



Program Specification

(Postgraduate Programs)

Program Name:	Master of Science in Biology
Program Code (per the Saudi Standard Classification of Educational Levels and Specializations):	051102
Qualification Level:	7
Department:	BIOLOGY
College:	Science
Institution:	Jazan University
Program Specification:	New <input type="checkbox"/> updated* <input checked="" type="checkbox"/>
Last Review Date:	November 2024

*Attach the previous version of the Program Specification.

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A. Program Identification and General Information:

1. Program's Main Location:

Main Campus - College of Science.

2. Branches Offering the Program (if any):

NA

3. System of Study:

☒ Coursework & Thesis

☐ Coursework

4. Mode of Study:

☒ On Campus

☐ Distance Education

☐ Other(specify)

5. Partnerships with other parties (if any) and the nature of each:

- Partnership Arrangement: NA

- Type of Partnership:

- Duration of Partnership:

6. Professions/jobs for which students are qualified:

- Research Biologist.
- Environmental Scientist.
- Biology Technician.
- Biology consultant.
- Teaching - Biology programs.

7. Relevant occupational/ Professional sectors:

- Education sector (Ministry of Education).
- Laboratories (Health, Agriculture, Municipal Affairs, Forensic - Ministry of Interior).
- National Center for Disease Prevention and Control (NCDC).
- Industrial sector (Food, Dairy, Quality control).
- King Abdul-Aziz City Science & Technology (KACST)
- Meteorological Authority.
- National Wildlife Authority that aims to protect life.
- Saudi Standards, Metrology and Quality Organization.

8. Major Tracks/Pathways (if any):

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
Nil.		

9. Exit Points/Awarded Degree (if any):

Exit points/Awarded degree	Credit hours
Nil.	

10. Total credit hours: (35)



B. Mission, Goals, and Program Learning Outcomes

1. Program Mission:

Prepare qualified graduates in scientific research capable of competing in the labor market and contributing to community development.

2. Program Goals:

Academic Excellence:

- 1- Deliver a curriculum that integrates advanced theoretical and practical knowledge in biological science (Microbiology/ botany /zoology).
- 2- Foster critical thinking, investigation, and scientific reasoning capabilities. problem-solving, and analytical skills through a structured and challenging academic environment.

Research Development:

- 3- Prepare students for various career paths, including scientific research and professional employment levels.
- 4- Provide students with the skills to design, conduct, and evaluate research thesis that addresses real-world biological issues.

Community and Professional Services:

- 5- Motivate the social responsibilities of students in an ethical framework for sustainable environmental and community development.
- 6- Prepare students to serve as leaders and experts in biological science.
- 7- Develop competency of lifelong learning and interpersonal traits in the field of specialty.

3. Program Learning Outcomes:*

Knowledge and Understanding:

- | | |
|----|--|
| K1 | Recall information relevant to biological concepts and related technologies |
| K2 | Describe the biological theories and hypothesis |
| K3 | List all features, principles, concepts, and steps related to all biological approaches |

Skills:

- | | |
|----|---|
| S1 | Apply specialized theories, principles, and concepts in advanced contexts in biology, profession, or field of work. |
| S2 | Interpret different biological concepts, mechanisms, and processes by using critical thinking |
| S3 | Perform complex and advanced practical tasks and procedures in different specialized areas of biology |
| S4 | Design professional projects using specialized research and inquiry methodologies in various fields of biology with analyzing their related data |

Values, Autonomy, and Responsibility:

- | | |
|----|---|
| V1 | Demonstrate integrity and professional and academic values when dealing with various aspects of biology. |
| V2 | Develop abilities of teamwork and bear individual responsibilities on assigned tasks. |

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





C. Curriculum:

1. Curriculum Structure:

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Course	Required	08	18	51.4%
	Elective	03	09	25.7%
Graduation Project (if any)		-	-	-
Thesis (if any)		01	08	22.9%
Field Experience(if any)		-	-	-
Others (.....)		-	-	-
Total		12	35	100%

2. Program Courses:

Level	Course Code	Course Title	Required or Elective	Pre- Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
Level 1	611BIO-2	Biochemistry and Molecular Biology	Required	Nil	2	Program
	612BIO-2	Advanced Biostatistics	Required	Nil	2	Program
	613BIO-2	Instrumental Analysis	Required	Nil	2	Program
	614BIO-2	Experimental Design	Required	Nil	2	Program
	633MIC-3	Host- Parasite Relationship	Required	Nil	3	Program
Level 2	614BIO-2	Experimental Design	Required	Nil	2	Program
	615BIO-1	Seminar	Required	Nil	1	Program
	645ZOO-3	Advanced Genetics	Required	Nil	3	Program
Level 3		Special Topics (according to specialization)*	Elective	Nil	3	Program
		Compulsory Course (according to specialization)**	Elective	Nil	3	Program
		Compulsory Course (according to specialization)**	Elective	Nil	3	Program
Level 4	BIOL 699	M.Sc. Thesis	Required	Nil	8	Program

* Special Topic in Microbiology (639 MICR), Special Topics in Botany (649 BOTN), or Special Topics in Zoology (659 ZOOL).

