Kingdom of Saudi Arabia
Ministry of Education
Najran University
College of Sciences and Arts

Program Guide for the Bachelor of Chemistry Program

1445 - 2023

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بسم الله الرحمن الرحيم

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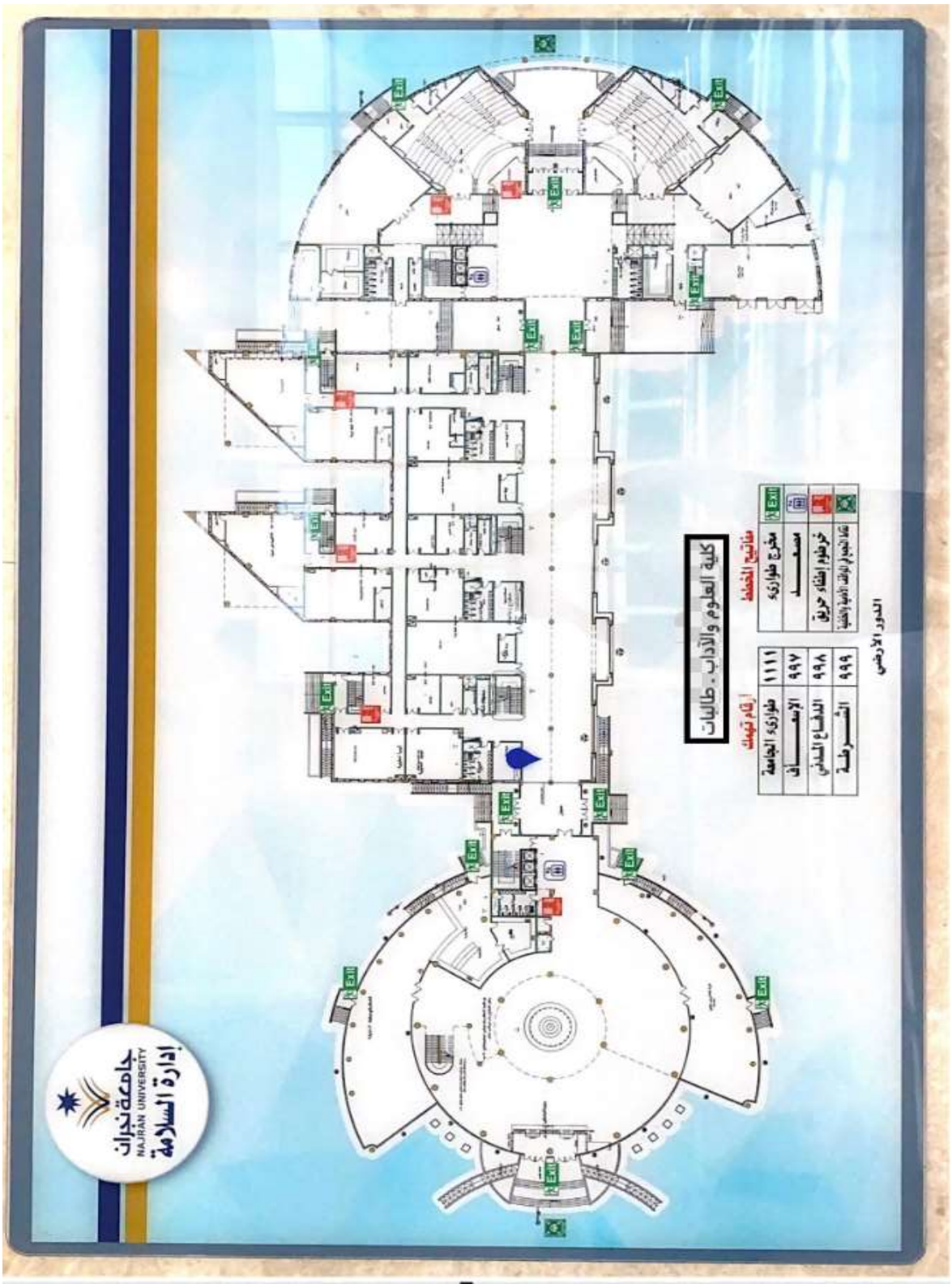
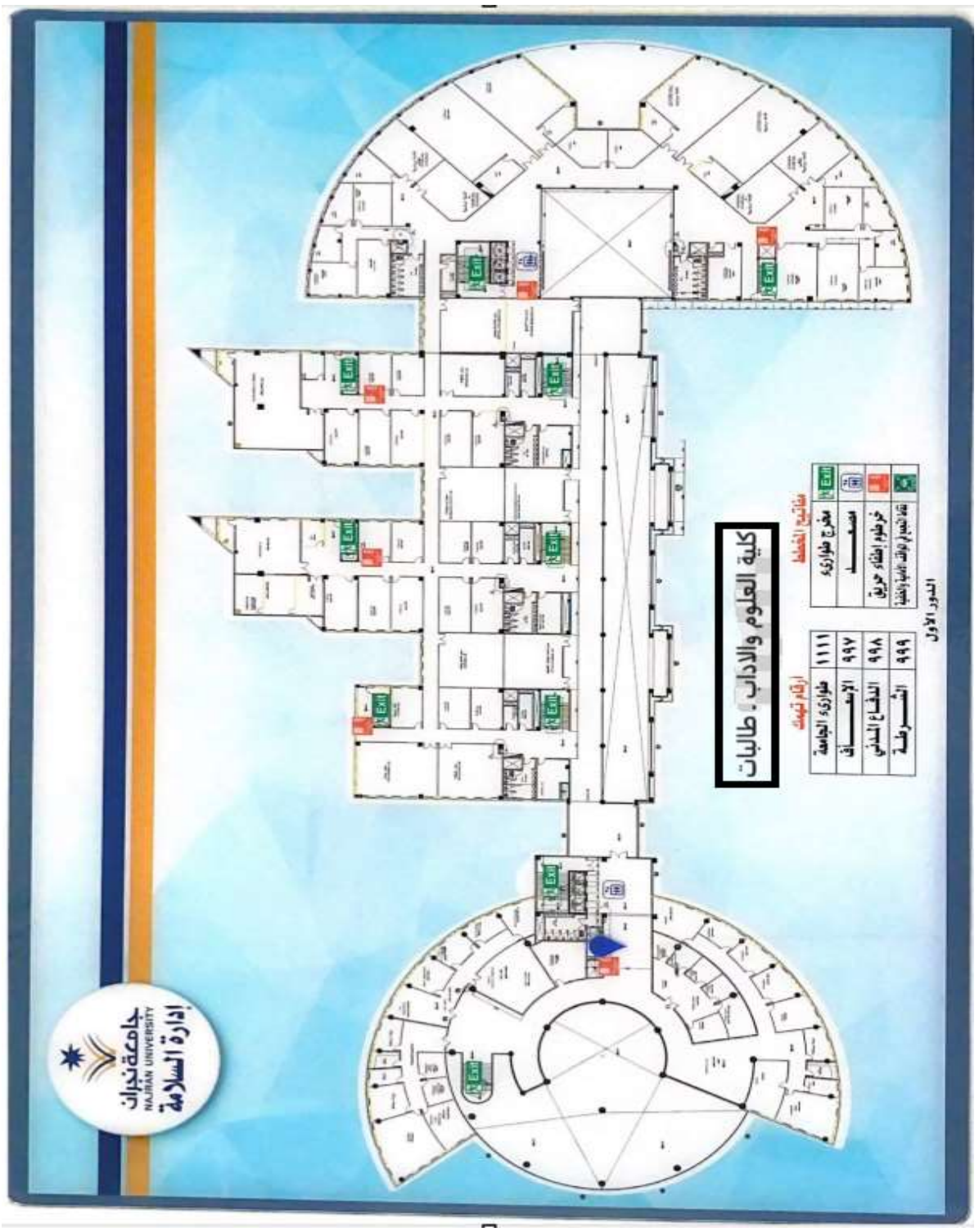


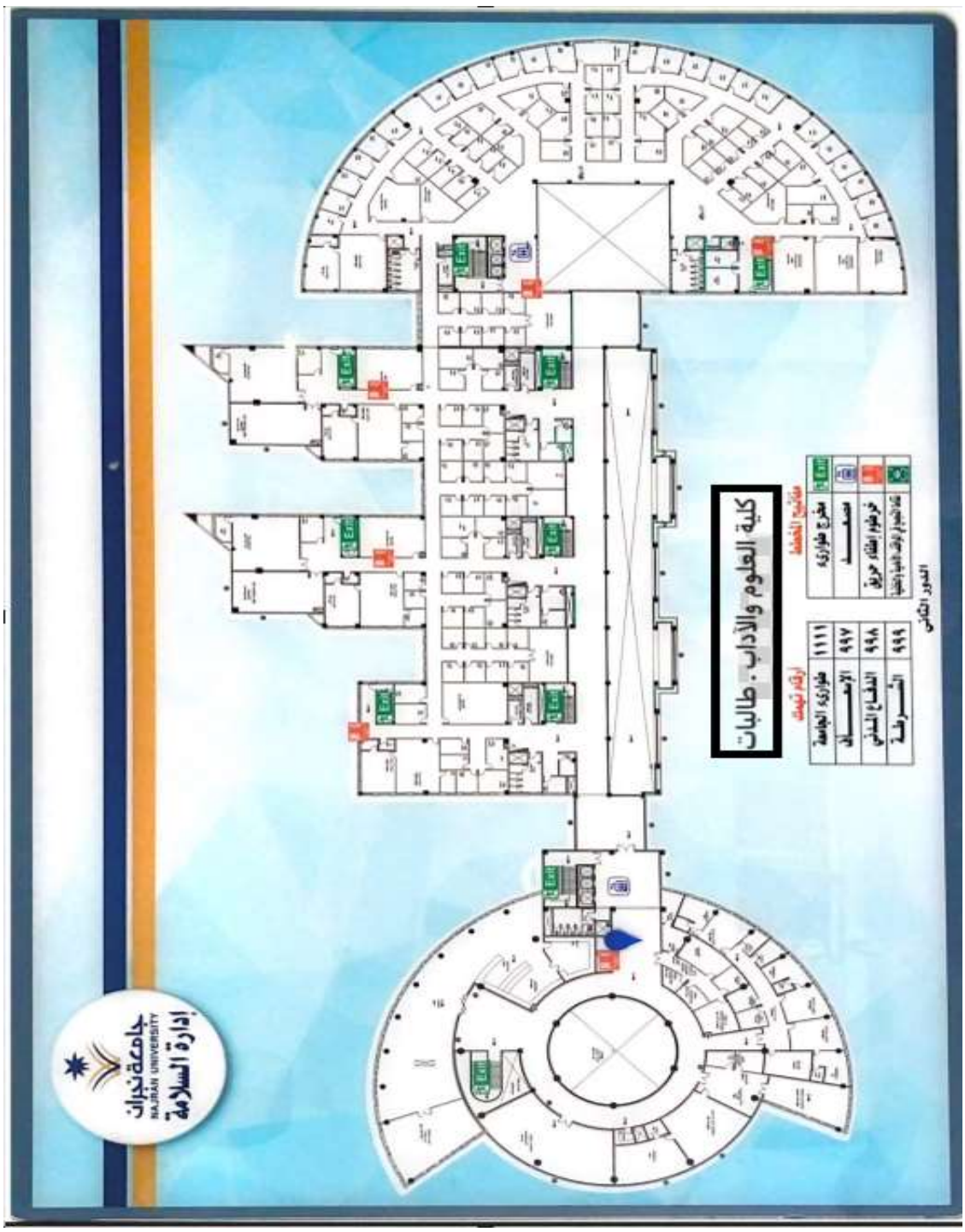
Ground Floor of the College: Chemistry Laboratories – Gymnasium – Cafeteria

Floor Plan of the College of Science and Arts



First Floor of the College: Classrooms

Floor Plan of the College of Science and Arts



The second floor of the College houses faculty offices, the dedicated library for the College of Science and Arts, and additional classrooms.

