هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد
NCAAA

2024
TP-151

Program Specification
(Bachelor)

Program:	**Bachelor of Science in Chemical Laboratories**
Program Code (as per Saudi university ranking):	**053101**
Qualification Level: **6**	**Sublevel:** **645 (SASCED-2020)**
Department:	**Chemistry**
College:	**Science**
Institution:	**Imam Mohammad Ibn Saud Islamic University**
Program Specification:	New ☒ updated* ☐
Last Review Date:	**N.A**

*Attach the previous version of the Program Specification.

Table of Contents

A. Program Identification and General Information

1. Program's Main Location :
Main Campus.
2. Branches Offering the Program (if any):
None
3. Partnerships with other parties (if any) and the nature of each:
None
4. Professions/jobs for which students are qualified دليل التصنيف السعودي الموحد للمهن (masar.sa), **https://eservices.masar.sa/UCG/''#/**

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

التصنيف السعودي الموحد للمهن | الهيئة العامة للإحصاء (stats.gov.sa)

- **Education Employers: Chemical Laboratories in Public and Private Schools, Colleges, and Universities.**
- **Government Areas: Governmental and private sector chemical laboratories, Research & Development laboratories, and Administration Employers.**
- **Industry Areas: Quality Control Laboratories in pharmaceutical, food, mining, detergents, Environmental protection agencies, petrochemicals and other chemical Industries**

A: according to the classification of the Ministry of Human Resources

	Code	Professional Name
1	211301	**Chemist** دليل التصنيف السعودي الموحد للمهن(masar.sa)
2	211302	**Chemist for Industrial Sector** دليل التصنيف السعودي الموحد للمهن(masar.sa)
3	213117	**أخصائي مختبر علمي** **دليل التصنيف السعودي الموحد للمهن(masar.sa)**

B: Based on the Unified Saudi Occupational Classification Guide

	Code	Professional Name
1	211301	**Chemist** تفاصيل المهنة	الهيئة العامة للإحصاء(stats.gov.sa)
2	211302	**Industrial Chemist** تفاصيل المهنة	الهيئة العامة للإحصاء(stats.gov.sa)
3	211304	**petrochemical industries Chemist** تفاصيل المهنة	الهيئة العامة للإحصاء(stats.gov.sa)
4	213117	**Scientific Laboratory Specialist**

		تفاصيل المهنة	الهيئة العامة للإحصاء(stats.gov.sa)
5	213303	**Water Quality Specialist** تفاصيل المهنة	الهيئة العامة للإحصاء(stats.gov.sa)

Professions/jobs Description*

1- ***Assistant laboratory researcher in chemistry*** (**Scientific Laboratory Specialist 213117,** تفاصيل المهنة **(stats.gov.sa)** **| الهيئة العامة للإحصاء**) includes functions related to the work of the chemistry labs in the preparation of research, studies, reports, and the use of instruments and devices for the analysis, examinations, and chemical or physical composition of materials, elements, samples and other related works in this field.

***2- Laboratory Analyst chemistry* 211302-211303** 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.

***3- Laboratory Technician* 213117** 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.

***4- Environmental Protection Specialist* , 213303**, in the Field of Chemistry and related professional, includes the functions related to the work of environmental protection from the preparation of research tools, studies, reports, the use of equipment and conducting experiments and analyzes to identify the extent of pollution of water, and the level of hazardous wastes including organic and inorganic industrial waste and the level of hazardous waste materials generated by hospitals and some industries and research centers, and make recommendations in the light of information and data and The activities related to protecting the environment from waste from industries 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.

***5-. Environmental Chemical Foreman*, 213303 ,** includes functions related to the environment from the control and recording of hazardous waste data, 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-. Chemical safety and security* 211301, 211302, 211304**, 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.

- T103_PS Chemistry V2022 20232 _0.pdf (jazanu.edu.sa) page 3, 4 explain the job duties

5. Relevant occupational/ Professional sectors:

- **Education Employers: Teaching laboratories assistant, Laboratory technicians, Chemical Laboratories management, in Public and Private Schools, Colleges, and Universities.**
- **Scientific research laboratories - King Abdulaziz City for Science and Technology - Research centers in universities**
- **Industry Areas: Quality Control Laboratories and manufacturing in**
  - **Pharmaceutical sector.**
  - **Petroleum industries, including petrochemicals and plastics**

- Fertilizer industry and urea production
- Building materials industry laboratories for quality control and manufacturing.
- Waste treatment and waste management

- Ministry of Health laboratories - laboratories for analyzing toxins, chemical pollutants and clinical chemistry laboratories
- Ministry of Agriculture Laboratories - Pesticide and Fertilizer Analysis Unit and Food Analysis Laboratories
- Water purification laboratories and wastewater treatment companies
- Quality and calibration - Saudi Standards Authority (SASO)
- Saudi Food and Drug Authority (SFDA)
- Marketing for scientific supplies for laboratories

6. Major Tracks/Pathways (if any): N.A

Major track/pathway	Credit hours (For each track)	Professions/jobs (For each track)
Bachelor of Science in Chemical Laboratories	136	Education employers, government and Industrial areas, health sector, water treatment and purification sector (see section 4,5)

warded Degree (if any):

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

exit points/awarded degree	Credit hours
After spending two full-time academic years of study with a minimum of 66 Credit Hours (According to NQF (1444-2023)-p.23,29,33, minimum 60 Credit Hours)/ sublevel 544- (SASCED-2020)/ Diploma of Science in Chemical Laboratories	After the completion of at least 66 credit hours, where at least 49 credit hours should be from Chemistry courses (course code CHM), and, in addition, two mandatory courses of University, قرا 1101 – عرب 1001

Professional Occupations/Jobs for Exit Points

Exit Point	Credit Hours (For each track)	Professional Occupations/Jobs For Exit Point- *Diploma of Science in Chemical Laboratories*
Diploma of Science in Chemical Laboratories - sublevel 544- (SASCED-2020)	**After the completion of at least 66 credit hours, where at least 49 credit hours should be from Chemistry courses (course code CHM)**	**A. According to the classification of the Ministry of Human Resources)** **B. According to Unified Saudi Occupational Classification Guide**

A. According to the classification of the Ministry of Human Resources)

	Code	Professional Name
1	**311903**	Assurance Technician فني جودة(assistant- مساعد) دليل التصنيف السعودي الموحد للمهن(masar.sa)
2	311907	Laboratory Science Technician (محضر مختبر علوم) دليل التصنيف السعودي الموحد للمهن(masar.sa)
3	311108	فني مختبر علمي دليل التصنيف السعودي الموحد للمهن(masar.sa)
4	311602	فني مصانع كيميائية دليل التصنيف السعودي الموحد للمهن(masar.sa)

B. According to Unified Saudi Occupational Classification Guide

	Code	Professional Name
1	311104	Chemical Technician فنى كيميائي
2	311108	Laboratory Science Technician محضر مختبر علمي
3	311602	فنى مصانع كيميائية
4	311905	فنى كفاءة إنتاجية
5	313206	مراقب وحدة معالجة مياه صرف صناعي
6	313402	فنى تكرير نفط
7	343508	فنى ترميم آثار

8. Total credit hours: (136)

B. Mission, Objectives, and Program Learning Outcomes

1. Program Mission:

The bachelor's program in Chemical laboratories aims to qualify distinguished specialists with creative, applied ،and scientific analysis skills to work in various specializations in chemical laboratory management using advanced and high-tech tools in the academic and industrial sectors, community service, and scientific research.

