CHM2047 — Honors General Chemistry — Fall 2011

Instructor	Dr. Alexander Angerhofer
Phone	392 9489 (office, CLB318A) or 392 2123 (lab, CLB303)
E-mail	alex@chem.ufl.edu
O.H.	T-8 (3:00-3:50pm), R-5 (11:45am-12:35pm) and by appointment, CLB318A or CLB313.

TAs	Brian Schaefer	Matthew Burg	Massoud Shoraka	Eric Crihfield	Umar Twahir
Sections	5636	8007	8010	8020	8023
E-mail	briantschaefer@ufl.edu	mburg@chem.ufl.edu	mbshoraka@ufl.edu	ecrihfield@ufl.edu	utwahir@ufl.edu
O.H.	T,R-4: Hume Hall Study Area	T-2,R-3: CLC†	F-9,10: CLC†	M-3, W-4: CLC†	M,W-6: CLB318

†Chemistry Learning Center, 3rd floor of Keene-Flint Hall Annex, room #258.

Class Meeting Times	T: periods 6+7, R: periods 6+7, 12:50-2:45pm in Leigh Hall 207			
Discussion Sessions				
5636	8007	8010	8020	8023
W-5, TUR-2303	W-4, WEIL-279	W-4, TUR-2303	W-3, LEI-104	W-2, FLI-101
Holidays	09/05 (Labor Day), 11/04 (Homecoming), 11/11 (Veterans Day), 11/24-25 (Thanksgiving), 12/08-09 (Dead Week, no classes).			
Class Text	Oxtoby, Gillis, Campion, Principles of Modern Chemistry, 7th Edition, Thomson Brooks/Cole, Belmont CA, 2008, ISBN: 0840049315.			
Homework	Homework will be assigned weekly except during weeks of mid-term exams,. Homework will be graded.			
Points Earnable	4 progress exams @ 200 pts. each for 800 pts. total. 1 cumulative final exam (optional) @ 400 pts. For 400 pts total. 10 homeworks @ 40 pts. each for 400 pts. total. 4 online quizzes @ 50 pts. each for 200 pts. total. 1 participation grade @ 200 pts. for 200 pts. total. Total earnable points are 2,000 pts or 1,600 pts (without optional final exam).			
Grading Scheme‡	With final exam: A: ≥ 1700 pts. 1700 pts > A− ≥ 1650 pts. 1650 pts > B+ ≥ 1600 pts. 1600 pts > B ≥ 1500 pts. 1500 pts > B− ≥ 1450 pts. 1450 pts > C+ ≥ 1400 pts. 1400 pts > C ≥ 1300 pts. 1300 pts > C− ≥ 1250 pts. 1250 pts > D+ ≥ 1200 pts. 1200 pts > D ≥ 1100 pts. 1100 pts > E.	Without final exam A: ≥ 1360 pts. 1360 pts > A− ≥ 1320 pts. 1320 pts > B+ ≥ 1280 pts. 1280 pts > B ≥ 1200 pts. 1200 pts > B− ≥ 1160 pts. 1160 pts > C+ ≥ 1120 pts. 1120 pts > C ≥ 1040 pts. 1040 pts > C− ≥ 1000 pts. 1000 pts > D+ ≥ 960 pts. 960 pts > D ≥ 880 pts. 880 pts > E.		

‡see https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx for more info on UF grade policies.

Course Schedule (tentative):

