

Cedar Crest College

Chem. 300-70, 71

Technical Information

Dr. Griswold

Fall 2008: 3 credits, W2 approved course.

Dr. Brettell

Description: A study of the chemical literature and how to use it, employing classical hardcopy and online methods to retrieve chemical information; also the writing of chemical documents using research data and results, with attention to conventions and formats used in the current chemical literature. Students in the *Forensics Concentration* will also learn conventions and writing formats in the forensics literature.

Prerequisite: One year of organic chemistry

Class meets: Thursdays, 4-6 pm, ALH 212, 214; (check weekly schedule)

Required text: "ACS Style Guide", American Chemical Society Publications

Attendance: required at all scheduled classes (see course schedule)
Notify the instructor if you will miss a class, giving reasons.

Grading: A total of 140 points among 10 exercises as follows:
Ex. 1, 3,5,10 = 10 pts. each; Ex. 2,4,6,7,9 = 15 pts. each; Ex. 8 = 25 pts.

Special cases: If you have a documented disability or unusual circumstance which may affect your course performance, notify the instructor during the first week.

Working on exercises: students may work in pairs on exercises 1,3,5. With the written drafts, (exercises 2,4,6,7,8,9), all work must be your own and *plagiarism or copying* is unacceptable. Exercises 9, 10 (quiz) are in-class.

Outcomes of the course: The course will help to develop technological literacy through use of information sources, and will help develop written communication skills. Assessment is through the nine exercises and final course quiz (exer. 10).

Objectives: This course is intended to familiarize the student with the scope and use of the chemical literature: its potentials, limitations, and structure; also to indoctrinate students with search techniques using hardcopy and online sources. Another objective is the development of written communication skills: the ability to take technical data and present it in a coherent written document, using conventions of the chemical literature, including correct reference citations.

Schedule of Topics and Assignments

- Aug 28** Intro to chemical literature: types of publications
Handout Exercise 1: *Structure, naming, chemical conventions*
- Sept 4** U.S. journals: format, types of papers; steps to publishing a paper, literature citations, *online journals*, Analysis of a paper and abstract.
Handout Exercise 2: *Abstracting a communication and online retrieval of information.*
- Sept 11** (consult with instructor this week on abstract rough draft)
Class: **exercise 1 due.**
Meet in Cressman Library for session by Charlotte Fisler on library resources for chemical literature searching.
- Sept 18** **exercise 2 due.**
Chemical Abstracts (CA): hardcopy. Organization, indices, retrieving information from CA; use of the Source Index (CASSI), registry #s, etc. CA online using the STN system: demo. 5 pm.
Handout Exercise 3: *Searching CA; hardcopy and online (STN)*
- Sept 25** Foreign journals: survey of major foreign chemical journals and where to find them;
Handout Exercise 4: *Abstracting a flow scheme from a British journal: J. Chem. Soc. (London)*
- Oct 2** **exercise 3 due.**
Major reference works: survey
Beilstein: (in German): scope and structure; how to use Beilstein.
Handout Exercise 5: *using Beilstein to retrieve chemical data.*
- Oct 9** **exercise 4 due.**
Notebooks and research records.
Handout Exercise 6: *Summarizing a research project from original notebook entries.*
- Oct 16** **exercise 5 due** end of day Friday Oct. 17.
Meet with instructor to discuss exercise 6.
Class: Summarizing scientific findings for a "general audience"
Handout Exercise 7: *summary of lab results for presentation to a non-scientific audience.*

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Course schedule (continued)

Oct 23 exercise 6 due.

Patents: historical, examination of a chemical patent, characteristics of a patent document; foreign patents, retrieving patent information; USPTO website., tracing a multi-nation patent., patent searches.

Oct 30 exercise 7 due.

Drafting a paper for publication: journal formats and templates, Steps in publishing a paper; refereeing papers.
Use of posters as alternatives. *Handout Exercise 8: Preparing a publication*

At this point, students in the *forensics conc.* will work on a separate Exercise 8 (*forensics research proposal*) with Dr. Brettell.

Students not in the forensics concentration will work with Dr. Griswold on exercise 8 (*drafting a chemical communication for publication using J. Amer. Chem. Soc. template*).

Nov 6 no class: work on exercise 8 with your instructor.

Nov 13 *Exercise 9: In-class written exercise on summarizing research data from a project or written critique of a paper submitted for journal publication.*

Continue working on exercise 8.

Nov 20 *Exercise 10 (course quiz) in-class.*
Exercise 8 (written communication or research proposal) is due by end of day on Tuesday, Nov. 25.

Dec 4 Return Exercise 8 in class; class critique and conclusion.

There is no final examination in this course.

Pay attention to all due dates. These are not flexible and there are penalties for any late submissions. If for any reason you cannot attend a class, notify the instructor. We have numerous handouts and other important class information, plus demonstrations of the electronic information retrieval systems. Attendance is taken at all class meetings.

Typical procedure for the exercises:

Literature searching exercises (# 1,3,5): You may work in pairs. The chemical literature sources needed may be either hardcopy (in the Department) or online. For online information retrieval, you will be given instruction and passwords as needed. Some individuals prefer to work singly on these assignments, and this is completely acceptable. Groups of 3 are not permitted.

Writing exercises (# 2,4,6,7,9): These are done singly, and the *Honor Code* is in effect. All work must be your own, and without outside assistance except from the instructors. Exercises are normally due two weeks after distribution, and students usually submit via *email* a rough draft to the instructor, who then downloads it, red-inks comments and suggestions, and the edited copy is then picked up in his office. The finalized draft is then turned in at the next class meeting (always check the syllabus for due dates of all exercises).

Exercise 9 is an in-class written summary of a research plan.

Exercise 8: (Drafting a paper for publication). You have most of the month of November to work on this paper, and you may consult the instructor in addition to submitting a rough draft for review. For the forensic-oriented group, the editing procedure may be slightly different but will be announced. The forensic group will work on a research proposal. The non-forensic group will design a paper using journal conventions and formats. The topic may be derived from your personal research project (must be approved), or research notes and data from one of our previous projects will be supplied to you.

Exercise 10: This is a multiple-choice final quiz, covering material discussed in class and appearing in the assignments.

Please note that the hardcopy volumes in the Department are extremely valuable and often not replaceable. Report any damage or marks on the pages if you find them. Damage to or marking of literature items carries a severe grade penalty. Replace literature items to exactly where you found them. In some cases, you will be required to sign for literature you are using.