2. Program Goals:

The program goals aim to:

PG1. Provide an attractive environment in the applied field for distinguished students wishing to study chemical laboratories to achieve cognitive progress and meet sustainable development needs.

PG2. Prepare graduates with the necessary skills to work in the field of chemical laboratories and to continue postgraduate studies in related fields.

PG3. Develop graduates' capabilities in using modern instruments and technologies and understanding and keep pace the rapid development of chemical laboratories in industry, health, the environment, and scientific research, and community service.

PG4. Enhance graduates' capabilities of managing chemical laboratories in various forms, data analysis, and results, and developing the security and safety measures of chemical laboratories.

PG5. Increase the graduate's competitiveness, cognitive abilities and skill qualifications to meet the labor market's demands and support the promising economic growth to bridge the gap between learning outcomes and the actual labor market needs of qualified specialists in response to Vision 2030

PG6. Contribute to the Saudization of a wide range of jobs in the applied field in chemical laboratories and community service.

3. Program Learning Outcomes*

Knowledge and Understanding	
K1	**Outline the fundamentals and application in laboratories and industrial tasks of all topics of Chemistry and their relevance.**
K2	**Describe the principles and utilities of different instruments, their functional applications, and the latest progress and development.**
K3	**List the routes of exposure to hazards to minimize and control them as environmental emergency responses at the personal and societal levels.**
K4	**Define inquiry methodologies and Chemical Data analysis in terms of quality and further applications.**
Skills	

S1	**Develop skills in setting up apparatuses for chemical reactions and analysis, with the capability to solve problems using scientific and logical reasoning.**
S2	**Demonstrate awareness about the impact of chemicals and biological hazardous materials on society and the environment and develop technical skills for a greener environment and greater safety.**
S3	**Apply well-developed skills to analyze and evaluate the results to create a database related to topics relevant to chemical laboratories' routine work and communicate effectively with peers.**
S4	**Effectively Use advanced digital technological techniques and chemistry experiments to develop and solve complex problems related to a professional target.**
Values, Autonomy, and Responsibility	
V1	**Establish awareness of preserving intellectual and scientific integrity during assignments, projects, and reports based on moderation in his thoughts and behavior, preservation of national and religious identity, and a commitment to responsible citizenship.**
V2	**Appraise and lead teamwork flexibly, make independent decisions supported by evidence and arguments in unpredictable work, and manage resources and time. Insist on achievement and excellence and enhance the quality of life.**

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

Program learning Outcomes of exit Point

Knowledge and Understanding	
K1	**Outline the fundamentals and application in laboratories and industrial tasks of all topics of Chemistry and their relevance.**
K2	**Describe the principles and utilities of different instruments, their functional applications.**
K3	**List the routes of exposure to hazards to minimize and control them as environmental emergency responses at the personal and societal levels**
Skills	
S1	**Demonstrate awareness about the impact of chemicals and biological hazardous materials on society and the environment.**
S2	**Develop skills in setting up apparatuses for chemical reactions.**
S3	**Effectively Use advanced digital technological techniques and chemistry experiments.**
Values	
V1	**Establish awareness of preserving intellectual and scientific integrity during his tasks based on moderation in his thoughts and behavior, preservation of national and religious identity, and a commitment to responsible citizenship.**
V2	**Appraise and lead teamwork flexibly, make independent decisions supported by evidence and arguments in unpredictable work, and manage resources and time. Insist on achievement and excellence and enhance the quality of life.**

C. Curriculum

1. Curriculum Structure

Program Structure	Required/ Elective	No. of courses	Credit Hours	Percentage
Institution Requirements	Required	2	4	2.95%
	Elective	11	22	16.18%
College Requirements	Required	5	16	11.76%
	Elective	0	0	0
Program Requirements	Required	24	75	55.14%
	Elective	3	9	6.62%
Capstone Course/Project	Required	1	4	2.94%
Field Training/ Internship	Required	1	6	4.41%
Residency year	0	0	0	0
Others	0	0	0	0
Total		47	136	100

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

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	PHY 1101	General Physics	Required	NONE	4 (2,2,2)	College
	CHM 1101	General Chemistry (1)	Required	NONE	4 (2,2,2)	College
	MAT 1101	Calculus (1)	Required	NONE	4 (3,2,0)	College
	ENG 1140	English (1)	Required	NONE	2 (1,2,0)	College
		University Requirement 1	Elective	NONE	2 (2,0,0)	Institution
		University Requirement 2	Elective	NONE	2 (2,0,0)	Institution
Level 2	CHM 1153	Computer Applications in Chemical Laboratories	Required	CHM 1101	2 (0,0,4)	Program

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	CHM 1120	Principles of Organic Chemistry	Required	CHM 1101	4 (3,0,3)	Program
	CHM 1110	Principles of Inorganic Chemistry	Required	CHM 1101	3 (2,0,3)	Program
	CHM 1131	Chemical Calculations	Required	CHM 1101	2 (1,0,3)	Program
	STA 1111	Introduction in Statistics and Probability	Required	MAT 1101	3 (2,2,0)	Program
	ENG 1195	English (2)	Required	ENG 1140	2 (1,2,0)	College
	CHM 1150	Safety and Quality Assurance in Chemical Laboratories	Required	CHM 1101	2 (2,0,0)	Program
Level 3	CHM 1240	Principles of Physical Chemistry	Required	CHM 1101	4 (3,0,3)	Program
	CHM 1230	Classical Analytical Chemistry	Required	CHM 1131	4 (3,0,3)	Program
	CHM 1231	Chemical Separation Methods	Required	CHM 1131	4 (3,0,3)	Program
	CHM 1237	Principles of Environmental Chemistry	Required	CHM 1101	2(2,0,0)	Program
	CHM 1225	Organic Chemistry	Required	CHM 1120	4 (3,0,3)	Program
Level 4	CHM 1233	Spectroscopic analysis	Required	CHM 1230	4 (3,0,3)	Program
	CHM 1238	Electroanalytical Methods	Required	CHM 1230	4 (3,0,3)	Program
	CHM 1239	Environmental Chemical Analysis	Required	CHM 1237	3 (2,0,3)	Program

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
	CHM 1232	Chromatographical Separation Methods	Required	CHM 1231	3 (2,0,3)	Program
		University Requirement 3	Elective	NONE	2 (2,0,0)	Institution
		University Requirement 4	Elective	NONE	2 (2,0,0)	Institution
EXIT POINT (66 Credit Hours and 50% of Program Plan, at least 49 credit hours should be within Course code CHM), and, in addition, two mandatory courses of University, 1001 عرب – 1101 قرا						
Level 5	CHM 1314	Industrial Inorganic Chemistry.	Required	CHM 1110	3 (2,0,3)	Program
	CHM 1349	Industrial Catalysis	Required	CHM 1240	3 (2,0,3)	Program
	CHM*	Elective course *(1)	Elective	Upon specifying the course (*)	3 (3,0,0)	Program
	CHM 1338	Industrial waste treatment	Required	CHM 1239	2 (2,0,0)	Program
	CHM 1371	Introduction in Biochemistry	Required	BIO 1101 CHM 1225	3 (2,0,3)	Program
		University Requirement 5	Elective		2 (2,0,0)	Institution
		University Requirement 6	Elective		2 (2,0,0)	Institution
Level 6		Free course **(1)	Elective	NONE	2 (2)	Institution
	CHM 1325	Identification Methods of Organic Compounds	Required	CHM 1225	2 (2,0,0)	Program
	CHM 1341	Physical Chemistry	Required	CHM 1240	4 (3,0,3)	Program
	CHM *	Elective course *(2)	Elective	Upon specifying	3 (3)	Program