Date	Day	Chapter	Topic	Reading
08/23/09	T	4	Introduction to Quantum Mechanics	pp. 139-166
08/25/09	R	4	The Schrödinger Equation	pp. 167-188
08/30/09	T	5	Atomic Structure	pp. 193-215
09/01/09	R	5	Multi-Electron Atoms and Periodic Trends	pp. 215-231
09/06/09	T	3	Chemical Bonding	pp. 63 - 107
09/08/09	R	3	Lewis Structures and Molecular Shapes	pp. 107-131
09/13/09	T	6	Introduction to MO Theory	pp. 235-267
09/14/09	W	1—5	1st Mid-Term Exam	
09/15/09	R	6	Valence Bond Theory and Hybridization	pp. 268-303
09/20/09	T	7	Hydrocarbons	pp. 307-319
09/22/09	R	7	Aromaticity, Functional Groups, Reactions	pp. 319-343
09/27/09	T	8	Introduction to Coordination Chemistry	pp. 347-367
09/29/09	R	8	Crystal Field Theory	pp. 367-388
10/04/09	T	9	Ideal Gas and Kinetic Gas Theory	pp. 395-435
10/06/09	R	12	1st Law of Thermodynamics	pp. 516-542
10/11/09	T	12	Thermochemistry	pp. 542-563
10/12/09	W	6—9	2nd Mid-Term Exam	
10/13/09	R	13	2nd Law of Thermodynamics	pp. 571-589
10/18/09	T	13	3rd Law of Thermodynamics	pp. 590-607
10/20/09	R	14	Chemical Equilibrium	pp. 613-638
10/25/09	T	14	Le Châtelier's Principle	pp. 639-658
10/27/09	R	10	Intermolecular Forces	pp. 443-458
11/01/09	T	10	Phase Equilibrium and Phase Transitions	pp. 459-468
11/03/09	R	11	Colligative Properties of Solutions	pp. 473-509
11/08/09	T	15	Acid-Base Chemistry	pp. 669-689
11/09/09	W	10—14	3rd Mid-Term Exam	
11/10/09	R	15	Buffer Solutions and Ordering of Acid Strengths	pp. 689-725
11/15/09	T	16	Solubility Equilibria	pp. 733-744
11/17/09	R	16	Solubility and pH	pp. 744-757
11/22/09	T	17	Introduction to Electrochemistry	pp. 763-822
11/29/09	T	18	Introduction to Chemical Kinetics	pp. 835-855
12/01/09	R	18	Arrhenius Law	pp. 856-881
12/06/09	T	19	Nuclear Chemistry	pp. 891-936
12/07/09	W	15—18	4th Mid-Term Exam	
12/12/09	M	1—18	Cumulative Final Exam 5:30—7:30pm	

Further Important Information:

1. **Overview and Goals:** CHM 2047/2047L is a one-semester program for entering students with strong backgrounds in chemistry, normally reflected by high AP or IB chemistry test scores. This program allows students to move more quickly into advanced work. The goals of the course are to give an overview of basic chemistry in one semester and to prepare the students for subsequent work (organic, analytical, and physical chemistry).
2. **Exam Policies:** Four mid-term exams will be given (see schedule above). These exams will be evening exams. Exam duration will be approximately 2 hours. Making up a missed exam is a serious and exceptionally burdensome problem. Consequently, a makeup exam will be granted solely at the discretion of the instructor. This will require that you have a legitimate excuse, and that you have brought this to the attention of the instructor **before** the missed exam. Legitimate excuses include sickness or a conflict with another exam for a higher numbered class. If you are not sure whether your excuse is valid, talk to the instructor before missing an exam.
   The final exam is optional. If a student is happy with his/her grade at the end of the semester (see grading scale without final exam above) he/she may skip the final exam. Since the final exam is cumulative, the instructor reserves the right to consider assigning a letter grade above that which the student would receive based strictly on total points earned (as listed above). Of course this will only take effect if the final exam is taken and the performance on the final exam is significantly above the student's performance for the semester, and if the student shows clear improvement in his/her grades over the course of the semester. This qualification cannot lower your grade and will depend on the instructor's evaluation of the student's performance on the final exam.
   A student contending that an exam or quiz has been mis-graded or mis-scored must report this to the instructor and the TA responsible for grading within one week of receiving the original grade or score. Failure to follow this policy results in no reconsideration of the contended grade or score. For all questions on grades or grading, please consult with the instructor (or TA) in person. Except for problems with on-line quizzes (see below), emailed questions on grades or grading will not be answered.
3. **On-line Quizzes:** There will be four on-line quizzes on sakai (1 quiz = 50 points max.). The on-line quizzes will be administered through the sakai interface to the class. Quiz durations will be between 30 and 60 minutes depending on the level of difficulty and the number of questions. For your convenience the web format will allow for an extended period of time (typically a 48 hour period) during which you can take the quiz. Once a quiz has been started the clock starts running and you have to finish it in the allotted time.
4. **Sakai:** You will need to access your elearning account by following the instructions on the web site, http://lss.at.ufl.edu/ where you will have to supply your Gatorlink ID and password in the appropriate boxes in the login area. Please, log in at your earliest convenience and make yourself familiar with the site.
5. **Prerequisites:** There are no formal prerequisites. However, this course is very fast-paced. The goal is to give an overview of General Chemistry, to equip the student with the tools s/he needs to solve problems in the area of General Chemistry, and prepare them for success in subsequent higher-level chemistry courses. CHM 2047/2047L is a one-semester program for entering students with **strong** backgrounds in chemistry, normally reflected by high AP or IB chemistry test scores.
6. **Study Habits:** The course demands on average 8 – 10 hours/week of work outside of class. Regular lecture attendance is essential. The class will not be taught “by the book.” It is expected that you read the assigned pages from the textbook (or similar chapters in other textbooks) in advance to coming to class. The instructor will build on this material and you are expected to be able to follow in-class discussion. The course demands a regular sustained effort throughout the semester. Most importantly, do not allow yourself to fall behind! The material builds up and you need to stay ahead of the game. If you find that you are not grasping essential material by reading the textbook and following in-class discussion, **seek help!** Visit your instructor's and/or TA's office