** Advanced Microbial Physiology (MICR 631), Soil Science (BOTN 647), or Comparative Animal Physiology (ZOOL 658)



3. Course Specifications:

Insert hyperlink for all course specifications using NCAAA template (T-104)

https://drive.google.com/drive/folders/1SIYorIJeTmEGw-nkX5DemQY1GWPfQpnA?usp=drive_link

4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with the program's courses according to the desired performance levels.

(I = Introduced, P = Practiced, M = Mastered).

Course code & No.		Program Learning Outcomes							
		Knowledge and understanding			Skills				Values, Autonomy, and Responsibility
		K1	K2	K3	S1	S2	S3	S4	V1 V2
611 BIO		P	P	P		P			P P
612 BIO		P			P		P		P P
613 BIO		P	P			P	P		P P
633 MIC			M	M	M	M			
614 BIO			P			P		P	P
615 BIO			M	M			M		M M
64800		M	M		M	M			
647 BOT	Special topics in specialty	M		M		M		M	M M
631 MIC			M	M		M			M M
658 ZOO			M		M	M			M M
630 MIC	Basket (1) Microbiology Elective Courses	M	M		M		M	M	M
632 MIC			M	M	M	M			M
634 MIC		M		M	M		M	M	M M
635 MIC		M	M		M	M	M		M
636 MIC			M	M	M			M	M
637 MIC		M	M		M	M	M		M M
638 MIC		M		M			M	M	M M
639 MIC	Basket (2) Botany Elective Courses	M		M	M		M		M M
640 BOT		M	M			M	M		M
641 BOT		M		M	M	M			M
642 BOT		M	M			M		M	M
643 BOT		M		M			M	M	M
644 BOT		M		M	M	M			M
645 BOT		M	M		M			M	M
646 BOT		M	M	M		M		M	M
648 BOT	Basket (3) Zoology Elective Courses	M	M			M	M		M
649 BOT			M	M	M		M		M
650 ZOO		M		M		M		M	M
651 ZOO		M			M		M		M
652 ZOO			M	M		M		M	
653 ZOO		M	M		M	M			M M
655 ZOO		M		M		M		M	
656 ZOO			M		M		M		M
657 ZOO			M	M	M	M		M	
659 ZOO			M		M		M		
699 BIO		M	M	M	M	M	M	M	M

5. Teaching and learning strategies applied to achieve program learning outcomes:

Describe teaching and learning strategies to achieve the program's learning outcomes in all areas.

The Biology Master program policies of the College of Science, Jazan University are aimed at providing modern biological education. This starts with the planning of the program and individual courses, implementation, and periodic evaluation to ensure that best practices are being followed. This promotes consistency between the program learning outcomes, teaching and learning strategies, and the methods of assessment.

Teaching and learning strategies are designed to facilitate alignment with Jazan University's policies and procedures, the mission of the university, the college, and the achievement of the Master of Science in Biology curriculum objectives. The curriculum content is the primary component of the teaching and learning strategies and has been designed to be up-to-date with the growing demands of the biology discipline. The curriculum of the program is based on the expected program learning outcomes.

The contents of individual courses are developed by the course coordinator to be in line with the course learning outcomes and are mapped with the program learning outcomes. This is finally approved by the curriculum committee. Updating of the course contents is done annually and is based on the achievement of the course learning outcomes and the recommendations of previous course reports.

The following are the key principles of the teaching and learning strategies of the Master of Science in Biology program:

- Student-centered teaching and learning. The curriculum addresses the learning needs of the students along with feedback.
- Biology-focused teaching and learning, which prepares the students to be skilled in professional practice.
- Value-based education where students are responsible and are committed to being lifelong learners.

Instructional Strategies:

The Department of Biology adopts the instructional strategies as outlined by the Instructional Framework (Regina, SK, 1991). These strategies can be categorized as:

- Direct.
- Indirect.
- Interactive.
- Experiential.
- Independent.

6. Assessment Methods for program learning outcomes:

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

The program should devise a plan for assessing Program Learning Outcomes (all learning outcomes should be assessed at least once in the program's cycle).