Level	Course Code	Course Title	Required or Elective	Pre-Requisite Courses	Credit Hours	Type of requirements (Institution, College, or Program)
				the course (*)		
	CHM 1320	Fundamentals of Petrochemical Industries	Required	CHM 1225	3 (3,0,0)	Program
		University Requirement 7	Elective	NONE	2 (2,0,0)	Institution
		University Requirement 8	Elective	NONE	2 (2,0,0)	Institution
Level 7	STA 1411	Statistical Analysis of Chemical Data	Required	STA 1111 CHM 1253	4 (2,2,2)	Program
	CHM 1441	Materials Synthesis and Characterization	Required	CHM 1346	3 (2,0,3)	Program
	CHM *	Elective course *(3)	Elective	Upon specifying the course (*)	3 (3)	Program
		Free course **(2)	Elective	NONE	2 (2)	Institution
		Free course **(3)	Elective	NONE	2 (2)	Institution
		University Requirement 9	Elective	NONE	2 (2,0,0)	Institution
		University Requirement 10	Elective	NONE	2 (2,0,0)	Institution
Level 8	CHM 1496	Field Training ***	Required	Department approval ***	6	Program
	CHM 1498	Graduation Project***	Required	Department approval ***	4 (2,0,4)	Program

*Upon specifying the course, see LIST OF ELECTIVE COURSES
** Total Credit Hours of Free Courses: 6 Hours, Mandatory to End the Program.
***Students must have completed a minimum number of 126 Hours of Credit.

LIST OF ELECTIVE COURSES

Level(L)/Elective Number (E)	Course Code	Course Title	Credit Hours	Prerequisites	Type of requirements (Institution, College or Department)
L 5/E 1	CHM 1328	Medicinal Chemistry	3 (3,0,0)	CHM 1225	Program
	CHM 1343	Electrochemistry and Corrosion	3 (2,0,3)	CHM 1238	Program
	CHM 1327	Selected Topics in Organic Chemistry	3 (3,0,0)	CHM 1225	Program
L 6/E 2	CHM 1324	Bioorganic Chemistry	3 (3,0,0)	CHM 1225	Program
	CHM 1316	Organometallic Chemistry	3 (3,0,0)	CHM 1314	Program
	CHM 1315	Selected Topics in Inorganic Chemistry	3 (3,0,0)	CHM 1314	Program
L 7/E 3	CHM 1448	Chemical Kinetics	3 (2,0,3)	CHM 1341	Program
	CHM 1447	Catalysis and Surface Chemistry	3 (3,0,0)	CHM 1341	Program
	CHM 1417	Nuclear and Radiation chemistry	3 (3,0,0)	CHM 1341	Program

University Requirements courses from (1) to (10)

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

Packages	*Course Code*	*Course Name*	*Credit Hours*	*Rules*
Islamic knowledge and values	QUR 1001	Quran	2	The student chooses two courses, one of which should be the Quran course.
	HAD 1001	Studies in the Sunnah	2	
	JRS 1001	Objectives of Shariah	2	
	IDE 1001	Creed	2	
	JR 1001	Jurisprudence of Worship and Family	2	
Historical, national, and social knowledge and values	HST 1001	Studies in the Prophet's biography	2	The student chooses two courses.
	HST 1002	National History	2	
	SOS 101	Voluntary Work Skills	2	
	CUL 1001 CIS 101	Jurisprudence of Rights and Duties	2	
	GEO 1011	Environment and Sustainable Growth	2	
Professional skills and labor market	RHB 1001	Work Value and Ethics	2	The student chooses two courses.
	BUS 1001	Innovation and Entrepreneurship	2	

Packages	Course Code	Course Name	Credit Hours	Rules
	EDM 1001	Leadership Skills	2	
	FIN 1001	Financial Planning Skills	2	
	ENG 1001	English Language Skills	2	
Communicative and personal skills	BC 1001	Communications Skills	2	The student chooses two courses.
	ARB 1001	Linguistic Skills	2	
	ART 1001	Editing and Speech Skills	2	
	PSY 1001	Mental Health	2	
	BIO 1001	General Knowledge of Health Care	2	
Academic skills	TCM 1001	University Education Skills	2	The student chooses two courses.
	RHE 1001	Reading Skills	2	
	IT 1001	Technical Skills	2	
	EDP 1001	Thinking Skills	2	
	STA 1001	Basics of Statistics	2	

3. Course Specifications:

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

https://imamuedusa-my.sharepoint.com/my?id=%2Fpersonal%2Fmkomran%5Fcloud%5Fimamu%5Fedu%5Fsa%2FDocuments%2F%D8%A7%D9%84%D8%AE%D8%B7%D8%B7%20%D8%A7%D9%84%D9%85%D8%B7%D9%88%D8%B1%D8%A9%20%D9%84%D8%A8%D8%B1%D8%A7%D9%85%D8%AC%20%D9%82%D8%B3%D9%85%20%D8%A7%D9%84%D9%83%D9%8A%D9%85%D9%8A%D8%A7%D8%A1%2F%D8%A8%D9%83%D8%A7%D9%84%D9%88%D8%B1%D9%8A%D9%88%D8%B3%20%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85%20%D9%81%D9%8A%20%D8%A7%D9%84%D9%85%D8%AE%D8%AA%D8%A8%D8%B1%D8%A7%D8%AA%20%D8%A7%D9%84%D9%83%D9%8A%D9%85%D9%8A%D8%A7%D8%A6%D9%8A%D8%A9&ga=1

4. Program learning Outcomes Mapping Matrix:

Align the program learning outcomes with program courses' according to the following desired performance levels *(I = Introduced & P = Practiced & M = Mastered).*

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

Course code & No.	Program Learning Outcomes									
	Knowledge and understanding				Skills				Values, Autonomy, and Responsibility	
	K1	K2	K3	K4	S1	S2	S3	S4	V1	V2
CHM 1101	I	I	I	I	I	I	I	I	I	
MAT 1101					I		I		I	
ENG 1140					I		I		I	
PHY 1101					I		I	I	I	
CHM 1120	I	I		I	I	I	I	I	I	I
CHM 1110	I		I	I	I		I	I	I	I
STA 1111					I		I	I	I	I
CHM 1131	I		I	I	I		I	I	I	I
CHM 1150	I	I	I	I	I	I	I	I	I	I
CHM 1253	P	P	P	P	P	P	I	I	I	P
ENG 1195	I	I		I	I	I	I	I	I	I
CHM 1240	I	I		I	I	I	I	I	I	I
CHM 1230	I	I		I	I	I	I	I	I	I
CHM 1231	P	P		P	P	I	I	I	I	P
CHM 1225	P	P		P	P	P	I	I	I	P
CHM 1237	P	P		P	P	P	I	I	I	P
CHM 1233	P	P	I	P	P	P	I	I	I	P
CHM 1238	P	P	P	P	P	P	I	I	I	P
CHM 1239	P	P	P	P	P	P	I	I	I	P
CHM 1232	P	P	P		P	P	M		P	P
CHM 1314	M		M	M	P		P	P	P	I
CHM 1338	P	P	P		P	P	M		P	P
CHM 1371	I	I	I		I	I	I	I	I	I
Elective 1*	M	M	M	P	I	P	P	P	P	
CHM 1349	M	P	M		P	P	P	P	P	P
CHM 1325	M	P	M	M	P	P	P	P	P	P
CHM 1341	M	P	P		P	M	P	M	P	
CHM 1320	M	M		M	M	M	M	M	M	M
Elective 2*	M	P		M	P	M	P	M	P	M
STA 1411	M	P		M	P	M	P	M	P	M
CHM 1441	M	M		M	M	M	M	M	M	M
Elective 3*	M	P		M	P	P	P	M	P	M
CHM 1496	M	M	M	M	M	M	M	M	M	M

Course code & No.	Program Learning Outcomes									
	Knowledge and understanding				Skills				Values, Autonomy, and Responsibility	
	K1	K2	K3	K4	S1	S2	S3	S4	V1	V2
CHM 1498	M	M	M	M	M	M	M	M	M	M
University Req. (10 COURSES)	I	I	I	I	I	I	I	I	I	I
Free Courses	I	I	I	I	I	I	I	I	I	I

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

Describe teaching and learning strategies and curricular and extra-curricular activities adopted to achieve the Program's learning outcomes in all areas.

