هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T3 2020

Program Specification

Program Name:	**BACHELOR IN CHEMISTRY**
Qualification Level:	**LEVEL 6 —BACHELOR**
Department:	**CHEMISTRY**
College:	**SCIENCE**
Institution:	**JAZAN UNIVERSITY (JU)**

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A. Program Identification and General Information

1. Program Main Location:

Main Campus

- *Male Section: College of Science, Jazan University Main Campus*
- *Female Section: Female College of Science, Jazan*

2. Branches Offering the Program:

- *Female Branch Campus: College of Science and Arts - Samtah*

3. Reasons for Establishing the Program:

(Economic, social, cultural, and technological reasons, and national needs and development, etc.)

Economic Reasons

- *National policy to provide society with trained and skilled Saudi national manpower.*
- *Improve local population opportunity for quality high education*

Social Reasons

- *Chemistry Program was not offered (before establishing this program) for local community stakeholders in Jazan area.*
- *Provide society with scientific expertise.*
- *Provide society with general skilled graduates to serve in occupations relevant to chemistry, petroleum, petrochemical, pharmaceutical, mining, food, detergents and other chemical industries.*
- *Improve local youth population chances for good job opportunity in chemistry related establishments*

4. Total Credit Hours for Completing the Program: (*130 Credit Hours*)

5. Professional Occupations/Jobs:

At the end of the program, students will be prepared for the following professions and occupations *according to Professions and jobs as in Ministry of Civil Service and Saudi National Commission:*

https://eservices.mcs.gov.sa/ClassificationGuide/Pages/Degrees.aspx

6.1. Assistant researcher in chemistry

This series includes the tasks related to the specialized works in the field of setting standards and requirements for goods and products and their basic components, including the examination of measuring instruments and calibration by standard devices to ensure that they perform their work accurately and do other work that related to this area.

6.2. Assistant laboratory researcher in chemistry

This series includes the functions related to the work of the chemistry labs in the preparation of researches, studies, reports and the use of instruments and devices for the analysis, examinations and chemical or physical composition of the materials, elements, samples and other related works in this field.

6.3. Laboratory Analyst

This series includes functions related to the work of laboratories and the use of instruments and equipment for the conduct of analyzes, tests and chemical or physical formulations of materials, elements and samples and other related activities in this field.

6.4. Laboratory Technician

This series includes the functions related to the works of technical assistance for the conduct of analyzes or chemical structures, etc., and the subsequent results, the preparation of reports and supervision of these works and other related work in this area.

6.5. Environmental Protection Specialist

in the Field of Chemistry This series includes the functions related to the work of environmental protection from the preparation of researches, studies, reports, the use of machines and equipment and conducting experiments and analyzes to identify the extent of pollution of water, air, soil and the level of hazardous wastes including radioactive waste and the level of natural radioactive materials such Radium, Uranium and Thorium chains as well as the level of radiation in the waste of mines and radioactive waste generated by hospitals and

some industries and research centers also include the preparation of studies and research and make recommendations in the light of information and data and The activities related to protecting the environment from waste from mines, quarries and hospitals, analyzing the level of these wastes, finding the appropriate safety and safety means to protect the environment and implementing the specific safety regulations for this area and carrying out other works. Related to this area)

6.6. Environmental Chemical Foreman

This series includes functions related to the environment from the control and recording of hazardous waste data, air and water pollution, environmental degradation, use of instruments, devices and radiological reagents, fieldwork of sampling and information collection, preparation of descriptive reports, technical supervision of these works and other related works the field)

6.7. Chemical safety and security

This series includes the functions related to the preparation of planning and organizational studies to develop plans and programs and chemical safety instructions for public and private buildings and facilities and to ensure the safety and suitability of safety equipment and guidance and guidance and discovery of waste in the area of safety and safety of the work environment and the preparation of reports and recommendations and technical Safety and other related activities).

6.8. Chemotherapy Specialist

This series includes functions that belong to the chemical processing of documents, archives and manuscripts, sterilization, removal of contaminated spots for paper and leather, and technical supervision of these related works). Chemical Monuments Technician- (This series includes the functions related to the technical works in the field of prospecting and the search for antiquities and the subsequent works of restoration, maintenance, documentation, supervision of these works and other related works).

6. Major Tracks/Pathways (if any):

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

7. Intermediate Exit Points/Awarded Degree (if any):

Intermediate exit points/awarded degree	Credit hours
1. Not Applicable	

B. Mission, Goals, and Learning Outcomes

1. Program Mission:

Provide educational, research services and build effective partnerships to serve the community in chemistry

2. Program Goals:

G 1. *Provide comprehensive and optimal education based on the department and services*
G 2. *Improving the department information technology structure.*
G 3. *Verifying the completion of the department annual plans and governance.*
G 4. *Improving the department capabilities of human resources.*
G 5. *Providing high-quality academic programs and provide a comprehensive and optimal education based on modern education strategies.*
G 6. *Encourage faculty members and students and engaging them in innovative and interdisciplinary research.*
G 7. *Creating and strengthening cooperation and partnerships and guiding students to take advantage of training opportunities from relevant authorities.*
G 8. *Improving and developing program learning outcomes and developing students' skills to suit the requirements of the labor market.*
G 9. *Improving the efficiency of the department graduates.*
G 10. *Providing services that meet the society and improve the quality of life*.

3. Relationship between Program Mission and Goals and the Mission and Goals of the Institution/College.

Mission of Institution	Mission of College	Mission of program
We educate research and innovate to contribute in building a vibrant community	we provide distinguish academic programs and innovative research to meet the requirements of development and community service	Provide educational, research services and build effective partnerships to serve the community in chemistry

- ***Alignment***

The program mission is Provide educational, research services and build effective partnerships to serve the community in chemistry, which are concentrated in three main items which are teaching, conducting scientific research and community services. The first item is matched with outstanding educational outcomes of the both college and university mission, while the second one is aligned with both outstanding educational outcomes and benefit of society. The community service achieves the benefit of society of the university mission**.**

Alignment among the, Mission of program, Goals of Program, and Objectives of Program

Mission of program	*Goals of Program*	*Objectives of Program*
• *Provide educational, research services and build effective partnerships to serve the community in chemistry*	G 1. *Provide comprehensive and optimal education based on the department and services* G 2. *Improving the department information technology structure.*	O 1. To provide a comprehensive and optimal education based on high-quality educational strategies. O 2. Training students to acquire the knowledge and professional competence necessary to work

	G 3. *Verifying the completion of the department annual plans and governance.* G 4. *Improving the department capabilities of human resources.* G 5. *Providing high-quality academic programs and provide a comprehensive and optimal education based on modern education strategies.* G 6. *Encourage faculty members and students and engaging them in innovative and interdisciplinary research.* G 7. *Creating and strengthening cooperation and partnerships and guiding students to take advantage of training opportunities from relevant authorities.* G 8. *Improving and developing program learning outcomes and developing students' skills to suit the requirements of the labor market.* G 9. *Improving the efficiency of the department graduates.* G 10. *Providing services that meet the society and improve the quality of life*	effectively to meet the requirements of the labor market. O 3. Providing students with supportive means of learning practices and enhancing their personal skills that enable them to work successfully. O 4. Engaging students in innovative and interdisciplinary research. O 5. Provision of trained graduates equipped with values for serving the Kingdom. O 6. Encouraging scientific research that contributes to meeting the requirements of development with wide economic and social benefits. O 7. Creating strong links with the community and providing effective community services.

