

SYLLABUS

Chemistry 8066, Fall Semester 2016

Professional Conduct of Chemical Research

October 14, 2016-December 9, 2016

Fridays 5:00-6:15, 331 Smith

Instructor: Peter W. Carr

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Office hours: just stop by or email with questions or to make an appointment

Prerequisite

Graduate student in Chemistry, Chemical Physics, Medicinal Chemistry, or Scientific Computation or permission of instructor

Description and scope of the course

Chem 8066 is a one-credit course required of all Chemistry graduate students.

This course is designed to provide information on professional conduct of scientific research (responsible conduct of research, RCR). Topics that will be covered include: plagiarism, copyrights, patents, ethical issues arising in scientific publications (citations, reviewing), scientific fraud, fabrication of results, shoddy/sloppy research habits, communication of results, adviser / advisee relationships, authorship, conflicts of interest, scientific misconduct, and industrial issues. Feel free to raise related topics not listed above.

Each lecture will entail required readings (see *Schedule and Reading Assignments*). Some of the required "readings" are actually online videos.

There will be two types of class periods:

- (i) Presentations by myself or a guest, followed by questions and class discussion;
- (ii) Presentations on the subjects of the readings (case studies of specific issues) by a team of class members, followed by questions and class discussion.

Grading

S/N only

Attendance at 7 lectures: 6 points each 42 points

Required readings for 6 weeks (done before the class): 7 points each 42 points

Team participation 16 points

S: 94-100

N: 93 or less

Team presentations

There will be three team presentations in classes 5, 6 and 7. Team assignments for team presentations will be assigned in the first class period.

Each presentation is scheduled for 24 minutes to be divided approximately as follows:

Presentation: 7-10 minutes

Discussion and questions: 12-15 minutes

Wrap-up and changeover to next presentation group: 2 minutes

Team presentations are a team effort; all members of the team should contribute to the planning and developing the presentation and discussion topics. Only one team member (to be chosen by the team) will make the presentation, typically using PowerPoint slides or a similar presentation format. One or more other team members should be chosen to lead the discussion.

The presentation and discussion should focus on the subject of the required reading and may include both review of material in the readings and related material from other sources that enhances or complements the readings.

The discussion should include discussion topics raised by the presentation team as well as participation and questions by the rest of the class; presentation teams are especially encouraged to bring up case studies, real or hypothetical, if that is appropriate to the material being covered. The team may wish to coordinate the presentation and discussion so that items to be brought forth prominently in the discussion are introduced or reviewed in the presentation.

In addition to cases posed in “*On Being a Scientist*”, and in some of the books listed in the Course Readings, you may want to consult other possible case studies which may be found at:

www.acs.org/content/acs/en/about/governance/committees/ethics/ethics-case-studies.html

www.aps.org/programs/education/ethics/upload/Ethics-Case-Studies-Teacher-Edition.pdf

advan.physiology.org/content/29/2/59

<https://www.niehs.nih.gov/research/resources/bioethics/whatis/>

However, there is considerable leeway in case studies and they may also be taken from other sources (with or without modifications) or proposed as original cases.

Class participation

All students are strongly encouraged to participate in class discussion in every class.

Reading

The required reading for each week should be completed before that week's class. This is important to ensure full benefit from the presentations and discussion.

Attendance sheets

An attendance sheet will be circulated in each class. Students should indicate either

- Satisfactory: present and reading completed before the class began (S)

or

- Present: present but reading not completed before the class began (X)

Make-up essays

Students who *miss a class* with an *excused absence* may make up this absence by handing in a 700-word essay on the subjects of that class period, based on the required readings. These essays are due at the beginning of the next class (for the last class, they are due one week later).

Students who *do not complete the required readings prior to that week's class* may make up for the late reading assignments by handing in a 350-word essay on the reading material of that class. These essays are due at the beginning of the next class (for the last class, they are due one week later).

All essays should be printed on a printer (no handwriting) with the name of the student and the date at the top of the first page.

Students with Disabilities

Students with disabilities that affect their ability to participate fully in class or to meet all course requirements can arrange reasonable accommodations through the Office of Disability Services (612-626-1333). Students who have concerns about disabilities should contact me as soon as possible.

Academic Dishonesty Policy

Scholastic dishonesty is discussed under the College of Science and Engineering's scholastic policies. According to the CLA Classroom Grading and Examination Procedures, scholastic dishonesty is defined as "any act by a student which misrepresents the student's own academic work or that compromises the academic work of another. Scholastic dishonesty includes (but is not necessarily limited to) cheating on assignments or examinations; plagiarizing, i.e. misrepresenting as one's own work any work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another of necessary course materials; or sabotaging another's work."

Acknowledgements

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