Cover Sheet: Request 13727

CHM2050 Honors General Chemistry 1 for Majors

Info

Process	Course|New|Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Alexander Angerhofer ax@ufl.edu
Created	3/6/2019 6:08:49 PM
Updated	10/14/2019 10:40:19 AM
Description of request	This is a new course the Department of Chemistry wishes to create to fulfill the requirement for General Chemistry 1 for our majors with a course structure that will expose them to modern applications of Chemistry in research and society.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CLAS - Chemistry 011606000	Alexander Angerhofer		3/16/2019
No document changes					
College	Conditionall Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane	The College Curriculum Committee conditionally approves, with the following: change transcript title to include reference to Honors; 2) fix grading scale to show ranges; 3) course objection #10 should be changed to "demonstrate" or something measurable/observable.	3/27/2019
No document changes					
Department	Approved	CLAS - Chemistry 011606000	Alexander Angerhofer	changed transcript title to Hnrs Gen Chem 1 Major.; changed grading scale to show ranges; rephrased course objecties.	4/4/2019
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane		4/5/2019
No document changes					
University Curriculum Committee	Recycled	PV - University Curriculum Committee (UCC)	Casey Griffith	Pending conversation regarding makeup policy.	5/14/2019
No document changes					
College	Approved	CLAS - College of Liberal Arts and Sciences	Joseph Spillane		9/12/2019
No document changes					
University Curriculum Committee	Commented	PV - University Curriculum Committee (UCC)	Lee Morrison	Added to the October agenda.	10/10/2019
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			10/10/2019

Step	Status	Group	User	Comment	Updated
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 13727

Info

Request: CHM2050 Honors General Chemistry 1 for Majors
Description of request: This is a new course the Department of Chemistry wishes to create to fulfill the requirement for General Chemistry 1 for our majors with a course structure that will expose them to modern applications of Chemistry in research and society.
Submitter: Alexander Angerhofer ax@ufl.edu
Created: 5/5/2019 6:44:35 PM
Form version: 6

Responses

Recommended Prefix CHM
Course Level 2
Number 050
Category of Instruction Introductory
Lab Code None
Course Title Honors General Chemistry 1 for Majors
Transcript Title Hnrs Gen Chem 1 Major
Degree Type Baccalaureate

Delivery Method(s) On-Campus
Co-Listing No
Co-Listing Explanation not applicable since not co-listed
Effective Term Fall
Effective Year Earliest Available
Rotating Topic? No
Repeatable Credit? No

Amount of Credit 3

S/U Only? No
Contact Type Regularly Scheduled
Weekly Contact Hours 4
Course Description First semester of the CHM 2050/2045L and CHM 2051/2046L sequence. Stoichiometry, atomic and molecular structure, the states of matter, reaction rates and equilibria. (P)
Prerequisites (CHM1025(C) OR ((ALEKS>=75) & NOT (CHM1025<C)))
&
(MAC1147(C) OR (MAC1140(C) & MAC1114(C)) OR MAC2XXX(C) OR MAC3XXX OR MAC4XXX)
& CHY
Co-requisites CHM2045L
Rationale and Placement in Curriculum The course is equivalent in scope to CHM2045, General Chemistry 1. However, it targets chemistry and biochemistry majors who need more depth in the topics taught and who need to be exposed to modern research applications in chemistry more quickly. The course satisfies this need by taking a different structure than CHM2045, i.e., two double lecture periods per week instead of three lectures and one recitation session.
Course Objectives Students who successfully complete this course will be able to:
(a) demonstrate understanding of basic chemical concepts at the General Chemistry I level, specifically: stoichiometry, states of matter, atomic structure, molecular structure and bonding, thermochemistry, equilibria, and kinetics;
(b) apply mathematical skills at the level of pre-calculus algebra to solve quantitative problems in the areas listed under (a);
(c) use the scientific method to define a problem in the areas listed under (a) clearly, develop testable hypotheses, design and execute experiments, analyze data using appropriate mathematical and statistical methods, and draw appropriate conclusions;
(d) explain and argue for the major scientific developments that have led to the current state-of-the-art

in the field, and be able to assess impacts Chemistry has on society, science, and the environment.