Bachelor of Science in Chemistry program is an entity within college of science. However, the mission and goals of the program were derived from college mission and goals. The program aims to prepare qualified graduate outstanding in practice, scientific, and research on a high level of efficiency and able to meet the community's needs and keep up with the labor market requirements. The program missions (***Provide educational, research services and build effective partnerships to serve the community in chemistry***). While the college mission is ***we provide distinguish academic programs and innovative research to meet the requirements of development and community service.***

Alignment:

The goals of Bachelor in chemistry program are 4 items which are matched with the program objectives, the first institutional goals we have 4 goals which are Inculcating the professional skills to function effectively in the work environment as well as in the community is aligned with the objective of contributing as effective team members and managers in their organizations. The second items, internal operations, which are 2 goals

matched with providing Hight quality education services and engaged student as well as staff members in innovative and interdisciplinary research.
the third item is the resource goal which is one goal dealing with the Creating and strengthening cooperation and partnerships and guiding students to take advantage of training opportunities from relevant authorities
Last item is concerning with the stakeholders, which is 3 goals, they are dealing with Improving and developing program learning outcomes and students' skills to suit the requirements of the labor market, Improving the efficiency of the department graduates. Providing services that meet the society and improve the quality of life.

		Strategic goals		Objectives
Institutional Goals	G1	*Provide comprehensive and optimal education based on the department and services*		
	G2	*Improving the department information technology structure.*		
	G3	*Verifying the completion of the department annual plans and governance.*		
	G4	*Improving the department capabilities of human resources.*		
Internal operations	G5	*Providing hight-quality academic programs and provide a comprehensive and optimal education based on modern education strategies.*	*O1*	To provide a comprehensive and optimal education based on high-quality educational strategies.
	G6	*Encourage faculty members and students and engaging them in innovative and interdisciplinary research.*	*O6*	Encouraging scientific research that contributes to meeting the requirements of development with wide economic and social benefits.
Resources	G7	*Creating and strengthening cooperation and partnerships and guiding students to take advantage of training opportunities from relevant authorities.*	*O2*	Training students to acquire the knowledge and professional competence necessary to work effectively to meet the requirements of the labor market.
The stakeholders	G8	*Improving and developing program learning outcomes and developing students' skills to suit the requirements of the labor market.*	*O5*	Provision of trained graduates equipped with values for serving the Kingdom.
	G9	*Improving the efficiency of the department graduates.*	*O4 & O3*	Engaging students in innovative and interdisciplinary research. & Providing students with supportive means of learning practices and enhancing their personal skills that enable them to work successfully.
	G10	*Providing services that meet the society and improve the quality of life.*	*O7*	Creating strong links with the community and providing effective community services.

4. Graduate Attributes:

On completion of the Chemistry Program, students will be able to:

- *Demonstrate relevant, practical and theoretical knowledge in chemistry*
- *Communicate effectively in a variety of contexts, circumstances and modes*
- *Apply relevant numeric literacy skills in a subject area*
- *Apply critical, analytical thinking, and problem-solving skills for academic contexts*
- *Work independently and collaboratively in a cross-cultural context*
- *Apply relevant academic literacy skills in a subject area*
- *Demonstrate academic integrity*

5.Program learning Outcomes*

Knowledge and Understanding

Upon completion of the program, students are able to:

K1	*Demonstrate a broad understanding and critical view of the principal theories, concepts and terminology of chemistry area or field of work, and in addition the necessary background in Physics and Mathematics*
K2	*Describe correctly Chemical phenomena using chemical principles and scientific reasoning*

Skills

Upon completion of the program, students are able to:

S1	*Demonstrate an ability in critical thinking, numeracy, statistical, analytical reasoning, use graphs, charts for solving problems (in the synthesis, measurement, and modeling of chemical systems),*
S2	*Apply their experimental basics and skills to use laboratory equipment, modern instrumentation, and classical techniques for carrying out experiments in various fields of chemistry and to write a report representing the scientific data.*
S3	*Examine his material and lab safety background to Follow proper procedures and regulations for safe handling and use of chemicals.*
S4	*make effective use of communication, and online technology about chemistry topics in order to improve their basic knowledge in writing (report and paper) with a good verbal and clear scientific language.*
Values, Autonomy and Responsibility *Upon completion of the program, students are able to:*	
V1	*Work as a group leader in cooperation with other colleagues*
V2	*Perceive the ethical and social dimensions of practicing chemistry or any related field.*

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

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses Hours	Credit	ECTS	Percentage
Institution Requirements	Compulsory	7	15	33.3	13%
College Requirements	Compulsory	6	24	44.4	17%
Program Requirements	Compulsory	30	89	181.7	69%
Capstone Course/Project	Compulsory	1	2	4	2%
Field Experience/ Internship	not applicable	0	0	0	0
Total		44	130	257.7	100%

* Add a table for each track (if any)

2. Program Study Plan

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Contact Hours		Total Credit Hours	workload	ECTS
					Lecture	Pract.			
First Year									
Level 1	101ISLM 2	Islamic Culture 1	R		2	0	2	103.6	3.7
	105ENGL-6	English Language	R		12	3	6	310.8	11.1
	101BIO-4	General Biology	R		3	2	4	207.2	7.4
	101MATH-3	General Mathematics	R		3	0	3	154	11
	101COMP-3	Introduction Computer Sci.	R		2	2	3	154	5.5
	Total of Level 1				22	7	18	929.6	38.7
	1012ISLM-2	Islamic Culture 2	R		2	0	2	103.6	3.7
	101ARAB-2	Linguistic Skills	R		2	0	2	103.6	3.7