College of Science and Arts

About the College:

The College of Science and Arts at Najran University is considered one of the university's most prominent and oldest colleges, as it was established alongside the founding of the university. The college currently comprises five departments: Arabic Language and Literature, Mathematics, Physics, Chemistry, and General Biology. Graduates are awarded the title of Scientific Specialist in their field of specialization upon obtaining a Bachelor of Arts or a Bachelor of Science degree.

College Vision:

Leadership in education, learning, and scientific research at both the local and international levels, with active community engagement.

College Mission:

Through its academic programs, the College of Science and Arts provides a supportive and stimulating educational environment aimed at preparing qualified graduates who serve the community and meet labor market demands, while also producing high-quality scientific research that contributes to community development and the knowledge-based economy.

College Goals

•Develop the infrastructure to provide stimulating and supportive learning resources that foster students' skill development.
•Promote the professional development of academic, administrative, and technical staff to support the educational and research process and enhance opportunities for lifelong learning.
•Offer advanced academic programs aimed at preparing specialized and competitively qualified graduates who meet the requirements of development and the labor market.
•Advance scientific research that supports innovation and knowledge-based investment.
•Strengthen social responsibility and build effective community partnerships with institutions and organizations.

College Departments:

Department of Arabic Language,
Department of Physics
Department of Mathematics
Department of Chemistry
Department of Biology

Dean's Message
Dr. Mohsen Al-Hammami

The Most Merciful Praise be to Allah and peace and blessings be upon His noble Messenger. To proceed:

Anyone observing the recent development of the Kingdom of Saudi Arabia will undoubtedly recognize the remarkable leap and comprehensive renaissance across various sectors. This transformation has been championed and laid down by the Custodian of the Two Holy Mosques, King Salman bin Abdulaziz Al Saud – may Allah preserve him – and His Royal Highness Crown Prince Mohammed bin Salman bin Abdulaziz. This renaissance aspires to position the Kingdom among the most advanced and developed nations globally, through the realization of the ambitious Saudi Vision 2030, which aims to ensure the well-being and prosperity of its people, both in the present and the future. This vision is rooted in the Kingdom's rich cultural heritage, which Allah the Almighty has honored in His Holy Book.

There is no doubt that the advancement of this blessed country will only be built by the dedicated efforts of its loyal citizens, under the wise leadership and gracious guidance of our rulers—may Allah protect them.

It is with great pleasure that I extend my sincere gratitude to His Excellency the President of Najran University, Prof. Dr. Abdulrahman bin Ibrahim Al-Khudairi, for entrusting me with the responsibility of serving as the Dean of this distinguished academic institution — the College of Sciences and Arts at Najran University. Najran University stands as one of the prominent landmarks of the modern national renaissance in the southern region of the Kingdom, thanks to the limitless support of our wise leadership—may Allah protect them—and the diverse academic programs it offers, including scientific, medical, applied, and theoretical disciplines. Among these is the College of Sciences and Arts.

Established in the year 1427 AH, the College of Sciences and Arts comprises five academic departments: Mathematics, Chemistry, Physics, Biology, and Arabic Language. The college offers bachelor's degrees in these disciplines, in addition to three master's programs. It currently serves over 2,200 male and female students.

The college contributes significantly to the realization of the university's vision, mission, and strategic goals. It strives to be a source of knowledge and learning, providing a stimulating environment for creativity and innovation, and producing outstanding graduates equipped with the academic and practical skills needed to meet national aspirations and labor market demands. Our graduates are expected to embody loyalty, a strong sense of belonging, and high competence, enabling them to play a vital national role and contribute to the progress and prosperity of the Kingdom.

To that end, the college is committed to upholding quality standards in education, ensuring continuous improvement, developing academic programs and curricula, advancing scientific research, and aligning outcomes with labor market needs. This is in harmony with the university's strategic plan and in response to the goals of Vision 2030.

In conclusion, I extend my heartfelt appreciation to all colleagues—faculty and administrative staff—at the College of Sciences and Arts, Najran University, for their dedicated efforts toward achieving the college's vision, mission, and objectives. I wish everyone continued success and prosperity, and may our beloved country enjoy ever-growing progress, excellence, and flourishing development.

Message from the Head of the Chemistry Department Dr. Jari Saeed Al-Qathami

The Most Merciful Praise be to Allah, Lord of the Worlds, and may peace and blessings be upon the Messenger of Allah, our Master Muhammad, and upon his family and companions.

It is our pleasure, in the Department of Chemistry at Najran University, to welcome you. We strive to fulfill the mission of Najran University, which is to provide education and learning that meet the needs of society and the labor market, and to contribute effectively to sustainable development through conducting applied research, optimizing the use of modern technologies, and strengthening partnerships at the local, regional, and international levels. All of this is in service of building our beloved homeland through the efforts of its outstanding sons and daughters.

Our endeavors in this regard focus on providing high-quality, modern education that keeps pace with the rapid technological advancements around the world, thereby serving the students of the Department of Chemistry across various fields.

The Department of Chemistry stands as one of the leading departments within the College of Sciences and Arts at Najran University, supported by a team of qualified faculty and staff. The department has continuously developed its academic plans and programs in pursuit of program accreditation, God willing.

Our services are not limited to the university's walls. The department is committed to engaging with the wider community through community service initiatives, including awareness-raising courses and short workshops. Through these efforts, we hope to achieve meaningful benefits and positive impacts, with the help of Allah the Almighty.

We ask Allah, the Most High and Most Capable, to grant everyone success in all that pleases Him.
Peace and blessings be upon you all.

Mission and Objectives of the Chemistry Program

Program Mission:

To provide a high-quality educational program that prepares chemists equipped with knowledge, scientific and research skills, and ethical values in a learning environment that fosters creativity and innovation to meet the needs of society and the labor market.

Program Objectives:

- Equip students with fundamental knowledge and core concepts in chemistry and related sciences.
- Develop students' scientific thinking abilities as chemists, enabling them to critically analyze and evaluate chemical data and information, and to solve scientific problems relevant to professional requirements and labor market needs.
- Enhance students' abilities to organize scientific concepts and experimental data and to communicate them effectively in both oral and written forms.
- Develop students' research and computational skills, strengthen their capacity for self-directed learning, and enable them to use modern laboratory instruments and techniques.
- Instill professional ethics, Islamic values, and the ability to work collaboratively and contribute to community service, while fostering responsibility in scientific and practical domains and promoting environmental sustainability.

Program Admission Requirements

- A minimum grade of “Good” in the General Secondary Education Certificate and the General Aptitude Test.
- A minimum grade of “Good” in Chemistry in the secondary school curriculum.
- A medical confirmation of being free from respiratory diseases (e.g., chest allergies).
- A medical confirmation of not having color blindness.

Najran University Graduate Attributes

Graduates of Najran University are expected to demonstrate the following attributes:

•A deep and broad understanding of facts, concepts, theories, and professional practices in their field of specialization, aligned with current developments.
•The ability to apply specialized knowledge and perform tasks using appropriate tools and equipment independently, while taking responsibility for improving their practical and applied skills.
•The capacity to employ research skills, critical thinking, and scientific inquiry methods to understand issues and solve problems related to their field or profession.
•Initiative in proposing innovative ideas, facing specialized challenges, and addressing environmental, social, or personal issues by taking decisive actions and making additional efforts to solve them.
•Proficiency in using digital applications and information and communication technologies to enhance professional practices, communication, and continuous development.
• Use accurate and appropriate language to convey knowledge, express ideas, and communicate effectively with various audiences.
•Work efficiently as part of a team to carry out tasks related to the field of specialization, while also performing duties independently and taking responsibility for decisions made.
•Demonstrate respect for religious values and a sense of national responsibility through active participation in volunteer activities and community service.
•Develop and implement plans for self-development and entrepreneurship to achieve personal goals and efficiently invest individual capabilities

Career Opportunities for Chemistry Program Graduates:

including research, industrial, and pharmaceutical sectors. Examples include:

Academic field (e.g., Teaching Assistant, Lecturer, Assistant Professor, Professor)

Research teams and activities at universities, government or private research centers, and laboratories

Sales representatives for chemical, pharmaceutical, or laboratory products

Detergent manufacturing industry

Petroleum and petrochemical industry

Nanotechnology sector

Medical analysis laboratories

Fertilizer and chemical manufacturing

Pharmaceutical industry

Cement manufacturing industry

Water desalination and treatment plants

Program Learning Outcomes (PLOs)

By the end of the program, the student is expected to be able to:

Knowledge

•Explain the fundamental principles, laws, chemical theories, scientific facts, and techniques used in various branches of chemistry.

•Describe the properties of chemical compounds, their reactions, analyses, and their laboratory and industrial applications.

Skills

•Apply chemical concepts, laws, and theories quantitatively and qualitatively across different branches of chemistry.

•Conduct various chemical experiments using analytical instruments correctly and in accordance with standard safety and security protocols.

•Utilize spectroscopic data and measurements to interpret and analyze reaction mechanisms of organic and inorganic compounds.

•Use chemical databases, information systems, and software tools related to chemistry to write scientific reports.

•Apply research skills both theoretically and practically in the field of chemistry, use the scientific method in writing research projects, and present results through various communication methods.

Values

•Perform tasks in accordance with regulations, standards, and Islamic ethical values.

•Collaborate effectively within team settings and contribute to problem-solving using critical thinking and sound decision-making to mitigate risks in the work environment.