M.Sc. Biology Program Learning Outcomes		Assessment Methods
1.0	Knowledge	
1.1	Recall information relevant to biological concepts and related technologies	<ul style="list-style-type: none"> • Midterm and Final examination (With MCQ & essay, short answer) • Short written Assignment Tasks (Individual or Group). • Quizzes.
1.2	Describe the biological theories and hypothesis	
1.3	List all features, principles, concepts, and steps related to all biological approaches	
2.0	Skills	
2.1	Apply specialized theories, principles, and concepts in advanced contexts in biology, profession, or field of work.	<ul style="list-style-type: none"> • Quizzes • Problem solving question. • Midterm and Final examination (With MCQ & essay, short answer. • Written Assignment. • Case study. • Discussion Forums. • Small group discussion. • Long and Short Essay. • Laboratory Reports. • Integrate technology and information systems skills in Biology.
2.2	Interpret different biological concepts, mechanisms, and processes by using critical thinking	
2.3	Perform complex and advanced practical tasks and procedures in different specialized areas of biology	
2.4	Design professional projects using specialized research and inquiry methodologies in various fields of biology with analyzing their related data	
3.0	Values	
3.1	Demonstrate integrity and professional and academic values when dealing with various aspects of biology.	<ul style="list-style-type: none"> • Peer Evaluation (e.g., Checklist, Rating Scale/ Rubrics). • Self-Evaluation. • Problem Solving Questions. • Research Assignments. • Oral exam
3.2	Develop teamwork abilities and bear individual responsibilities for assigned tasks.	

D. Thesis and Its Requirements (if any):

1. Registration of the thesis:

(Requirements/conditions and procedures for registration of the thesis as well as controls, responsibilities and procedures of scientific guidance)

- Each graduate student is assigned a practical academic advisor at the start of joining the program.
- To register for the research thesis, the student must pass 50% of the number of courses with a percentage not equal to very good. After a research thesis supervisor has been appointed, the student who meets the registration conditions shall submit to the



department's Higher Studies Committee the research thesis plan and a seminar will be set for him to discuss his plan. After the procedure, the comments recommended by the members of the seminar are submitted to the department council for approval. Administrative Procedures and Approvals The student is considered registered for the research thesis after the approval of the Council of the Deanship of Graduate Studies at the university

2. Scientific Supervision:

(The regulations of the selection of the academic supervisor and their responsibilities, as well as the procedures/mechanisms of the scientific supervision and follow-up)

- Based on the Permanent Committee's recommendation, the University Council establishes the guidelines for postgraduate students' thesis registration as well as the process for choosing the thesis supervisor and assistant supervisor, if any (Postgraduate Studies Regulations No. 36).
- According to Postgraduate Studies Regulations No. 37, the master's thesis must be written in the language of instruction specified by the University Council's program, but if it is not in Arabic, it must include a thorough synopsis in that language (Postgraduate Studies Regulations No. 37).
- Professors and associate professors from the university's faculty oversee the scientific thesis. According to Postgraduate Studies Regulations No. 38, an assistant professor who has two research projects in his area of expertise published or accepted for publication in a peer-reviewed scientific journal may oversee graduation research and master's theses and help supervise scientific theses for the doctoral stage.
- On the recommendation of the department council and with the approval of the college council, supervisors who are not faculty members but possess expertise and proficiency in the field of scientific thesis research may supervise or help supervise scientific theses (Postgraduate Studies Regulations No. 39).
- Based on the Permanent Committee's recommendation, the University Council establishes guidelines for assistant supervisors of scientific theses (Postgraduate Studies Regulations No. 40).
- On the recommendation of the Permanent Committee, a faculty member may oversee scientific theses from outside the university, whether in the Kingdom or overseas, without compromising his or her responsibilities, provided that the controls are authorized by the University Council (Postgraduate Studies Regulations No. 41).
- According to the procedures authorized by the Permanent Committee, the supervisor assesses the student's performance after each semester and assesses the degree of his advancement in the scientific thesis (Postgraduate Studies Regulations No. 42).
- The student will receive a warning letter from the appropriate department if it is determined, based on the thesis supervisor's report, that they are not serious about the thesis stage. According to the department and college councils' recommendation, the student's registration will be canceled if he receives two warnings and fails to respond to the reasons for the warning (Postgraduate Studies Regulations No. 44).
- The supervisor may oversee up to seven scientific theses concurrently, either by themselves or in collaboration with others. In line with controls authorized by the University Council based on the Permanent Committee's proposal, the



Permanent Committee may deviate from this rule in response to recommendations from the Department and College Councils (Postgraduate Studies Regulations No. 45).