Course Textbook(s) and/or Other Assigned Reading M. Silberberg, “Chemistry: The Molecular Nature of Matter and Change With Advanced Topics,” 8th Edition, McGraw-Hill, New York 2018, ISBN: 978-1259741098. or equivalent texts. The text is recommended. Any reasonably recent General Chemistry textbook should be fine for students to review and look up material.
Weekly Schedule of Topics Week 1: Review of chapters 1 and 2, covering Definitions, Units, and the Components of Matter
Week 2: Chapter 3, covering Stoichiometry and quantitative Chemistry
Week 3: Chapter 4, covering types of chemical reactions and reversibility.
Week 4: Chapter 5, covering the ideal gas law and kinetic gas theory.
Week 5: Chapter 6, covering Thermochemistry.
Week 7: Chapter 16: covering kinetics, rate laws, rate equations, and reaction mechanisms.
Weeks 8+9: Chapter 7, covering the quantum theory and atomic structure.
Weeks 9+10: Chapter 8, covering electron configuration and chemical periodicity.
Weeks 11 + 12: Chapter 9, covering chemical bonding modelts.
Weeks 12 + 13: Chapter 10, covering Lewis structures and the shapes of molecules.
Week 14: Chapter 11, covering theories of covalent bonding.
Weeks 15 + M - W of week 16: Chapter 12, covering intermolecular forces.

Links and Policies Exam Policies: Four during-term exams will be given (see schedule above). These exams will be in-class exams. Exam duration will be approximately 1.5 hours. The final exam is cumulative. You must use a non-graphing non-programmable scientific calculator on exams with log, ln, root, and exponent (scientific notation) functions. Be sure to also bring pencils, section number, and your UF ID card. No notes, papers, cell phones or other electronic devices can be in view during exams. No makeup (“do over”) progress exams will be given for any reason. If you must be absent for an exam due to a documented and approved academic or UF athletic conflict, bring the documentation to your instructor at least one week prior to the scheduled exam and an early conflict exam will be scheduled for you. If you are absent for an exam due to an unpredicted documented medical reason, you must contact the instructor as soon as possible and you have to get your excuse verified by the Dean of Student's Office. Your missed exam score will then be replaced by your pro-rated final exam score when calculating your final grade. More information regarding this policy can be found in the General Chemistry Exam Absence Policy document found on the Chemistry Department web site: https://www.chem.ufl.edu/wp-content/uploads/sites/38/2017/05/GenChemExamAbsencePolicy-05-05-2017.pdf.
To alleviate the stress of potential issues that do not fall under officially-sanctioned absences, we have incorporated an “average/replace” policy (the lowest of the four progress exams will be replaced by the average of the four progress exams). This “average/replace” policy will help to minimize the impact of a single poor performance but it will not completely disappear. Any and all exam grade disputes must be performed within two weeks of the scheduled exam date. University examination and reading day policies can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/examination-policies-reading-days/

Attendance: Requirements for attendance follow the general UF policies, see here: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

Reading Days Policies: This course follows UF's reading days policy as stated at: http://aa.ufl.edu/policies/reading-days-policy/ .

Grades and Grading Policies: This course follows the general UF grades and grading policies, see here: https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/.

Evaluations: Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester. Announcements will be made to students about the specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

Students with Disabilities: Students requiring special accommodations should register with the Dean of Students Office (http://www.dso.ufl.edu/, 352-392-1261) and the Disability Resource Center (DRC, https://www.dso.ufl.edu/drc, 352-392-8565, email: accessUF@dso.ufl.edu), and present documentation from that office to the instructor.

Calculators: You must have your own scientific calculator. Calculators may be used on homework and exams but may not be shared. You may not use graphing calculators or any calculators that are capable of 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.

Counseling Services: The University of Florida provides counseling services for students, staff, and faculty. See http://www.counseling.ufl.edu/cwc/. If you or a friend are in distress, call (352) 392-1575 (available 24/7), email umatter@ufl.edu, or walk in for an emergency consultation during regular service hours (8:00am – 5:00pm) at the Radio Road Site, 3190 Radio Rd., or the Peabody Hall Site, on the 4th floor of Peabody Hall, adjacent to Criser Hall. For other hours or weekends, call the Alachua County Crisis Center, (352) 264-6789. For sexual assault recovery services call the Student Health Care Center at (352) 392-1161. For life-threatening emergencies always call 911.