Following the College Strategic Plan, graduates will be active learners and bilingual. Students with sufficient scientific and technological adaption in applied science, Mathematics, Statistics, Physics, Biology, and Chemistry background are provided with ethical values. However, to achieve the Strategic Plan Goals, the College developed the following initiatives:

The policy of Teaching and learning should be planned, delivered, and followed up by the values and principles achieving outstanding teaching and learning practices:

Academic staff share and uphold the values and principles set out in the planned Teaching and learning as well as delivered to achieve outstanding teaching and learning strategies.

Academic staff receives training, guidance, and support, enabling them to contribute to the provision of outstanding teaching and learning practices.

Students are encouraged and motivated to behave in a manner that facilitates their learning, development, and progression.

The learning experiences and learning activities:

Teaching and learning should be a professional and motivating partnership between students and teachers

- **Teachers should be confident that their students understand and realize the learning objectives of their studies.**
- **Students should develop their progress in achieving their goals by sharing responsibility for their learning outcomes as the main target.**
- **Teachers should develop students' skills and confidence and encourage them to become successful independent learners and prepare for practical life.**
- **Teachers should achieve teaching and learning strategies by actively seeking new methods and approaches to motivate students to use and apply the technologies and other resources available to them to enhance the teaching and learning experience.**
- **Students and teachers should be supported with all the opportunities and resources to improve and develop their academic and teaching potential.**
- **Teachers are encouraged to collaborate to share best practices and support each other's development.**

The policy of Teaching and learning should be planned, delivered, and followed up by the values and principles achieving outstanding teaching and learning practices:

- **Academic staff share and uphold the values and principles set out in the planned teaching and learning as well as delivered to achieve outstanding teaching and learning strategies**
- **Academic staff receives training, guidance, and support, enabling them to contribute to the provision of outstanding teaching and learning practices.**
- **Students are encouraged and motivated to behave in a manner that facilitates their learning, development, and progression.**

The department ensures teaching quality standards to achieve the aforementioned policies and initiatives through the following actions:

- **At the beginning of each semester, the syllabi are given to the students, containing courses detailed information, method of evaluation and grades, etc.**
- **The course distribution is done according to the specialties of faculty staff and their wishes.**
- **At the beginning of each semester, one coordinator is nominated for each course; the coordinator is asked to communicate and coordinate with the course teachers in both branches (male and female).**

The duties of the course coordinator consist of:

- **Time distribution according to the course contents.**
- **The preparation of the exercise lists, the midterms, and the final exam in consultation with course teachers in both branches.**
- **The course's good progress in all sections is followed through periodic meetings with course teachers and a midterm progress report.**
- **The evaluation of the teaching quality and benchmarking between parallel sections (groups) and the sections of the previous session of the same course.**
- **Collect the course report and prepare the final report provided by SWAT.**
- **Update the course folder.**
- **Annual report is prepared annually.**
- **Student surveys of all courses and program.**
- **Teaching staff evaluations of the program.**
- **Annual Faculty and Staff performance evaluation.**

Supports for student independent work:

There are many supports for the independent scientific work of the students provided, some of which are listed as the following:

1. **Free WI-FI supported by the Deanship of Informatics technology inside the campus supplied to the students to**
   - **Use these facilities to review independently a part of a course, to prepare homework or an exam, or to access the (local) digital library (open computer labs) ;**
   - **Access the Saudi Digital Library (SDL) for free textbooks and knowledge resources via open computer labs. They read independently these resources and write reports on them;**
   - **Course Materials provided via Blackboard classrooms: The teachers use Blackboard classrooms to give students all kinds of materials related to the courses: syllabi, slides, lists of exercises, solutions to exams and homework, etc.... These materials can be used independently by students for the best management of the course;**
1. **At least six office hours provided by each teacher:**
   Each teacher has to choose in their timetable at least six office hours to discuss all course issues with students;
2. **Graduation project course: All programs have a research or graduation project. During this course, students have to work independently to write a report and give an oral presentation, followed by an oral discussion at the end of the course;**
3. **Mini-projects and homework in some courses: The main goal of these assessment methods is to strengthen students' independence.**

Knowledge and understanding

Graduates of a Bachelor of Science in Chemical laboratories degree will be able to demonstrate:

K1	**Outline the fundamentals and application in laboratories and industrial tasks of all topics of Chemistry and their relevance.**
K2	**Describe the principles and utilities of different instruments, their functional applications, and the latest progress and development.**
K3	**List the routes of exposure to hazards to minimize and control them as environmental emergency responses at the personal and societal levels.**
K4	**Define inquiry methodologies and Chemical Data analysis in terms of quality and further applications.**

to achieve the program learning outcomes,

- **Lecturing**
- **Group discussion**
- **Laboratories experiments**
- **Homework and assignments**
- **Oral presentation / Mini-projects / Field Training/ Graduation Project**

Skills

S1	**Develop skills in setting up apparatuses for chemical reactions and analysis, with the capability to solve problems using scientific and logical reasoning.**
S2	**Demonstrate awareness about the impact of chemicals and biological hazardous materials on society and the environment and develop technical skills for a greener environment and greater safety.**
S3	**Apply well-developed skills to analyze and evaluate the results to create a database related to topics relevant to chemical laboratories' routine work and communicate effectively with peers.**
S4	**Effectively Use advanced digital technological techniques and chemistry experiments to develop and solve complex problems related to a professional target.**

to achieve the program learning outcomes,

- **Whiteboard solved exercises**
- **Brainstorming**
- **Mini and Graduation Project**
- **Seminars**
- **Group competitions**
- **Laboratories experiments**
- **Laboratory performance sessions**
- **Group discussion and seminars**
- **Demonstrations, virtual labs, and laboratory manuals demonstrations**
- **Encourage students to use network communication to submit homework and assignments**

Values, Autonomy, and Responsibility

V1	**Establish awareness of preserving intellectual and scientific integrity during assignments, projects, and reports based on moderation in his thoughts and behavior, preservation of national and religious identity, and a commitment to responsible citizenship.**
V2	**Appraise and lead teamwork flexibly, make independent decisions supported by evidence and arguments in unpredictable work, and manage resources and time. Insist on achievement and excellence and enhance the quality of life.**

to achieve the program learning outcomes,

- **Encourage students to apply ethical principles and commit to professional ethics, responsibilities, and norms of communication practice in *Group discussion and teamwork*.**

Assignments, homework, and mini-reports to autonomously assess one's own learning and performance and engage in independent life-long learning.

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 twice in the bachelor program's cycle and once in other degrees).

