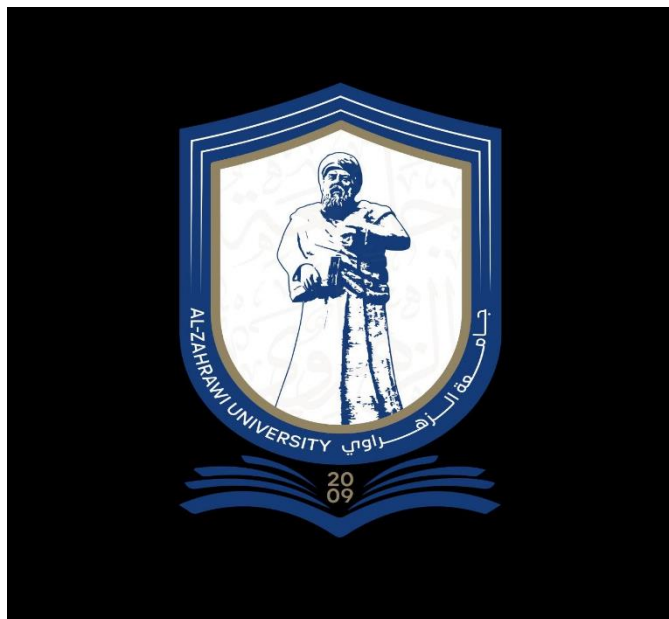




Ministry of Higher Education and Scientific Research

Al-Zahrawi University

College of Pharmacy

**Higher Education Institution Performance Review
(Academic Program Review)**

**Course Description of Inorganic Pharmaceutical Chemistry (Practical) third stage first semester
Course Description**

This course description provides a summary of the main characteristics of the course and the learning outcomes expected of the student, demonstrating whether he has made the most of the learning opportunities available and must be linked to the program description

1. Educational Institution	Al-Zahrawi University - Ministry of Higher Education and Scientific Research
2. University Department / Center	College of Pharmacy - Pharmaceutical Chemistry Branch
3. Course Name / Code	Inorganic Pharmaceutical Chemistry (Practical) PPCS 35
4. Programs in which it is included	Bachelor of Pharmacy Sciences
5. Available Forms of Attendance	Daily attendance
6. Semester / Year	First-semester third year
7. Total Number of Study Hours	30 Hours (2 hours per week)
8. Date of preparing this description	2026
9. Course Objectives: 1- Graduating competent pharmacists capable of preparing and studying the chemical and physical properties and biological effectiveness of drugs 2- Teaching students the appropriate and safe methods for dealing with chemicals, glassware and devices 3- Teaching students the techniques used to identify different chemicals 4- Teaching students the different techniques and methods used in manufacturing different chemicals 5- Studying the chemical and physical properties of drugs and chemicals 6- Teaching students how to draw the structural formula of drugs and chemical compounds and name them 7- Studying modern methods in designing chemical compounds using modern electronic programs 8- Teaching students the mechanics of the action of drugs and chemicals	

and studying the effect of changes that occur to the structural formula and chemicals on the biological effectiveness, dissolution, stability and duration of the drug

10.Learning Outcomes, Teaching and Learning Methods, and Evaluation

A. Knowledge and Understanding

- 1- Proper handling of chemicals and glassware
- 2- Operating scientific devices in the correct and appropriate ways
- 3- Gaining experience in using different techniques to prepare drugs and chemicals
- 4- Knowing the mechanics of drug action
- 5- Knowing the factors affecting biological effectiveness, dissolution, stability, side effects, and duration of drug action
- 6- Studying methods of chemical reactions
- 7- Preparing trained and qualified cadres to work in educational institutions.
- 8- Preparing trained and qualified cadres to work in health institutions

B. Subject-Specific Skills

- 1 - Acquire the skill of how to identify and evaluate chemical compounds
- 2- Acquire the skill of using different methods of preparing and manufacturing chemical compounds
- 3- Acquire the skill of writing scientific reports

Teaching and Learning Methods

1. Theoretical lectures
2. Laboratory experiments
3. Reports
4. Scientific research

C. Evaluation Methods

1. Conducting practical experiments and (unknown)
2. Oral and written exams
3. Laboratory reports

D. Thinking Skills

- 1 - Dialogue method between student and teacher
- 2- Preparing weekly reports
- 3- Conducting discussions of the results.
- 4- Exploratory thinking

Teaching and Learning Methods

Grades, research, tests and reports.

Evaluation Methods

1. The student is able to employ the knowledge he has received.
2. Granting confidence to the student through seminar discussions.
3. The student is able to embody what he has acquired in professional development.

e. General and Transferable Skills

11. Course Structure (first course)					
Weeks	Hours	Required Learning Outcomes	Unit Name / Course or Topic	Learning Methods	Evaluation Method
1	2	True knowledge of course objectives	Preparation and standardization of 1N HCl (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
2	2	True knowledge of course objectives	Unknown	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
3	2	True knowledge of course objectives	Preparation and standardization of 1N NaOH (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
4	2	True knowledge of course objectives	Unknown	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
5	2	True knowledge of course objectives	Assay of citric acid (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
6	2	True knowledge of course objectives	Unknown	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
7	2	True knowledge of course objectives	Assay of NaOH (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
8	2	True knowledge of course objectives	Unknown	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
9	2	True knowledge of course objectives	Assay of sodium benzoate (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
10	2	True knowledge of course objectives	Assay of borax (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
11	2	True knowledge of course objectives	Assay of borax (known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports

12	2	True knowledge of course objectives	Assay of magnesium hydroxide(known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
13	2	True knowledge of course objectives	Assay of magnesium hydroxide(known sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
14	2	True knowledge of course objectives	Assay of ammoniated mercury) unknown sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports
15	2	True knowledge of course objectives	Assay of ammoniated mercury) unknown sample)	Using the whiteboard and the projector screen	Daily exam, oral questions and reports

12. Admission:

Prerequisites	Admission according to the central plan
Minimum Number of Students	/
Maximum Number of Students	Admission exceeds the capacity plan

13. Infrastructure

Required Readings:	References: ١-Lab hand book for practical pharmaceutical chemistry ٢-Inorganic Medicinal and Pharmaceutical Chemistry by Block, Roche Soine and Wilson, latest edition
Special Requirements (Workshops, Journals, Software, Websites):	Electronic Websites: Inorganic Medicinal and Pharmaceutical Chemistry by Block, Roche Soine and Wilson, latest edition
Social Services (Guest Lectures, Professional Training, Field Studies, Others)	Organizing workshops and courses for graduates:

Name of the Instructor:

Assistant lecturer: Ahmed Mohamed Jawad

