**Department of Chemistry Syllabus**

This syllabi is advisory only. For details on a particular instructor's syllabus (including books), consult the instructor's course page. For a list of what courses are being taught each quarter, refer to the Courses page. *Every instructor has prerogative to teach the course as they see fit and ultimately the instructor's syllabus supersedes all others.*

***CHE 226: General Chemistry***

Approved:

Suggested Textbook: (actual textbook varies by instructor; check your instructor)

Housecroft and Sharpe, *Inorganic Chemistry*, *3nd or 4th Ed.* Pearson, Prentice Hall

Crabtree, *The Organometallic Chemistry of the Transition Metals*, 5th/6th Edition, John Wiley & Sons, New York

Albright, Burdett and Whangbo, *Orbital Interactions in Chemistry*, John Wiley and Sons, 1985

Jordan, *Reaction Mechanisms of Inorganic and Organometallic Systems*, Oxford, 1998

Suggested Schedule:

(approximate)

6 lectures transition metal complexes, geometry, ligands, oxidation states, electron counting

2 lectures periodic trends, molecular orbitals

6 lectures molecular orbital theory and bonding of inorganic complexes

4 lectures lability, absolute hardness, entropy, chelate effect, trans effect/influence

4 lectures electron transfer theory

6 lectures organometallic chemistry

Additional Notes:

Learning Goals:

At the completion of this course students should be able to describe the structure, bonding and reactivity of transition metal complexes, draw molecular orbital diagrams for transition metal complexes, explain and interpret data for electron transfer reactions, describe the basic reactivity of organometallic complexes.