Faculty Members of the Department

Name	Academic Rank	Specialization	Email
Dr. Jari Al-Qathami Head of the Department	Associate Professor	Analytical Chemistry	jsalgethami@nu.edu.sa
Dr. Noura Al-Mehbad	Professor	Organic Chemistry	nyalmehbad@nu.edu.sa
Dr. Mohsen Al-Hammami	Associate Professor	Analytical Chemistry	maaltahammami@nu.edu.sa
Dr. Ahmed Abdul-Baqi	Associate Professor	Non-organic Chemistry	aaibrahim@nu.edu.sa
Dr. Hossam Hassan Khalil	Associate Professor	Organic Chemistry	hhabouahmed@nu.edu.sa
Dr. Amal Fathi Department Coordinator	Assistant Professor	Organic Chemistry	aaalmady@nu.edu.sa
Dr. Hanaa Faraj	Assistant Professor	Organic Chemistry	hfsharaf@nu.edu.sa
Dr. Aida Youssef	Assistant Professor	Organic Chemistry	aymohammed@nu.edu.sa
Dr. Ezza Attia	Assistant Professor	Physical Chemistry	aaatttia@nu.edu.sa
Dr. Abeer Al-Yami	Assistant Professor	Analytical Chemistry	ayalami@nu.edu.sa
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Ms. Sara Faris	Lecturer	Analytical Chemistry	saa2610@hotmail.com
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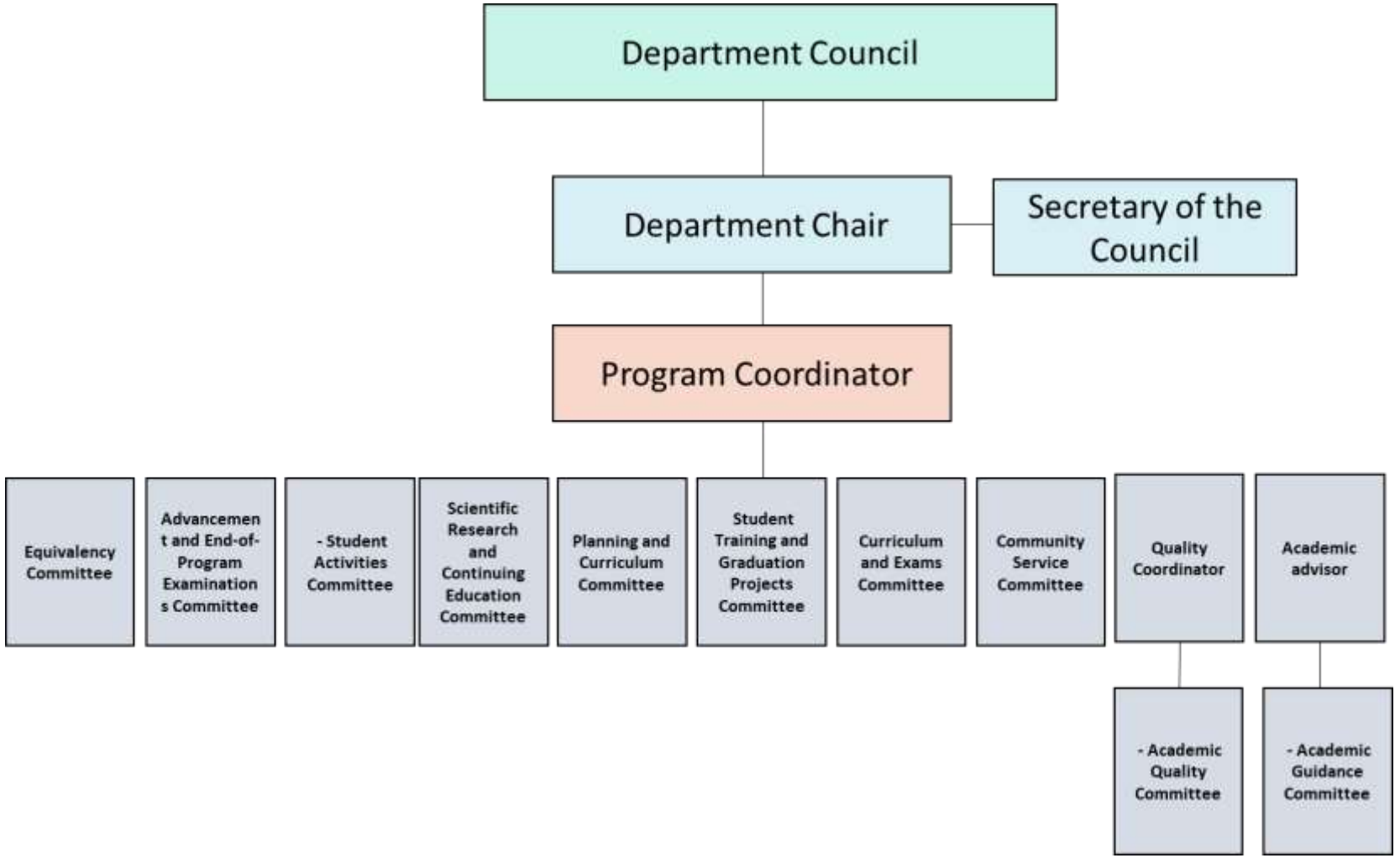
Ms. Ebtisam Mashnoei	Lecturer	Organic Chemistry	pasoma2580@nu.edu.sa

Faculty Members of the Department

Name	Academic Rank	Specialization	Email
Ms. Fatimah Al-Hayaz	Lecturer	Physical Chemistry	fmalhaiza@nu.edu.sa
Ms. Fawziyah Al-Ajmi	Lecturer	Inorganic Chemistry	fnalajmi@nu.edu.sa
Ms. Badriyah Al-Dhuwayan	Lecturer	Organic Chemistry	bhaldhuwayin@nu.edu.sa
Ms. Tasneem Al-Sharif	Lecturer	Inorganic Chemistry	jodabdullah@hotmail.com
Ms. Ahad Al-Dossari	Lecturer	Physical Chemistry	amaldosari@nu.edu.sa
Ms. Rawa'i Al-Dossari	Lecturer	Inorganic Chemistry	raaldosari@nu.edu.sa
Ms. Maha Al-Biyaa	Lecturer	Organic Chemistry	msalbeaa@nu.edu.sa
Ms. Hendy Al-Fahad	Teaching Assistant	Organic Chemistry	hhalfahad@nu.edu.sa

Organizational structure of the Chemistry program



Organizational structure of the Chemistry program

Department Council Tasks

Department councils are formed in accordance with Articles 41, 42, and 43 of the Higher Education Council and Universities System. The Department Council consists of the Department Chair and faculty members of the department. One of the faculty members shall serve as the Secretary of the Council, in accordance with the system and its regulations.

The Department Council convenes upon the invitation of the Chair at least once per month. A meeting is considered valid only with the attendance of two-thirds of its members. Decisions are made by an absolute majority of the attending members. In case of a tie, the side supported by the Chair prevails.

Council decisions become effective unless objected to by the Dean of the College within fifteen (15) days of receipt. If the council insists on its decision, the matter is referred to the College Council, which holds the authority to decide on the issue.

The Department Council is responsible for:

•Distributing lectures and training assignments among faculty members and teaching assistants, as well as organizing and coordinating departmental activities.

•Recommending study plans, curricula, textbooks, and reference materials to the College Council.

•Recommending the appointment and promotion of faculty members, lecturers, and teaching assistants to the College Council.

•Reviewing proposed scientific research projects.

•Teaching the approved courses that fall within the department's scope, as ratified by the University Council.

The Department Council may form permanent or temporary committees from among its members as needed.

Organizational structure of the Chemistry program

Department Head

Duties and Responsibilities Associated with the Position

The duties of the department head are defined in accordance with Article 44 of the Higher Education Council Regulations. These include:

- Presiding over the department council and following up on the implementation of its decisions, and submitting meeting minutes to the Dean of the College.
- Representing the department in the college council.
- Implementing the decisions of the college council related to the department.
- Supervising the educational, research, administrative, and financial affairs of the department.
- Supervising the educational process and the implementation of academic plans and development of academic programs within the department.
- Contributing to the achievement of the general goals and policies of the college and university.
- Executing delegated powers granted by the Dean of the College.
- Preparing an annual report on the department's academic, research, and administrative performance.
- Addressing students' issues related to departmental courses and proposing appropriate solutions.
- Assigning teaching schedules to department faculty members.
- Approving grade sheets and examination results for department courses.
- Issuing internal decisions as needed to ensure workflow in accordance with regulations.
- Recommending training programs and workshops (inside or outside the university) for department members.
- Forming internal committees and assigning roles and responsibilities within the department.

- Recommending approval for the attendance of faculty members at conferences and seminars held either within or outside the university, in accordance with applicable regulations.
- Recommending approval for the participation of all faculty members in community service activities and scientific consultations.
- Reviewing and approving the appointments of faculty members, as well as contract renewals for faculty members based on academic needs and performance evaluation.
- Forming various academic and personal committees and assigning tasks based on the council's decision.

Council Secretary

Duties and Responsibilities Associated with the Position

- Following up on the department head's call to convene the department council.
- Receiving requests and suggestions from department members, organizing them, and presenting them to the department head to determine whether they need to be submitted to the council.
- Preparing the agenda for the department council.
- Scheduling department council meetings in coordination with the college council meetings.
- Writing the minutes of department council meetings and presenting them to the department head.
- Preparing memorandums for decisions issued by the department council and notifying relevant entities.
- Archiving the work, minutes, and decisions of the department council.
- Carrying out the tasks and responsibilities assigned to him, as well as those delegated by the department head or through his membership in committees.

Organizational structure of the Chemistry program

Program Coordinator

Duties and Responsibilities Associated with the Position

- Representing the Head of Department in the female section and coordinating with him regarding related matters.
- Supervising the teaching schedules of female faculty members in coordination with the Head of Department.
- Coordinating with the Vice Dean (Female Section) on administrative and academic matters related to female staff or courses, after consulting the Head of Department.
- Reporting any matters that require decisions from the Department Council or the Head of Department.
- Overseeing the implementation of Department Council decisions within the female section.
- Carrying out tasks delegated by the Head of Department concerning the female section.
- Submitting an annual report to the Head of Department on the educational, research, and administrative aspects of the female section.
- Coordinating with the Head of Department regarding the attendance of female faculty members at training programs, workshops, or any events inside or outside the university.

Department Secretary

- **Duties and Responsibilities Associated with the Position**
- Handling and archiving the department's incoming and outgoing correspondence.
- Scheduling appointments and visits to the Head of Department by students and other stakeholders.
- Performing typing and clerical tasks.
- Following up on the provision of the department's educational supplies and materials.
- Classifying and archiving departmental document files.

Organizational structure of the Chemistry program

Quality Coordinator

Duties and Responsibilities Associated with the Position

- Following up on development and quality activities within the department, studying related problems and challenges, and proposing solutions in coordination with the Head of Department, Program Coordinator, and the College's Development and Quality Unit.
- Providing the necessary technical support regarding development and quality in the program.
- Chairing subcommittees formed by the department for development and quality affairs, in coordination with the Head of Department and Program Coordinator.
- Contributing to the promotion of quality culture and program accreditation requirements in coordination with the Development and Quality Unit and its committees.
- Monitoring the implementation of assignments issued by the Development and Quality Unit or the University's Vice Presidency for Development and Quality.
- Representing the department in meetings of the Development and Quality Unit, following up on issued recommendations and assignments, and ensuring their implementation.
- Preparing an annual report on quality and accreditation activities and submitting it to the Development and Quality Unit after presenting it to the Department Council.
- Training faculty members and program staff on the implementation of quality procedures within the program.
- Ensuring the availability, organization, and archiving of quality-related documents, including decisions and meeting records.

Organizational structure of the Chemistry program

Academic Advisor

Duties and Responsibilities Associated with the Position

- Serving as the liaison between the department and the Academic Advising Unit at the college.
- Following up on academic advising activities and coordinating with the Head of Department and the Academic Advising Unit to activate the advising system within the department.
- Providing necessary technical support to implement the academic advising system within the department.
- Coordinating with academic advisors for each academic level and for students with special needs, as well as with committees formed by the department for academic advising, in coordination with the Head of Department.
- Overseeing the implementation of orientation meetings between students, faculty members, and the Academic Advising Unit.
- Monitoring the execution of assignments issued by the Academic Advising Unit.
- Representing the department in meetings of the Academic Advising Unit and following up on issued recommendations and assignments to ensure their implementation.
- Preparing a semester report on academic advising activities and events, and submitting it to the Academic Advising Unit after presenting it to the Department Council.
- Training faculty members on the procedures of academic advising within the department.
- Overseeing the updating of academic advising databases within the department.
- Archiving, classifying, and maintaining comprehensive files related to the academic advising system and associated documentation.
- Performing any additional tasks assigned to her.

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Academic Advising Committee

Duties and Responsibilities

- Preparing the committee's annual operational plan using the designated templates, and continuously monitoring the implementation of its projects and tracking performance indicators.
- Developing the academic advising plan for the program and overseeing its implementation.
- Assigning new students to faculty advisors, while maintaining continuity between returning students and their previous advisors at the beginning of each semester.
- Supervising orientation and guidance programs for new students to introduce them to academic and examination systems.
- Identifying outstanding and struggling students and ensuring appropriate support and guidance is provided to them.
- Reviewing academic advising reports submitted by individual advisors and preparing a detailed report to be presented to the Department Council or the College Council for approval (in single-program colleges).
- Promoting and reinforcing a culture of academic advising among program staff.
- Identifying and offering academic advising programs and services that enhance students' academic performance and address their social challenges.
- Preparing follow-up reports and an annual report on the implementation of the operational plan, including recommendations for improvement in the following academic year.
- Carrying out any tasks assigned to the committee related to its scope, and reviewing referred matters with appropriate recommendations.

