

Chemistry 4160 (CRN 15222)**Spring 2012**

Prerequisites:	Chem 4000 and Chem 4110 with grades of C or higher, or equivalent
Instructor:	Dr. Gigi B. Ray, 212 Courtland North, Tel. (404) 413-5540, gbray@gsu.edu
Lecture:	Mondays 9:00 am – 11:30 am, 311 Petit Science Center (3-credit hour course) Also meet individually with instructor weekly to discuss writing/presentations, TBA
Office Hours:	Mondays and Wednesdays 1:00 – 3:00 pm at 212 Courtland North.
Text:	Class notes will be posted on uLearn (WebCT): <u>CHEMISTRY LABORATORY IVA-CTW - Spring Semester 2012 CHEM-4160-005</u>
Course Objectives:	Chemistry Laboratory IVA. Concurrent enrollment in Chem 4160 and 4170 is not allowed. Independent research on special topic related to chemistry. Become proficient in the use of: SciFinder Scholar, Web of Science, Medline (Pub Med), Chemdraw, ChemSketch, PDB (Protein Data Bank), EndNote. Molecular Modeling project using Accelrys Visualizer for protein structure analysis. Data and error analysis using EXCEL. Develop oral presentation skills (PowerPoint). Develop critical thinking and writing skills, including rewriting and improving reports. Careers component: resumes, cover letters and internships.
Policies:	1) Students will select a research topic of interest to them (from list), write two short reports (2 - 3 pages) and do two short PowerPoint presentations on different aspects of this topic/theme, culminating in a final 30 min Oral Presentation and a final 7 - 10 page Paper. 2) Students are required to schedule 30-min appointments with instructor or TA, every second week outside of class to discuss how to improve their written work and presentations (5 times / semester). 3) Students are required to complete Responsible Conduct of Research online Physical Science module, & submit curriculum completion report. 4) Students are required to attend 5 seminars/events outside of class, during the semester (<i>sign in</i>). Submit one paragraph synopsis of each seminar (describe content & style): 2 science seminars, 1 science conference, 1 career fair, 1 career seminar. 5) Attendance, timely arrival and participation in all class meetings required. One excused absence is allowed, but it is the student's responsibility to makeup missed work. Students must pay attention to speaker (instructor, guest speaker, or classmate), not browse the internet or do their own work during class. 6) Cell phones, iPods, iPhones, blue tooth and other electronic devices must be OFF during all classes.

Policies:	<p>7) Friday Feb 24th is last day to withdraw from the class and receive “W”.</p> <p>You are responsible for withdrawing before the deadline if you need to do so. The University requires that faculty members must, on a date after the mid-point of the course to be set by the Provost (or his designee):</p> <ol style="list-style-type: none"> 1. Give a WF to all those students who are on their rolls but no longer taking the class 2. Report the last day the student attended or turned in an assignment.
Grading:	<p style="text-align: center;">Total points: 200 (see grading rubric)</p> <p>18 points: Resume (8pts), Cover Letter (7pts), Job Adds (3pts)</p> <p>5 points each: Web of Science assignment, SciFinder Scholar assignment, ChemSketch Drawing assignment, PubMed/Spectra assignment, EndNotes reference list, PPT oral presentation #1 and #2.</p> <p>12 points: PowerPoint slides #1 to #4 collectively (3 pts each)</p> <p>10 points each: Report #1 and #2, Seminar Summaries collectively (2 pts each).</p> <p>25 points each: <i>Final Semester Report (5pts - draft, 20pts - revised), Final Oral Presentation, Molecular Modeling Project Report</i></p> <p>15 points each: Class attendance/participation, <i>Responsible Conduct in Research</i></p>
Grading Scale:	<p>A+ 97% A 90% A- 87% B+ 84% B 80% B- 76% C+ 71% C 65%</p> <p>C- 59% D 50% F <50%</p>

TENTATIVE CLASS SCHEDULE (Subject to change)

Date	Day	Topics	Meeting
Jan 9	M	Introduction to course Searching databases and scientific literature using Web of Science Select chemistry research project topic (theme related to current issues)	1
Jan 16	M	<i>Martin Luther King Holiday, no class</i> → submit detailed topic for semester presentations & reports (by email)	
Jan 23	M	Careers in Chemistry: Resumes, Cover Letters, and Summer Internships – Phil Rockwell, Career Services → submit review article & research article printouts on semester topic → submit Web of Science assignment → submit 3 job adds for related positions, but different educational qualification ** meet in 311 Petit Science Center (move to University Center, room 245) **	2
Jan 30	M	Searching databases and structures using SciFinder Scholar Good Writing Skills and Avoiding Plagiarism → submit 4 – 5 PowerPoint slides #1 (Topic Introduction and Scientists) → submit Technical Resume → submit Cover Letter for specific internship or job application	3
Feb 6	M	Drawing structures and reaction mechanisms using ChemBioUltra → submit Report #1 (Introduction to Topic) (ChemDraw) → submit SciFinder Scholar assignment → submit detailed Outline of semester research project by this date → submit Responsible Conduct of Research Report by this date	4

TENTATIVE CLASS SCHEDULE (Subject to change)

Date	Day	Topics	Meeting
Feb 13	M	Searching databases using PubMed and Spectra search Reference and database management (Introduction to Endnotes) → submit 4 – 5 PowerPoint slides #2 (including Synthesis / Structure) → submit ChemSketch Drawing assignment (Mechanism or Synthesis) → submit final Resume and Cover Letter revisions	5
Feb 20	M	1st PowerPoint presentations (15 min each) – all students → submit PubMed / Spectra assignment → submit Report #1 revisions → submit 2 seminar synopsis	6
Feb 24	F	Last day to Withdraw and possibly receive a W	
Feb27- Mar2		Spring Break, no class	
Mar 5	M	Accelyrs Visualizer Molecular Modeling Activity #1 → submit Report #2 (including Synthesis or Reaction Mechanism, and using EndNotes References)	7
Mar 12	M	Accelyrs Visualizer Molecular Modeling Activity #2 → submit Molecular Modeling Preliminary Exercises → submit 4 – 5 PowerPoint slides #3 (Structure / Spectra)	8
Mar 19	M	Accelyrs Visualizer Molecular Modeling Activity #3 → submit carefully edited copy of a classmate's report → submit Report #2 revisions	9
Mar 26	M	Accelyrs Visualizer Molecular Modeling Activity #4 Protein structure analysis (Protein Data Bank) → submit 2 seminar synopsis	10
Mar 28	F	→ submit completed Molecular Modeling Project Report by this date	
Apr 2	M	2nd PowerPoint presentations - 20min each, new slides, 5 students → submit 4 – 5 PowerPoint slides #4 → submit (your) PDB protein structure filenames & structure ref article printout	11
Apr 6	F	→ submit Report #3 Draft (including Spectra or Protein Structure) by this date	
Apr 9	M	2nd PowerPoint presentations - 20min each, new slides, 5 students Review Endnotes usage & Questions → submit 1 seminar synopsis	12
Apr 16	M	Final (3rd) Student PowerPoint presentations (30min each, 5 students) → submit Final Report #3 if not presenting <i>** meet 8:45am – 11:45am in 311 Petit Science Center **</i>	13
Apr 23	M	Final (3rd) Student PowerPoint presentations (30min each, 5 students) → submit Final Report #3 if not presenting, Wrap up <i>** meet 8:45am – 11:45am in 311 Petit Science Center **</i>	14
Apr 30	M	→ submit revised Final Chem4160 Report (#3), in lieu of Final Exam	