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Contact Hours		Total Credit Hours	workload	ECTS
					Lecture	Pract.			
Level 2	101PHYS-4	General Physics	R		3	2	4	207.2	7.4
	101CHEM-4	General Chemistry	R		3	2	4	207.2	7.4
	106ENGL-3	Scientific English	R	105ENGL	3	0	3	154	5.5
	Total of Level 2				13	4	15	775.6	27.7
TOTAL of Year 1					**35**	**11**	**33**	**1705.2**	**66.4**
Second Year									
Level 3	102ARAB-2	Arabic Editing	R		2	0	2	103.6	3.7
	103ISLM-2	Islamic culture 3	R		2	0	2	103.6	3.7
	201MATH-3	Calculus	R		3	0	3	154	5.5
	231CHEM-3	Aliphatic organic Chemistry	R		2	2	3	166.2	5.9
	211CHEM-3	Volumetric Analytical Chemistry	R		2	2	3	169	6
	201CHEM-4	General and physical Chemistry	R	101CHEM	3	2	4	221.5	7.9
	Total of Level 3				14	6	17	917.9	32.7
Level 4	104ISLM-2	Islamic Culture 4	R		2	0	2	110.8	3.7
	202MATH -3	Differential Equations	R	201MATH	3	0	3	166.2	5.5
	212CHEM-3	Chemistry of Gravimetric Analysis	R		2	2	3	185	6.6
	221CHEM-4	Chemistry of Main Groups	R		3	2	4	238	8.5
	232CHEM-3	Aromatic Organic Chemistry	R	231CHEM	2	2	3	169	6
	241CHEM-3	Thermodynamics	R		2	2	3	166.2	5.9
	Total of Level 4				14	8	18	1035.2	36.2
TOTAL of Year 2					**28**	**14**	**35**	**1953.1**	**68.9**
Third Year									
Level 5	313CHEM-3	Chromatographic Analysis	R		2	2	3	166.2	5.9
	322CHEM-4	Chemistry of Transition Elements	R	221CHEM	3	2	4	230.5	8.2
	333CHEM-3	Heterocyclic Organic Chemistry	R		2	2	3	192	6.9
	342CHEM-3	Kinetic Chemistry	R		2	2	3	191	6.8
	343CHEM-3	Surface Chemistry & Catalysis	R		3	0	3	169	6
	Total of Level 5				12	8	16	948.7	33.8
Level 6	314CHEM-3	Electrochemical analysis methods	R		2	2	3	189	6.8
	323CHEM-3	Co-ordination Chemistry	R	322CHEM	2	2	3	166	5.9
	334CHEM-2	Spectroscopy of Organic Compounds	R		2	0	2	117	4.2
	335CHEM-3	Organic Reaction Mechanisms	R		2	2	3	166	5.9
	344CHEM-3	Electrochemistry	R		2	2	3	174	6.2
	Total of Level 6				10	8	14	812	29
TOTAL of Year 3					**22**	**16**	**30**	**1760.7**	**62.8**
Fourth Year									
Level 7	436CHEM-3	Chemistry of Natural Products	R		2	2	3	173	6.2
	437CHEM-2	Stereochemistry	R		2	0	2	110	3.9
	445CHEM-3	Solution Chemistry	R		2	2	3	167	6
	446CHEM-2	Polymer Chemistry	R		2	0	2	111	4
	447 CHEM-3	Quantum Chemistry	R	202MATH	3	0	3	182	6.5
	491CHEM-2	Graduation Project	R	Dep. Approval	1	2	2	110.8	4
	Total of Level 7				12	6	15	853.8	30.6
Level 8	415CHEM-4	Methods of Instrumental analysis	R	314CHEM	3	2	4	227.5	8.1
	424 CHEM-3	Lanthanides & Actinides	R	323CHEM	2	2	3	168	6
	425CHEM-2	Group Theory	R		2	0	2	114	4.1

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Contact Hours		Total Credit Hours	workload	ECTS
					Lecture	Pract.			
	438CHEM-3	Organic applied chemistry	R		2	2	3	176.15	6.3
	439CHEM-3	Principles of Biochemistry	R		2	2	3	168	6
	448CHEM-2	Photochemistry	R		2	0	2	112	4
	Total of Level 8				13	8	17	965.65	34.5
TOTAL of Year 4					**25**	**14**	**32**	**1819.45**	**65.1**
Total					**110**	**55**	**130**	**7238.45**	**263.2**

* Include additional levels if needed
** Add a table for each track (if any)

3. Course Specifications

Insert hyperlink for all course specifications using NCAAA template

https://drive.google.com/drive/folders/1zbkM0hmaesu0jg1SVo-nFmdh4WyHBS5D?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)**

LEVEL	Course code & No.	Program Learning Outcomes PLOs							
		Knowledge and understanding		Skills				Values, Autonomy and Responsibility	
		K1	K2	S1	S2	S3	S4	V1	V2
Level 1	*ISLM 101*								I
	ENGL 105						I		
	BIO 101	I	I		I	*I*			
	MATH 101			I					
	COMP 101								
Level 2	*ISLM 102*								I
	ARAB 101								I
	PHYS 101	I	I	I	I				
	CHEM 101	I	I	I	I	*I*		I	
	ENGL 106						I		
Level 3	*ARAB 102*								P
	ISLM 103								P
	MATH 201			I					
	CHEM 231	I	I	I	I	*I*		I	
	CHEM 211	I	I	I	I	*I*		I	
	CHEM 201	I	I	I	I	*I*		I	
	ISLM 104								P

LEVEL	Course code & No.	Program Learning Outcomes PLOs							
		Knowledge and understanding		Skills				Values, Autonomy and Responsibility	
		K1	K2	S1	S2	S3	S4	V1	V2
Level 4	MATH 202			I					
	CHEM 212	I	I	I	I	I		I	
	CHEM 221	I	I	I	I	I		I	
	CHEM 232	I	I	I	I	I		I	
	CHEM 241	I	I	I	I	I		I	
Level 5	CHEM 313	P	P	P	P	I	I	I	
	CHEM 322	P	P	P	P	I	I	I	
	CHEM 333	P	P	P	P	I	I	I	
	CHEM 342	P	P	P	P	I	I	I	
	CHEM 343	P	P	P			I		
Level 6	CHEM 314	P	P	P	P	P	I	P	
	CHEM 323	P	P	P	P	P	I	P	
	CHEM 334	P	P	P			I		
	CHEM 335	P	P	P	P	P	I	P	
	CHEM 344	P	P	P	P	P	I	P	
Level 7	CHEM 436	M	M	P	M	P	I	P	
	CHEM 437	M	M	P			I		
	CHEM 445	M	M	P	M	P	M	M	
	CHEM 446	M	M	M			P		
	CHEM 447	M	M	M			P		
	CHEM 491	M	M	M	M	M	M		M
Level 8	CHEM 415	M	M	M	M	M	M	M	
	CHEM 424	M	M	M	M	M	M	M	
	CHEM 425	M	M	M			M		
	CHEM 438	M	M	M	M	M	M	M	
	CHEM 439	M	M	M	M	M	M	M	
	CHEM 448	M	M	M			M		

Assessed PLO

* 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.