Organizational structure of the Chemistry program

Curriculum and Study Plans Committee

Duties and Responsibilities:

- Preparing the committee's annual operational plan in accordance with the designated templates, and continuously monitoring the implementation of plan projects and tracking performance indicators.
- Reviewing current or updated study plans and ensuring they meet all required elements and standards.
- Conducting a survey to assess the alignment between labor market needs and the academic program.
- Reviewing the current study plan and its outcomes, and following up on its development and updates in line with global requirements and market demands.
- Ensuring that the study plan complies with the standards of the National Center for Academic Accreditation and Evaluation and adheres to the procedures set by the Standing Committee for Study Plans.
- Archiving copies of study plans and related documents.
- Developing and updating course syllabi and scientific references, analyzing course textbooks, examining their structure, content coherence, student suitability, and their consistency with the curriculum.
- Proposing external reviewers for updated study plans in coordination with the Deanship of Development and Quality.
- Preparing follow-up reports and the annual report on the implementation of the operational plan, including the improvement plan for the following year.
- Carrying out all tasks assigned to the committee related to its function, and studying any matters referred to it, and submitting appropriate recommendations accordingly.

Organizational structure of the Chemistry program

Schedules and Examinations Committee

Duties and Responsibilities:

- Preparing the committee's annual operational plan using the designated templates, and continuously following up on the implementation of the plan's projects and monitoring its indicators.
- Distributing teaching loads and contact hours among faculty members, lecturers, and teaching assistants, and submitting them to the department or college council (for single-program colleges) for approval.
- Reviewing and auditing class schedules, ensuring that courses with limited student enrollment are not unnecessarily split into sections.
- Preparing the midterm examination schedule and submitting it to the department or college council (for single-program colleges) for approval.
- Assigning classrooms and invigilators for the final examination schedule, and ensuring that classrooms are equipped with chairs, lighting, and air conditioning.
- Monitoring the attendance of exam invigilators and arranging for substitutes in emergency situations.
- Receiving exam questions and student lists from course instructors and delivering them to the examination committees.
- Receiving answer sheets and attendance lists from the exam committees and handing them over to the respective instructors.
- Submitting a daily report on the progress of final exams to the department head or college vice dean (for single-program colleges) for approval.
- Providing answer sheets appropriate to the exam type (e.g., machine-readable sheets, answer booklets, or on-paper responses).
- • Preparing the final examinations report and submitting it to the department or college council (for single-program colleges) for approval.
- • Preparing follow-up reports and the annual report on the implementation of the operational plan, including the improvement plan for the following academic year.
- • Carrying out all tasks assigned to the committee related to its scope, reviewing all referred matters, and submitting appropriate recommendations or making decisions within the authorized limits granted to the committee.

Organizational structure of the Chemistry program

Community Service Committee

Duties and Responsibilities:

- Preparing the annual operational plan for all community service activities, including defining responsibilities and setting the timeline. All program members participate in its preparation, following the designated templates, with continuous follow-up on project implementation and monitoring of performance indicators.
- Attracting ideas and initiatives and encouraging all program members to engage in community service.
- Organizing, documenting, and developing community service activities.
- Evaluating the program's participation in community service events and activities.
- Preparing follow-up reports and the annual report on the implementation of the operational plan, including an improvement plan for the upcoming year.
- Carrying out all tasks assigned to the committee that are related to its responsibilities, reviewing all referred matters, and submitting appropriate recommendations.

Organizational structure of the Chemistry program

Cooperative Training, Internship, and Alumni Committee

Duties and Responsibilities :

- Preparing the committee's annual operational plan using the designated templates, and continuously monitoring the implementation of its projects and performance indicators.
- Developing the regulations governing the cooperative training/internship program and defining its mechanisms and required templates.
- Establishing an annual timeline for the cooperative training/internship programs in coordination with external partners.
- Communicating and establishing channels of contact with external entities to support the execution of cooperative training plans.
- Informing students and training entities of the objectives, mechanisms, and evaluation methods of the cooperative training and internship program.
- Preparing a quarterly and annual training plan in coordination with relevant external training organizations.
- Maintaining effective communication with external entities to ensure the achievement of the training plan's goals.
- Evaluating students' performance and the cooperation level of external training entities, addressing challenges, overcoming obstacles, and enhancing accomplishments.
- Analyzing alumni data and employment rates based on reports received from the relevant department at the University Vice Presidency for Educational Affairs.
- Conducting alumni surveys to identify developmental and training needs, and preparing and implementing training events and activities plans to equip graduates with the necessary skills and competencies to compete in the job market.
- Introducing alumni to professional bodies and certification exams relevant to their fields of specialization.
- Guiding final-year students and graduates on various platforms and electronic tools for finding training and employment opportunities.
- Activating communication with the college's alumni and leveraging their expertise.
- Preparing quarterly reports on the program's graduates.

Organizational structure of the Chemistry program

Cooperative Training, Internship, and Alumni Committee

- Coordinating with the Alumni Unit at the University Vice Presidency for Educational Affairs.
- Preparing follow-up reports and the annual report on the implementation of the operational plan, including the improvement plan for the next year.
- Carrying out all tasks assigned to the committee related to its scope, reviewing all referred matters, and submitting appropriate recommendations accordingly.

Organizational structure of the Chemistry program

"Scientific Research and Continuing Education Committee"

Duties and Responsibilities:

- Preparing the committee's annual operational plan in accordance with the designated templates, while continuously monitoring the implementation of the plan's projects and tracking their indicators.
- Proposing the development and introduction of new postgraduate programs based on labor market needs and the requirements of economic and social development in the Kingdom, in line with Saudi Vision 2030 and the university's strategic plan.

· Coordinating with the Deanship of Scientific Research and the university's research and studies centers, through the relevant Vice Dean, regarding all matters related to research procedures and providing appropriate support in accordance with established regulations.

· Encouraging faculty members to submit research proposals to funding bodies.

· Reviewing research proposals submitted by faculty members to the Deanship of Scientific Research and ensuring their alignment with the department's research priorities.

· Reviewing postgraduate students' research proposals to ensure they follow sound research methodologies and align with the department's research interests, while serving both the university and the wider community.

· Developing the department's research laboratories and utilizing them optimally in support of research activities.

· Providing all necessary support to teaching assistants applying for scholarships to academically distinguished universities ranked highly in global university rankings.

· Supporting current scholarship students (teaching assistants), and proposing appropriate solutions to the challenges they may face in their studies and research.

· Encouraging faculty members to publish their research in internationally ranked scientific journals.

· Preparing follow-up reports and the annual report on the implementation of the operational plan, including an improvement plan for the following year.

· Carrying out all tasks assigned to the committee that fall within its scope, and studying all matters referred to it, with appropriate recommendations submitted accordingly.

Organizational structure of the Chemistry program

"Student Activities Committee"

Duties and Responsibilities:

- Preparing the committee's annual operational plan in accordance with the designated templates, while continuously monitoring the implementation of the plan's projects and tracking their performance indicators.
- Developing a timeline for student activities in light of the program's mission and quality requirements, in coordination with the University's Deanship of Student Affairs, and submitting it to the Department or College Council (for single-program colleges) for approval.
- Coordinating with the College Administration and the Deanship of Student Affairs to secure the necessary budget to support the activities.
- Monitoring the implementation of the activity plan within the program, preparing a report for each activity, and encouraging students to participate in these activities.
- Preparing follow-up reports and the annual report on the implementation of the operational plan, including an improvement plan for the following year.
- Carrying out all tasks assigned to the committee that are relevant to its scope, reviewing all matters referred to it, and submitting appropriate proposals or making the necessary decisions.

Organizational structure of the Chemistry program

"Progress Tests and **End-of-Program Examinations** Committee"

Duties and Responsibilities:

- Preparing the committee's annual operational plan according to the designated templates, and continuously monitoring the implementation of the plan's projects and their performance indicators.
- Developing a test blueprint matrix to ensure the assessment of the program's learning outcomes using multiple-choice questions.
- Designing the exit exam in accordance with the test blueprint.
- Preparing pilot test questions to assess their appropriateness in terms of difficulty and discrimination indices, for inclusion in the exam question bank.
- Raising awareness among faculty members and students about the exam and its significance.
- Proposing incentive mechanisms to encourage students to take the exam (e.g., letters of recommendation, letters of appreciation, priority in internship placement, etc.).
- Recommending to the Department/College Council the exam date, announcing it after approval, and coordinating with the body responsible for exam affairs in the department/college.
- Grading the exam and coordinating with the department/college's assessment unit to prepare the evaluation report.
- Submitting a report on the results to the Department/College Council for discussion and appropriate action, and forwarding a copy of the report to the Standing Committee for Professional and Exit Exams at the University Vice Presidency for Educational Affairs.
- Coordinating with the program's Development and Quality Committee to conduct internal and external benchmarking of the results.

· Notifying students of their exam results after they are approved by the Department Chair and the College Dean.

· Fulfilling any tasks related to the exit exam as requested.

· Preparing follow-up reports and the annual report on the implementation of the operational plan, including an improvement plan for the following academic year.

· Carrying out all tasks assigned to the committee that fall within its scope, reviewing all matters referred to it, and submitting appropriate proposals or decisions accordingly.

Organizational structure of the Chemistry program

"Equivalency Committee"

Duties and Responsibilities:

- Receiving equivalency requests from female students that are forwarded by the Department Chair.
- Conducting the equivalency process if the courses studied outside the department match the course syllabi of the department's subjects, or clarifying the rejection of equivalency due to differences in course content.
- Following up on the preparation of the committee's minutes related to course equivalency for female students.
- Submitting the minutes to the Department Chair to complete the equivalency procedures.
- Distributing courses from outside the department to the relevant departments for equivalency evaluation of female students transferring from outside or within the college, and then forwarding the results to the Office of the Vice Dean for Academic Affairs to finalize the procedures.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Academic Year:
Two or more academic semesters and a summer semester if applicable; or four or more levels and a summer level or two summer levels if applicable.

Academic System:
The method of study followed by the university's colleges and institutes, whether it is the levels system, the semester system, or the full academic year system.

Academic Semester:
A time period not less than fifteen weeks in the two-semester system, and not less than twelve weeks in the three-semester system. Registration, add/drop periods, and final exams are not included in this duration.

Academic Level:
A study method in which the duration is less than a semester, lasting no less than four weeks and no more than eight weeks, with a total number of study weeks not less than forty weeks in the academic year.

Full Academic Year:
A time period not less than forty weeks in the academic year.

Summer Semester:
A time period not less than eight weeks in the two-semester system, and not less than six weeks in the three-semester system, during which the credit hours allocated to each course are doubled.

Summer Level:
A time period not less than four weeks in the academic level system, during which the credit hours allocated to each course are doubled.

Study Plan:
A set of compulsory, elective, and free courses whose total credit hours constitute the graduation requirements that a student must successfully complete to obtain the degree in the specified major.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Academic Record:
A detailed statement including all courses studied by the student and the grades obtained, covering both the semester and cumulative GPA.

Visiting Student:
A student who studies some courses at another university or at a branch of their own university without being transferred.

Grade:
A description of the final mark obtained by the student in any course, expressed as a percentage or an alphabetical symbol.

Incomplete Grade:
A grade assigned for any course in which the student is unable to complete the requirements by the specified deadline, symbolized in the academic record as (IC) or (L).

In Progress Grade:
A grade assigned for any course that requires more than one semester to complete, symbolized as (IP) or (M).

Semester GPA:
The result of dividing the total grade points earned by the student in all courses studied during a semester, academic level, or full academic year, by the total credit hours of those courses. Grade points are calculated by multiplying the credit hours of each course by the weight of the grade earned.

Cumulative GPA:
The result of dividing the total grade points earned by the student in all courses studied since enrollment at the university by the total credit hours of those courses.

General Grade:
A description of the student's academic achievement level throughout their study period at the university.

Academic Load:
The total number of credit hours a student is permitted to register for in a given academic level, semester, or full academic year as determined by the University Council.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Course:
A subject listed in each program's study plan, including a course number, code, and content description. Each course is subject to monitoring, evaluation, and development within the department. It may be studied independently or may have prerequisites or co-requisites.

Credit Hour:
A weekly theoretical lecture (or seminar or tutorial) lasting no less than fifty minutes, or a practical session lasting no less than one hundred minutes, or a fieldwork session as specified in the study plan.