- According to controls authorized by the University Council based on the Permanent Committee's proposal, the supervision quota for each thesis for a faculty member, whether head or assistant, is determined within the teaching load (Postgraduate Studies Regulations No. 46).
- To complete the discussion procedures decided by the college council, the thesis supervisor must submit a report on the thesis' completion to the department head along with a copy of the thesis once the student has finished writing it (Postgraduate Studies Regulations No. 47).
- On the Department Council's recommendation, the College Council decides to form a committee to review the scientific thesis (Postgraduate Studies Regulations No. 48).
- Based on the Permanent Committee Council's proposal, the University Council establishes the standards for choosing members of the master's and doctoral dissertation discussion committees as well as the procedure for holding these discussions (Postgraduate Studies Regulations No. 49).

3. Thesis Defense/Examination:

(The regulations for selection of the defence/examination committee and the requirements to proceed for thesis defence, the procedures for defence and approval of the thesis, and criteria for evaluation of the thesis)

- The examination board is formed by the resolution of the Deanship of Graduate Studies Council based on the recommendations of the Department and College Councils.
- The Master's examination board should fulfill the following:
 - An odd number of examiners shall be selected, provided the supervisor is the secretariat.
 - The minimum number of examiners is three, provided that the supervisor and the co-supervisor, if any, do not constitute a majority.
 - The board members are subject to the requirements of dissertation supervision.
 - A professor, or at least an associate professor, should be on the examination board.
 - Resolutions are taken upon the approval of at least two-thirds of the board members.
 - Suppose the dissertation supervisor fails to be on the examination board due to their death, service termination, or on a long period mission abroad. In that case, the Department shall propose a substitute approved by the College and the Deanship of Graduate Studies Councils.
- A report signed by all examiners shall be submitted to the Department Chairperson within one week of the examination with one of the following recommendations:
 - Accepting the dissertation and recommending the degree award.
 - They are accepting the dissertation and suggesting some changes without being re-examined. One of the examination board members shall be assigned to award the degree provided that the corrections are made within a maximum period of three months from the examination date; the University Council is entitled to make exceptions.
 - Re-examining the dissertation after the corrections are made within a period specified by the Council of the Deanship of Graduate Studies based on the Department Council recommendation. The maximum period is one year from the examination date.



- Not accepting the dissertation. Each examiner is entitled to make reservations and state their contradictory viewpoint in a detailed report submitted to the Department Chairperson and the Dean of Graduate Studies within two weeks from the examination date.
- The Department Chairperson shall submit the report of the examination board to the Dean of Graduate Studies within a minimum time period of three weeks from the examination date.
- The Dean of the University Council shall submit a degree award recommendation to decide on the matter.

H. Student Admission and Support:

1. Student Admission Requirements:

- ✚ Based on the Council of the Deanship of Graduate Studies' recommendation and the suggestions of the relevant departments and colleges, the University Council will decide how many students are admitted to graduate programs each year (by the provisions of the Postgraduate Studies Regulations No. 43 and No. 45, the admission and registration regulations are as follows:
 - I. The University Council shall determine the number of students admitted each year to graduate studies programs based on the recommendation of the Council of the Deanship of Graduate Studies, and the proposal of the concerned departments and colleges.
 - II. For admission to Graduate Studies, the applicant must fulfill the following requirements:
 - 1. To be of Saudi nationality or have an official scholarship if the applicant is non-Saudi.
 - 2. To have a university degree from a Saudi university or another equivalent accredited university.
 - 3. To be medically and morally eligible.
 - 4. To submit two recommendation letters from staff members who taught him/her.
 - 5. To obtain a written undertaking of approval from the employer if the applicant is an employee.
 - 6. English language proficiency (TOEFL 400)
 - 7. Interview (Pass).
 - III. For admission to the Graduate Studies program for a master's degree, the final grade of the applicant in the university must be 'Very Good' or better, but the Council of the Deanship of Graduate Studies may also accept applicants with a grade 'Above Average'. The Council of the Deanship of Graduate Studies, based on the Department Council recommendation and College Council approval, may accept applicants with a grade 'Good' in some programs specified by the University Council, provided that the applicant's average grade in the bachelor's majoring courses is 'Very Good' or better. The Council of the Deanship of Graduate Studies, based on the Department Council recommendation and College Council approval may add other requirements deemed necessary for admission.
 - IV. A student may be admitted to a master's program in a field different from her/his major based on the concerned Department and College Councils recommendation, and the approval of the Council of the Deanship of Graduate Studies.



