

Loyola University Chicago

Syllabus General Chemistry A CHM 101 Sec. 004; Discussion 005,006 FALL 2011

Lecture: M, W, F: 11:30 AM - 12:20 PM Flanner Hall 133

Discussion: 005: T, 10:00 AM – 11:15 AM 227 Dumbach Hall

006: T, 11:30 AM – 12:45 PM 207 Cudahy Hall

Instructor: Donald May Contact: dmay4@luc.edu

Office: Flanner Hall 403 Hours: M 12:30 PM – 01:15 PM;

Directly before exams and other announced times; by appointment

Textbook: Chemistry: The Central Science, Brown, LeMay, Burnstein, Murphy, Woodward, 12th ed., 2012, Prentice Hall. There is also a student's solutions manual available.

Method of instruction: Lecture and discussion. Lectures may be supplemented with classroom discussion, use of molecular models, use of multimedia, and/or use of computer based materials as well as individual and/or group problem solving. Suggested textbook homework problems will be given but the student will not be required to turn them in. Problems will be solved in lecture and subsequently students should bring their calculator to lecture. Quiz and exam questions will come from theories covered in lecture and directly from suggested homework problems. Quizzes will be given during discussions. No early and no make-up in-class quizzes or exams. Exams will be given during scheduled lecture time.

Grading: Semester grades will be determined by the following criteria: Total points earned from weekly quizzes (the single lowest quiz score will be dropped) contributing 20% toward the final grade; any missed quiz will be counted as zero; 3 in-class unit exams contributing 45% (15% each exam) toward the final grade; Exams will be 25 multiple choice questions at 4 points each; a comprehensive final exam contributing 35% toward the final grade (specific topics will be announced). See attached schedule. No early and no make-up in-class quizzes or exams.

Students must utilize their own calculator for quizzes and for exams: cell phone calculators are not allowed. For a single, missed in-class exam, the final exam will be utilized to determine a larger percentage of the course grade (50%). Any subsequent missed in-class exams will be scored as zero. The student must have a valid and verifiable reason for missing the final exam, such as an extreme emergency or serious illness requiring hospitalization, and so forth.

Oversleeping, not knowing the date and time of the final exam or not being prepared and so forth, are not valid reasons. If a verifiable and valid reason cannot be provided, a zero score for the final exam will be recorded. Exam Dates (tentative): Sept. 21; Oct. 19; Nov 16; Dec. 12 1-3 PM

Final course grade: Generally the lowest A- is 90%, lowest B- is 78%, lowest C- is 66%, lowest D is 50%. Grades assigned will be: A, A-, B+, B, B-, C+, C, C-, D+, D, F

Student Conduct: Only students enrolled for the class may attend. At all times students are expected to conduct themselves in a professional manner, which includes but is not limited to: treating everyone in class with respect, avoidance of extraneous comments and small group discussions during lecture. Additionally radios, headphones, cell-phones, PDA's, mp3 players or similar devices must be in silent mode during lectures, discussions and are not permitted during exams. Students are expected to take care of personal matters before lecture/discussions/exams begin(s). The eating and drinking of food, water, soda, use of tobacco products, chewing gum, are not allowed during lectures, discussions and exams. Not all possible contingencies for student conduct can be listed, subsequently other modes of student conduct not listed, will be addressed immediately. Disruptive students will be required to leave. Students are responsible for taking care of all personal matters before an exam begins. During exams, please keep noises to a minimum: radios, headphones, cell-phones, PDA's, mp3 players or similar devices must be in silent mode during lectures, discussions and are not permitted during exams. Disruptive and noncompliant students will be required to leave. If a cell phone rings (beeps, buzz, etc.) during any exam, the exam will be collected and the student will not be allowed to continue. It is recommended that the student read through each chapter before lecture and eventually work through the suggested problems. Bring your calculator each day.

