

PRACTICAL INORGANIC CHEMISTRY I

Program	BSc in Chemistry					
Module Name	Chemistry of elements					
Module Number	03					
Module code	Chem-M2031					
Course Title	Practical Inorganic Chemistry I					
Course Code	Chem2034					
Pre-requisite	Chem1013					
Module coordinator name and address	TBA					
Instructor(s) name and address	TBA					
Lecture days, Hours & room	TBA					
Cr.Hrs/ECTS	1/2					
Work load	Lecture	Tutorial	Lab.	Home study	Assessment	Total
	6	---	42	29	3	80
Target group	2 nd year chemistry students					
Semester	Semester II					
Mode of delivery	semester based					
Status of the course	Core Compulsory					

Course Description

The chemistry of selected transition elements: titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, silver, cadmium, and mercury.

Learning Outcomes

After completion of this course, students should be able to:

- Explain the group properties of the selected transition elements
- Prepare compounds of selected transition elements
- Identify chemical and physical properties of compounds of selected transition elements.

Course Outline and Schedule

We ek	Contents	Mode of delivery	Learner's Activity	Readings
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1	Experiment 1: The chemistry of titanium	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
2	Experiment 2. The chemistry of vanadium	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
3	Experiment3: The chemistry of chromium	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	

4	Experiment4: The chemistry of manganese	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
5	Experiment 5: The chemistry of iron	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
6	Experiment 6: The chemistry of cobalt	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	

7	Experiment 7: The chemistry of nickel	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
8	Experiment 8: The chemistry of copper and silver	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
9	Experiment9: The chemistry of Zinc, cadmium and mercury.	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Asking and answering questions • Active participation in discussion • Perform experiments based on the Prepared flow chart 	
	Experiment10: The Chemistry of Molybdenum	<ul style="list-style-type: none"> • Short lecture • Group discussion • Question and answer • Demonstration • Conducting experiments 	<ul style="list-style-type: none"> • Listening and observing attentively • Taking short note • Demonstration • Active participation in discussion • Perform experiments based on the Prepared flow chart 	

Mode of Assessment

Type	Description	%	Assessment Date
Practical/Skills Evaluation	individual/group performance, and flow chart	10	Every Week
Individual Laboratory Performance	Practical examination	20	Week 10
Experiment Reports	Written report after each laboratory work	30	Every Week
Written Examinations	Exam at the end of the laboratory work	40	At the end of the Lab

Course Policy

Beside the university's policy on course delivery and evaluation, students are expected to actively participate in learning process by obeying the following course policies:

- Keep all laboratory safety rules
- Keep good hygiene practices
- Submit laboratory report for every experiments on time
- Do not miss laboratory sessions unless you are forced due to health and other reasonable problems
- Be prepared to learn and actively participate in laboratory works
- Come with lab manual and flow chart
- Wear proper dress

Reference

1. F.A Cotton, G. Wilkinson, and P.L. Gaus, Basic Inorganic Chemistry, 3rd Ed. , 1995
2. Purcell and Kotz, An Introduction to Inorganic Chemistry, 1980
3. J.E. Huheey, Inorganic Chemistry, Principles of Structure and Reactivity, 4th Ed.,1993
4. K N Upadhyaya, A Text Book of Inorganic Chemistry, 3rd Ed., 1996.
5. G.I Brown, Introduction to Inorganic Chemistry, 2nd Ed., 1985
6. Geoff Rayner-Canham, Descriptive Inorganic Chemistry, 2nd Ed., W.H. Freeman and Company, N.Y., 1999