Modes of Teaching:
Different methods of teaching, including but not limited to: face-to-face instruction, blended learning, distance learning, self-learning, and other teaching modes.

Academic Bridging Program:
A program designed to complete studies from the diploma level to the bachelor's degree.

Coursework Grade:
The grade awarded for coursework completed by the student during a study level, semester, or full academic year if applicable, including exams, research assignments, and educational activities related to the course.

Final Exam:
An exam held once at the end of teaching the course within the study level, semester, or full academic year.

Final Exam Grade:
The grade obtained by the student in the final exam for each course.

Final Grade:
The total of coursework grades plus the final exam grade for each course, calculated on a scale of 100.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Apology System

First: Apology for the Semester

A student is allowed to apologize for not continuing the semester they are registered in—without being considered as having failed—by submitting a formal request through the university's electronic system, provided that the request is submitted within fifteen weeks from the start of the semester, excluding regular holidays. The university council determines the maximum number of semesters for which a student is allowed to apologize throughout their academic stay, according to the rules and executive regulations.

Najran University Executive Regulation

Requests for semester withdrawal (apology) must be submitted electronically by the student, accompanied by an acceptable excuse, within the specified period announced by the college in the university calendar.

The grade "W" will be recorded for all courses of the semester if the excuse is accepted.

The apologized semester is not counted among the official duration required to complete graduation requirements.

The semester apology does **not count towards the student's eligible financial rewards.**

A student may not exceed more than two non-consecutive or three consecutive apologized or postponed semesters throughout their university studies.

Colleges that apply a separate study system may allow an apology period of up to **two academic years.**

A student may request an apology for a previous semester under the following conditions:

- (a) The semester must not exceed two semesters prior to the current one.
- (b) A formal decision must have been issued by the Student Affairs Committee accepting the excuse for the repeated request.

No apology will be accepted **after the student has exhausted the maximum number of apologies**, unless there is a recommendation from the Student Affairs Committee and approval from the college dean.

The University President may approve exceptions to the above in justified cases.

Second: Apology for a Course

A student is allowed to apologize for one or more courses within the academic semester. The rules and executive regulations define the necessary procedures and requirements for this.

Najran University Executive Regulation

A student may withdraw from a course under the following conditions:

A. The withdrawal must be from **one course only** during the semester.

B. The total number of withdrawn courses **must not exceed five** throughout the student's academic study at the university.

C. The number of remaining registered credit hours **must not fall below** the **minimum required study load** for the student.

D. The University President — or their delegate — may approve exceptions in **urgent or compelling cases**, provided the request is submitted **before the start of final exams**.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Deferral

A student may submit a request to defer their studies for an academic level, a semester, or a full academic year due to an acceptable reason determined by the authority designated by the University Council. The executive rules of this regulation specify the conditions and procedures for deferral.

Najran University Executive Regulation

1. A student may submit a **request to postpone their studies electronically**, accompanied by an acceptable excuse, to the college to which they belong, within the period specified in the **university calendar**.
2. A student may not **exceed two consecutive postponed semesters or three non-consecutive semesters** (whether postponed or apologized for). For colleges that follow the **academic year system**, the **total period of postponement or apology must not exceed two academic years**.
3. The **postponement period is not counted** as part of the official duration required to fulfill graduation requirements.
4. The student is **not entitled to financial rewards** for the postponed semester.

Re-enrollment

A Student's enrollment is terminated if they discontinue their studies for a period specified by the University Council without submitting a deferral or withdrawal request. The student whose enrollment has been terminated may apply for re-enrollment using their previous student number and record before the interruption. The executive rules of this regulation define the conditions and procedures for re-enrollment.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Najran University Executive Regulation

A student's enrollment will be terminated if they are absent from study without an acceptable excuse for a **continuous period of four weeks** during a single semester.

A student whose enrollment is terminated may apply for **re-enrollment** under their previous student number and record **before reaching a total absence of four semesters or two academic years**, starting from the date of termination.

If the student's absence exceeds **four semesters or two academic years**, they **may not be re-enrolled**. However, they may apply as a **new applicant**, subject to the university's published admission criteria.

The period of interruption is **not counted** within the required duration for graduation.

The student **is not entitled** to financial rewards for the semester in which the termination occurred.

Re-enrollment **is not allowed** if the total absence exceeded four semesters or two academic years, **unless** the student meets **all** the following conditions:

Conditions:

a. The interruption was due to a **compelling excuse**, accepted by the college council.
b. The student must have completed **at least 50% of their graduation requirements**.
c. The student must not exceed the **maximum allowed duration for graduation**.
d. The student's **cumulative GPA must not be below 2.0 out of 5.0**.

7. Re-enrollment of the student under these conditions is allowed only once throughout their academic record.

8. The University President has the authority to grant exceptions to the conditions mentioned in this regulation.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Withdrawal

A student who has withdrawn from the university may apply for re-enrollment using their previous student number and academic record, provided there is an acceptable excuse approved by the authority designated by the University Council. The executive rules of this regulation define the specific conditions and procedures for such re-enrollment.

Najran University Executive Regulation

•A student who has withdrawn may request **re-enrollment under their previous student number and record electronically**, by attaching an acceptable excuse to the college they belong to. This must be done **within four semesters or two academic years** from the date of withdrawal.
•If the student exceeds **four semesters or two consecutive academic years**, **they may not be re-enrolled**, but they may **apply as a new student** according to the university's published admission criteria.
•The withdrawal period is **not counted** toward the official duration required for graduation.
•The student is **not entitled to financial rewards** for the semester during which the withdrawal occurred.
•A student may be **re-enrolled even after exceeding two semesters or two academic years**, if the following **conditions** are met:
Conditions:
a. The withdrawal was due to a **compelling excuse** approved by the college council.
b. The student has completed **at least 50% of graduation requirements**.
c. The withdrawal does **not exceed the maximum official graduation period**.
d. The student's **cumulative GPA is not less than 2.0 out of 5.0**.
e. The student has **not previously been re-enrolled** under the same provision (paragraph 5 of this regulation).
•The re-enrollment follows all conditions stated in paragraph (5) of this executive rule.

Academic Dismissal

A student shall be dismissed from the university in the following cases:

- If the student receives **three consecutive academic warnings** due to their cumulative GPA falling below the required minimum for graduation, in accordance with Articles **(41)** and **(42)** of these regulations. However, the **University Council** may grant the student an additional opportunity to raise their GPA.
- If the student **fails to complete the graduation requirements** within a period that **exceeds half of the prescribed duration for graduation**, in addition to the original duration of the academic program.

The University Council may, in exceptional cases, consider the circumstances of students who fall under the provisions of the above two clauses and **grant them a special extension not exceeding one academic year**.

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Transfer and Equivalency System

First: Transfer from Outside the University

Najran University Executive Regulation

External Transfer to Najran University – Conditions and Requirements:

The student must have studied at a recognized **college or university** licensed by the Ministry of Education or the relevant authority in the country of study, for **at least one academic semester**.

The student **must not have been dismissed** from their previous university for **disciplinary or academic reasons**.

The student's major at Najran University must **match or be equivalent** to the major previously studied at their current or previous university.

The **college council** must approve the transfer request based on a recommendation from the relevant **department council**.

The number of **transferred credit hours must not exceed 60%** of the total required hours for graduation at Najran University.

The total of transferred and remaining study duration at Najran University **must not exceed the average of the minimum and maximum study durations** for the program.

The transfer request must be submitted **electronically** before the beginning of the semester, according to [Course Equivalency] and is subject to the approval of the **Admission and Registration Deanship**.

The **University President** has the authority to approve exceptions in **urgent or special cases**.

Najran University Executive Regulation

Conditions for Course Equivalency from Outside Najran University:

a. The course to be equated must have equivalent **credit hours** or more compared to the course in the student's study plan at Najran University, and its **content must match by at least 70%**.

b. Approval of the **Equivalency Committee** in the relevant department is required, along with endorsement from the **department or program head**.

c. The equivalent courses will appear in the student's **academic transcript**, but will **not be included in GPA calculation**.

d. The total number of equivalent courses must not exceed **40% of the student's study plan**.

Second: Transfer from One College to Another Within the University or From One Major to Another Within the Same College

Najran University Executive Regulation

A student is allowed to transfer from one **college to another**, or from one **department to another within the same college**, or from one **major to another within the same department**, according to the following conditions:

a. The student must meet the **transfer conditions** approved by the college based on the recommendation of the department council.

b. The transfer request must be submitted **within a maximum of four academic semesters** from the date of the student's admission to the university.

c. The student must have a **cumulative GPA of no less than one semester** at the time of requesting the transfer.

d. A student may request a transfer **a maximum of two times** during their university studies.

Grades:

The final academic standing (overall grade) upon graduation is determined based on the cumulative GPA as follows:

- **Excellent:**
  If the cumulative GPA is **not less than 4.50 out of 5.00** or **3.50 out of 4.00**
- **Very Good:**
  If the cumulative GPA is **from 3.75 to less than 4.50 out of 5.00** or **from 2.75 to less than 3.50 out of 4.00**
- **Good:**
  If the cumulative GPA is **from 2.75 to less than 3.75 out of 5.00** or **from 1.75 to less than 2.75 out of 4.00**
- **Pass:**
  If the cumulative GPA is **from 2.00 to less than 2.75 out of 5.00** or **from 1.00 to less than 1.75 out of 4.00**

Definitions in the Undergraduate Study and Examination Regulations and Executive Rules

Method of Calculating the Semester and Cumulative GPA

Percentage Grade	Grade Symbol	Grade Weight	Grade Description
95 – 100	A+	5.00	Excellent – High
90 – < 95	A	4.75	Excellent
85 – < 90	B+	4.50	Very Good – High
80 – < 85	B	4.00	Very Good
75 – < 80	C+	3.50	Good – High
70 – < 75	C	3.00	Good
65 – < 70	D+	2.50	Pass – High
60 – < 65	D	2.00	Pass
Less than 60	F	1.00	Fail

Points are calculated by multiplying the number of credit hours by the grade weight the student earned in each course. The following process is used:

(First Semester)

Course	Credit Hours	Grade Symbol	Grade Weight	Points
ARAB 101	2	B	4.00	8.00
ISLM 101	2	C+	3.50	7.00
MATH 101	3	D	2.00	6.00
COMP 101	3	B+	4.50	13.50
NGM 101	3	C	3.00	9.00
Total	13			43.50

Semester GPA = Total Points (43.50) ÷ Total Credit Hours (13) = 3.35

Cumulative GPA:

It is the result of dividing the total grade points earned by the student in all courses taken since joining the college by the total number of credit hours.
The cumulative GPA is the basis for determining the student's overall academic standing at the undergraduate level.

Honors Classification

Najran University Executive Regulation

The **first-class honors** degree is awarded to a student who obtains a **cumulative GPA between 4.75 and 5.00** at graduation.
The **second-class honors** degree is awarded to a student who obtains a **cumulative GPA between 4.25 and less than 4.75** at graduation.
To qualify for first or second-class honors, the following conditions must be met:
a. The student must not have failed any course taken at Najran University or another university.
b. The student must have completed the graduation requirements **within a period that does not exceed the average duration** between the minimum and maximum time limits allowed for staying in the college.
c. The student must have completed **at least 60%** of the graduation requirements at **Najran University**.

Academic Advising

Academic Advising:

Academic advising includes social and psychological guidance, as well as close monitoring of students' problems, offering them advice and support. It also aims to assist students in transitioning gradually and systematically from the general education environment to the higher education environment—where they are expected to rely on themselves in making decisions and improving their academic and behavioral performance.

Roles and Responsibilities of the Academic Advisor

1.Raising students' awareness of academic rules and regulations.
2.Providing consultations to help students make sound academic decisions.
3.Preparing new students for university life.
4.Encouraging outstanding and creative students to further their academic achievements.
5.Following up with academically struggling students and helping them acquire the necessary skills to improve their performance.