Direct Assessment Methods

- **D1. National, regional, or international exam results (developed outside the institution for use by a broad group of students using national, regional, or international norms)**
- **D2. Graduation Project (CHM 1498),**
- **D3. Training Field final report (CHM 1496)**
- **D4. Satisfaction of Students in Entrance/Exit Interviews/exams**
- **D5.Performance (participation in campus and/or community events, volunteer work, presentations, etc).**
- **D6. Percentage of success in major courses (CHM 1230, 1225, 1314, 1336, 1341, 1441)**
- **D6. Course e-Portfolio**

Indirect Assessment Methods

- **Program Evaluation Survey**
- **Employer/industry Survey**
- **Program Advisory Committee minutes**
- **Satisfaction of Training Field holders**
- **External Examiner checklist**
- **Average of the student's GPA.**

D. Student Admission and Support:

1. Student Admission Requirements

The admissions take place only once on summer vacation, through the Unified E-Admission Portal at the public universities in Riyadh region. There are no admissions for the second semester. The application for admission is through the Unified E-admissions Portal for Students. القبول في الجامعة (imamu.edu.sa) , نسخة من نسخة من التخصصات المتاحة للعام الجامعي 1446هـ (عرض تقديمي) (imamu.edu.sa)

Students can apply for admission to IMSIU University through the Unified *E*-Admissions Portal for public universities in the Riyadh region. This portal enables the applicant to fill out the admission application electronically and choose an academic major according to his/her certifications, grades, and priorities without the need for his/her presence at the university.

The student will be accepted directly into the academic science program that he/she wishes to enroll in, according to his/her GPA. The admission of students at the university is part of the responsibility of the Deanship of Admission and Registration عمادة القبول والتسجيل (imamu.edu.sa)**.**

1. Applicant must hold a General Secondary Certificate or Secondary Certificate or equivalent from KSA or outside.
2. The applicant must be of good conduct and behavior.
3. Applicant must be medically fit.
4. If the applicant works for any government or private entity, he must obtain approval from his references to study.
6. To successfully pass any test or personal interview deemed by the University Council.
7. Admission is limited to high school graduates / natural sciences track.
8. The calculation of compound ratios is as follows:


وضوابط القبول الحصول على نسبة موزونة لا تقل عن ٨٠% يتم حسابها وفق النسب التالية:

الثانوية العامة	٣٠%
اختبار القدرات العامة	٣٠%
الاختبار التحصيلي	٤٠%

10

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).

The Chemical Laboratories Program provides comprehensive orientation for new students. It holds an orientation week for new students at the beginning of every academic year (organized by the college). During the orientation week, students have the opportunity to:

- Meet other new students, current student leaders, faculty, and staff.
- Learn their way around campus.
- Find out about all the student services and academic programs at the University of Imam Mohammad Ibn Saud Islamic University.
- Address their individual needs and get their questions answered.

At the end of orientation week, the new students will be more familiar with academic life and the facilities provided.

During the orientation week, students are given manuals and brochures that help them understand and familiarize themselves with the university environment, programs, services, facilities, rights, and duties. In addition to the orientation week, an orientation meeting is held for new students at the beginning of each semester. In this meeting, new students are provided with the necessary information they need during their years of study. All the new students, including the college dean, vice dean for academic affairs, and department academic advisor, attended this meeting. During this meeting, the department chair, the department's coordinator of academic advising and the department's coordinator of academic affairs address the new students and give them all the necessary academic information they need. Moreover, they answer all the questions raised by the students during the meeting. In addition, the University Deanship of Student Affairs provides new students with the necessary guidance and orientation programs.

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).

- **An academic advisor from the department staff provides student counseling and advice. Faculty members ensure that students understand the program's requirements.**
- **The academic advisor will be responsible for pastoral support, guidance, and counseling.**
- **The academic advisor assists students in developing educational plans that are consistent with their life goals.**
- **Every student will be required to meet the chemistry academic advisor at least twice per semester, during the registration period (first two weeks) and the beginning of each semester.**
- **The academic advisor provides students with accurate information about academic progression and degree requirements.**
- **The academic advisor assists students in understanding academic policies and procedures.**
- **The academic advisor assists students in overcoming educational, social, and personal difficulties.**
- **The lecturer for each course allocates six office hours per week, advertised on their timetable and reserved as part of their teaching schedule, to help the students.**
- **Students can get individual consultation and academic advice appointments with teaching staff via e-mail or phone calls.**
- **The department website provides a list of teaching staff members with their room numbers, phone numbers, and e-mail addresses.**
- **University support services include careers, financial advice, housing, counseling, etc.**
- **Excellent library and digital library facilities (SDL).**
- **University support services include careers, financial advice, housing, counseling, etc.**
- **University, college, and department handbooks provide information about course structure, university regulations, and other pertinent topics.**
- **Feedback is provided for all assessments.**

4. Special Support

(Low achievers, disabled, gifted, and talented students).

The Chemical Laboratories Program (via the head of the department) and the University of Imam Mohammad Ibn Saud Islamic University provide care and support for low achievers and disabled students. Furthermore, the Vice-Deanship for Academic Affairs has established a *Center for Special Needs Services* (CSNS). Underachieving students are identified and provided with remedial programs to help them overcome the difficulties hindering their progress in the program. These students are distributed among the academic advisors in the department and are given due interest. They are met regularly by their academic advisors, who are asked by the academic advising coordinator (after coordinating with the CSNS) to make an appointment. During these meetings, the students are provided with advice and guidance to help the students make decisions related to registration decisions, deletion, addition, grievance, or even transfer to another program.

Furthermore, the program has monitored underachieving students to help and advise them that they can finish their graduation requirements and catch up with their colleagues with the

established ***Student Academic Support Center*** (SASC). These students are also offered several programs, lectures, and workshops on selected topics in which they can develop and strengthen their knowledge and language skills. This process of following up with these underachieving students continues until their graduation.

Both programs and institutions pay due attention to students with special needs (e.g., disabled students). They are provided with special care. Their special needs are considered when building access, especially during exams.

For gifted and talented students, the university has established a department for creativity and talent to identify and develop their abilities, named the ***Department of Gifted and Talented Care.*** This is achieved through several extracurricular activities to attract and encourage talented students to develop their abilities and gifts.

The main building of the College is designed to meet the necessities of students with special needs and offers facilities such as:

- Six car parking
- Special pathway
- eight lifts on each floor
- Ten toilets.

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		Chemistry		3	2	5
Associate Professor		Chemistry		4	2	6
Assistant Professor		Chemistry		2	1	3
Lecturer		Chemistry		1	-	1
Teaching Assistant		Chemistry		3	1	4
Technicians and Laboratory Assistants		Chemistry		2	-	2

Administrative and Supportive Staff		Chemistry		**2**	**-**	**2**
Others (specify)		Chemistry		**3**	**-**	**3**

F. Learning Resources, Facilities, and Equipment:

1. Learning Resources

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

For the planning and acquisition of learning resources, the department proceeds with the following mechanism:

STEP 1: For each course, the department assigned a faculty members committee headed by the Course Responsible for providing the following:

- **Course description (preliminary syllabus),**
- **Recommend Lists* of Required Textbooks, Essential reference materials (Journals, Reports, etc.), Electronic Materials (e.g., Websites, Blackboard, etc.), and other learning materials such as computer-based programs/CDs and software that serve Chemical Laboratories Courses.**

STEP 2: The Plans and Curricula Committee (PCC) collects learning resources for all courses and submits the required lists to the department head for approval by the department council.