We have a varied diet of assessments designed into our courses, ranging from time-constrained examinations through to mini- dissertations. A key element of the assessment methodology is the application of learning, and approaches which promote deep learning rather than shallow learning experiences,

- *At the beginning of the course, the instructor will detail the methods used to evaluate student progress and the criteria for assigning a course grade. The methods may include one or more of the following tools: examinations, quizzes, homework assignments, laboratory write-ups, research papers, small group problem solving of questions arising from application of course concepts and concerns to actual experience, oral presentations, or maintenance of a personal lab manual…….etc.*
- *Grades and competency will be determined according to student ability to demonstrate knowledge of specific chemistry topics and complete work by assigned deadlines; participate and complete reports of assigned laboratory experiments; and an evaluation of the skills will be done by feedback, focus group and survey*
- *The verification of the results will be achieved by checked the grade, exam and test results by another instructor and head of department. And the QA committee compares the results with other courses in the same levels to obtain the courses with grade shifts.*
- *Also visiting some factories and research centers, participate in activities inside our department or on the university, attend workshops, etc will help our students to acquire more and more experiences*
- *See also, department manual, student book and QMS ch7.*

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.

The tools used will be direct and indirect methods of measurements;

Various assessment direct/indirect methods accomplish the evaluation of and degree to which the learning outcomes for the Electrical Engineering program are met assessment direct/indirect methods.

Direct assessment

methods are those where a conclusion can be reached directly from student submitted work, such as measurement of Program Learning Outcomes (PLOs) through homework, exams, tests, rubrics, and projects where methods used and conclusions reached are easily interpreted and evaluated.

Indirect assessment

methods are those where a conclusion is drawn inferentially from evidence observed, such as alumni survey, employer survey, exit survey, etc.

The university has a detailed and well-defined process to solicit feedback from various stakeholders of our programs. The aim is to gauge the effectiveness, concerning quality, of all relevant activities, to develop cognizance about pitfalls and to bring about tangible and verifiable improvements in them.
In order to derive optimum performance from the human resource and systems, Program evaluates its teachers/courses / graduates/alumni to get enhanced organizational success. Evidence from various stakeholders is collected to gauge the effectiveness of the teaching-learning process.
Analysis of evaluations is used to improve various aspects of our system. The overall process is based on essential data that includes student feedback of courses, Course review reports with coverage of course contents, PLO and CLO assessment, Counselor's feedback, Exit survey of graduating students, Alumni survey, Employer's feedback, Internship feedback, and Graduation project evaluation. Student course feedback and Exit Survey is collected by the Quality Assurance Teams of the Program. This assessment data is first analyzed and evaluated against the Key Performance Indicators (KPIs, and the summary is presented in the Continuous Quality Improvement Review Report. The PLO evaluation includes three levels of evaluation including, Program (Cohort) Level, Course level and Student level.

Program level Evaluation:

The PLO evaluation against the whole program is done using multiple types of direct and indirect assessment data including Course PLO assessment, Final year project assessment, Internship Feedback and Exit Survey of graduating students. These data modules are discussed in the subsequent sections. The Program level evaluation process including assessment activity, assessment data, and KPIs.

Course Evaluation:
The course evaluation is done based on the percentage achievement of each targeted PLO for the course. A student is considered to have attained the PLO in the course if he gets >60% marks against that PLO. For a course, a PLO is considered to be achieved if the PLO attainment percentage of the students >60% and the average for all students in that course against the PLO is >60%.

Student Evaluation:
The PLOs Evaluation process for individual students includes both direct and indirect assessment taken throughout all the semesters. The direct assessments include assessment Course PLOs attainment and assessment of Graduation Project. The indirect assessment includes an exit survey of graduating students and Internship feedback of individual students.
Developing and accessing students learning outcomes bases on three QA stages

D. Student Admission and Support:

1. Student Admission Requirements

Students can join the program after passing the preparatory year. The College Council annually determines the number of students who can be admitted to the program based on the Department capacity and the student GPA in the preparatory year. A student must meet following requirements for admission to the university:

1) *Hold a high school or equivalent degree from a college in Saudi Arabia or an equivalent institute out of the Kingdom.*
2) *The high school degree must have been issued in the last five years for full-time students. The University Rector has authority to give exception to this rule on case-to-case basis.*
3) *A student must be of good conduct and behavior.*
4) *Student must pass any additional test or interview that might be required by the university. v) Student must be medically fit for studying at the university.*
5) *In case of student working in a government or private sector, he must obtain permission for study from his employer.*
6) *A student should satisfy any other conditions determined by the University Council during the application assessment.*
7) *A student who had been dismissed from any other university is not eligible for admission.*
8) *Those who already had obtained a Bachelor Degree or its equivalent shall not be admitted to obtain another Bachelor degree. The University Rector has the right for exception to this rule on case-to-case basis.*
9) *A student who is already registered for an academic degree in Jazan University or any other university is not allowed to register for another degree.*
10) *The student must be medically fit.*

- *To join the Bachelor of Science in Chemistry Program, an applicant must:*
  Hold a Saudi High School Certificate Science Section (or its equivalent), with grade 70% for both boy or girl

Other regulation concerning admission may be seen in this links:
https://www.jazanu.edu.sa/dev/media/sites/61/2020/05/The-Student-Guide-English.pdf

2. Guidance and Orientation Programs for New Students

The orientation program for new students is held every time the department admits fresh students. The department Head presides over a welcoming session for new students attended by almost all the faculty members and administration staff. The Orientation program is designed to help students get acquainted with the following:

- *Vision, mission and objectives of the department, college and university.*
- *University and college regulations and code of conduct.*
- *Tips on leading a successful college life in line with their potential career goals.*
- *Department and college facilities and places.*
- *plan of study review course*

- *methods of evaluation*
- *Wellness, self-care*
- *faculty expectations*
- *certification and licensure information*

3. Student Counseling Services

(academic, career, psychological and social)

Academic advising is a key to success at any higher education institution. Our department considers academic advisers a valuable resource to students as they help plan their undergraduate career and, ultimately, prepare them for graduation. Academic advising means guiding the students/advisee on different issues related to their academic progress and to help them find solutions to different academic problems. Academic advising is related to assisting students with educational choices, degree requirements, academic policies/procedures, as well as broader concerns such as career and graduate school options in the future.

Each student in the chemistry program has an academic advisor whose job is to provide students with consultation and academic support mainly during registration time but also any time during the semester.