Student Responsibilities Toward the Academic Advisor

1. The student should meet with their academic advisor during the add/drop period to receive help in planning their schedule and selecting appropriate courses according to the academic plan.
2. The student must review the academic regulations and the academic program handbook and be familiar with all graduation requirements.
3. The student should consult their advisor and prepare an alternative study plan in case of unexpected circumstances (such as withdrawal, course failure, or change of major) to ensure timely graduation.
4. The student must consult their academic advisor on all matters related to their academic journey by visiting the advisor's office during office hours or contacting them via university email.
5. The student is expected to demonstrate a high level of academic awareness, take responsibility, and respect university policies and regulations.

Rights and Responsibilities of the University Student

First: Rights of the University Student

1. To receive the academic and knowledge material related to the university courses.
2. To obtain the university ID card and benefit from the services provided by the university according to applicable regulations, decisions, and university customs.
3. To question their instructors inside the campus and engage in proper academic discussions during office hours specified by the course instructor and posted on their office door.
4. To access study plans and schedules and register for courses allowed by the system according to the established registration rules.
5. To have faculty members attend lectures at scheduled times, fulfill theoretical and practical hours, and avoid canceling lectures unless necessary, in which case alternative lectures must be provided in coordination with students.
6. To have exam questions confined to the course content and syllabus.
7. To know their results and request a review of their final exam answers in accordance with the applicable rules and regulations.
8. To receive social care provided by the university and participate in activities held within it according to the regulations.
9. To have the confidentiality of their student file maintained within the university, with integrity in handling it.
10. To benefit from health services provided by the university.
11. To participate in extracurricular activities organized by the college and university according to the regulations governing these activities.

Second: Duties of the University Student

1. The student must review the courses they intend to add by referring to their study plan, and be aware of the required study hours for each semester as registered in the schedule, to ensure they do not fall below the minimum load. In case of any problem with the schedule, the student should promptly contact their academic advisor, department coordinator, or college registrar.
2. To adhere to university regulations, bylaws, instructions, and issued decisions, and to avoid any behavior that violates Islamic ethics and public morals.
3. To attend classes regularly and fulfill all academic requirements for the courses.
4. To carry the university ID card at all times while inside the campus and present it to authorized personnel upon request.

Rights and Responsibilities of the University Student

1. Reading the announcements posted on the notice board inside the college building or on the college website and keeping up with them.
2. Maintaining general cleanliness, adhering to appropriate dress code, and not violating public decency.
3. Complying with the rules and procedures related to preparing research papers, reports, or exams, and refraining from cheating or violating exam regulations.
4. Committing not to damage, tamper with, or disable university property and to preserve it.
5. Maintaining calmness and tranquility within the university facilities, and avoiding causing disturbances or noise.
6. Treating all university staff and guests with proper respect and refraining from any form of disrespect.
7. Not consuming food or drinks inside lecture halls, laboratories, or libraries.

"Violations of Student Conduct and Discipline Rules"

1. Any act that offends honor and dignity or violates good conduct and behavior within the university.
2. Failure to adhere to the public decency regulations in the country or university instructions related to appearance, clothing, and commitment to national dress, unless academic or practical needs require otherwise.
3. Disruption during lectures, scientific lessons, or examinations, or bringing anything that causes such disruption.
4. Any cheating in exams, attempts to cheat, or possession of anything related to the course—even if unused. This includes cheating in reports, academic projects, and scientific research.
5. Organizing activities or associations that violate the regulations and instructions in force at the university.
6. Any damage or attempted damage to university facilities, equipment, materials, books, or any of the university's property.
7. Misuse of university facilities or their attachments or contents.
8. Issuing or distributing publications, collecting money or signatures without official approval from the competent authority.
9. Identity impersonation or forgery in any form.
10. Smoking or equivalent actions inside university buildings and courtyards.
11. Insulting the university or any of its affiliates, including faculty members, staff, students, security guards, or assaulting their property. Also, assaulting anyone inside the university or associated with it from other companies or institutions.

"Violations of Student Conduct and Discipline Rules"

12. Inciting tribal, sectarian, or regional conflicts among students, or forming student groups to provoke fights or disputes within or outside the university.
13. Bringing hazardous materials, prohibited items, weapons, or any type of drugs into university buildings or facilities.
14. Violating the housing regulations of the university's student accommodation.
15. Violating traffic rules and related regulations within the university campus or its affiliated facilities.
16. Misusing software, devices, and electronic applications within the university, including taking photos or videos using mobile phones or private cameras.
17. Tampering with or misappropriating educational equipment.
18. Any behavior that contradicts Islamic values, human ethics, university regulations, government laws, or causes harm to others or to university property.

PENALTIES

Cheating Penalty

Penalty for committing a cheating violation:

A. Midterm Exams:

Whoever commits a cheating violation in midterm exams shall be penalized by being failed in the same course in which the cheating occurred.

B. Final Exams:

Whoever commits a cheating violation in final exams shall be penalized by being failed in the course in which the violation occurred **and** one additional course.

C.If the subcommittee deems the violator deserving of a harsher penalty, it shall submit its recommendation to the main committee.

Notification

The violator must be notified of the attributed violation by the Dean of the college or the relevant deanship, and be informed in writing of the date and location of the investigation at least one week in advance.
The violation must not be older than one year from the time it occurred.
If the violator fails to attend the scheduled investigation or appear before the committee, they forfeit the right to present their statements.
The committee shall then issue a decision in absentia unless a valid excuse is submitted.

Appeal

The decisions issued by the permanent main committee or the subcommittees are considered final after being approved by the competent authority and communicated to the violator.
The violator who received a penalty has the right to submit an appeal to the University President within **fifteen days** of being notified of the penalty decision.
The University President has the right to decide on the appeal.
Decisions of the permanent main committee and the subcommittees become binding after fifteen days from the date of notifying the violator of the penalty, without an appeal being submitted.

Exemption

The violator is not exempted from the penalty on the grounds of ignorance of the **student conduct and disciplinary rules**, or the university's regulations, bylaws, and issued instructions

Study Plan for the Bachelor's Degree

1. Study Plan Components:

Study Plan Components	Required / Elective	No. of Courses	Credit Hours	Percentage (%)
University Requirements	Required	6	12	9.2%
	Elective	–	–	–
College Requirements	Required	7	25	19.3%
	Elective	–	–	–
Program Requirements	Required	33	84	64.6%
	Elective	3	6	4.6%
Graduation Project	Required	1	3	2.3%
Field Training / Internship Year	–	–	Not applicable	–
Others	–	–	–	–
Total			**130 hours**	

2. Program Courses:

Course Code	Course Title	Required / Elective	Prerequisites	Credit Hours	Requirement Type (University / College / Program)
ISLM 111	Introduction to Islamic Culture	Required	–	2	University
ENGL 102	Language Texts	Required	–	3	College
CHEM 101	General Chemistry (1)	Required	–	4	College
BIOL 101	General Biology	Required	–	4	College
CSC 101	Computer Applications (1)	Required	–	3	College
	Total (Level 1)			**16**	

Study Plan for the Bachelor's Degree

Level 3

Level	Course Code	Course Name	Compulsory or Elective	Prerequisites	Credit Hours	Requirement Type
3	ISLM 123	Islamic Culture	-	-	2	University
3	MATH 214	Calculus and Differential Equations	Compulsory	MATH 101, 102	4	Program
3	CHEM 241	Organic Chemistry (1)	Compulsory	CHEM 104	4	Program
3	CHEM 251	Quantitative Analysis Chemistry	-	-	4	Program
3	CHEM 221	Main Group Chemistry	-	-	3	Program
3	CHEM 232	Chemical Thermodynamics	-	-	3	Program

Total Credit Hours: (18)

Level 4

Level	Course Code	Course Name	Compulsory or Elective	Prerequisites	Credit Hours	Requirement Type
4	ISLM 124	Islamic Culture (2)	-	-	2	University
4	CHEM 242	Organic Chemistry (2)	Compulsory	CHEM 241, CHEM 104	4	Program
4	CHEM 233	Chemistry of Solutions	Compulsory	MATH 214, ISLM 114	3	Program
4	CHEM 222	Chemistry of Transition Elements	-	-	2	Program
4	CHEM 224	Electrochemistry	-	CHEM 101, CHEM 104	2	Program
4	CHEM 210	Computer Applications in Chemistry	-	CHEM 101, PHYS 203	2	Program
4	CHEM 235	Physical Chemistry Lab	-	-	2	Program

Total Credit Hours: (17)

Study Plan for the Bachelor's Degree

Level 5

Level	Course Code	Course Name	Compulsory or Elective	Prerequisites	Credit Hours	Requirement Type
5	CHEM 361	Biochemistry (1)	-	-	3	Program
5	CHEM 323	Lanthanides and Nuclear Chemistry	-	-	2	Program
5	CHEM 243	Organic Chemistry (3) – Physical	Compulsory	CHEM 242, PHYS 102	3	Program
5	CHEM 244	Organic Chemistry (4)	-	-	2	Program
5	CHEM 345	Laboratory of Organic Compound Synthesis	-	-	2	Program
5	CHEM 336	Kinetics	-	-	3	Program
5	ARAB 201	Language Skills	-	-	2	University

Total Credit Hours: (16)

Level 6

Level	Course Code	Course Name	Compulsory or Elective	Prerequisites	Credit Hours	Requirement Type
6	PSYC 333	Thinking and Communication Skills	-	-	3	College
6	CHEM 424	Inorganic Chemistry – Organometallic	-	CHEM 222	2	Program
6	CHEM 352	Instrumental Analysis	Compulsory	CHEM 251	3	Program
6	CHEM 325	Mechanisms of Inorganic Reactions	-	CHEM 221	2	Program
6	CHEM 246	Organic Chemistry Lab	-	CHEM 242	2	Program
6	CHEM 347	Natural Products Chemistry	-	CHEM 244	2	Program
6	ARAB 202	Arabic Writing	-	-	2	University

Total Credit Hours: (16)

Level 7

Level	Course Code	Course Name	Compulsory or Elective	Prerequisites	Credit Hours	Requirement Type
7	CHEM 437	Photochemistry and Spectroscopy	-	-	2	Program
7	CHEM 448	Mechanism of Organic Reactions	-	CHEM 243	2	Program
7	CHEM 462	Biochemistry (2)	Compulsory	CHEM 361	3	Program
7	CHEM 453	Methods of Chemical Separation and Chromatography	-	-	3	Program
7	STAT 121	Principles of Statistics and Probability	-	-	3	Program
7	-	Specialized Elective Course	Elective	-	2	Program

Total Credit Hours: (15)

Elective Courses Available for Level 7

Course Code	Course Name	Credit Hours	Requirement Type
CHEM 430	Solid-State Chemistry	2	Program
CHEM 440	Applied Organic Chemistry	2	Program
CHEM 426	Group Theory	2	Program

Study Plan for the Bachelor's Degree

Level 8

Level	Course Code	Course Name	Mandatory or Elective	Prerequisites	Credit Hours
Level 8	CHEM 449	Petroleum and Petrochemical Chemistry	Mandatory	-	2 Program
	CHEM 428	Surface and Colloids Chemistry	Mandatory	-	2 Program
	CHEM 454	Environmental Analysis	Mandatory	-	2 Program
	BIO 411	Health Culture	Mandatory	-	2 Program
	CHEM 471	Research Project	Mandatory	CHEM 453 - CHEM 448 - CHEM 437	3 Program
	---	Specialized Elective Course 2	Elective	-	2 Program
	---	Specialized Elective Course 3	Elective	-	2 Program
	---	Total (15)			

Approved Elective Courses for Level Eight

Course Code	Course Name	Credit Hours	Notes
CHEM 429	Corrosion Chemistry	2 Program	--
CHEM 425	Industrial Inorganic Chemistry	2 Program	-
CHEM 455	Training on Advanced Analytical Instruments	2 Program	Elective
CHEM 413	Statistical Treatment of Chemical Data	2 Program	-

Course Code Structure and Classification

Symbol in Plan	Field	Level Number	Course Number
–	First Year	1	–
–	Second Year	2	–
–	Third Year	3	–
–	Fourth Year	4	–
–	General Chemistry	1	–
–	Organic Chemistry	2	–
–	Inorganic Chemistry	3	–
–	Analytical Chemistry	4	–
–	Physical Chemistry	5	–
–	Industrial Chemistry	6	–
–	Biochemistry	7	–
(×)	Graduation Project	8	(×)
–	Out-of-Department Courses	9	–

Department Codes Responsible for Teaching Courses

Department Code	Full Department Name
CHEM	Chemistry Department
PHYS	Physics Department
MATH	Mathematics Department
BIOL	Biology Department
AHS	Applied Health Sciences College
ENGR	College of Engineering and Computer Science
CS	College of Computer Science
ENGL	English Language Department
ARAB	Arabic Language Department
ISLM	Islamic Culture Department
EDUC	Education Department

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 111-SLAM-2

Course Name: Introduction to Islamic Culture
Number of Credit Units: 2
Course Objectives:
To understand the concept of Islamic culture, including its sources, characteristics, topics, and ethical values, as well as the major challenges it faces.

