المحتوى العلمي للمقرر:

-Bonding Theories:

- Introduction to Field Ligand Field Theory

- ***Special Arrangement of d- orbitals, Splitting of d- orbitals***
- ***Energy of Splitting and Ligand Field Stabilization Energy***

- Valence Bond Theory

- ***Formation of hybrid orbitals***
- ***Spatial arrangement of hybrid orbitals***
- ***Outer and inner complexes***
- ***Magnetic properties and structure***
- ***Degree of Paramagnets and structure***

-Ligand Field Theory :

- ***Low spin and high spin cases***
- ***Factors affecting "Dq"***
- ***Measurement of Dq***
- ***IV The John Tellar Effect***
- ***Z- in and Z- out distortions***
- ***Effect on spectra of complexes***
- ***Cases of interest***
- ***Simple look at spectra of complexes***

-Molecular Orbital Theory

- ***Formation of a molecular orbitals***
- ***Dressing and non. Pressing ligands***
- ***Examples of MO diagrams.***
- ***Degeneracy and Symmetry***

الكتب الأساسية:

Inorganic chemistry, principle of structure and reactivity, James E. Huheey, 4th ed., 1993.

المرجع المساند:

Advanced inorganic chemistry, F. A. Cotton, G. Wilkinson and P.L. Gauss, 3rd ed., 1999, Wiley &bSons.