Students may consult their advisor, as well as the Department Chair and the Dean of the College, for any issues or concerns concerning their academic life. Given the number of the chemistry students, the students are divided among the college for advising. The process is as follow;

- *Student Academic Counselling Committee is in charge of student counselling.*
- *Each Faculty is assigned a group of students for counselling.*
- *Faculty will be available for student counselling at specific office hours during on daily basis.*
- *Faculty should make a file for each student in his counselling group where student contact information, a copy of student timetable, a copy of student academic record is kept and updated every semester*

The rule, regulations, responsibilities may be described in detail in the department manual.

Academic advisor tasks

- *Performing the plans and programs of the College's Guidance Unit and the University's Academic and Student Guidance Center.*
- *Coordinate with the head or coordinator of the department and the Academic and Student Guidance Unit in the college in order to accomplish his tasks.*
- *Prepare a folder for each student assigned to be supervised. This folder should be containing:*
- *(student's data, study plan, academic record, guidance forms approved by University's Academic Guidance Center, Communication process with the student, Individual and group guidance forms)*
- *Hold meeting with students at the beginning of a semester and throughout the school year and enlighten them of the importance of guidance hours. Also demonstrate a sincere desire to help them.*
- *Introduce the University's regulations to the guided students, especially those related to the exams, study and disciplinary regulations, and other matters of interest to the student.*
- *Motivate the guided students to respect all registration, deletions, additions, withdrawals, etc operations on the portal according to the dates announced by the Deanship of Admission and Registration.*
- *Ensuring that the student registers in the required courses for the required hours according to his GPA and his study plan.*
- *Inform the guided students about the courses which have previous requirements in the study plan.*
- *Inform students who are guided by e-courses, combined courses and traditional courses included in their timetable.*
- *Introduce the university calendar to the guided students and ensure that they have received their timetable on the portal.*
- *Ensuring that the guided students know the classrooms location, the instructors who will give them the courses, and their academic numbers.*
- *Motivate the guided students to attend lectures, abide the university regulations and listen to their problems and suggestions.*
- *Helping students adapt to their specialization, especially the new students, and working to overcome the obstacles and problems which are facing them.*
- *Respond to student questions via Blackboard or social media about course registration, course selection, delete and add courses, absence of the student, withdrawal from the university ... If the student has a*

GPA less than 2.00, he will be warning in the first time. The advisor should explain to the student what are the consequences of this result.

- *Make attention to stumbling students, intensifying the communication with them and motivating them to improve their academic situation, and help them to solve their problems that prevent their progress.*
- *Methods that the advisor should be perform with the stumbling student*
- *The advisor should contact the student by phone or e-mail to make an appointment with him.*
- *At the beginning of the meeting, which should take 30-60 minutes, the advisor explains to the student that the meeting purpose is to help him to go out of the stumbling in the study.*
- *The advisor tries to know the psychology of the student and the reasons behind his poor performance.*
- *When the advisor knows the real reason, he begins to develop a plan for the student with cooperation and coordination with the teachers of his courses.*
- *Reviewing someone other than the advisor can be part of the plan.*
- *Arrange a calendar for appointment with the student who has received warnings, follow them seriously, and record those meetings in the student's guidance file.*
- *The advisor continues to encourage his student and infuse the spirit of determination in his soul. This relationship between the student and the advisor will motivate the student continuously to make a greater effort when he feels that there is someone who trusts his ability.*
- *Make attention to the excellent students and encourage them to continue their progress and help them to solve their problems.*
- *Knowing the talented students, work to encourage them to develop their talents and guide them to communicate with the relevant authorities and organism related to student affairs and the Academic and Student Guidance Center.*
- *gathering information of the students whose have scholarship and attention to their affairs and problems and direct them to communicate with the relevant bodies of student affairs and the Academic and Student Guidance Center.*
- *Provide students with scientific information and guidance related to some of the skills that can help them in the development of their skills such as: study skills, tests, time management, etc., and direct them to the websites where they can get information about these skills, and the distribution of manuals and guides printed by Unit and Center).*

•*Also, our university have different clubs to improve social and career of students as:*

•*Science Club, Scout Club, Computer Science Club, Society Partnership Club, Club of Culture and Dialogue Literary Club, Club Theater, Al - Falcour Club, Al Jawala, Health Club, Friends of the Environment Photography Club, Club Reading Arts, Arts Club, …etc*

4. Special Support

(low achievers, disabled, gifted and talented)

The student population includes students with and without disabilities.
The faculty often co-teach in order to address the wide-ranging needs of their students. NO separate special education classrooms.
Instructors are strongly encouraged to inform students about available services and related procedures.

A good two-fold strategy is to include a statement on instructor syllabus about disability services and to announce to the class at the start of each semester that any student with a disability who needs accommodations or related services can discuss options with the instructor in private.

This will help students with disabilities feel more comfortable speaking with instructor about their needs and also show a good faith effort on instructor part to make students aware that the department does have a system to help them obtain equal access. faculty use office hours for advising and try to solve the special needs of students. .in our program we do not have a special disabilities program

University have special offer for special need students as:

- *Physiotherapy services for students with special needs*
- *Speech therapy services for students with special needs*
- *Occupational therapy services for students with special needs*
- *Psychotherapy services for students with special needs*

- *Adaptive services for students with special needs*

For low achievers, Instructor should,

- *First of all, know well who low-achiever learners are. They are learners who usually:*
  -lack basic knowledge or skills.
  -have difficulty in comprehension.
  -lack concentration.
  -confuse easily in the classroom.
- *Our staff Make a registration of students' names in a special register for follow-up, change their attitudes towards them, give them clear, step by step instructions, give them extra help or explanation, motivate them all the time using all possible ways. i.e, by words / awards / good marks to give confidence and give them other opportunities in the absence of answer, not to use words that make them hate study, be aware of their learning or studying habits and try to improve them, know their leaning styles and adapt his/her teaching to them, set the objectives that students should achieve at the end of learning sessions and prepare how to assess their achievement. This will help in diagnose the difficulties and know how to deal with. The feedback must be given to student and prepare some procedures that students should follow or design and implement a remedial plan to remedy your students' points of weakness. Consult and get advice as early as possible from your colleagues, supervisor, psychological and social specialist regarding to learning issues of your students.*
  Also
- *The work of the strengthening groups announced by the department administration to the weak students and select competent teachers to carry out.*
- *Taking additional lessons and focusing on the weak students in explaining or understanding the unclear and difficult parts and answering some of their questions in the article.*

For Gifted Students

In classroom, our staff try to:

- *Learn how gifted students think to better support them in the classroom.*
- *Create tiered assignments for students to meet the needs of all students*
- *Give gifted students more complex tasks.*
- *Add a second component to assignments, such as having them apply the skill they've learned to a real-world situation or asking them to write an explanation of their thinking.*
- *Include a variety of levels in your library research tasks.*
- *Utilize their talents and interests.*
- *Explore real-world application*