- V. For admission to the master's program, the concerned department may specify that the applicant must undertake several complementary courses from an earlier stage, in a period not more than three semesters, taking into consideration the following:
1. The complementary course must be first of a grade of 'Good' or better.
 2. The cumulative GPA in the complementary courses must be 'Very Good' or better.
 3. Passing the complementary courses before registering in the graduate studies program. The department may allow registration in graduate studies only if one or two complementary courses remain to be studied.
 4. The time of the complementary courses is not included in the period specified for obtaining the degree.
 5. The complementary courses are not included in the calculation of the cumulative GPA of graduate studies.
- + The Deanship of Graduate Studies shall be responsible for the applicants' admission and registration in coordination with the Deanship of Admission and Registration.
 - + The student must not enroll in two graduate studies programs simultaneously.
 - + The admission announcement for 2024/1445h of Jazan University for a Master of Science in Biology was as follows:
 1. The applicant must have a bachelor's degree in one of the biology specializations with a general grade of no less than "good high" and a grade of no less than "very good" in the specialization subjects from a recognized educational institution and has a graduation document and academic record that is equivalent to the Ministry of Education if the qualification is obtained from outside the Kingdom.
 2. The applicant must have obtained a minimum of (70) points in the General Aptitude Test for University Students.
 3. The applicant must have obtained (4) in the (IELTS) test or its equivalent.
 4. The applicant must pass the selection criteria conducted by the department.
 5. The applicant must pass the supplementary subjects that the department deems necessary to join the program, provided that they are treated financially under the decisions of the University Council.
 6. Payment of the program application fee of five hundred and seventy-five riyals (575 riyals) including the value of the value-added tax is non-refundable.
 7. Payment of any other service fees.
 8. Any other conditions at the time by the Permanent Committee for Postgraduate Studies.

2. Guidance and Orientation Programs for New Students:

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level).

At the beginning of every semester, the Program Director and the Program Supervisor exhibit an acclimatization program or orientation program for commencing pupils. The above-mentioned program contains presentations and discussions to ensure a detailed interpretation of the code of conduct, the variety of services and facilities available to them, and their duty and commitments.



3. Student Counseling Services:

(Academic, professional, psychological, and social)

(Include only the exceptional needs offered to the students of the program that differ from those provided at the institutional level)

The Academic Advising Unit (AAU) of the college and the coordinator of the academic advising unit in the biology department are responsible for the management of academic counseling of the students of each level under the supervision of the Vice Dean of Academic Affairs in Science College. The Academic Unit consists of a Head of the Unit and a few members, who are responsible for recording and maintaining the performance of each student regularly and assigning the students to teaching faculties for guidance and counseling.

3.1: Academic Counseling:

The process of student counseling in the College of Science is undertaken through the following steps:

- The Academic Advising Unit of the College of Science maintains a longitudinal database of the student profile and academic performance and monitors it from one semester to another.
- Every semester, a limited number of students (usually 1-2) are assigned to each teaching staff member, who conducts regular meetings with the students on a personal basis, as a group or individually.
- At the beginning of each academic session, the AAU prepares a list of students with poor academic performance (GPA less than 3).
- The list is submitted to the respective academic advisors, who initiate the remediation process by meeting each student, trying to find the reasons, and providing necessary counseling to overcome academic, social, or psychological difficulties faced by the students, if any.
- The academic advisors must submit a report to the AAU every week on the number of theoretical and practical sessions missed by their students; in addition to that, the academic advisors also notify the students, trying to find the reasons, and finally submit the report to the AAU for further action.
- The academic advisors prepare a study plan for all irregular students and arrange a meeting with them for clarification and discussions regarding further conduct.
- Apart from counseling to improve academic achievement, the academic advisors also provide career counseling, mainly to graduating students, which may help them find better jobs or pursue further studies. Every teaching faculty member of the College of Science has display office hours; during that time, he/she will be available to clear the doubts related to the theory and practical contents of his/her subjects.

3.2 Career Counseling:

Assist students in their decision-making process in their academic journeys without imposing personal preferences. Regard students' diverse backgrounds and advice accordingly. With exercising empathy and a helpful attitude. Also, knowing the latest university policies, rules, and regulations. In addition, Career planning is discussed with the students to allow them to acquire

various experiences that will eventually help them choose a particular area of specialization suited to their preferences and capabilities.

3.3: Psychological and Social Counseling:

Complaint or grievance about any matter affecting the student in his relationship with members of the faculty, department, college, or any unit of the university is available, and the complaint or grievance shall be submitted by the rules at the university and enabling the student to know the result of his complaint by the competent authority.

If student underachievement is due to personal, social, or psychological issues, the academic advising unit provides Social and cultural counseling support for the students. in case the students need any psychological counseling support the unit transfers students to the psychological health support unit in the university. The student's confidentiality is protected, and each case is handled with high secrecy. For issues that cannot be solved with basic support and guidance, and might need professional assistance, the committee refers the case to the Dean to transfer it, with an official confidential letter to the Deanship of Student Affairs.

4. Special Support:

(Low achievers, disabled, and talented students).

