## **Course Description Form**

1. Course Name:											
Inorg	anic Phar	maceutical Chemist	try								
2. Course Code:											
Pnpcn23_312											
3. Semester / Year:											
1 <sup>or</sup> Semester/3 <sup>ra</sup> Year											
4. Description Preparation Date:											
24/05/2024 5 Available Attendance Forms:											
5. Available Allendance Forms: Students' signatures on attendance sheets											
6 N	Students Signatures on attendance sheets										
2 hou	irs theory	$\pm 2$ hours practical	(60)	$\sqrt{3 \text{ units}}$							
	ourse adm	inistrator's name (1	ment	tion all if more than one i	name)						
7. 0	7. Course administrator's name (mention all, il more than one name)										
Name: A	ssist. Prof	. Dr. Ahmed AJ Ma	ahm	ood							
Email: ahmedsot@uomosul.edu.ig											
Name: Assist. Prof. Dr. Wejdan Nazar											
Email: w	ejdan.naz	ar@uomosul.edu.iq	1								
Practical											
Name: Lecturer Sema'a Mahmood											
Email: seem_univ@uomosul.edu.iq											
Name: L	ec. Bara A	Idabagh									
Email: ba	ara.aldaba	<u>gh@uomosul.edu.i</u>	<u>q</u>								
8. C	Ourse Obj	ectives	Tatas	ducing the students to st							
Course	Jbjecuve	S •	Intro	ducing the students to at	oms and elements	nts					
Explaining the role of inorganic products in pharmacy											
7. 1 Strategy	9. Teaching and Learning Strategies										
Buaugy		Theory lectures	wit	h teaching aids such as vi	deos and diagr	ame					
		Theory lectures     Practical session	s wit	h teaching aids such as vi	deos and diagra	ams					
10 Cou	urse Struct	Theory lectures     Practical sessio	s wit ons w	h teaching aids such as vi here students actively per	deos and diagra	ams ents					
10. Cou Week	urse Struct	Theory lectures     Practical sessio ure Required Learni	s withons w	h teaching aids such as vi there students actively per	deos and diagra	ams ents Evaluation					
10. Соц <b>Week</b>	urse Struct Hours	Theory lectures     Practical sessio ure Required Learni Outcomes	s wit ons w	h teaching aids such as vi here students actively per <b>Unit or subject name</b>	deos and diagra rform experime Learning method	ams ents Evaluation method					
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10. Cou Week	urse Struct Hours 6	<ul> <li>Theory lectures</li> <li>Practical sessio</li> <li>ure</li> <li>Required Learni</li> <li>Outcomes</li> <li>Understanding t structure of ator</li> </ul>	s witt ons w i <b>ng</b> the ns	<ul> <li>h teaching aids such as vi where students actively per Unit or subject name</li> <li>Atomic and molecular structure/</li> </ul>	deos and diagra rform experime Learning method • Lectures	ams ents Evaluation method • Paper- based					
10. Cou Week	rse Struct Hours 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>ure</li> <li>Required Learni</li> <li>Outcomes</li> <li>Understanding to structure of atomand molecules</li> </ul>	s witt ons w ing the ns	<ul> <li>h teaching aids such as vi there students actively per</li> <li>Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> </ul>	deos and diagra rform experime Learning method • Lectures	ents Evaluation method • Paper- based exams					
10. Cou Week 1-3 4-6	Hours Fours 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>ure</li> <li>Required Learni</li> <li>Outcomes</li> <li>Understanding to structure of ator and molecules</li> <li>Understanding to the structure of ator and molecules</li> </ul>	s with ons w ing the ns the	<ul> <li>h teaching aids such as vi where students actively per Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper-					
10. Cou Week 1-3 4-6	Firse Struct Hours 6 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>ure</li> <li>Required Learni</li> <li>Outcomes</li> <li>Understanding to structure of atom and molecules</li> <li>Understanding to concept of</li> </ul>	ing the the	<ul> <li>h teaching aids such as vi /here students actively per Unit or subject name </li> <li>Atomic and molecular structure/ Complexation </li> <li>Essential and trace ions: Iron, copper, </li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ents Evaluation method • Paper- based exams • Paper- based					
10. Cou Week 1-3 4-6	Hours 6 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li><b>Required Learni</b></li> <li><b>Outcomes</b></li> <li>Understanding to structure of atom and molecules</li> <li>Understanding to concept of essential and not provide the structure of atom and molecules</li> </ul>	ing the the on-	<ul> <li>h teaching aids such as vi where students actively per Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper- based exams					
10. Cou Week 1-3 4-6	Firse Struct Hours 6 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li>Required Learnin</li> <li>Outcomes</li> <li>Understanding to structure of atom and molecules</li> <li>Understanding to concept of essential and no essential element</li> </ul>	ing the the the the	<ul> <li>h teaching aids such as vi there students actively per</li> <li>Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> <li>Non-essential ions:</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper- based exams					
10. Cou Week 1-3 4-6	Firse Struct Hours 6 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li><b>Required Learni</b></li> <li><b>Outcomes</b></li> <li>Understanding to structure of atom and molecules</li> <li>Understanding to concept of essential and no essential element</li> </ul>	ing the ms the the the	<ul> <li>h teaching aids such as vi where students actively per Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> <li>Non-essential ions: Fluoride, bromide,</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper- based exams					