hours (see above), talk to other students in your class, compare notes, form a study group, consult other text books, go to the CLC (Chemistry Learning Center) in Keene/Flint Hall 257/258, etc.

7. **Homework:** Do your homework (HW)! By doing HW problems you will collect essential points toward your grade and will be better prepared to deal with problems on exams. Be prepared to work out HW problems on the board during discussion sessions. You will earn 20 "participation points" for each HW problem you work out in your discussion session. You are expected to work out at least three different HW problems throughout the semester.
8. **Calculators:** You must have your own scientific calculator. Calculators may be used on quizzes and exams but may not be shared. You may **not** use graphing calculators or any calculators that are capable of information storage or communication on any exam. Simple inexpensive scientific calculators such as the TI-30 series or the Casio fx-260 are acceptable and sufficient for any problem encountered on exams.
9. **Participation Grade:** The participation points (up to 200) will be earned through active participation in and out of class. 60/200 participation points are reserved for working out HW problems in discussion sessions. Participation includes, but is not limited to, responding to questions the instructor/TA will ask during class/discussion session, working problems on the blackboard during discussion sessions (see above) or office hours, and attending and writing short summaries of special seminars to which you will be invited by the instructor.
10. **Class Attendance:** Class attendance is essential for your success in this class. However, we will not take roll-calls. Repeated absence in class and discussion session will make it very difficult to earn full participation points.
11. **Students with Disabilities:** Students requiring special accommodations should register with the Dean of Students Office and present documentation from that office to the instructor.
12. **Counseling Services:** The University of Florida provides counseling services for students, staff, and faculty. See http://www.counsel.ufl.edu/ or call (352) 392-1575 during regular service hours (8am – 5pm). For other hours or weekends call the Alachua County Crisis Center, (352) 264-6789. Students may also call the clinician on-call at Student Mental Health for phone callback and consultation at (352) 392-1161.
13. **Cell Phones:** Please put all cell phones or pagers on "**silent mode**" during all class and discussion periods. Thank you.
14. **Honors Code:** This class will operate under the policies of the student honor code which can be found at: https://catalog.ufl.edu/ugrad/current/advising/info/student-honor-code.aspx . The students, instructor, and TAs are honor-bound to comply with the Honors Pledge: **We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.**

If you have further questions, please contact me. Have a great semester!

Sincerely, Alexander Angerhofer