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	7	none	none	5	2	7
Associate Professors	15	none	none	12	3	15
Assistant Professors	27	none	none	14	13	27
Lecturers	17	none	none	4	13	17
Teaching Assistants	3	none	none	1	2	3

Academic Rank	Specialty		Special Requirements / Skills (if any)	Required Numbers		
	General	Specific		M	F	T
Technicians and Laboratory Assistants		none	none	0	0	
Administrative and Supportive Staff	1	none	none	1	0	1
Others (specify)	0	none	none	0	0	0
total	70	none	none	37	33	70

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

The orientation program for new teaching staff is held every time the department admits fresh members. The department Head presides over a welcoming session for new students attended by almost all the faculty members and administration staff. The Orientation program is to familiarize new teaching new staff with our learning environment and provide opportunities for professional development, networking and collegiality. Essential information needed to successfully teach at JU Topics may include communication systems, the learning environment, teaching spaces and policies, course coordination classroom challenges, understanding your students, authentic assessment, first years of teaching, delivering engaging lectures, online teaching, course design and lesson planning, etc..The orientation in held in the university, college then in the department as follow;

- University orientation day.
- New Faculty/Staff are welcomed at Faculty and Department level in a social annual meeting.
- College QA Unit Orientation Week
- New Faculty/Staff undertake an Orientation Week (Lectures/Workshops) organized by the College QA Unit.

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.)

Academic staff are strongly supported in professional development in learning and teaching with the aim of promoting good practice, innovation and scholarship in learning and teaching as well as curriculum development.

QA is one of the providers of staff professional development in learning and teaching to Faculties, consultation with academic staff about any development needs and the development of teaching portfolios.

Opportunities for professional development in teaching include:

- Learning and Teaching
- Assessment, Moderation and Benchmarking
- Self-study

Also, Quality unit at college of science and Deanship of Academic development DAD at Jazan University provide all support and adopting initiatives that aim to enhance education quality, efficiency and effectiveness, eventually leading up to obtaining program and institutional accreditation from prestigious national/ international regulators. They conduct several Training and workshops each year in the following fields

1. Effective teaching strategies.
2. Building the achievement tests in the university stage.

3. Recent trends in curriculum design.
4. Funding scientific research and grants.
5. Active learning strategies.
6. Citation and scientific documentation of research.
7. Test preparation skills.
8. Building and managing the research team.
9. Organize and manage the scientific review using the program EndNote X7.
10. Personal Strategic Planning.
11. Development of Leadership Skills.
12. Follow up and implementation of the Strategic Plan..

https://bc.jazanu.edu.sa/bc/

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.)

- A copy of learning resources for each course is kept in the relevant Course File in the Program QA Unit.
- A list of learning resources is kept in the Program QA Unit.
- The list of learning resources is annually updated by teaching Faculty and gets approval by Program Board.
- The updated list of learning resources is then raised to College of Science Deanship and hence to Deanship for Library Affairs.

2. Facilities and Equipment

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

Library

In the 2nd floor, the college library is there, this library contains books in sufficient number for all student in the college including chemistry students. Also, the central library in the university student may use beside the digital library of Saudi Arabia all students use their ID to enter its site http://deanships.jazanu.edu.sa/_layouts/Authenticate.aspx?Source=/lib/Pages/sdl.aspx

Teaching Laboratories

Multiple teaching laboratories serve students in all areas of chemistry, including introductory courses and courses in organic, inorganic, physical, analytical, and biochemistry. Our teaching labs are equipped with state-of-the-art instrumentation that students use regularly.

Equipment & Instrumentation

Department provide Labs with all necessary equipments, tools, safety aids and chemicals for undergraduate study. We have excellent UV-absorption, modern atomic absorption, GC-MS, FTIR, flam photometer, and HPLC instruments.

Medical facilities

Inside each Lab and other places, a first aid boxes are available for emergence. Near our campus there is a medical center and, in the college, also we have a medical room.

Classroom Supplies

Each classroom is fitted with a white board, an overhead projector, writing pens and dusters. and other classroom supplies are available from the academic departments

Textbooks and Course Materials

Wherever necessary, a scheduled course has a designated textbook, which has been adopted by the department. As all students registered in a course will have a copy of this book, an instructor may freely refer to the textbook as and when necessary. The adoption of a textbook does not restrict the instructor to use this book exclusively in his teaching and therefore he may freely adopt other references to supplement teaching material, which may include his own prepared lecture notes.

Where there is no designated textbook, an instructor must rely on his own collection of materials and whenever necessary and appropriate, he should distribute the course materials to the students in his class. An instructor can propose a new textbook, either as a replacement for an existing one or as a new addition

for a course where there is no designated textbook, by following the University`s procedure, which requires approval of the department, the college and the University.

Also, there are several study open places in all floors, computer rooms, Sports activities Room, Cafeteria, and theater.

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

College of science is committed to providing a safe and healthy campus environment. Among its highest priorities are the health and safety of all faculty, staff, and students, the visiting public, and members of the neighboring community.in order to implement environmental and occupational health and safety programs and to ensure compliance with all relevant governmental laws and regulations. A variety of health care services to students, faculty, staff and community members. We accept a wide range of health insurance plans.

- The Campus Health Clinic is located inside the main campus and a small room over the medical support inside the science building.
- Smoking is prohibited in any University facility and on any University grounds.
- First aids boxes are located in almost all rooms.
- The purpose of the Chemical Safety Program is to ensure the proper handling of hazardous chemicals, as well as hazardous waste management and disposal. Exposure to hazardous chemicals is kept at a minimum by using the appropriate Personal Protective Equipment and by performing experiments in a certified chemical fume hood.
- The Chemical Hygiene Committee oversees lab safety issues and reviews information regarding pertinent regulations and requirements.
- Fire prevention guidelines are listed in all places
- Emergency Exit doors in all parts with sufficient Signboards in all places.