STEP 3: After the department council's approval, the department head asks the College Dean to provide the Required lists of Learning Resources through the university's central library, Central Chemical Stores for chemicals and laboratory requirements, and the IT Deanship.

***Teaching and learning resources are provided via the central library and Saudi Digital Library (SDL)**

2. Facilities and Equipment

(Library, laboratories, classrooms, etc.)

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

STEP 1: Evaluation of the locals assigned for undergraduate programs: the library (equipped with textbooks and references provided by the Central Library), accessible to SDL, Laboratories (equipped with appropriate instruments, chemicals, and glassware), and classrooms.

STEP 2: In the case of supply shortages, with the department council's approval, the Head of the Department asks the College Dean to provide the Required lists of Learning Resources through the university central library and from Central Chemical Stores for chemicals, laboratory requirements, and IT Deanship.

Step 3: Using Blackboard for distance learning and providing all kinds of materials related to the courses.

3. Procedures to ensure a healthy and safe learning environment

(According to the nature of the Program)

The Bachelor Program in Chemical Laboratories has special arrangements in classrooms and the laboratories section, as follows:

A: *Classrooms Section (Lectures and Tutorials)*

To maintain a healthy and safe environment in a university classroom, here are some arrangements that should be implemented and it is under the responsibility of the General Directorate of Technical Affairs at the university:

1. **Adequate Ventilation: Ensure proper ventilation in the classroom to maintain good air quality. Regularly clean and maintain air conditioning systems and provide proper ventilation to minimize the accumulation of dust allergens. If possible, open windows to allow fresh air circulation.**
2. **Proper Lighting: Ensure the classroom is well-lit with appropriate lighting to create a comfortable learning environment. Use natural lighting whenever possible and provide adjustable artificial lighting to accommodate individual preferences.**
3. **Comfortable Seating: Provide comfortable and ergonomic seating arrangements that support good posture and minimize discomfort. Regularly inspect and maintain chairs to ensure they are in good condition.**
4. **Classroom Layout: Arrange desks and chairs for adequate student spacing. Consider maintaining physical distancing guidelines to minimize the risk of spreading illnesses.**
5. **Fire Safety Measures: Install smoke detectors, fire extinguishers, and fire alarms in the classroom. Mark emergency exits and ensure they are easily accessible and unobstructed. Conduct regular fire drills to familiarize students and staff with evacuation procedures.**
6. **Electrical Safety: Regularly inspect electrical outlets, power cords, and other electrical equipment to ensure they are in good condition. Avoid overloading electrical circuits and encourage the prompt reporting of any electrical issues.**
7. **Hygiene Practices: Promote good hygiene practices in the classroom, such as encouraging students and staff to clean their hands regularly. Provide hand sanitizers or handwashing facilities in accessible locations. Encourage proper respiratory etiquette, including covering coughs and sneezes with tissues or elbows.**
8. **Regular Cleaning: Implement a regular cleaning schedule for the classroom. Clean frequently touched surfaces like desks, chairs, door handles, and shared equipment. Use appropriate cleaning products and follow recommended disinfection protocols.**
9. **Safety Training: Provide safety training to students and staff, including emergency procedures, evacuation drills, and awareness of potential hazards. Educate individuals about health and safety guidelines specific to the classroom environment.**
10. **Communication and Signage: Communicate safety guidelines and protocols to students and staff. Display signage in visible locations reminds individuals of hygiene practices, physical distancing, and other safety measures.**

B. The laboratories section:

To maintain a healthy and safe environment in university laboratories, some arrangements should be implemented and is under the responsibility of the General Directorate of Technical Affairs at the university and in collaboration with the Chemistry Department as the following:

- **In n each laboratory, a list of safety and precautions is provided.**
  1. **Each lab has proper ventilation to maintain good air quality. Regularly clean and maintain air conditioning systems and provide adequate ventilation to minimize the accumulation of dust allergens and chemical vapors.**
  2. **Each lab has a sufficient fuming hood for chemical experiments.**

3. Fire Safety Measures: Install smoke detectors, fire extinguishers, and fire alarms in the laboratories. Mark emergency exits and ensure they are easily accessible and unobstructed. Conduct regular fire drills to familiarize students and staff with evacuation procedures.
4. Electrical Safety: Regularly inspect electrical outlets, power cords, and other electrical equipment to ensure they are in good condition. Avoid overloading electrical circuits and encourage the prompt reporting of any electrical issues.
5. Hygiene Practices: Promote good hygiene practices in the lab., such as encouraging students and staff to clean their hands regularly. Provide hand sanitizers or handwashing facilities in accessible locations.
6. Encourage proper respiratory etiquette, including covering coughs and sneezes with tissues or elbows.
7. Encourage the use of laboratory safety masks and Eye Protection in the laboratories.
8. Regular Cleaning: Implement a regular cleaning schedule for the lab. After the practical session ends, clean frequently touched surfaces, such as benches, chairs, door handles, and shared equipment. Use appropriate cleaning products and follow recommended disinfection protocols.
9. Safety Training: Provide safety training to students and staff, including emergency procedures, evacuation drills, and awareness of potential hazards. Educate individuals about health and safety guidelines specific to the classroom environment.
10. Communication and Signage: Communicate safety guidelines and protocols to students and staff. Display signage in visible locations reminds individuals of hygiene practices, physical distancing, and other safety measures.

- Equip the lab with instruments that serve the practical sessions.
- In each lab, there are containers for solid waste, liquid waste, and crushed glasses marked with special colors for each.
- Each lab has a small pharmacy for first aid in case of an accident in the entry of each lab and inside the lab, a table contains the phone numbers for:
  - a, Medical Centre
  - b, Safety and Protection
  - c, Ambulance
  - d, Head of Department
- In each lab, the rules, conditions, safety mechanisms, and list of Risks and safety precautions according to the Merck Catalogue are hanging.
- A plan has been designed for students escaping from the labs. If any accident happened (fire, explosion, chemical bottle break, chemical hazard compound falls, etc.…)
- An emergency tool inside each lab.

G. Program Quality Assurance:

1. Program Quality Assurance System

Provide a link to the quality assurance manual.

Insert link : https://imamuedusa-my.sharepoint.com/personal/mkomran_cloud_imamu_edu_sa/_layouts/15/onedrive.aspx?ga=1&id=%2Fpersonal%2Fmkomran%5Fcloud%5Fimamu%5Fedu%5Fsa%2FDocuments%2F%D8%A7%D9%84%D8%AE%D8%B7%D8%B7%20%D8%A7%D9%84%D9%85%D8%B7%D9%88%D8%B1%D8%A9%20%D9%84%D8%A8%D8%B1%D8%A7%D9%85%D8%AC%20%D9%82%D8%B3%D9%85%20%D8%A7%D9%84%D9%83%D9%8A%D9%85%D9%8A%D8%A7%D8%A1%2F%D8%A8%D9%83%D8%A7%D9%84%D9%88%D8%B1

%D9%8A%D9%88%D8%B3%20%D8%A7%D9%84%D8%B9%D9%84%D9%88%D9%85%20%D9%81%D9%8A%20%D8%A7%D9%84%D9%85%D8%AE%D8%AA%D8%A8%D8%B1%D8%A7%D8%AA%20%D8%A7%D9%84%D9%83%D9%8A%D9%85%D9%8A%D8%A7%D8%A6%D9%8A%D8%A9%2FQUALITY%20IMPROVEMENT%20PROCESS

Purpose

The purpose of the Central Unit for Development and Quality **(CUDQ) is to be responsible for the development and quality-related tasks at the college, according to NCAAA and University quality requirements within the College community.**

On behalf of the Vice-Deanship of the College of Science, the **Central Unit for Development and Quality (CUDQ) is accountable to the College Board for all aspects of academic quality assurance as follows:**

1- **Follow up on implementing the quality management system in the college.**
2- **Follow up on meeting program quality standards in the college.**
3- **Follow up on academic accreditation projects in the college.**

Monitoring the quality of the educational process in college programs. Collecting bylaws, regulations, evidence, and documents related to all college work.