10. Cou Week 1-3 4-6	Inse Struct     Hours     6     6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li>Required Learnin</li> <li>Outcomes</li> <li>Understanding to structure of ator and molecules</li> <li>Understanding to concept of essential and no essential element</li> </ul>	ing the ns the ns	<ul> <li>h teaching aids such as vi there students actively per</li> <li>Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> <li>Non-essential ions: Fluoride, bromide, lithium, gold, silver</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper- based exams					
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10. Cou Week 1-3 4-6	6 6	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li><b>Required Learni</b></li> <li><b>Outcomes</b></li> <li>Understanding to structure of ator and molecules</li> <li>Understanding to concept of essential and no essential element</li> </ul>	s with ons with ons the on- on- on- on- on- on- on- on-	<ul> <li>h teaching aids such as vi there students actively per</li> <li>Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> <li>Non-essential ions: Fluoride, bromide, lithium, gold, silver and mercury</li> <li>Gastrointestinal agents: Acidifying agents</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper- based exams					
10. Cou Week 1-3 4-6	Free Struct Hours 6 6 6 2	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li>Required Learni Outcomes</li> <li>Understanding to structure of ator and molecules</li> <li>Understanding to concept of essential and no essential element</li> <li>The chemistry of antacids</li> </ul>	s withons we have a second sec	<ul> <li>h teaching aids such as vi where students actively per</li> <li>Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> <li>Non-essential ions: Fluoride, bromide, lithium, gold, silver and mercury</li> <li>Gastrointestinal agents: Acidifying agents</li> <li>Antacids</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ents Evaluation method • Paper- based exams • Paper- based exams • Paper- based exams					
10. Cou Week 1-3 4-6	Firse Struct Hours 6 6 2	<ul> <li>Theory lectures</li> <li>Practical session</li> <li>Practical session</li> <li><b>Required Learni</b></li> <li><b>Outcomes</b></li> <li>Understanding to structure of ator and molecules</li> <li>Understanding to concept of essential and no essential element</li> <li>The chemistry of antacids</li> </ul>	s with ons w ing the ms the on- on- of	<ul> <li>h teaching aids such as vi where students actively per</li> <li>Unit or subject name</li> <li>Atomic and molecular structure/ Complexation</li> <li>Essential and trace ions: Iron, copper, sulfur, iodine</li> <li>Non-essential ions: Fluoride, bromide, lithium, gold, silver and mercury</li> <li>Gastrointestinal agents: Acidifying agents</li> <li>Antacids</li> </ul>	deos and diagra rform experime Learning method • Lectures • Lectures	ams ents Evaluation method • Paper- based exams • Paper- based exams • Paper- based exams					

8+9	4	Miscellaneous     inorganic agents	Prote adsor	ctive bents	• Lectures	• Paper- based					
			• Topic	al agents		Exams					
			• Denta	al agents							
10-15	12	• Understanding the	Understanding the • Radiopharmaceutic		• Lectures	• Paper-					
		concept of radio	prepa	rations		based					
		therapeutics	Radio	opaque and		Exams					
			contrast media								
1-6	12	• Acid base	<ul> <li>Acid base reactions</li> </ul>		<ul> <li>Practical</li> </ul>	• Lab-based					
		reactions				unknown					
						and quiz					
7+8	4	<ul> <li>Assay of sodium</li> </ul>	Assay of sodium benzoate • Assay of sodium benzoate		<ul> <li>Practical</li> </ul>	• Lab-based					
		benzoate				unknown					
						and quiz					
9+10	4	• Assay of Borax	• Assay of Borax		• Practical	• Lab-based					
						unknown					
						and quiz					
11+12	4	• Assay of citric	• Assay	of citric acid	<ul> <li>Practical</li> </ul>	• Lab-based					
		acid				unknown					
10.14	4					and quiz					
13+14	4	• Assay of	• Assay	of magnesium	• Practical	• Lab-based					
		magnesium	hydro	oxide		unknown					
15		hydroxide		<u> </u>		and quiz					
15	2	• Assay of	• Assay of ammoniated		• Practical	• Lab-based					
		ammoniated				unknown					
11 0		mercury	ury		and quiz						
11. Col	Irse Evalu										
• 20 M	I neoretica Dra ati a al a	al assessment (paper-bas	sed midte	erm exam, attend	ance)						
• 20 M	Practical a	assessment (attendance,	quizzes,	unknows, reports	S)						
• 00 M ]	paper-base	ed theoretical final exan	n								
• 1	00 M tota	_ 1									
12 Lea	orning and	Teaching Resources									
Required	l textbook	s (curricular books, if a	Block, Roche Soine and Wilson, Inorga								
noquiree			Medicinal and Pharmaceutical Chemistry, 1980								
Main ref	erences (s	ources)	Wilson and Gisvold Textbook of Orga								
	, ,	,	medicinal and Pharmaceutical chemis Delgado JN, Remers WA, (Ed 12thedition,2010 Laboratory Handbook for Practical Inorga								
			Pharmaceutical Chemistry adopted by								
			department.								
Recomm	ended bo	ooks and references (so									
journals,	reports)	) Vaca Wahaitaa									
Electron	Electronic References, Websites										