
CHEM 499/696: CHEMICAL HISTORY - Spring 2001

Lecture: MW 5:00 - 6:50 PM

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Office hours: TU,F 4-5 PM or by appointment

Course Description:

Survey of the history of the chemical sciences from the stone age through the early 1900's.

Course Objectives:

The objective of this course is to illustrate the growth and progress of chemical thought, theory, and practice through history, and thus allow one to gain a stronger appreciation for the factors which controlled and stimulated this development.

Required Texts (available @ bookstore):

- [1] Leicester, H. M. *The Historical Background of Chemistry*, Dover Publications, Inc: New York, 1971.
[2] Brock, W. H. *The Norton History of Chemistry*, W. W. Norton & Co.: New York, 1992.

Lectures and Reading Assignments

Lecture	Topic	Reading Assignments
March 5	Ancient Technology / Hellenic Science	1: pg. 1-31
March 7	Hellenic Science / Alchemy	1: pg. 32-52, 2: pg. 1-19
March 12	NO CLASS (Spring Break)	
March 14	NO CLASS (Spring Break)	
March 19	Alchemy / Islamic & Chinese Alchemy	1: pg. 53-73, 2: pg. 19-29
March 21	Islamic & Chinese Alchemy / Science in the West	1: pg. 74-83
March 26	Science in the West / The Encyclopedists	
March 28	Medieval and Renaissance Medicine	1: pg. 84-100, 2: pg. 30-48
April 2	Analysis of the film "The Name of the Rose"	
April 4	New Frames of Reference / First Chemists	1: pg. 101-118, 2: pg. 48-78
April 9	First Chemists / Phlogiston	1: pg. 118-137, 2: pg. 78-86
April 11	Lavoisier and the Chemical Revolution	1: pg. 138-149, 2: pg. 87-127
April 16	NO CLASS (Holiday)	
April 18	Atomic Weights and Formulas / Organic Chemistry	1: pg. 150-163, 172-188, 2: pg. 128-269
April 23	Electrochemistry / The Periodic Table	1: pg. 164-171, 189-198, 2: pg. 311-395

April 25 Coordination Chemistry
April 30 Student presentations
May 2 Student presentations

2: pg. 570-618

Research Paper

Rather than a final exam, this course requires a research paper on any subject of chemical history approved by the instructor. The paper should be 6-8 typed pages, double spaced, not including figures, graphs, maps, or references. References should be as endnotes in ACS format (see Reserve Book #6: The ACS Style Guide). A number of references outside the class texts are expected for a satisfactory grade. Secondary references are not valid and should not be cited (This means that if you didn't read the reference firsthand, don't cite it). To receive more than a satisfactory grade, the paper must present its topic in greater depth than previously covered in class. *The best way to get an A grade is to teach me something I don't already know!*

This paper is required to pass the course and will be due on May 11th by 5:00 PM.

Webpage citations: Author or Organization, *subject or title of webpage*, web address, date of download.

Books on Reserve (Chemistry Library):

1. *Alchemy: Ancient and Modern*, Redgrove, H. S. QD13.R4
2. *Prelude to Chemistry*, Read, J., QD13 .R38 1937
3. *Crucibles, the Story of Chemistry*, Jaffe, B., QD21.J3 1976
4. *From Caveman to Chemist, Circumstances and Achievements*, Salzberg, H., QD11.S23
5. *The Development of Modern Chemistry*, Ihde, A. J. QD11.I44
6. *The ACS Style Guide*, Dodd, J. Ed. QD8.5.A25

Graduate Credit (CHEM 696)

Students taking the class for graduate credit will be expected to probe their research paper topic in more depth than the analogous undergraduate paper and will additionally be required to give a oral presentation of their research topic. These presentations will be given on either April 30th or May 2nd and the presentation grade will be determined by a combination of peer and instructor evaluation.

Grading

Class participation (10 Pts each lecture x 12).....	120 Pts (~13 %)
Homework (50 Pts each x 6).....	300 Pts (~33 %)
Presentation and/or peer reviews.....	250 Pts (~27 %)
Research Paper.....	250 Pts (~27 %)
	920 Pts (100 %)

Final class grades will be tentatively assigned based on the typical 90/80/70 percentages, but may be curved based on overall class performance. Class participation will be graded on the following scale: very poor (2pt), poor (4pt), satisfactory (6pt), good (8pt), excellent (10pt).

Students with Disabilities

Any students with disabilities who need accommodation in this course are encouraged to speak with the instructor as soon as possible to make appropriate arrangements.

Academic Honesty

All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct (<http://www.ndsu.nodak.edu/policy/335.htm>).