Inorganic Reactions Mechanism (CHEM 423)

Dr. Nouf Hezam Alotaibi

➢ Course Topics:

List of Topics	No. of Weeks	Contact hours
Introduction to inorganic reaction mechanism.	2	6
Soft and hard acids and base.	2	6
Nucleophilic substitution reactions in square at four coordination site.	2	6
Mechanism of oxidation-Reduction reactions.	3	9
Bio-inorganic chemistry includes: Non red-ox metallic enzymes.	1	3
Oxygen carriers and the weight oxygen proteins, proteins of the hemoglobin. Nitrogen fixation and sulphur, iron proteins, heavy metal ion storage.	2	6
Metals and non-meals in medicine and biological system.	2	6

➢ Course Objectives:

- Introduction to inorganic reaction mechanism.
- Nucleophilic substitution reactions in square planar at four coordination sites.
- Bioinorganic chemistry includes:

Non-redox metallic enzymes, Oxygen carriers and the weight oxygen proteins, proteins of the hemoglobin.

- Nitrogen fixation and sulphur, iron proteins, heavy metal ion storage.

➢ Course Reference

❖ Required Text Book:

- ✓ **Mechanism of Inorg. Reactions by R. Person and F. Basalo (Wiley)**
- ✓ **Mechanism of Inorg. Reactions in solutions by D. Benson (Mc. Graw Hill)**

➢ Class organization:

 In - class: Power Point presentations will be used as the major visual aid in the class (http://fac.ksu.edu.sa/nhalotaibi). Learning of these subject needs reading the required text book.

 Off - class: Students are expected to lead independent learning through solving the different assignments and preparing for the pop quizzes. Individual consultations are offered during office hours or by an appointment (via e -mail).

➢ Evaluation

Tests: There will be two exams with 20 marks each and total 40 mark.

Tutorial: the student performs 10 tutorials with 20 marks.

First midterm: **Sunday 19/6/1440 H** corresponding to **24/2/2019**

Second midterm: **Sunday10/76/1440 H** corresponding to **27/3/2019**

- Final Exam: 40 mark.

➢ Website

BLACLBOARD will be used as a main form of communication for course notes, assignments, grades and notifications. The missing of critical information due to your failure to check BLACLBOARD cannot be used as a basis for appeal.

➢ Instructor

Dr. Nouf H. Alotaibi
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Email: nhalotaibi@ksu.edu.sa
Email correspondence must be from your @ksu.edu.sa account.
Please include 423 Chem in the subject line
website: http://fac.ksu.edu.sa/nhalotaibi

➢ Lecture and Tutorial Information

- Lectures

2 h/week, Sunday 10-11:50.

- Tutorial

1 h/week, W. 11:00- 11:50.

" مَنْ سَلَكَ طَرِيقًا يَلْتَمِسُ فِيهِ عِلْمًا ، سَهَّلَ اللَّهُ لَهُ طَرِيقًا إِلَى الْجَنَّةِ