

Seminar in Analytical Chemistry

Dr. Petr Vanýsek, Instructor, Office hours - see me when needed, possibly after prior appointment

Fridays, 14:00-15:00; FW 300

For copy of the syllabus and schedule updates:

http://www.chembio.niu.edu/electrochem/chem_515.htm

SYLLABUS

The purpose of the seminar is to give the student the opportunity to: (1) organize a talk on a subject which is of general interest; (2) do a library search on this subject, (to find what others have done in this field); (3) present the material in a way which will hold the attention of the attending group; (4) participate in each seminar by asking questions; (5) answer questions to the best of one's ability during the presentation; and (6) prepare the student for future presentations at scientific meetings and job interviews.

The seminar can also be used for research presentations that are required for the degree (e.g., research update, candidacy, thesis or dissertation defense.).

The following requirements must be met before presenting a seminar:

(1) The date for the presentation is tentatively chosen by the student before the first seminar meeting. The final assignment is done by the instructor at the first (orientation) meeting of the semester, with attempt to accommodate all requests.

(2) Each student in 2nd-6th semester presents in one academic year two seminars; one on a literature topic, the other on a thesis/dissertation research. Students in the 7th-8th semester present one seminar; the first semester students participate only by observation. The literature topic must be an original; you cannot reuse material which you presented elsewhere. For the fall semester the student can choose one of the two; in the spring, the complement must be presented. The length of the literature topic presentation should not exceed 20-30 minutes, as sometimes we schedule 2 speakers for one day. This time must also allow for discussion. It is good to do a "dry run", to practice the presentation at home and get the correct timing. Candidacy and thesis presentation will typically require more time and enough time should be allocated after consulting with the research advisor (for candidacy and defense, make sure the seminar room is reserved for you at least for another additional hour). If your presentation requires attendance of your committee members, make sure as a courtesy, that they are apprised of the date ahead of time.

(3) The literature subject of the seminar is chosen by the student from the 2001-present analytical literature (Analytical Chemistry, Analyst, Talanta, Journal of Electroanalytical Chemistry, Journal of Applied Spectroscopy, Analytica Chimica Acta, Electrochimica Acta, etc.). The seminar cannot be based on a review article (e.g., the "A" pages in Analytical Chemistry), but it must be based on a recent original article. At least three additional references must be consulted in the seminar preparation (some of these may have been published before 2001, but should not be review articles). These references must be studied and understood by the student. These references have to be quoted in the

abstract prepared for the presentation and should be available upon request, during the presentation. The literature subject of the seminar may NOT be the research which the student is doing or has done. More will be gained by studying a new field.

(4) The research subject will be typically prepared in consultation with the research advisor. However, the deadlines for the topic and abstract posting and inclusion of at least three relevant references still apply.

(5) The student shall consult with the instructor for the seminar the suitability of the topic and the chosen article for the literature presentation. At least two weeks before the seminar, the student must give the seminar instructor an outline of the subject. The source paper, as well as other references, should be made available to the instructor as well. It is the best if the outline is already written in such a way that it can be also used as the seminar abstract. An abstract from the original paper IS NOT an acceptable outline.

(6) One week before the seminar, the student must distribute an abstract (see the attached example) to the other students who attend the seminar and to the participating faculty. The best way would be to e-mail the announcement to everybody. Make only one paper copy and post it on the bulletin board.

(7) Suitable visual aids must be used throughout - transparencies, overhead foils or PowerPoint. PowerPoint is becoming the most popular, but it has its drawbacks and should not be used just for the sake of its capabilities.

(8) Good instructions for presenting a talk and preparing visual aids (size of lettering, format, style, etc.) can be found in the book "The Art of Scientific Writing" by H. F. Ebel, C. Bliefert and W. E. Russey, pages 339-349 (VCH Publishers, New York 1987). You should own the book. It will be helpful beyond the seminar in writing your thesis and manuscripts. Order it from the bookstore.

Introduction - discussion leader. (10% grade)

Aside from the presentation, the students will also serve in this role, which is a component in any scientific presentation. The student who is giving a presentation will be introduced by the student who gave the previous presentation, and will be introducing the following presentation. Please, obtain the biographical information for the student whom you will be introducing. Be also able to lead the discussion (have questions ready from the abstract.) If there is no available person to be the leader, I will designate one.

Grading: The seminar carries a letter grade evaluation. Some of the points considered will be clarity of the presentation (20%), understanding of the presented subject (15%), quality of visual aids (15%), ability to answer questions (10%), demeanor and appearance (10%). Discussion participation in presentations by others throughout the semester is also important component that counts toward the grade (20%).

Each item will be graded on the scale A-F, i.e., superior, good, average, passing and failure. Since the participation is essential to the seminar, presence of all is required. I will consider an excuse for

an absence, but it must be substantial and believable.

Plagiarism: Presenting work of somebody else as your own. Clearly, in a literature review the work presented is not your own. Just make sure it is stated at the beginning of the presentation. (Once I have seen a presentation of a literature review in which the student used during the presentation first person plural: "We have done..." It was totally confusing and inappropriate.)

One instance when everybody is on thin ice is when using material from the web. Make sure you quote everything properly. I recommend against using diagrams and schemes obtained from the web. If it is an original drawing, technically, you should have permission from the author. However, more often than not, the pictures posted on the web are already posted there in violation of a copyright. Using a stolen image is still stealing. When in doubt, make your own diagrams.

The form of the abstract is:

Analytical Seminar
Your NAME

Date

TITLE

Abstract (15 - 25 typewritten lines)

BIBLIOGRAPHY

Write the abstract in your own words; do not copy the one from the journal.

Examples of Periodical Citations (as per Applied Spectroscopy):

1. T. H. Siddall, III. and R. N. Wilhite, *Appl. Spectrosc.* **20**, 41 (1966).
2. W. A. Rosenblith, *Phys. Today* **19**, No. 1, 23 (1966).
3. A. Baidedaev and A. A. Senkevich, "Vibrational Relaxation in Gases," *Akust. Zh.* **9**, 279 (1963) [English transl.: *Sov. Phys.-Acoust.* **9**, 229 (1964)].

(Remember to have copies of these references available for questions during your presentation.)

Periodicals - the ordering is as follows:

- (1) Initials and name(s) of author(s) followed by a comma. In a multi author entry the name of the last author is preceded by 'and' without previous comma; other authors are separated by a comma.
- (2) Periodical name with no comma following. Periodical abbreviations are those published in Chemical Abstracts List of Abbreviations 1961 (and annual supplements). Most of the common journals have their abbreviations listed in the Ebel et al. book. If you do not know the proper abbreviation and are unable to locate it in the Chemical Abstracts List (a special occasional volume of Chem. Abstracts), spell out completely the name of the periodical. Do not underline.
- (3) Volume number. This is boldfaced, i.e., **19**.
- (4) Issue number, only if pages are not numbered consecutively from one issue to the next (volume pagination as opposed to issue pagination).
- (5) Beginning page number(s). These should be included even when, as in some monographs and supplements, the article cited may be the whole issue. Increasingly and to the benefit of the reader, many journals now require both the first and last page of the article (e.g., 41-55). If you adopt this format, be consistent and use it in all your references.
- (6) Year of publication, enclosed in parentheses, followed by a period.
- (7) In most publications the references do not include the title of the journal article. However, it might be helpful for the reader to see the title. In such case, follow example 3.