> Low achievers, disabled:

The following practices are adapted to identify the low achievers and assist them improve their performance:

- The Academic Advising Unit maintains the records and monitors the academic performance of each student in the program.
- The low achievers (generally the students with GPA less than 3) are identified and the lists are sent to respective academic advisors.
- The academic advisors review the performance of each student under his/her supervision contact them and arrange meetings to discuss and identify the possible reasons for students' deficiencies.
- The students and academic advisors on a plan to improve the performance of the students that includes, suggestions for extra efforts to follow the course activities, and approach links for specific topics to improve the understanding of the subject.
- Students are advised to utilize the office hours of the concerned teachers to have further explanations of the contents they face difficulty in.
- Hold revision group sessions for both theory and practical classes.
- Conduct extra tests before midterm and final examinations to monitor the preparation of students and find the topics that need further improvement.
- The attendance of the students in theory as well as practical classes is also monitored, which should be not less than 75% as per the university regulation.
- Report on all undertaken efforts and activities is submitted to the academic advising unit which helps to provide further assistance if needed.
- Confidentiality of the student's personal and academic information should be maintained by the academic advisor and AAU.

- Although disabled students are not admitted to the biology program, the College of Science does have wheelchairs and other mobility aids, as well as designated hallways for these vehicles, in case of an emergency.
- The program has provisions to provide academic, psychological, and personal assistance to students who develop temporary medical conditions. The case will be evaluated, and necessary support will be provided on a case-by-case basis.

The following common provisions are provided: The university has a provision to give an excuse for the attendance on basis of medical conditions.

- Special parking is available for vehicles belonging to disabled persons.
- Required support during regular classes and special assistance in the laboratory are provided.
- Extended time of testing, as per requirement.
- Lift services are available in the college building.
- The Student Affairs Unit in the College of Science is keen to support talented students to show their capabilities in academic and extracurricular activities.
- Students in the program are offered a variety of extracurricular activities in different areas to develop their abilities and skills, and the program takes appropriate actions to support and motivate their participation. The college conducts an annual program to recognize the extracurricular activities of talented students, tournaments are organized in different sports at the university level.

➤ **For the gifted and talented students:**

1. Academic advisors focus on these students and give them the needed counseling and support.
2. Honor list of the Dean (First ten GPAs).
3. Best students nominated by the staff.
4. Conduction of different activities and competitions
5. Students Excellence Award. The university has established the "Jazan University Excellence Award", one of the aims of this award is to encourage students for academic achievement, creativity, and participation in the services of the university and society; to recognize and reward outstanding students. Usually, the students with excellent performance are identified and supported for local and national academic competitions, generally, they are the first choice to represent the College and the University at the national forum (gifted students).

E. Faculty and Administrative Staff:

1. Needed Teaching and Administrative Staff:

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Professor	Biology	Zoology, Botany and Microbiology	-	7	1	8
Associate Professor	Biology	Zoology, Botany and Microbiology	-	5	5	10
Assistant Professor	Biology	Zoology, Botany and Microbiology	-	5	5	10
Technicians and Laboratory Assistants	Biology	Zoology, Botany and Microbiology	-	3	3	6
Administrative and Supportive Staff	Biology	Zoology, Botany and Microbiology	-	2	2	4
Others (specify)	-	-	-	-	-	-

F. Learning Resources, Facilities, and Equipment:

1. Learning Resources:

Learning resources required by the program (textbooks, references, e-learning resources, web-based resources, etc.)

- Mechanism for providing and quality assurance of learning resources (textbooks, references and other resource materials, including electronic and web-based resources, etc.)
- A list of learning resources is kept in the Program QA Unit.
- The list of learning resources is annually updated by the teaching Faculty and gets approval by the Program Board.
- The updated list of learning resources is then raised to the College of Science Deanship and hence to the Deanship for Library Affairs.
- Every year, the Head of the Biology department collects from faculty their need concerning the research databases and he sends them to the library Deanship.
- The faculty and students have free accessibility to a digital library where they can find various materials including textbooks, references, thesis, and scientific journals.
- E-learning, Regardless of on-campus or distance learning courses, all students and faculty have access to the globally recognized "Blackboard Learn" distance learning management system, which allows faculty members to oversee the entire online teaching process. Regarding students, instructors, and courses in the relevant program, the learning management system is maintained up to date and integrated. It is important to note that the seamless transition to distance learning for all courses during the COVID-19 pandemic was made possible by the pre-existence of this service.

2. Facilities and Equipment:

(Library, laboratories, classrooms, etc.)