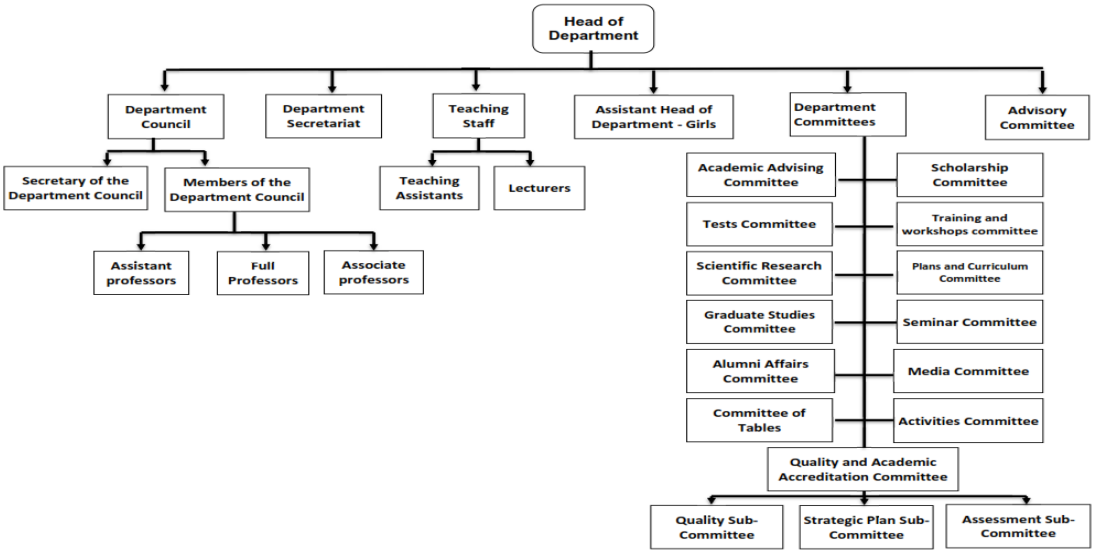
Safety and safety instructions are announced at the laboratories and the places where students gather.

G. Program Management and Regulations

1. Program Management

1.1 Program Structure

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



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.)

students and employers are definitive stakeholders who have power, urgency and legitimacy to act;
Students as stakeholders are"

- involved in evaluation of program as well as courses
- participate in internal quality assurance via decision-making and quality management processes as equal partners.

Employment as stakeholders are

- involved in evaluation of program as well as courses
- participate in internal quality assurance in terms of representation as well as participation in study program development.
- participated formally in program committees and contributed to program accreditation

periodic reviews of program and awards should include external panel members, feedback from employers, labor market representatives and other relevant organization
our department seek to form an advisory committee that will help in connect our program to labor and socity.

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.)

Class Contract

The most general Rules in class are;

- Courtesy is expected at all times. This includes turning off mobile phones during class.
- Cheating and Plagiarism are unacceptable under any circumstances. Students should ask what constitutes plagiarism. It is the student's responsibility to familiarize her/himself with the plagiarism policy, which can be found in the Undergraduate Catalogue.
- Regular attendance is essential. Punctuality is required of all students. Three late arrivals count as one absence.
- Assignments, papers, and research must be handed in electronically and on time. Due dates are final, late submission only for a week will reduce the grade.
- Students are expected to attend all quizzes and exams during the scheduled times. There will be no makeup exams except in special cases.
- Instructor may add other but must inform student at the beginning of the semester

Other regulations could be seen here;

- https://www.jazanu.edu.sa/stu/regulations-and-regulations/

- https://www.jazanu.edu.sa/stu/media/sites/62/2020/04/%D9%84%D8%A7%D8%A6%D8%AD%D8%A9-%D8%A7%D9%84%D8%AD%D9%82%D9%88%D9%82_compressed.pdf

H. Program Quality Assurance

1. Program Quality Assurance System

Provide online link to quality assurance manual

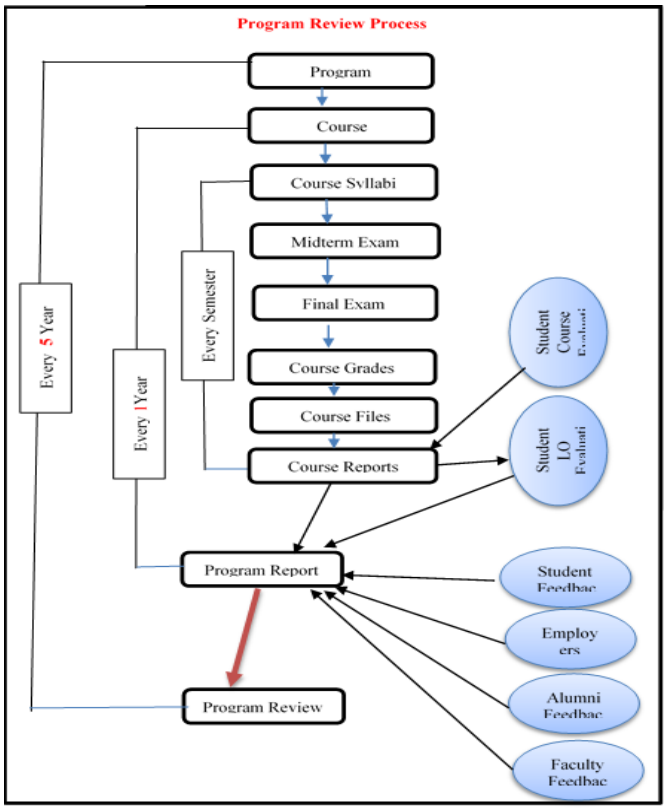
Planning; the process of setting goals, developing strategies, outlining the implementation arrangements and allocating resources to achieve those goals. It is important to note that planning involves looking at a number of different processes

- Identifying the vision, goals or objectives to be achieved
- Formulating the strategies needed to achieve the vision and goals
- Determining and allocating the resources (financial and other) required to achieve the vision and goals
- Outlining implementation arrangements, which include the arrangements for monitoring and evaluating progress towards achieving the vision and goals

Review processes to support academic quality assurance should, ideally, be in place at different levels and cover specific issues:

Quality is delivered through performance and improvement. This is the basic assumption of the system of quality assurance of teaching and learning. Performance is achieved by complying with the performance criteria derived from our mission and Policy. Improvement is achieved by continuously working towards improving the quality of teaching and learning throughout the department, while the performance criteria function as the touchstone of good quality. Improvements are monitored during the planning and control cycle.

For more detail see QMS manual.



2. Program Quality Monitoring Procedures

After each semester Course Reports (CRs) will be produced and considered by College Study Plans and Curriculum Committee. At the end of the academic year, the Program Annual Report (PAR) is also written for

consideration by College Study Plans and Curriculum Committee. Combined, these reporting processes make an overall annual program and course monitoring reporting process which underpins the effective operation of the program.
Student feedback is particularly important and the University uses the NCAAA Course Evaluation Survey and Student Experience Survey to inform the monitoring processes. It is an inclusive process involving the program leader and all staff teaching on the program, student feedback and independent advice (including inputs from the Program or College Advisory Committee

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

QA committee contact the staff tough courses to our student to collect all related data about out student.
We collect CS, CR, Exams, Quizzes, Assessments, assignments, attendance sheets, final marks and grades, feedbacks,…
By comparing the results of our students in the faculty and university requirement courses we could improve the quality of those courses.

