

Course CHEM-201W.

Description: **Effective Communication for Chemists**

Practice in various forms of technical writing and oral communication, commonly used by chemists. Topics will include writing the scientific paper, display of experimental data, and effective presentation skills. Course work will involve bibliographic instruction and the use of primary sources. Open only to chemistry majors. Pre- or Co-requisites: CHEM-205. Three hours per week. *Four semester hours.*

Course Goals:

- Develop skills in conveying in written form chemical concepts to the general public.
- Develop skills in presenting in oral form chemical concepts both to the general public and other scientists.
- Develop skills in searching and evaluating the primary and secondary chemical literature.
- Develop skills in understanding the formats and language used in chemistry.
- Learn advanced skills in using programs of use in chemical writing (Word, Excel, ChemSketch, Powerpoint,)
- Increase your skill in writing chemistry.
- Understand the sociology of chemistry and chemical publishing.

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Class Meetings: Tuesdays and Thursdays 10 – 11:15 AM
Pfahler 208

Lecture Schedule: An approximate schedule of class topics and reading assignments will be attached to this syllabus.
As part of this course, certain aspects of grammar will be reviewed. This will be accomplished in small doses usually presented at the beginning or end of class as time permits.

Attendance Policy: Attendance will be taken for advising purposes. The College's attendance policy is found on page 42 of the *2007 – 2008 Course Catalogue*. I expect students to attend all scheduled classes. An academic warning may be issued to any student who has missed two or more classes and a student may be excluded from the course if more than four classes are missed. In class writing exercises will sometimes be given and will be evaluated. There will be no opportunity to make up a missed in-class assignment.

- Textbook:** Coghill, Anne M. and Lorrin R. Garson., editors; ACS Style Guide: Effective Communication of Scientific Information; third edition; American Chemical Society; 2006.
- Additional Sources:** The Elements of Style, 4th edition
W. Strunk, and E. B. White;
Macmillan, 2000.
- A Short Guide to Writing About Chemistry - second edition
Herbert Beall and John Trimbur
Longman, 2001
- Effective Technical Communication, second edition
Anne Eisenberg
McGraw-Hill, 1992
- Handbook of Technical Writing – eighth edition
Gerald J. Alred, Charles T. Brusaw, and Walter E. Oliu
St. Martin's Press, 2006
- Style Guide for Chemists
Louis F. Fieser and Mary Fieser
Reinhold Publishing Corporation, 1960
- Blackboard Site:** A Blackboard site has been established for this course. Be sure to check it often as updates to the syllabus and other important information will be posted.
- Grading:** Your grade will be based on the following:
In class writing assignments and quizzes approximately 15%
Assignments approximately 65%
Oral presentations approximately 20%
There are no exams but we will meet during our final examination period for final oral presentations (December 14th 9AM – noon).
- Assignments** You can use any books, internet sites, and electronic sources to help you with the assignments but you must cite the sources consulted. You can also see me for help with the problems / questions. You *cannot* work with other classmates. All assignments are to reflect your work and your work alone; working with other students and/or copying of answers among students is a serious violation of academic honesty and will result in a grade of zero on the entire work for all those involved.
Assignments are due at the beginning of class and a penalty is applied to all late assignments – initially 50% off and 10% off for each additional day.
- Academic Honesty:** The College's Statement on Academic Honesty is found on pages 42 - 43 of the 2007 – 2008 Course Catalogue. A more detailed explanation can be found within the *Student Handbook*.