The department's well-equipped labs can accommodate students' needs for both academic and research purposes. To conduct research and scientific studies according to the Master's program objectives, the laboratories are equipped with sufficient resources that are easily accessible and suitable for the program's needs as well as the number of students. For students' and employees' academic and research needs, the biology department offers labs equipped with all the tools, equipment, and safety measures required. Every lab has a mobile whiteboard, smart board, and cozy tables and chairs for staff and students. The labs are divided into three specialties: microbiology, botany, and zoology. The labs are furnished with cutting-edge equipment, tools, safety aids, and chemicals.

2.1: Biology Department Laboratories:

Specialization	Male Section	Female Section
Botany	Botany lab. (1)/ (G 601)/ Science College	Botany lab. (1)/ DF-04/Mahlia.
	Botany lab. (2)/ (G 611)/Science College	Botany lab. (2)/ DF-15/Mahlia.
Zoology	Zoology Lab. (3)/ (G 705)/Science College	Zoology Lab. (3)/ DS-14/Mahlia.
	Zoology Lab. (4) / (G 707)/Science College	Zoology Lab. (4)/ DS-15/Mahlia.
Microbiology	Microbiology lab. (5)/ (G 608)/Science College	Microbiology lab. (5)/ DF-01/Mahlia.
	Microbiology lab. (6)/ (G 604)/Science College	Microbiology lab. (6)/ DF-02/Mahlia.
		Microbiology lab. (7)/ DF-03/Mahlia.
Biotechnology	Biotechnology Lab. (7)/ (G607) Science College	
Genetics	Genetics Lab. (8)/ (G 706)/Science College	
Herbarium	Herbarium Lab. (9)/ (G 708) /Science College	
General Biology & Medical Microbiology	PY Lab. (10)/ (G 708)/ Arts and Humanities C.	Biology lab. (7)/ DS-01/Mahlia.
		Biology lab. (8)/ DF-16/Mahlia.
	PY Lab. (11)/ (G 707) /Arts and Humanities C.	Biology lab. (9)/ DS-17/Mahlia.
Postgraduate Lab.		Postgraduate lab. (10)/ DS-12/Mahlia.

2-2: Herbarium:

The Biology Department of Jazan University established a herbarium in 1435H. In 1437H, it received the Excellence and Innovation Award for Environmental Protection from His Royal Highness Prince Mohammad bin Nasser .In 1438H, the Herbarium also received the Herbarium Code of (JAZUH) and international recognition from the International Herbarium Union (USA). The Herbarium is one of five internationally recognized herbaria in the Kingdom and the only one of its kind in the Southern Region. It includes accessions of over 5000 specimens that represent the Kingdom's and the Jazan Region's flora. Additionally, it has Saudi Arabia's most extensive collection of succulent plant species. The herbarium team's research produced several academic publications that describe the flora of Wadi Lagab and Jazan. Additionally, research efforts led to discoveries.

2-3: Library:

Libraries give students access to books, scholarly publications, and other materials that can broaden their knowledge. They also offer peaceful areas for research and study. Both the college and university have well-stocked libraries that cover books and scientific references with a variety of title indexes. A comprehensive suite of ICT is also available at the library to support research

endeavors There are three distinct sections to the library resources offered by Jazan University's Deanship of Library Affairs.

2-4: Computer labs:

All employees at the university have access to laptops, desktop computers, and printers. All of the programs required for teaching are installed on the computers, and there are also programs specifically designed for smart boards and research.

Students can use the shared computers in the library or the computer lab, which has 27 PCs, state-of-the-art equipment, and a wide range of software programs for the benefit of the students who are proficient in various operating systems, such as Windows, as well as programming languages and packages such as C++. Additionally, every faculty member in the department has a personal laptop and an office desktop, as well as wireless access (Wi-Fi hotspot) and printing capabilities.

3. Procedures to ensure a healthy and safe learning environment:

(According to the nature of the program)

➤ Supervision and Staff Training:

- Adequate Supervision: Ensure proper student supervision during classes, breaks, and extracurricular activities. Maintain appropriate teacher-student ratios to enhance safety.
- Staff Training and Professional Development: Regularly train staff on safety protocols, emergency response, child protection, and health guidelines. Provide refresher courses to keep staff updated on best practices.

➤ Parental and Community Involvement:

- Communication with Parents: Keep parents informed of safety measures and involve them in creating a secure learning environment. Share updates on health policies, emergency procedures, and behavioral expectations.
- Community Partnerships: Collaborate with local health authorities, law enforcement, and community organizations to enhance safety and provide additional resources.

G. Program Quality Assurance:

1. Program Quality Assurance System:

Provide a link to the quality assurance manual.

https://drive.google.com/file/d/10xDr9GU9IJeWvIUf-yrZQPw3WHBQvXWg/view?usp=drive_link

2. Program Quality Monitoring Procedures:

- Monitoring of courses by the department follows the University of Jazan as well as the NCAAA guidance. Where at the end of each semester, the faculty members submit a course file and course reports on the NCAAA templates. Course reports should be prepared at the end of the semester in which the course was delivered. The minimum requirements for



annual course monitoring should include a summary and analysis of final marks of students with comments on grade profiles, course learning outcomes, the effectiveness of planning teaching and assessment strategies for course CLOs, course evaluation by students and other evaluators, and an action plan for improvement that may include arising issues or proposals for change.