Emergency Numbers and Web Sites:
• UFPD (UF Police Department): In case of emergency dial 911. The UF campus police non-emergency number is (352) 392-1111. Their web site: http://www.police.ufl.edu/,
• UF Emergency management: (352) 273-2100. https://emergency.ufl.edu/,
• Infirmary (student health center): (352) 392-1161, http://shcc.ufl.edu/.
• EH&S (Environmental Health & Safety): (352) 392-1591, http://www.ehs.ufl.edu/.
Other Academic Resources: UF provides several other resources for students, such as
• Library Support can be obtained here: http://cms.uflib.ufl.edu/ask, where you can find various ways to receive assistance with respect to using the libraries or finding resources.
• The Career Resource Center is located on level One in the Reitz Union, (352) 392-1601, and provides career assistance and counseling. Refer to http://www.crc.ufl.edu/ for further info.
• The Teaching Center is located in Broward Hall, main phone (352) 392-2010 or appointment phone (352) 392-6420, and provides students with tutoring services and counseling regarding general study skills. Refer to http://teachingcenter.ufl.edu/ for further info. It may also provide employment opportunities as tutors for well qualified students.
• The Writing Studio is located at 302, Tigert Hall, (352) 846-1138, and provides help with brainstorming, formatting, and writing papers, see: https://writing.ufl.edu/writing-studio/.
• The Ombuds Office is located at 31 Tigert Hall, (352) 392-1308, and provides students assistance in resolving problems and conflicts that arise in the course of interacting with the University of Florida. By considering problems in an unbiased way, the Ombuds works to achieve a fair resolution and works to protect the rights of all parties involved. For further information go to http://www.ombuds.ufl.edu/ or refer to the official complaints policy here:
https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf.

Honor Code: This class will operate under the policies of the student honor code which can be found at: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/. 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. You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks. Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/.

Grading Scheme Summary of course elements that determine the course grade:
4 progress exams @ 15% each, for 60% total.
1 cumulative final exam @ 23%.
10 homework sets @ 1% each, for 10% total.
Daily in-class participation grade (learning catalytics) @ 5% total.
1 ALEKS prep, due online Sept. 10 @ 2% total.
Total earnable points are 100%.
Grading Scale being used:

A: 90.0% and higher
A-: 86.0% - 89.9%
B+: 83.0% - 85.9%
B: 80.0% - 82.9%
B-: 77.0% - 79.9%
C+: 73.0% - 76.9%
C: 69.0% - 72.9%
D+: 66.0% - 68.9%
D: 63.0% - 65.9%
D-: 60.0% - 62.9%
E: 0% - 59.9%.
Instructor(s) Dr. Alexander Angerhofer (initially). The plan is to have research-active faculty teach this course on a regular basis.

Exam Policies: University examination and reading day policies can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/examination-policies-reading-days/.
Exams will be taken in the evenings outside of class and the Exam Room Assignments will be posted to canvas. You must use a non-graphing non-programmable scientific calculator on exams with log, ln, root, and exponent (scientific notation) functions. Be sure to also bring pencils and your UF ID card. In this course you are permitted to use a letter-sized sheet of paper with your own hand-written notes in all exams. No other notes, papers, cell phones, or other electronic devices can be in view during exams.
Exam Absences: will be handled in accordance with official UF academic regulations. For more information, see https://catalog.ufl.edu/UGRD/academic-regulations/. See below for further clarification for two different types of situations.
(1) Conflicts with other events: Acceptable reasons to miss a scheduled exam include conflicting evening exams in courses with higher course numbers, religious holidays, military obligations, special curricular requirements (*e.g.*, attending professional conferences), or participation in official UF–sanctioned activities such as athletic competitions, *etc*. For more information on such absences see the official UF Policy at https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/#absencestext. If you must be absent for an exam due to a documented and approved conflict known in advance, you must e-mail your instructor (alex@chem.ufl.edu) the documentation at least *one week prior* to the scheduled exam and an early conflict exam will be scheduled for you.
(2) Missing an exam due to an emergency or sudden illness: If you are absent for an exam due to an unpredicted documented medical reason or family emergency, you must contact the instructor as soon as possible, and you may be asked to have your excuse verified by the Dean of Students Office (DSO). Your instructor will follow UF academic regulations in evaluating the notification and/or documentation received by you or by the DSO on your behalf. Once your instructor is satisfied with the validity of your exam absence a make-up exam will be scheduled after a reasonable amount of time, *i.e.*, before the end of the semester. If your documentation is deemed insufficient to excuse your absence you will receive a zero on the missed exam.
Exam Grade Disputes: Any and all exam grade disputes must be dealt with within two weeks of the scheduled exam date.
Average/Replace Policy: To alleviate the stress of potential issues that do not fall under officially-sanctioned absences, we have incorporated an "*average/replace*" policy (the lowest of the four progress exams will be replaced by the average of the four progress exams). This "average/replace" policy will help to minimize the impact of a single poor performance but it will not completely disappear.