Course Number and Code: 201-ARAB-2

Course Name: Language Skills
Number of Credit Units: 2
Course Objectives:
To help students avoid grammatical, linguistic, and common errors in speech and writing, and to enable them to choose their vocabulary carefully.

Course Number and Code: 102-ENGL-2

Course Name: General English
Number of Credit Units: 2
Course Objectives:

- Basic orientation of students for introduction and conversation.
- To enhance their vocabulary and enable them to speak، read and write.
- To make them use Every day English / Functional English.
- To enhance their grammatical structures and improve their writing skills

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 101-CHEM-4

Course Name: General Chemistry I
Number of Credit Units: 4
Course Objectives:

- To understand the components of the atom and distinguish between atomic symbols and their meanings, and how they relate to the properties of each atom.
- To explore the relationship between temperature, volume, and pressure by mastering gas laws, and to explain their industrial significance and relation to chemical equilibrium.
- To understand acids and bases, their chemical structure, and their importance, and to calculate the pH of various acids and bases.
- To classify and name basic organic compounds.
- To acquire essential laboratory skills through conducting selected experiments.

Course Number and Code: 101-MATH-4

Course Name: Calculus
Number of Credit Units: 4
Course Objectives:

- To apply set theory in the study of the real number line and its properties.
- To generalize solving algebraic equations to solving inequalities.
- To define functions of various types, determine their domain and range, and graph them.
- To find the limit of a function and extend this to the concept of continuity.
- To calculate derivatives of different functions using definition and rules of differentiation.
- To sketch graphs of functions using concepts of maxima and minima.
- To train students to distinguish between different types of functions.
- To enable students to solve both equations and inequalities.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code**: 114-MATH-3**
Course Name: Integration and Differential Equations
Number of Credit Units: 3
Course Objectives:
To provide students with the mathematical foundations that support effective learning in specialized courses.

Course Number and Code**: 113-SLAM-2**
Course Name: Islamic Culture III
Number of Credit Units: 2
Course Objectives:
To understand the concept of rights in Islamic law, including key doctrinal, social, human, and environmental rights, and how to apply them in practice.

Course Number and Code**: 101-BIOL-4**
Course Name: General Biology
Number of Credit Units: 4
Course Objectives:

- To introduce students to the principles and concepts of biology appropriate to the background of the target disciplines.
- To provide students with knowledge about cell structure, tissue types, the classification of the plant and animal kingdoms, fundamentals of genetics, and basic metabolic processes in plants and animals—reinforced through practical lab work.
- To equip students with scientific facts and concepts that enable them to understand and interpret biological phenomena using scientific methods such as observation and experimentation.
- To familiarize students with environmental components and phenomena, and the role of science in preserving, developing, and improving the environment.
- To train students in developing scientific thinking and encouraging them to seek new and beneficial knowledge in scientific fields.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code**: 102-CHEM-4**
Course Name: General Chemistry II
Number of Credit Units: 4
Course Objectives:

- To introduce students to the development of atomic structure and electronic configuration within the periodic table.
- To enable students to distinguish between different types of chemical bonds.
- To develop students' ability to identify molecular geometry and types of hybridization in molecules.
- To equip students with the skills to balance oxidation-reduction (redox) equations.

Course Number and Code: 101-PHYS-4

Course Name: Introduction to Physics
Number of Credit Units: 4
Course Objectives:

- To provide students with foundational knowledge that supports their study of higher-level physics courses.
- To introduce students to the basics of physics and its applications.
- To help students understand various physical phenomena covered in the course.
- To enable students to conduct physics experiments in the laboratory, collect data, perform calculations, graph results, and verify their accuracy.
- To familiarize students with practical experiments relevant to the course content.

Course Number and Code: 104-CHEM-3

Course Name: Scientific English for Chemistry
Number of Credit Units: 3
Course Objectives:

- To bridge the gap between general English and scientific chemistry.
- To understand the scientific meanings of terms used in chemistry.
- To increase the students’ scientific vocabulary in chemistry.
- To enable students to read and comprehend scientific chemistry texts.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 112-SLAM-2

Course Name: Islamic Culture II
Number of Credit Units: 2
Course Objectives:

- To understand the fields, importance, sources, and foundations of Islamic culture.
- To explore its role in addressing societal changes.
- To study key intellectual issues and major Islamic systems.

Course Number and Code: 241-CHEM-4

Course Name: Organic Chemistry I
Number of Credit Units: 4
Course Objectives:

- To introduce various chemical laws and terminology.
- To explain the properties of chemical compounds and methods of preparation.
- To familiarize students with laboratory safety protocols and essential instruments used in organic chemistry for purifying organic substances and applying simple extraction techniques.

Course Number and Code: 221-CHEM-2

Course Name: Chemistry of Main Group Elements
Number of Credit Units: 2
Course Objectives:

- To understand how the position of an element in the periodic table determines its properties.
- To learn the properties and reactions of hydrogen and its placement in the periodic table.
- To identify the properties and reactions of main group elements.
- To explore the industrial applications of various chemical elements.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 210-CHEM-2

Course Name: Computer Applications in Chemistry
Number of Credit Units: 2
Course Objectives:

- To enable students to identify statistical methods used in chemical processes through computer applications.
- To train students on using computer software to design and describe chemistry lab experiments, as well as to collect, organize, display, analyze data, and derive conclusions from practical experiments.
- To enable students to use computers for writing and drawing various chemical compounds and equations.

Course Number and Code: 232-CHEM-3

Course Name: Thermodynamics Chemistry
Number of Credit Units: 3
Course Objectives:

- To introduce the concepts of thermodynamic systems and surroundings, and the definitions of open, closed, and isolated systems, as well as internal energy, heat, and work.
- To understand the first, second, and third laws of thermodynamics and relate these concepts to exothermic and endothermic reactions, enthalpy change, spontaneity, and reversible systems.
- To define Gibbs and Helmholtz free energy.
- To calculate changes in entropy, enthalpy, free energy, heat, and work.
- To understand the applications of thermodynamic functions, especially changes in free energy and entropy.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 233-CHEM-2

Course Name: Quantum Chemistry

Number of Credit Units: 2

Course Objectives:

- To understand the theoretical foundations and principles of quantum chemistry concerning atomic energy levels and spectroscopic properties of atoms and molecules.
- To learn the experimental basis of quantum mechanics theory, solve related problems, and distinguish between classical mechanics and quantum mechanics.
- To derive relationships between various quantum mechanical values (such as m, l, υ) and energy values (E) based on Einstein, Planck, and de Broglie relations.
- To understand applications of the Schrödinger equation in explaining the hydrogen atom and analogous small molecules and atoms.
- To explore applications of the Schrödinger equation in medicine and life sciences.

Course Number and Code: 251-CHEM-4

Course Name: Quantitative Analytical Chemistry

Number of Credit Units: 4

Course Objectives:

- To learn different concentration units and terminology used in volumetric analysis.
- To understand various calculations related to pH for strong and weak acids and bases, different salts, and buffer solutions.
- To use titration curves for neutralization reactions and understand the principles of oxidation-reduction reactions.
- To recognize indicators used in neutralization, oxidation-reduction, precipitation, and complexation reactions, their properties, and conditions for use.
- To study solubility of precipitates, the solubility product constant (Ksp) and its relation to solubility, and methods to improve precipitate properties, including organic and inorganic reagents.
- To acquire skills in handling, calibrating, and using laboratory instruments and equipment.

- To identify indicators used in neutralization, oxidation-reduction, precipitation, and complex formation reactions, their properties, and conditions for use.
- To use titration curves for neutralization reactions and understand the principles of oxidation-reduction reactions.
- To understand precipitate solubility, the solubility product constant (Ksp) and its relation to solubility, methods to improve precipitate properties, and both organic and inorganic reagents.
- To acquire skills in handling, calibrating, and using laboratory instruments and equipment.

Course Number and Code: 222-CHEM-3

Course Name: Transition Elements Chemistry
Number of Credit Units: 3
Course Objectives:

- To understand the properties, reactions, and importance of transition elements.
- To learn the significance of complexes, their spectra, and various theories explaining the nature of bonding in complexes.

Course Number and Code: 234-CHEM-2

Course Name: Electrochemistry
Number of Credit Units: 2
Course Objectives:

- To understand the fundamentals of electrochemistry including solutions and electrodes, reversible processes (equilibrium reactions), and calculation of important constants used in chemistry such as equilibrium constants, solubility products, activity coefficients, and some thermodynamic functions.
- To calculate electrode potentials and understand the electrochemical series.
- To learn about metal corrosion, its causes, reaction mechanisms, and protection methods.

Course Number and Code: 114-SLAM-2

Course Name: Islamic Culture IV
Number of Credit Units: 2
Course Objectives:

- To introduce the Prophetic biography (Seerah), study the life, mission, and struggles of Prophet Muhammad (peace be upon him), and derive scientific and practical lessons from them.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 242-CHEM-4

Course Name: Organic Chemistry II
Number of Credit Units: 4
Course Objectives:

- To explain the properties of chemical compounds and their methods of preparation.
- To train students on techniques for detecting functional groups in organic compounds.

Course Number and Code: 235-CHEM-2

Course Name: Physical Chemistry Lab
Number of Credit Units: 2
Course Objectives:

- To practically conduct experiments related to thermodynamics, phase equilibrium, adsorption isotherms, and heat of adsorption.
- To use various laboratory instruments to perform these experiments.
- To adhere to laboratory safety rules.
- To prepare solutions using measuring tools.
- To perform mental and practical processes related to determining melting, boiling, and freezing points, and to calculate thermodynamic quantities.
- To write weekly reports on each lab session.

Course Number and Code: 345-CHEM-2

Course Name: Organic Compounds Preparation Lab
Number of Credit Units: 2
Course Objectives:

- To train students on methods of preparing some organic compounds through reactions such as addition, hydration, polymerization, substitution, recrystallization of the resulting compounds, and ensuring their purity using chromatographic analysis (thin-layer chromatography) and determining their melting points.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 343-CHEM-2

Course Name: Physical Organic Chemistry III
Number of Credit Units: 2
Course Objectives:

- To learn how to use modern spectroscopic techniques for qualitative analysis of organic compounds.
- To study different regions of the electromagnetic spectrum.
- To apply various spectroscopic methods (visible and ultraviolet light, infrared spectroscopy, nuclear magnetic resonance using radio waves) to identify the structure of organic compounds.

Course Number and Code: 344-CHEM-2

Course Name: Organic Chemistry IV
Number of Credit Units: 2
Course Objectives:

- To introduce students to polycyclic and heterocyclic compounds and their significance in the composition of natural and industrial products with important applications.
- To explain the properties of polycyclic and heterocyclic organic compounds.

