SYLLABUS
CHE 142, General Inorganic Chemistry

Credit: Four semester hours

Text: Chemistry Principles and Reactions, Masterton and Hurley, sixth edition, 2009.

Prerequisites: CHE 141

Disclaimer: Although we expect to conduct the course according to the following, we reserve the right to make modifications if circumstances dictate.

Course description: The course is a continuation of CHE 141. Lecture three hours per week

The fundamental laws and theories of chemistry and chemical calculations are stressed, primarily while studying inorganic compounds.

Rationale: This course will provide a general understanding of chemistry for the non science major as well as a foundation in chemistry for future study for the science major. Development of problem solving and critical thinking skills will be stressed.

Notice: **No cell phones should be powered on while in class**. Use of cell phone calculator function is not allowed, rather, student should acquire a general scientific calculator that is able to handle exponential and log functions. Graphing calculators can be used, but are **not** required. ***The memory function of such calculators shall not be used to store formulas, equations, etc. that if written on paper would be called a "cheat sheet".***

Attendance: Your attendance at all class meetings is expected. Please refer to the *Mississippi College Undergraduate Bulletin* for attendance policy.. An accumulation of **12** absences in a class that meets MWF or **8** absences in a class that meets TR results in an automatic **F** in the course. Roll will be checked each day. Absences are recorded on the grade report that is mailed at the end of the semester. If a regular class meeting is missed, it is the student=s responsibility to obtain any assignments or instructions that were given by the instructor. Missing a class is **not** an excuse for not preparing for the next class meeting or not having an assignment ready on time. Don=t miss a scheduled test! In the event of an extreme emergency and an excused absence, a make-up test will be given. The test must be made up prior to the graded tests being returned to the class. Make-up tests are different from the regular test and may be more difficult. If the student cannot return to class until after the tests have been returned, the grade on the final exam may be substituted for the missing test grade.

Methods of Instruction: Class will consist primarily of lectures and working problems. Appropriate demonstrations as well as laboratory activities may be done that reinforce key concepts. Certain skills can be practiced and developed in the Hannah Computer Laboratory or on your personal computer using the Online Web based Learning (OWL) program.

Methods of Evaluating Student Progress: Three tests will be given during the semester, each with a value of 100 points. Exams may contain essay questions that require the student to express thoughts in a well organized manner consistent with accepted writing form. Unannounced pop tests are given periodically, the total number of pop test points will be approximately 100. Pop tests that are missed

are not made up. The final exam is comprehensive and is worth 150 or 200 points. The total points from the laboratory, maximum 200, is added to give grand total. The course grade is determined by dividing your grand total by the total possible points. Extra credit points can be earned by completing computer drills. Occasionally there are opportunities for extra credit points by attending a special seminar or a visiting lecture.

The grading scale varies with the instructor.

Help sessions: Help sessions will be held each Monday at 4:00 in H 312. To get the most benefit from these sessions bring specific questions that you have or problems that you need to have worked. Attendance is optional, but may be very helpful to those experiencing difficulty.

Tuition refunds: The last day to drop a class with 100% refund of tuition is January 19.

Special Accommodations: In order for a student to receive disability accommodations under Section 504 of the Americans with Disabilities Act, he or she must schedule an individual meeting with the Director of Student Counseling Services immediately upon recognition of their disability (if their disability is known they must come in before the semester begins or make an appointment immediately upon receipt of their syllabi for the new semester). The student must bring with them written documentation from a medical physician and/or licensed clinician that verifies their disability. If the student has received prior accommodations, they must bring written documentation of those accommodations (example Individualized Education Plan from the school system). Documentation must be current (within 3 years). The student must meet with SCS face-to face and also attend two (2) additional follow up meetings (one mid semester before or after midterm examinations and the last one at the end of the semester). Please note that the student may also schedule additional meetings as needed for support through SCS as they work with their professor throughout the semester. Note: Students must come in each semester to complete their Individualized Accommodation Plan (example: MC student completes fall semester IAP plan and even if student is a continuing student for the spring semester they must come in again to complete their spring semester IAP plan).

Assignments: Exercises from the text will be assigned for each chapter. These assignments may or may not be taken up and graded but they are highly recommended. They are frequently the source for pop quiz material.

Academic integrity: Mississippi College students are expected to be honest. Please refer to the *Mississippi College Tomahawk* or University Policy 2.19 for specific information regarding penalties associated with dishonest behavior at Mississippi College.

Topics	**Learning Objectives**
1. Intermolecular forces, liquids and solids	The student will have a general understanding of intermolecular forces and how they relate to the phases of matter.
2. Solutions	The student will be familiar with solution concentration units, the principles of solubility and colligative properties.
3. Rate of Reaction	The student will be familiar with rates of reaction and how rates are affected by changes in concentration, temperature and a catalyst.

4. Equilibrium — The student will become familiar with how at write equilibrium constant expressions, determine K, and know the effect that changing conditions have on equilibrium.

5. Acid and Bases — The student will be familiar with Bronsted-Lowry acid-base model, pH and pOH, weak acids and their ionization constants, and the acid-base properties of salt solutions. The student will also become familiar with buffers, acid-base titrations and polyprotic weak acids.

6. Complex Ions — The student will be familiar with the composition of complex ions, their geometries and formation constants.

7. Precipitation Equilibria — The student will be familiar with solubility product constants, precipitate formation, means of dissolving precipitates and qualitative analysis.

8. Spontaneity of Reactions — The student will be familiar with entropy, free energy, spontaneity and the effect of temperature, pressure and concentration on spontaneity.

9. Electrochemistry — The student will become familiar with voltaic cells, electrolytic cells, commercial cells, standard voltages and relations between E^o, ΔG^o, and K.