

Course Description Form

1. Course Name:					
Inorganic Pharmaceutical Chemistry					
2. Course Code:					
Phpch25_312					
3. Semester / Year:					
1 st Semester, 3 rd Year					
4. Description Preparation Date:					
1\9\2025					
5. Available Attendance Forms:					
Students' signatures on attendance sheets					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours theory + 2 hours practical (60) / 3 units					
7. Course administrator's name (mention all, if more than one name)					
Theory					
Name: Assist. Prof. Dr. Ahmed AJ Mahmood					
Email: ahmedsot@uomosul.edu.iq					
Name: Assist. Prof. Dr. Wejdan Nazar					
Email: wejdan.nazar@uomosul.edu.iq					
Practical					
Name: Lecturer Sema'a Mahmood					
Email: seem_univ@uomosul.edu.iq					
Name: Lecturer Bara Aldabagh					
Email: bara.aldabagh@uomosul.edu.iq					
Name: Lecturer Sarah Ahmed					
Email: sarah.ahmed@uomosul.edu.iq					
8. Course Objectives					
Course Objectives			<ul style="list-style-type: none"> • Introducing the students to atoms and elements • Explaining the role of inorganic products in pharmacy 		
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> • Theory lectures with teaching aids such as videos and diagrams • Practical sessions where students actively perform experiments 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-3	6	<ul style="list-style-type: none"> • A1_ Understanding the structure of atoms and molecules 	<ul style="list-style-type: none"> • Atomic and molecular structure/ Complexation 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based exams

4-6	6	<ul style="list-style-type: none"> • A1_ Understanding the concept of essential and non-essential elements 	<ul style="list-style-type: none"> • Essential and trace ions: Iron, copper, sulfur, iodine • Nonessential ions: Fluoride, bromide, lithium, gold, silver and mercury • Gastrointestinal agents: Acidifying agents 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based exams
7	2	<ul style="list-style-type: none"> • A1_ Understanding the concept of The chemistry of antacids 	<ul style="list-style-type: none"> • Antacids 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based exams
8+9	4	<ul style="list-style-type: none"> • A1_ Understanding the concept of Miscellaneous inorganic agents 	<ul style="list-style-type: none"> • Protective adsorbents • Topical agents • Dental agents 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based Exams
10-15	12	<ul style="list-style-type: none"> • A1_ Understanding the concept of radio therapeutics 	<ul style="list-style-type: none"> • Radiopharmaceutical preparations • Radio opaque and contrast media 	<ul style="list-style-type: none"> • Lectures 	<ul style="list-style-type: none"> • Paper-based Exams
Practical					
1	2	<ul style="list-style-type: none"> • B1_ preparing and submitting calcium carbonate (CaCO₃). 	<ul style="list-style-type: none"> • To prepare and submit calcium carbonate (CaCO₃). 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
2	2	<ul style="list-style-type: none"> • B1_ preparing and submitting magnesium carbonate (MgCO₃) 	<ul style="list-style-type: none"> • To prepare and submit magnesium carbonate (MgCO₃) 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
3	2	<ul style="list-style-type: none"> • B1_ preparing and submitting Zinc sulphate (ZnSO₄). 	<ul style="list-style-type: none"> • To prepare and submit Zinc sulphate (ZnSO₄). 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz
4	2	<ul style="list-style-type: none"> • B1_ preparing and submitting Potash alum (K₂SO₄. Al₂(SO₄)₃ .24 H₂O) 	<ul style="list-style-type: none"> • To prepare and submit Potash alum (K₂SO₄. Al₂(SO₄)₃ .24 H₂O) 	<ul style="list-style-type: none"> • Practical 	<ul style="list-style-type: none"> • Lab-based unknown and quiz

5	2	• B1_ preparing and submitting Boric acid (H3BO3)	• To prepare and submit Boric acid (H3BO3)	• Practical	• Lab-based unknown and quiz
6	2	• B1_ preparing and submitting aluminum hydroxide.	• To prepare and submit aluminum hydroxide.	• Practical	• Lab-based unknown and quiz
7	2	• B2_ performing limit test for chloride in given sample.	• To perform limit test for chloride in given sample.	• Practical	• Lab-based unknown and quiz
8	2	• B2_ performing limit test for sulphate in given sample.	• To perform limit test for sulphate in given sample.	• Practical	• Lab-based unknown and quiz
9	2	• B2_ performing limit test for iron in given sample.	• To perform limit test for iron in given sample.	• Practical	• Lab-based unknown and quiz
10	2	• B3_ Applying identification test for boric acid.	• To perform identification test for boric acid.	• Practical	• Lab-based unknown and quiz
11	2	• B3_ Applying the identification test of ammonium chloride.	• To perform the identification test of ammonium chloride.	• Practical	• Lab-based unknown and quiz
12-15	8	• B4_ distinguishing the cation & anion in given pharmaceutical compounds.	• To identify cation & anion in given pharmaceutical compounds.	• Practical	• Lab-based unknown and quiz

11.Course Evaluation

- 20% Theoretical assessment (paper-based midterm exam, attendance)
- 20% Practical assessment (attendance, quizzes, unknowns, reports)
- 60% paper-based theoretical final exam

Total: 100%

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)

Block, Roche Soine and Wilson, Inorganic Medicinal and Pharmaceutical Chemistry,1986.

Main references (sources)	Wilson and Gisvold Textbook of Organic medicinal and pharmaceutical chemistry, Delgado JN, Remers WA, (Eds); 12th edition, 2010 Laboratory Handbook for Practical Inorganic Pharmaceutical Chemistry adopted by the department.
Electronic References, Websites	https://youtu.be/kFfH0uLDdqI?si=uxchZbp6JCibFvvy
Curriculum development	50%