To coordinate, maintain, and enhance the quality and academic standards within the college, CUDQ shall supervise all departmental accreditation committees and related working teams.

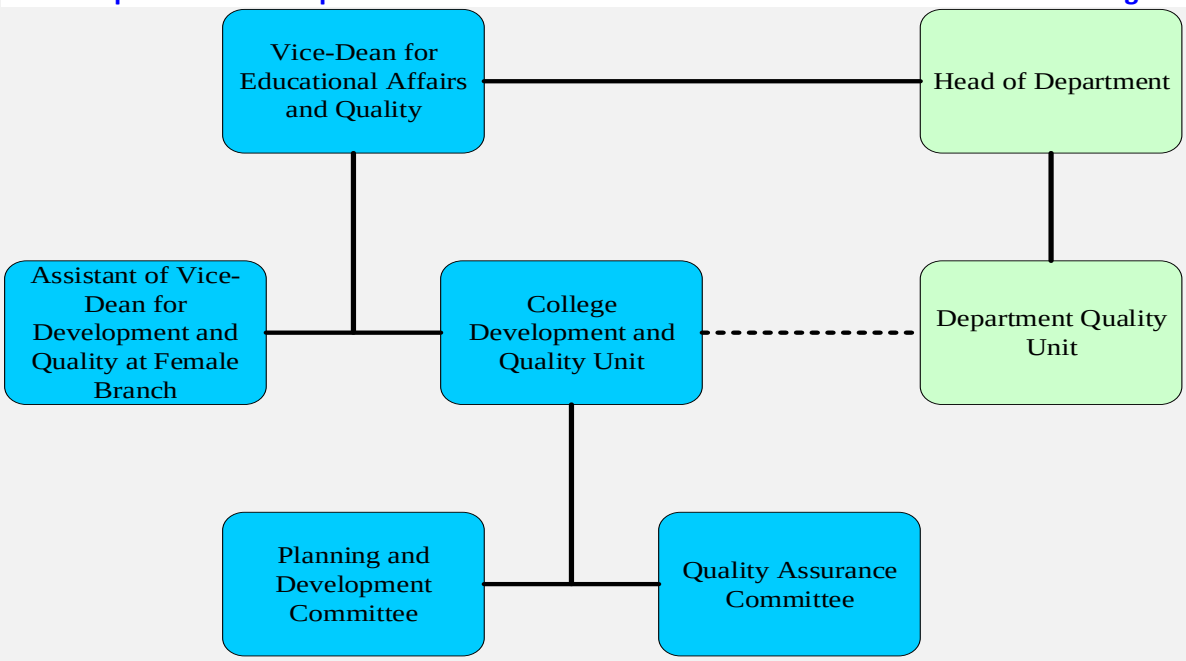

Figure 1 – Organizational Quality Management

At the college, quality management, including quality assurance, is governed by **CUDQ, which is** based on quality-oriented governance with continuous development and improvement. Globally, **CUDQ** utilizes the following management approach: to plan, coordinate, implement, assess, and orient all activities in the College towards compliance with the college's vision and conveying its strategic goals.

Each department establishes a quality unit. However, **CUDQ** unites all procedures, methods, and tools to ensure an integrated cyclical quality process across the College and its academic programs, including teaching-learning quality.

The college considers a degree program itself to be a qualification process. The precise definitions and descriptions of a program's level, goals, objectives, and learning outcomes are specified in each

specification document, and they are based on NQF [1444-2023]. In addition, templates of NCAAA] are used. Programs, course specifications, and related reports are the central references to ensure ongoing monitoring and systematic improvement.

Program quality is monitored through several procedures:

1- Courses reports are submitted to the program manager every trimester
2- An appropriate teaching staff committee is in charge of assessment and modification
3- Prepare and monitor the annual program report.
4- Conduct and analyze surveys and opinions of the students about the courses and the program.
5- Conduct and analyze surveys and opinions of the employers about the program.
6- The program manager reviews the proposals submitted by the previous committees and makes appropriate decisions after the department council approves them.
7- Monitor a global review for the development of the program periodically every five years if necessary.
8- Annual KPIs reports.
9- Periodic evaluation by stakeholders: students, alumni, faculty members, and job market representatives.
10- Periodic operational plan progress reports.
11- Benchmarking.
12- Academic accreditation

All the previous processes follow the Teaching\Learning Quality Assurance Process Diagram:

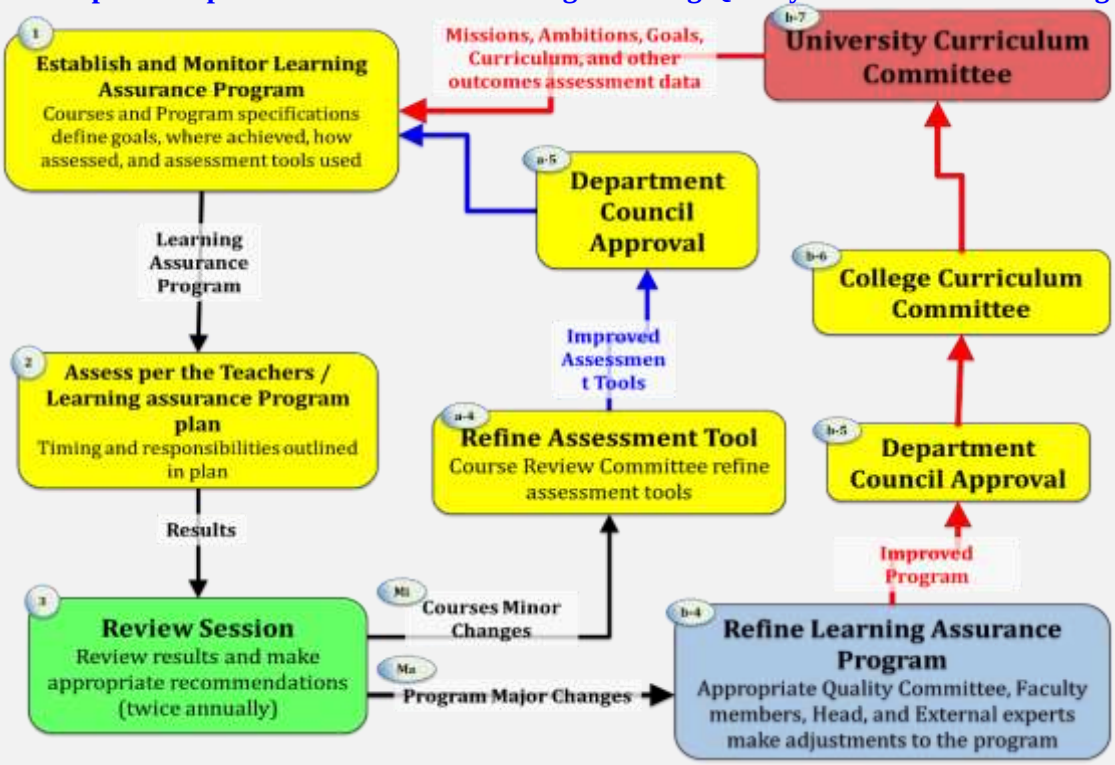

Figure 2 - Teaching\Learning Quality Assurance Process Diagram

These procedures provide multiple points of input that reliably paint a picture of the program's quality and guide improvement plans and initiatives. The reports and data generated from the

abovementioned procedures are reviewed at multiple levels of the university administration to ensure accountability for implementing improvement plans.	

