

CHEM367-CHEM767
Chemical Information Retrieval

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Fall Term 2006
Office Hours: W 5:00-6:00 pm
Fax: 215-895-1265

Class Meetings: W 6:00-8:50pm

Class Room: Hagerty Library L13
Electronic classroom in the basement

Important note: CHEM367 is co-listed and meets concurrently with CHEM767.

Course Objectives:

- to secure a basic grasp of the chemical literature and its derived electronic databases
- to develop insight into the cost and value of chemical information
- to develop a basic strategy to effectively search for relevant chemical information
- to develop proficiency in writing selective reviews of the chemical literature

Textbook: None required

Other Useful References:

Robert E. Maizell, How to Find Chemical Information: A Guide for Practicing Chemists, Educators and Students, 3rd Ed., New York: John Wiley & Sons, Inc., 1998.

Gary Wiggins, Chemical Information Sources, New York: McGraw-Hill, Inc., 1991.

List of Topics:

- Introduction to the chemical literature
- Resources available through the Hagerty Library (guest lecturer, Peggy Dominy, Information Services Librarian for the Sciences, Hagerty Library)
- Creating and using your own bibliographic database; RefWorks and EndNote
- Finding chemical information in handbooks and encyclopedias; indexing
- Essentials of database structure
- Searching Chemical Abstracts; indexing and fields
- Focus on keywords: searching Chemical Abstracts on-line with SciFinder Scholar
- Focus on chemical substances using SciFinder Scholar
- Structure and substructure searching using SciFinder Scholar
- Citation searching: ISI's Web of Science
- A bibliographic example: Alan MacDiarmid's Nobel Prize (guest lecturer, Peggy Dominy Information Services Librarian for the Sciences, Hagerty Library)
- Searching that involves molecular structures and chemical and physical properties of substances: the Beilstein database
- Other physical property databases: NIST Webbook in Chemistry, CRC Handbook On-Line, etc.
- Biological substance searching
- Patents
- Finding safety information, using Material Safety Data Sheets

- Calculation of molecular properties- on-line tools

Course Grading:

In-class assignments, quizzes and homework assignments, 20%
In-class final exam- time limited, 40%
Research paper, 40%

Note: Starting fall 2006, the new +/- grading system is in play.

Research paper:

You must write a 10-12 page (single-spaced) paper on a research topic of your choosing but approved by myself. Use the bibliographic search techniques you learned in this course to prepare the cited reference list in your paper. This bibliography should include literature of the following types:

a monograph and/or encyclopedia reference
at least one review article
conference proceedings, if relevant
primary journal articles

You should include at least 20 references in your bibliography. Hotlinks to references available electronically through the Hagerty library must be included using the digital object identifier (DOI). An electronic copy (scanned image) **or** a photocopy of all articles that are not available directly electronically (such as those received via interlibrary loan) must be submitted with your final paper.

The format of this article should be that of a literature review rather than a primary journal publication. That is, there should be the following components of the paper:

Title
Author (you!), with affiliation
Abstract (less than 100 words)
Introduction
The body of the paper: several sections, each with an appropriate topic heading
Conclusion
Annotated bibliography, prepared using EndNote (using the "Annotated" style) or RefWorks.

Paper Deadlines:

Friday, October 20 (end of fourth week): submit on WebCT a one-to-two-paragraph description of the research topic on which you want to write your paper. I will e-mail you about the suitability of the topic.

Friday, November 3 (end of sixth week): submit on WebCT a section-by-section outline of the paper and a list of the articles (author, title, journal or source, year) you have found and read so far in your preparation.

Friday, November 17 (end of eighth week): Submit a rough draft of the paper in electronic form on WebCT.

Wednesday, December 8: Submit your final paper in electronic format on WebCT.

WebCT:

We will be using WebCT (Drexel's on-line course tool package) to enhance communication in CHEM367-CHEM767. The instructions below tell you how to log on and begin using WebCT.

- 1) Login through DrexelOne at <http://one.drexel.edu>.
- 2) Enter your Drexel domain ID and password, click on **Login**.
- 3) Click on the **Student Services** Tab.
- 4) Click on the **My Courses** link.

or

- 1) Enter the Drexel WebCT Vista website directly at <http://vle.dcollege.net/>.
- 2) Click on the hyperlink for Drexel University.
- 3) Click on the **Log In** button.
- 4) Enter your Drexel domain ID and password, click on **OK**.

If you enter these correctly you will now be at your MyWebCT Home Page in the WebCT area. Select **CHEM367 or CHEM767** from your list of courses in the center pane of the screen. You will now be on the course home page. Select the **Bulletins** icon to read posted messages, the **Calendar** icon for the course schedule, etc. Everything you need (including your in-class and homework assignments) should be accessible on the **main navigation** page.

It is assumed that all students have a Drexel computer account for email and easy access to the Internet and to the Drexel University network.