**Course Description Form**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Course Name: | | | | | | | | |
| **Coordination chemistry 2** | | | | | | | | |
| 1. Course Code: | | | | | | | | |
| **311CC2** | | | | | | | | |
| 1. Semester / Year: | | | | | | | | |
| Second semester /Third year | | | | | | | | |
| 1. Description Preparation Date: | | | | | | | | |
| 1/10/2024 | | | | | | | | |
| 1. Available Attendance Forms: | | | | | | | | |
| mandatory | | | | | | | | |
| 1. Number of Credit Hours (Total) / Number of Units (Total) | | | | | | | | |
| 60h – 3 units | | | | | | | | |
| 1. Course administrator's name (mention all, if more than one name) | | | | | | | | |
| Name: Assist. prof. Dr. Areej Ali Jarullah  Email: [dr.areej977@uodiyala.edu.iq](mailto:dr.areej977@uodiyala.edu.iq)  Assist. prof. Jinan Mohammed Mahmood  [jinan.mohammed@uodiyala.edu.iq](mailto:jinan.mohammed@uodiyala.edu.iq) | | | | | | | | |
| 1. Course Objectives | | | | | | | | |
| **Course Objectives** | | | | |  | | --- | | Teaching the student inorganic chemical reactions and chemical structures, knowledge of the structure of inorganic compounds and how to clarify the mechanics of inorganic reactions and their practical applications aimed at developing and keeping pace with the scientific development of inorganic chemistry | | Teaching and educating students on all necessary and necessary information related to inorganic chemistry, which qualifies them to work and research in all areas of inorganic chemistry | | | | | |
| 1. Teaching and Learning Strategies | | | | | | | | |
| **Strategy** | | Explanation and clarification  Lecture method and questioning method  Model display method | | | | | | |
| 1. Course Structure | | | | | | | | |
| **Week** | **Hours** | | **Required Learning Outcomes** | | **Unit or subject name** | | **Learning method** | **Evaluation method** |
| 1 | **2** | | Magnetic properties of coordination complexes | | Properties of coordination complexes | | Board and  data show | Daily exams  Homework  Monthly exams |
| 2 | **2** | | Spectral properties of coordination complexes | | Properties of coordination complexes | | = | = |
| 3 | **2** | | Kinetic stability, thermodynamic stability | | Stability of complexes formation in solutions | | = | = |
| 4 | **2** | | Calculation of stability constants of coordination complexes and factors affecting them | | Stability of complexes formation in solutions | | = | = |
| 5 | **2** | | Labile and Inert Complexes | | Stability of complexes formation in solutions | | = | = |
| 6 | **2** | | A comparative study of the elements of the three transition chains | | Transition Elements | | = | = |
| 7 | **2** | | First exam - second semester | |  | |  |  |
| 8 | **2** | | Its preparation | | Carbonyl chemistry | | = | = |
| 9 | **2** | | Reactions and properties | | Carbonyl chemistry | | = | = |
| 10 | **2** | | Introduction to organometallic complexes | | Organometallic  complexes | | = | = |
| 11 | **2** | | Preparations and reactions | | Organometallic  complexes | | = | = |
| 12 | **2** | | Properties | | Organometallic  complexes | | = | = |
| 13 | **2** | | Introduction to the internal transition elements chemistry (Lanthanides and Actinides). | | Internal transition  elements | | = | = |
| 14 | **2** | | Comparison A comparative study of lanthanides and transition elements | | Internal transition  elements | | = | = |
| 15 | **2** | | Second exam - second semester | |  | |  |  |
|  | | | | | | | | |  | Second Exam |  |  |  |
| Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc | | | | | | | | |
| 1. Learning and Teaching Resources | | | | | | | | |
| Required textbooks (curricular books, if any) | | | | | | Inorganic chemistry - chemistry of  transition elements, principles of coordination, Dr. Noman Al-Naimi and  others. | | |
| Main references (sources) | | | | | | -Inorganic chemistry, Catherine  E. Housecroft and Alan G. Sharpe,  3rd ed., 2008.  -Inorganic chemistry, Catherine  E. Housecroft and Alan G. Sharpe,  4th ed., 2012.  -Inorganic chemistry, James E. Huheey,  Ellen A. Keiter and Richard L. Keiter,  4th ed.,1993. | | |
| Recommended books and references (scientific journals, reports...) | | | | | |  | | |
| Electronic References, Websites | | | | | |  | | |