Academic Integrity: Consult the Undergraduate Studies Handbook for additional information. All exams are closed book and closed note. During exams violations include but are not limited to: cell phone ringing, opening a book-bag or back-pack during an exam, using unauthorized notes or books, looking at another student's exam, using another student's calculator, talking to another student, taking a copy of the exam from the room and so forth. Students caught cheating will receive an automatic "F" for the course and will not be allowed to drop the course. Further actions will also result. The student must bring their Loyola I.D. for each exam. Students are not allowed to leave the room during exams. If you leave, you must turn in your exam and you will be considered finished. Please keep noises and sounds to a minimum. When leaving, be respectful and leave quietly.

Lecture Outline (tentative, subject to change)

| Week | Date | Chapter | Topic | * |
|------|-------|---------|--|---|
| 1 | 08/29 | 1 | Matter, | |
| | 08/31 | 1 | Units, Measurements, Conversions, | |
| | 09/02 | 1 | Significant Figures, Dimensional Analysis | |
| 2 | 09/05 | | NO CLASS - HOLIDAY | |
| | 09/07 | 2 | Atoms, Atomic structure | |
| | 09/09 | 2 | Periodic Table, Molecules, Chemical Formulas | |
| 3 | 09/12 | 2 | Polyatomic Ions, Nomenclature | |
| | 09/14 | 3 | Chemical Equations, Reactions | |
| | 09/16 | 3 | The Mole, Molar Mass | |
| 4 | 09/19 | 3 | Calculating Formulas | |
| | 09/21 | | EXAM I: Chapters 1-3 | |
| | 09/23 | 3 | Stoichiometry, Limiting Reagents, Percent Yields | |
| 5 | 09/26 | 4 | Electrolytes, Aqueous Solutions | |
| | 09/28 | 4 | Ionic Equations | |
| | 09/30 | 4 | Acid -Base Reactions | |
| 6 | 10/03 | 4 | Redox reactions, | |
| | 10/05 | 4 | Concentrations, | |
| | 10/07 | 4 | Molarity and Stoichiometry | |
| 7 | 10/10 | | NO CLASS - FALL BREAK | |
| | 10/12 | 5 | Thermodynamics | |
| | 10/14 | 5 | Enthalpy, Heat Transfer | |
| 8 | 10/17 | 5 | Hess' Law, Enthalpies of Formation | |
| | 10/19 | | EXAM II: Chapters 3-5 | |
| | 10/21 | 6 | Light, Waves, Photons, Electromagnetic Radiation | |
| 9 | 10/24 | 6 | Hydrogen Atom, Matter waves | |
| | 10/26 | 6 | Quantum Mechanics, Atomic Orbitals | |
| | 10/28 | 6 | Electrons, Electronic Configurations | |
| 10 | 10/31 | 7 | Periodic Trends | |
| | 11/02 | 7 | Octet Rule, Bonding | |
| | 11/04 | 8 | Covalent Bonding Lewis Structures, | |
| 11 | 11/07 | 8 | Bond Polarity, Lewis Structures | |
| | 11/09 | 8 | Formal Charge, Resonance Structures | |
| | 11/11 | 8, 9 | Bond Properties, Molecular Shapes | |
| 12 | 11/14 | 9 | VSEPR Bonding Theory, Molecular Properties | |
| | 11/16 | | EXAM III: Chapters 6- 9 | |
| | 11/18 | 9 | Valence Bond Theory | |
| 13 | 11/21 | 9 | Hybridization, Sigma and Pi bonds | |
| | 11/23 | | NO CLASS - HOLIDAY | |
| | 11/25 | | NO CLASS - HOLIDAY | |
| 14 | 11/28 | 10 | Gas Laws, Ideal Gas Law | |
| | 11/30 | 10 | Stoichiometry Revisited | |
| | 12/02 | 10 | Kinetic Molecular Theory | |
| 15 | 12/05 | 11 | Intermolecular Forces | |
| | 12/07 | 11 | Liquids, Phase Diagrams | |
| | 12/09 | 12 | Solids | |
| 16 | 12/12 | | FINAL EXAM 01:00 PM – 03:00 PM | |