To familiarize students with the concept of natural products, their relationship to nature, and the methods used for extracting and isolating organic compounds from plants.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 323-CHEM-2

Course Name: Lanthanides and Nuclear Chemistry
Number of Credit Units: 2
Course Objectives:

- To introduce students to the chemistry of lanthanides and actinides, including electronic configurations, absorption spectra, and magnetic properties.
- To study the fundamentals of nuclear and radiation chemistry, key applications of radiation, and methods of protection.
- To equip students with knowledge of nuclear chemistry and its applications in alternative energy fields.

Course Number and Code: 352-CHEM-3

Course Name: Instrumental Analysis
Number of Credit Units: 3
Course Objectives:

- To establish cognitive, technical, and communication goals through the course curriculum.

Course Number and Code: 336-CHEM-3

Course Name: Chemical Kinetics
Number of Credit Units: 3
Course Objectives:

- To equip students with scientific and practical skills related to chemical kinetics and the kinetic theory of gases, along with basic concepts and practical applications.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 324-CHEM-2

Course Name: Organometallic Chemistry
Number of Credit Units: 2
Course Objectives:

- To learn the applications of organometallic compounds of metals.
- To understand polar and non-polar molecules.
- To know positive and negative inductive effects.
- To learn methods for preparing organometallic compounds.

Course Number and Code: 301-EDUC-3

Course Name: Thinking and Communication Skills
Number of Credit Units: 3
Course Objectives:

- To provide students with foundational knowledge and concepts in cognitive psychology.
- To develop good thinking skills, critical and creative thinking, and problem-solving methods.
- To equip students with strategies to enhance effective thinking.

Course Number and Code: 346-CHEM-2

Course Name: Organic Chemistry Lab
Number of Credit Units: 2
Course Objectives:

- To study various methods for identifying unknown organic compounds and preparing detailed reports on the identification process.
- To train students in descriptive chemical analysis of organic compounds by identifying functional groups, performing key reactions, and preparing characteristic solid derivatives.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 325-CHEM-2

Course Name: Inorganic Reaction Mechanisms
Number of Credit Units: 2
Course Objectives:

- To understand the nature of solution chemistry and the thermodynamic considerations necessary for interpreting certain complex formation reactions.
- To classify inorganic reaction mechanisms according to their energy profiles.
- To learn how to propose organized mechanisms for reactions forming complexes with well-known spatial geometries such as square planar and octahedral structures.
- To understand aqua ions, factors affecting complex stability, and the concepts of hard and soft acids and bases.
- To study substitution reactions, mechanisms of dissociation and association, hydrolysis of complexes, factors affecting these reactions, and substitution reactions in square planar complexes including trans effects and theories explaining them.
- To understand the mechanisms of oxidation and reduction reactions.

Course Number and Code: 347-CHEM-2

Course Name: Natural Products Chemistry
Number of Credit Units: 2
Course Objectives:

- To introduce students to the concept and importance of natural products and their relationship to nature.
- To teach methods of extraction and isolation of organic compounds from natural sources.

Course Number and Code: 202-ARAB-2

Course Name: Arabic Composition
Number of Credit Units: 2
Course Objectives:

- To help students avoid common grammatical and linguistic errors in speaking and writing.
- To enable students to carefully and accurately select their vocabulary.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code**: 361-CHEM-3**

Course Name: Biochemistry I

Number of Credit Units: 3

Course Objectives:

- To introduce students to the principles and importance of biochemistry.
- To identify biologically important compounds, including carbohydrates, amino acids, proteins, lipids, and vitamins, emphasizing their roles as energy sources and structural components in living cells.
- To describe the structure and significance of enzymes, their properties, and factors affecting their activity.
- To discuss the biochemistry of amino acids, their importance, and functions.
- To introduce various hormones and their importance and functions in living organisms.

Course Number and Code: 462-CHEM-3

Course Name: Biochemistry II

Number of Credit Units: 3

Course Objectives:

- To explain metabolic pathways involved in the catabolism and anabolism of carbohydrates, proteins, nucleic acids, and lipids.
- To describe the biological factors that regulate metabolic processes, including enzymes and the nature of their action.
- To determine the amount of energy released from the metabolism of carbohydrates and lipids.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 437-CHEM-2

Course Name: Photochemistry and Spectroscopy
Number of Credit Units: 2
Course Objectives:

- To understand photochemical reactions, their laws, reaction mechanisms, quantum yield, and examples of natural photochemical processes.
- To identify ionizing radiations, thermal ionization, nuclear transmutation, X-rays, and laser radiation—how they are produced and their various applications in life.
- To introduce students to different types of spectra, their significance, derivation of their laws, and their diverse applications in solving problems and in various branches of chemistry.

Course Number and Code: 453-CHEM-3

Course Name: Chemical and Chromatographic Separation Methods
Number of Credit Units: 3
Course Objectives:

- To understand the principles of different separation methods.
- To be able to apply separation techniques to different types of organic and inorganic samples.

Course Number and Code: 448-CHEM-2

Course Name: Organic Reaction Mechanisms
Number of Credit Units: 2
Course Objectives:

- To equip students with skills in classifying organic reactions and identifying types of reagents.
- To deduce the mechanism of any chemical reaction.
- To distinguish chiral compounds based on their optical activity (dextrorotatory or levorotatory) and differentiate between enantiomers and diastereomers.
- To understand the stereochemistry of certain organic reactions such as various types of nucleophilic substitution and addition reactions.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 430-CHEM-2

Course Name: Solid State Chemistry
Number of Credit Units: 2
Course Objectives:

- To understand the physical and chemical properties and crystal structure of solids.
- To identify the electronic, magnetic, and electrical properties of solid materials.

Course Number and Code: 426-CHEM-2

Course Name: Group Theory
Number of Credit Units: 2
Course Objectives:

- To introduce students to the principles of molecular symmetry.
- To identify the types of symmetry elements and operations.
- To explain the fundamentals of group theory.
- To demonstrate how to construct character tables.

Course Number and Code: 455-CHEM-2

Course Name: Training on Advanced Analytical Instruments
Number of Credit Units: 2
Course Objectives:

- To introduce the most important instruments used in chemical analysis.
- To operate various quantitative and qualitative spectroscopic instruments such as MS, IR, UV, and HPLC.
- To distinguish electrochemical methods of metal precipitation.
- To explain various types of chromatography and conduct experiments to separate substances (e.g., tea) using chromatographic techniques.
- To identify problems related to analytical instruments, suggest solutions using higher-order thinking skills, and analyze, interpret, and discuss results and data.

- To practice self-learning and continuous learning skills with the ability to make decisions.
- To develop positive attitudes toward teamwork, foster team spirit, and enhance individual responsibility.
- To efficiently use laboratory tools and instruments, and accurately estimate appropriate measurements and weights

Course Number and Code: 449-CHEM-2

Course Name: Petroleum and Petrochemical Chemistry
Number of Credit Units: 2
Course Objectives:

- To study various methods for separating crude oil, purifying its products, and understanding the industries built upon them.
- To become familiar with polymers, their properties, and methods of synthesis.

Course Number and Code: 438-CHEM-2

Course Name: Surface, Colloid, and Catalysis Chemistry
Number of Credit Units: 2
Course Objectives:
By the end of the course, students should be able to:

- Understand essential concepts related to colloidal solutions, phase diagrams, and surface chemistry, with emphasis on various industrial applications.
- Interpret phase equilibrium diagrams.
- Perform theoretical calculations based on adsorption theories.
- Explain the nature of forces between adsorbates and adsorbents, and distinguish between physical and chemical adsorption.
- Understand how catalysts function, their types, and their roles in industrial applications.
- Identify practical applications of colloids.
- Compare various methods of preparing colloidal solutions.
- Understand the properties of micro-heterogeneous systems.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 413-CHEM-3

Course Name: Statistical Treatment of Chemical Data
Number of Credit Units: 2
Course Objectives:

- To acquire skills in applying statistical techniques to chemical data analysis.
- To become familiar with computer software used in the field of chemistry.

Course Number and Code: 454-CHEM-2

Course Name: Environmental Analysis
Number of Credit Units: 2
Course Objectives:

- To understand the environment, types of natural ecosystems, and biogeochemical cycles.
- To discuss atmospheric chemistry, identify primary and secondary pollutants, their sources, reactions, impacts, and methods for analysis and emission control.
- To understand the natural composition of soil and its pollutants.
- To identify the composition, types, characteristics, and pollutants of water, as well as the sources, types, effects, and interactions of contaminants affecting water quality.
- To learn the physical, chemical, and biological treatment processes of wastewater.
- To understand radioactive pollution.

"Brief Description of the Bachelor's Study Plan"

Course Number and Code: 471-CHEM-3

Course Name: Research Project
Number of Credit Units: 3
Course Objectives:

- To provide students with theoretical knowledge about the importance of scientific research, its methodologies, tools, and ways of gathering information from various sources.
- To develop students' scientific thinking skills to identify and address scientific problems related to their specialization in a way that contributes to finding solutions.
- To enhance students' skills in using library resources and teach them how to access information from various scientific journals and periodicals.
- To train students to conduct a comprehensive literature review on a selected topic and write it properly.
- To teach students how to prepare a structured research plan, including:
    - **Title**: Concise and clearly reflects the research topic.
    - **Introduction**: Serves the research topic and provides background.
    - **Experimental Work**: Written clearly and understandably.
    - **Results**: Organized, categorized, tabulated, and represented with charts where necessary.
    - **Discussion**: Supported with chemical, physical, and spectroscopic evidence.
    - **Conclusion**: Summarizes the main findings.
    - **References**: Cited properly following scientific standards.
    - **Abstract**: Written in both Arabic and English.

Course Number and Code: 439-CHEM-3

Course Name: Corrosion Chemistry
Number of Credit Units: 2
Course Objectives:

- To understand the fundamental properties of metal corrosion.
- To discuss methods of measuring corrosion rates in metallic alloys.
- To identify the different types of corrosion.
- To learn how to select corrosion-resistant materials.

Course Number and Code: 440-CHEM-2

Course Name: Applied Organic Chemistry
Number of Credit Units: 2
Course Objectives:

- To identify types of detergents, fats, oils, dyes, and flavors, and methods of their preparation.

Course Number and Code: 425-CHEM-2

Course Name: Industrial Inorganic Chemistry
Number of Credit Units: 2
Course Objectives:

- To introduce industrial chemistry, including glass, chemical and physical processes, chlor-alkali production, ceramics, cement, detergents, fertilizers, and the manufacturing of nitric acid and sulfuric acid.
- To describe how ammonia is produced via the Haber-Bosch process.
- To understand the principles of cement manufacturing and how to convert low-value materials into high-value products.

Regulations for Faculty Members' Attendance at Internal and External Conferences and Seminars

Patent Regulations

Evaluation of Teaching Activity and University and Community Service for Faculty Members Applying for Promotion to Associate Professor or Professor

Regulations for Participation in Research Teams Outside the University

Faculty Members' Regulations

Regulatory Rules for Research Programs

Faculty Member Evaluation Form

Learning Resources Available for the Program

- **"The program is offered at the College of Science and Arts in Najran, Building 27 at the University Campus."**

- **Faculty Members – (Faculty of Science and Arts – Girls – at the University Campus in Najran)**
  - Distinguished faculty members: the teaching load ranges from 6 to 30 students per class.
  - Academic qualifications: faculty members hold degrees in scientific fields such as Chemistry, Physics, Mathematics, and Biology.
  - Faculty specialization (faculty members teach courses in scientific departments: Chemistry – Physics – Mathematics).

Specialization	Number
Chemistry	4
Biology	1
Physics	3
Computer Science	2

"Photos of the Chemistry Laboratories at the College of Science and Arts at the University Campus in Najran"

"Program Contact Information"

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تم بحمد الله