Date	Day	Class Topic	Reading		Assignment
Aug. 28	T	Introduction to the Chemical Literature Primary, Secondary, and Tertiary Sources	ACS pp. 17 - 19	webpage #1	Install SciFinder Scholar onto your laptop computer
30	H	Searching the Chemical Literature using SciFinder Scholar	see pdf on blackboard	webpage #2	Assignment #1 Due September 6 th
Sept. 4	T	Introduction to Technical Writing - The ABC's of Technical Writing Writing a Definition	Eisenberg pp. 1 - 10, 17 - 46, 158 - 165		Assignment #2 Due September 11 th
6	H	Intellectual Property: Copyright, Patents, Trademarks, and Trade Secrets	ACS pp.7 7 - 82	webpage #3	webpage #4
11	T	Ethics in Scientific Publication Plagiarism	ACS pp.3 - 16, 287 - 327	web link to plagiarism document	
13	H	Presenting a Technical Talk The Use and Abuse of PowerPoint	Eisenberg pp. 332 - 350, E.R.Tufte essay	webpage #5	Assignment #3 Due September 25 th
18	T	Writing Instructions and Descriptions	Eisenberg pp. 174 - 184, 147 - 157		Assignment #4 Part 1 due September 27 th
20	H	Style and Usage: Abbreviations, Dashes, Italics, Capitalization, etc.	ACS 124-126,169-202		Part 2 due October 4 th
25	T	Oral Presentations of Case Studies of Scientific Fraud			
27	H	Components of a Scientific Paper and Citing References	ACS pp. 287 - 327		
Oct. 2	T	The Laboratory Notebook and Writing an Experimental Section	Eisenberg pp.378-382 B&T pp. 59-80	webpage #6	Assignment #5 Due October 9 th
4	H	Word Usage - Dos and Don't's Naming Chemical Compounds, CAS Registry Numbers	ACS pp. 233-241		Download ChemSketch http://www.acdlabs.com/download
9	T	Chemical Structure Drawing Using ACD's ChemSketch	ACD/ChemSketch Tutorial pp.1-16	webpage #7	Assignment #6 Due October 18 th
11	H	Chemical Illustration Graphs, Figures, Flowcharts, and Tables	ACS pp. 343 367 B&T pp. 92 - 98	Eisenberg pp.80-109	
18	H	Data Analysis Presenting Data	E. R. Tufte essay on reserve.	Using Excel	Assignment #7 Due October 25 th
23	T	Writing result and discussion sections	see pdf on blackboard		
25	H	Writing Abstracts	Eisenberg pp. 230-236		Assignment #8
30	T	Communicating Chemistry to the General Public	Yellowstone Journal Article (pdf)	Webpage #8	Assignment #9 Oral Presentation - Nov. 6 th
Nov. 1	H	Writing an Introduction			Assignment #10
6	T	Oral Presentations - Communicating to the General Public			

8	H	Writing a Laboratory Report	B&T pp. 80 - 102		Assignment #11
13	T	EAS			
15	H	Conventions in Chemistry SI units	ACS pp.228 - 232, 255 - 276		
20	T	Oral Presentations - Communicating to a Scientific Audience			
27	T	Style and Usage: Punctuation, Verbs, Voice, etc.	ACS pp. 105 - 134		
29	H	Preparing a Poster Presentation			Assignment # 12
Dec. 4	T	Resume, Cover Letters, and Interviewing	ACS Booklet on Resume Preparation		Assignment # 13
6	H	Poster Presentations - Binary Unknown Determination			
14	F	Oral Presentations - Binary Unknown Determination	9 AM -- noon		
Webpage	#1	http://cheminfo.informatics.indiana.edu/cicc/cis/index.php/The_Publication_Process:_Primary%2C_Secondary%2C_and_Tertiary_Sources			
Webpage	#2	http://www.cas.org/products/sfacad/index.html			
Webpage	#3	http://cheminfo.informatics.indiana.edu/cicc/cis/index.php/Chemical_Patent_Searching			
Webpage	#4	http://www.copyright.gov/circs/circ01.pdf			
Webpage	#5	http://aitt.acadiau.ca/nstpd/pptxp.htm			
Webpage	#6	http://home.clara.net/rod.beavon/lab_book.htm			
Webpage	#7	http://www.acdlabs.com/download/chemsk.html			
Webpage	#8	http://www.nps.gov/yell/planyourvisit/upload/ys15%281%29partI.pdf			
Readings					
ACS		The ACS Style Guide - Effective Communication of Scientific Information - third edition Ann M. Coghill and Lorrin R. Garson, editors Oxford University Press, 2006			
B&T		A Short Guide to Writing About Chemistry - second edition Herbert Beall and John Trimbur Longman, 2001			
Eisenberg		Effective Technical Communication, second edition Anne Eisenberg McGraw-Hill, 1992			