



## CH 403 Instrumental Analyses

### Research Guide

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**Outcomes:** Locate, analyze and incorporate scientific research materials into paper on instrumental process.

Use appropriate ACS citation format for research paper.

Optional: Use RefWorks to store citations and format research paper.

**Research Process:** To begin your research, it is important you understand the broader and narrower terms appropriate to your topic. Print and electronic reference materials help in becoming more familiar with a topic and developing additional search terms. Chemistry encyclopedias and dictionaries are found under QD on the 2<sup>nd</sup> floor of the library. Some good reference materials are:

*McGraw-Hill Encyclopedia of Science and Technology* REF Q121 .M3 2002

*Encyclopedia of Physical Science and Technology* REF Q123 .M33 2002

*MacMillan Encyclopedia of Chemistry* REF QD 4 .M33 1997

*Dictionary of Chemistry* (several editions) REF QD 5

*CRC Handbook of Chemistry and Physics* REF QD 65 .C72 2002-03

*Encyclopedia of Analytical Chemistry* REF QD71.5 .E52 2000

*Ewing's Analytical instrumentation Handbook* REF QD75 .I5 A49 2005

*XReferPlus* On the Library Homepage under Quick Reference

*ACS Style Guide* REF QD 8.5 .A25 2006 - on reserve at the Circulation desk or in abbreviated version at: <http://pubs.acs.org/books/references.shtml>

Dr. Biggin also suggests using the June 15<sup>th</sup> issue of *Analytical Chemistry* to look at the fundamental reviews they list each year. *Analytical Chemistry* can be accessed electronically through Augustana's Periodicals.

### Grid Example: Scanning tunneling microscopy

Concept 1 and related terms	&	Concept 2 and related terms	&	Concept 3 and related terms	Databases to explore
Scanning microscopy		Tunneling		Nanotube	<i>ACS journals, GenSciAbstracts, PROLA, Applied Science &amp; Technology, Academic Search Premier, Science Direct</i>
Scanning and microscop*		Probe		Nanotechnology	
STM		Electron		Nanotech*	
				Nanostruct*	

## **Evaluating Web Pages – use CARE**

*Currency* - Is this information up to date? Does it matter for my topic?

*Authority* - Is there an author(s)? What are their credentials?

*Reliability* - Is this a credible source? What is the domain?

*Expertise* - Do other experts agree?

## **ACS Citation Style and RefWorks:**

Examples for American Chemical Society Citation Style can be found on the Sciences Page on the Science Resource Guide.

Alternatively, you can import your citations into RefWorks, our new bibliographic citation manager. Start in RefWorks by creating an individual account, using your Augustana username and password. With the program open, you can import citations from most databases or enter the appropriate fields yourself. By choosing ACS style, you can have all your citations formatted correctly in your paper and bibliography. Complete directions are on the pink handout or can be found on the initial RefWorks page. Call the reference desk at -7206 for further assistance.

## **Final Thoughts:**

Research is a non-linear, recursive process. Experiment with your search terms and follow interesting descriptors where they lead.

Keep careful notes as you work. It's easier to record as you go than to trying to recreate a valuable search later.

If you are having trouble, ask a librarian. Talk with someone at the Reference Desk or call -7206 for assistance.