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

In sections for male and female students the leaders of both sections participate in institutional governance and be fully involved in strategic planning, decision making, and senior administration with effective and continuing communication between sections. Strategic planning ensures equitable distribution of resources and facilities to meet the requirements of program delivery, research, and associated services in each section and quality evaluations consider performance at each section as well as for the institution as a whole.

- Male and female sections are represented in the membership of relevant committees and councils and participate fully in decision making through processes that are consistent with bylaws and regulations of the Higher Council of Education.
- An effective communication between members from each section on these committees and councils was established, and individuals in the different sections carrying out related activities were fully involved in planning, evaluations and decision making.
- Planning processes and mechanisms for performance evaluation lead to comparable standards in each section while taking account of differing needs.
- Quality indicators, evaluations and reports show results for both sections indicating similarities and differences as well as overall performance.

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

Not applicable

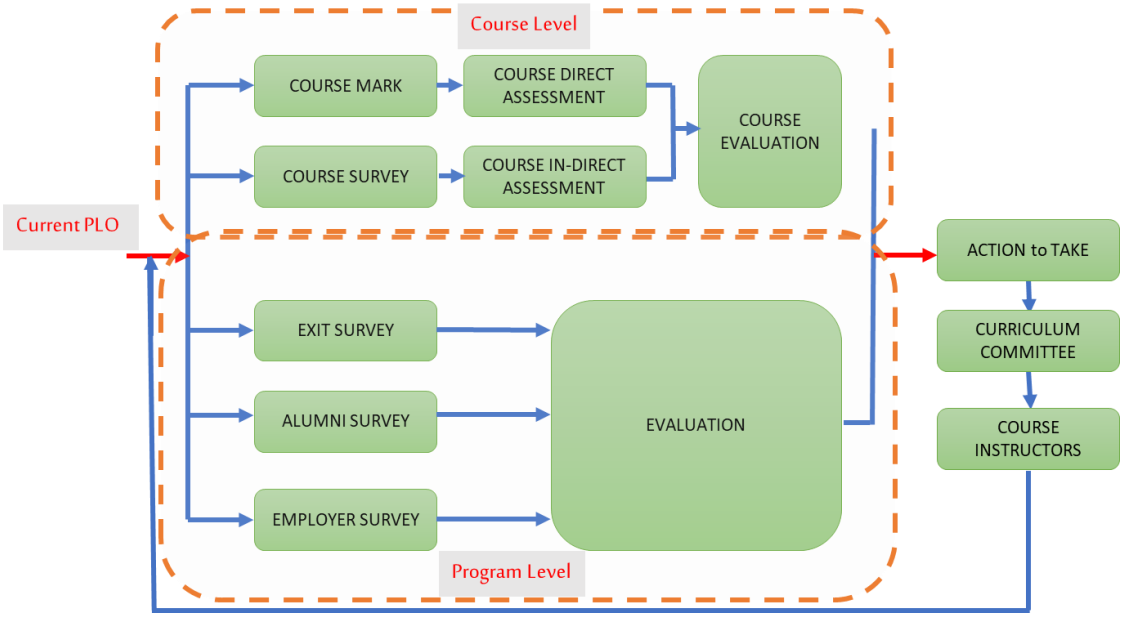
6. Assessment Plan for Program Learning Outcomes (PLOs), and Mechanisms of Using its Results in the Development Processes

- The assessment plan is attached. From which it is clear that we use both direct and indirect methods of assessment our PLO.

- Method of assessment:

  - Courses and programs are evaluated and reported on annually and reports include information about the effectiveness of planned strategies and the extent to which intended learning outcomes are being achieved.
  - When changes are made as a result of evaluations details of those changes and the reasons for them will be retained in course and program portfolios.
  - Quality indicators that include learning outcome measures were established for all courses and programs.
  - Records of student completion rates are kept for all courses and for programs as a whole and included among quality indicators.
  - Reports on programs are reviewed annually by program coordinator and quality committees.

- Edugate Systems is established for central recording and analysis of course completion and program progression and completion rates and student course and program evaluations, with summaries and comparative data distributed automatically to departments, colleges, senior administrators and relevant committees at least once each year.
- Appropriate actions are taken to solve evaluations problems (if any) to make improvements, either within the program or through institutional action as appropriate.
- In addition to annual evaluations a comprehensive reassessment of the program will be conducted at least once every five years. Policies and procedures for conducting these reassessments are published within the program.
- Program reviews should involve experienced people from relevant industries and professions, and experienced faculty from other institutions.
- In program reviews opinions about the quality of the program including the extent to which intended learning outcomes are achieved will be sought from students and graduates through surveys and interviews, discussions with faculty, and other stakeholders such as employers.



7. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
leadership	program leaders	visits	beginning of semesters
effectiveness of teaching & assessment	Students, alumni, faculty	Surveys	end of academic year
learning resources	Students, alumni, faculty	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.)

8. Program KPIs*

The period to achieve the target (1) year.

No	Standard	KPIs Code	KPIs	Target	Measurement Methods	Measurement Time
1	1-Mission and Goals	KPI-P-01	Percentage of achieved indicators of the program operational plan objectives	60%		End of year
2	3- Teaching and Learning	KPI-P-02	Students' Evaluation of quality of learning experience in the program	4.5		End of year
3		KPI-P-03	Students' evaluation of the quality of the courses	4.5		End of year
4		KPI-P-04	Completion rate	0.5		End of year
5		KPI-P-05	First-year students retention rate	%90		End of year
6		KPI-P-06	Students 'performance in the professional and/or national examinations	30%		End of year
7		KPI-P-07	Graduates' employability and enrolment in postgraduate programs	30%		End of year
8		KPI-P-08	Average number of students in the class	20		End of year
9	4-Students	KPI-P-09	Employers' evaluation of the program graduate's proficiency	4		End of year
10		KPI-P-10	Students' satisfaction with the offered services	3.5		End of year
11		KPI-P-11	Ratio of students to teaching staff	10		End of year
12		KPI-P-12	Percentage of teaching staff distribution			End of year
13	5- Teaching Staff	KPI-P-13	Proportion of teaching staff leaving the program	1%		End of year
14		KPI-P-14	Percentage of publications of faculty members	0.4		End of year
15		KPI-P-15	Rate of published research per faculty member	0.9		End of year
16		KPI-P-16	Citations rate in refereed journals per faculty member	0.07		End of year
17	6-Learning Resources, Facilities, and Equipment	KPI-P-17	Satisfaction of beneficiaries with the learning resources	3.5		End of year

* including KPIs required by NCAAA

I. Specification Approval Data

Council / Committee	Chemistry Department Council
Reference No.	42 / 35 /102 112
Date	17 /09 /1442 Corresponding to 28 / 04 /2021

Specification Approval Data