- The methods used to determine the standard benchmark after which analysis of the courses offered is completed. The self-evaluation surveys used can be determined using the distribution surveys and evidence that can be used to compare the achievement of goals at different periods. The report completed is reviewed by the Deanship of Development and Quality.

3. Procedures to Monitor Quality of Courses Taught by other Departments:

Not Applicable.

4. Procedures adopted to ensure consistency between the program's sections (male and female sections, if any).

- Course descriptions, teaching methods, and evaluation are similar between male and female sections.
- Libraries and Laboratories must be provided to both the male and female sections.
- Examination patterns and questions must be unique to both sections.
- Distribution the Evaluation Surveys in male and female

5. Assessment Plan for Program Learning Outcomes (PLOs):

- ❖ The plan for evaluating the learning outcomes of the program and the mechanisms for using its results in the development processes are as follows:
 - To ensure the quality and continuous improvement of the program, the learning outcomes are evaluated and measured periodically based on the criteria that indicate the quality of performance according to the NCAAA program.
 - The faculty members and staff responsible for the various activities in the program evaluate the level of performance according to these criteria, based on appropriate evidence, with support for this with performance indicators and benchmarking with other programs of a high level of quality, especially in areas of great importance.
 - Learning outcomes are evaluated and measured periodically according to the NCAAA program, for each course separately, each semester, and every year for the program as a whole.
- ❖ In order to assess the quality of the program outputs as well as the rates of achieving the targeted learning outcomes and the extent to which the program objectives are achieved, we will take the following procedure:
 1. Reviewing the evaluation of the regular students for the courses and the academic program.





2. Reviewing the graduate students' evaluation of the academic courses and program.
3. Reviewing employers' evaluation of graduates' performance.
4. Internal review (self-evaluation) - external review of courses.
5. To enroll faculty members in training courses and workshops to provide them with teaching and professional skills and experiences.
6. Distributing questionnaires to employers and the target community of the program.

❖ Based on all of the above, an improvement plan is prepared and circulated to the stakeholders, where the evaluation processes are used permanently for continuous improvement of the program and feedback on continuous improvement of the program.

6. Program Evaluation Matrix:

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	Program leaders	Interviews, surveys	End of academic year
Effectiveness of teaching & assessment	Leaders. - Students. - Alumni. - Graduates.	Surveys, Interviews, Visits.	End of every semester
Learning resources	Student. - Alumni. - Faculty members. -	Surveys, interviews,	End of academic year
Effectiveness of community partnerships.	Faculty members. - Community leaders.	Surveys, Interviews.	End of academic year
Course learning outcomes surveys	Students	Surveys	End of every semester.
Program Learning Outcomes Survey	Students, Alumni, Faculty Members, Stakeholders	Surveys	End of academic year

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

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

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

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



7. Program KPIs:*

The period to achieve the target (2) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-PG1	Percentage of achieved indicators of the program operational plan objectives	4.0	Survey	End of the academic year.
2	KPI-PG2	Students' Evaluation of quality of learning experience in the program	4.0	Survey	End of every semester.
3	KPI-PG3	Students' evaluation of the quality of the courses	4.0	Survey	End of every semester.
4	KPI-PG4	Students' evaluation of the quality of scientific supervision	4.0	Report	End of the academic year.
5	KPI-PG5	Average time for students' graduation	2 years	Report	End of the academic year.
6	KPI-PG6	Rate of students dropping out of the program	< 5%	Survey	End of the academic year.
7	KPI-PG7	Graduates' employability	4.0	Survey	End of the academic year.
8	KPI-PG8	Employers' evaluation of the program graduates' competency	4.0	Report	End of the academic year.
9	KPI-PG9	Students' satisfaction with the provided services	4.0	Report	End of every semester.
10	KPI-PG10	Ratio of students to faculty members	1:1	Report	End of the academic year.
11	KPI-PG11	Percentage of faculty members' distribution based on academic ranking	50%	Report	End of the academic year.
12	KPI-PG12	Proportion of faculty members leaving the program	> 5%	Report	End of the academic year.
13	KPI-PG13	Number of patents, innovative products, and awards of excellence.	2	Report	End of the academic year.

*including KPIs required by NCAAA

H. Specification Approval Data:

Council / Committee	Biology Department Council
Reference No.	BIO2504e/ 4/1445h
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