساب نتائج الطلاب النهائية في مقرر حيا 1499، من: منسق المقرر (تقرير المقرر). متى: المستوى الثاني عشر أين: القسم العلمي.</p>	<p>نسبة نجاح الطلاب لا تقل عن 60-70%</p>	<p>تقرير كتابي</p>	<p>Summarize different ways of understanding theoretical knowledge, transferring knowledge and specialized skills, and sharing complex ideas within a variety of audience.</p>		<p>S3</p>
<p>كيف: تقييم أداء الطلاب في حصص التدريب الميداني (حيا 1497) باستخدام مقياس تقديري من 5 درجات، من: المشرف على التدريب بالتنسيق مع المشرف من القسم. متى: المستوى الثاني عشر أين: جهة التدريب بالتنسيق مع القسم العلمي.</p>	<p>نسبة نجاح الطلاب لا تقل عن 70-80%</p>	<p>مقياس تقديري من 5 درجات</p>	<p>Demonstrate integrity, professional and academic ethics, participation in finding constructive solutions to some societal issues, and a commitment to responsible citizenship.</p>	<p>القيم</p>	<p>V1</p>

<p>كيف: تقييم أداء الطلاب في حصص التدريب الميداني (حيا 1497) باستخدام مقياس تقديري من 5 درجات، من: المشرف على التدريب بالتنسيق مع المشرف من القسم. متى: المستوى الثاني عشر أين: جهة التدريب بالتنسيق مع القسم العلمي.</p>	<p>نسبة نجاح الطلاب لا تقل عن 70-80%</p>	<p>مقياس تقديري من 5 درجات</p>	<p>Evaluate of the level of learning and performance, insist on achievement and excellence, and make logical decisions supported by evidence and arguments independently.</p>		<p>V2</p>
<p>كيف: تقييم أداء الطلاب في حصص التدريب الميداني (حيا 1497) باستخدام مقياس تقديري من 5 درجات، من: المشرف على التدريب بالتنسيق مع المشرف من القسم. متى: المستوى الثاني عشر أين: جهة التدريب بالتنسيق مع القسم العلمي.</p>	<p>نسبة نجاح الطلاب لا تقل عن 70-80%</p>	<p>مقياس تقديري من 5 درجات</p>	<p>Use teamwork with functional flexibility and effectiveness, and take responsibility for professional development, participating in developing the group's performance, and enhancing the quality of life.</p>		<p>V3</p>