2. Procedures to Monitor Quality of Courses Taught by other Departments

The department ensures all the courses, except in case cooperation is initiated with another department or institute in the Graduation Project (CHM 1498).

The mechanism for monitoring the quality of the Graduation Project and Training field taught and carried out by other departments,

1. Strategies for Obtaining Student Feedback on the Effectiveness of Teaching: Students are asked to submit the first report about the progress of the research project and Training field in the first six weeks and the second one in the 13th week.
2. The student will be invited to give a lecture on his progress in the research project in the 11st week.
3. The instructor (supervisor of the Graduation Project) will submit a final version to the Graduation Project Committee with evaluation reports and a list of 5 examiners (at least two outside his institution).
4. The Department will follow the proposed regulation of the Quality and Development Unit to recommend the submission of the research project to the judgment. (see attachment 1)
5. The Graduation Project Committee will propose a peer committee to the head of department for approval
6. The peer committee will review the research projects by applying all criteria in attachment 1 (Ethical standards, Language Conventions, Style, layout)
7. The accepted Research Project Report (RPR) will be forwarded for final evaluation.
8. The written project RUBRIC and the oral presentation RUBRIC can be considered a tool and indicator for the Quality of the *Graduation Project* Course, in combination with students, feedback, and the *Graduation Project* Committee
9. Other Strategies for Evaluation of Teaching by the Program/Department Instructor*:* At the end of each semester, the course instructor should complete a report, including a summary of student questionnaire responses appraising progress and identifying changes that need to be made if necessary.
10. Processes for Improvement of Teaching*:* Student evaluations and the supervisor's course report will be used to decide on improving parameters. Benchmarking with similar programs in other universities inside and outside the Kingdom of Saudi Arabia.
11. Planning arrangements for periodically reviewing course effectiveness and planning for improvement*:* Twice annually following the Teaching and Learning Assessment Process adopted by the Department Council.

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

The Department of Chemistry adopted the following processes: Ensure consistency between the Main Campus and Branches (including male and female sections).	

1. **Centralized mechanism/policy for program and course development: Only the department council on the main campus is permitted to change the program specification, study plan, and course specifications.**
2. **Integration Committee represented by Course Responsible and Course Coordinator: The integration committee is pivotal in connecting the main campuses and branches to ensure changes to the program and courses are uniformly implemented across all sections and campuses.**
3. **The Integration Committee's main duties are to ensure that course delivery conforms to the requirements of the course specifications and the course common syllabus in both branches.**
4. **Course Coordination: The course coordinator ensures that course coverage, teaching and learning activities, and assessment methods are comparable across all campuses and sections.**
5. **The department nominated a coordinator for each course and each branch at the beginning of the semester.**
6. **For each course, there is a second examiner for the final exam who follows a form adopted by the department council**
7. **The final exam for each course is common for ALL SECTIONS, including female sections;**
8. **The teacher writes a course report and submits it to the Integration Committee for writing a global Course report, supported by recommendations about the strengths or weaknesses (based on student feedback, external assessor report, current and previous course reports, and any other feedback) in both branches.**
9. **Annual Program Reports and End-of-Semester Reports: These two reports monitor for any inconsistency between campuses and sections at the level of courses and the program as a whole. Students of all branches study the same program.**
10. **The program manager follows all the processes through the Integration Committee and is responsible for them jointly.**

4. Assessment Plan for Program Learning Outcomes (PLOs),

Assessment Plans for Program Learning Outcomes (PLOs) are given below
First, the "Mastered" level of performance will be a node of assessment of opportunity. The Mechanism for demonstrating achievement of the learning outcomes is an ongoing process that consists of seven phases:

- ✓ **Phase 1. Data-collection Methodology: Direct and Indirect (listed in Section C.6. above)**
- ✓ **Phase 2. Benefits and Drawbacks of Data-collection Methods**
- ✓ **Phase 3. Evaluate the Choice of Data-collection Method**
- ✓ **Phase 4. Collect data**
- ✓ **Phase 5. Interpret evidence**
- ✓ **Phase 6. Report the resulting information and document the analysis.**
- ✓ **Phase 7. Identify Areas for Improvement and Enhancement.**

At each stage (cycle of assessment), we use the resulting information in the form of a report into account to document, analyze, and improve all components of the program based on the appropriate key performance indicators (KPIs). As follows is a table summing the long-run plan for assessing each track and All PLOs

PLOs	*Stage 1* 1445-1446	*Stage 2* 1446-1447	*Stage 3* 1447-1448	*Stage4* 1448-1449	*Stage 5* 1449-1450	*Stage 6* 1450-1451

	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
K1	√	√				
K2	√	√	√			
K3		√	√			
K4			√			
S1			√		√	
S2			√	√	√	√
S3			√	√	√	√
S4		√	√	√	√	√
V1		√	√	√	√	√
V2		√	√	√	√	√

5. Program Evaluation Matrix

Evaluation Areas/Aspects	Evaluation Sources/References	Evaluation Methods	Evaluation Time
Leadership	Integration Committee Dean	Integration Committee Report	beginning of the Second Semester
Effectiveness of Teaching & Assessment	Students Program leader Integration Committee Independent Reviewers	Surveys, Interviews, Visits, Independent Reviewers reports, Second Examiner Reports	End of the semester, During the semester
Learning resources	Students, Graduates Integration Committee Leadership	Surveys, Interviews Exams and Results.	End of the semester, During the semester

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.)

6. Program KPIs*

The period to achieve the target (_ 1 YEAR _) year(s).

No.	KPIs Code	KPIs	Targeted Level	Measurement Methods	Measurement Time
1	KPI-1	Students' Evaluation of Quality of Learning Experience in the Program	3.5/5	surveys	Twice per year
2	KPI-2	Students' evaluation of the quality of the courses	4/5	surveys	Twice per year
3	KPI-3	Completion rate	65%	Graduation data (statistical data)	Annually, commencing with the initial promotion
4	KPI-4	First-year students' retention rate	45%	Graduation data (statistical data)	Annually, commencing with the initial promotion
5	KPI-5	Students' performance in the professional and/or national examinations	First 10%	Department data (statistical data)	Annually
6	KPI-6	Graduates' employability and enrolment in postgraduate programs	60%	Department data (statistical data)	Annually
7	KPI-7	program graduate's proficiency	3.5/5	Surveys (statistical data)	Annually, commencing with the initial promotion.
8	KPI-8	The ratio of students to teaching staff	14	Department data (statistical data)	Annually
9	KPI-9	Percentage of publications of faculty members	65%	Department data (statistical data)	Annually
10	KPI-10	Rate of published research per faculty member	0.8	Department data (statistical data)	Annually
11	KPI-11	Citations rate in refereed journals per faculty member	100	Department data (statistical data)	Annually

*including KPIs required by NCAAA

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H. Specification Approval Data:

Council / Committee	COUNCIL OF DEPARTMENT OF CHEMISTRY
Reference No.	3 (NO. 1/3)
Date	5/3/1446- 8/09/2024