

FCH 495 - Professional Chemistry

Fall 2018

Instructor: Neal Abrams
Rm 422 Jahn
470-4723
nmabrams@esf.edu
Office hours T 12:30 – 1:50 p
W 10:35 – 11:30 a
or by appointment

Course description

The professional chemist's relationship with industry, government and universities. Employment opportunities for the chemist, professional organizations and unions will be discussed. The selection of a senior research topic and a literature survey will be required.

Purpose of the Class

The purpose of this class is two-fold. First, we want to prepare you for professional life after ESF. We will discuss different job options including graduate school, preparation of resumes, letters of recommendation and interviewing techniques. Much of what we will discuss is common sense. That said, you only have once chance to make a first impression. No topic is off limits and you are encouraged to bring up items for discussion that may not be on the agenda.

The second purpose of this class is for you to prepare a professional proposal for use in your academic research. We will cover technical writing, starting from the preparation of a simple abstract through preparation of a full proposal followed by an "elevator pitch" to your peers. The proposal will be sent out for review by 3-4 separate reviewers and, if you adhere to the schedule, you will be able to respond to those reviews to improve the final document.

Schedule

This class meets once per week on Wednesdays from 2-2:55p. Details of the topics to be covered and the reading assignments are located on Blackboard. We will try and start each class with a short question and answer session about past topics and/or current news.

There are several deadlines associated with your proposal you will need to meet:

- Choice of research topic Friday, September 28th
- Literature review Friday, October 5th
- Preproposal due Friday, October 19th
- Proposal due for peer review Friday, November 2nd
- Final proposal due Friday, November 9th
- Oral Presentation Wednesday, December 4th
- Proposal revisions (optional) Friday December 7th

FCH 495 - Professional Chemistry

In addition, there are a number of other deadlines separate from the proposal:

- Preparation of an abstract Friday, September 7th
- Writing an SOP Friday, October 12th
- Resume Friday, October 26th
- Letter of Recommendation Friday, November 16th

All assignments must be submitted electronically on Blackboard. Make certain all files start with your last name as part of the filename (e.g. Whitesides_abstract) and that your name is on the document itself. All submissions are due by 11:59p on the listed due date.

Grading

Grading is assigned as following:

- 50% on research proposal and reviewer comments. Each proposal will be ranked by several external reviewers on a scale of 0 (unacceptable) to 5 (excellent). You will also receive a panel summary of the proposal. You will be given the opportunity to rewrite the proposal to improve your score. The panel will then decide your final grade on the proposal.
- 40% attendance and handing in all required assignments on time.
- 10% effort and participation in the class.

Attendance is expected in all class meetings and professional etiquette will be adhered to at all times. Requests to miss a class due to interviews, etc. must be made in advance. You are welcome to bring coffee, snacks, dinner, etc. to the class as long as the room remains as we found it. I expect all documents to be properly formatted, spell checked, and clearly written. While this is not a technical writing course per se, high-quality writing is expected and you may be required to rewrite assignments to be acceptable.

Required Textbooks

There are no required textbooks, but the following resources may be helpful to you:

The Pocket Wadsworth Handbook 5th edition by L. Krszner and S Mandell

Purdue University OWL: <http://owl.english.purdue.edu/handouts/index.html>

ESF Writing Resource Center: <http://www.esf.edu/writingprogram/wrc.htm>

Robinson, M., F. Stoller, M. Costanza-Robinson, and J. K. Jones (2008) Write like a Chemist. Oxford University Press, ISBN 13:9780195305074. This book was the result of an NSF-funded science writing project to increase writing skills in chemistry. It covers all aspects including journal articles, abstracts, posters and proposals. It is available in soft cover from Amazon.com for under \$40.

College and student Learning Outcomes addressed by this Course:

This course addresses all six College learning outcomes which include:

- Development of Scientific Reasoning
- Development of Quantitative Reasoning

FCH 495 - Professional Chemistry

- Development of Basic Communication Skills
- Development of Technological and Information Literacy
- Development of Values, Ethics and Diverse Perspectives
- Development of Critical Thinking

These same learning outcomes are also applicable to the departmental learning outcomes (see <[http://www.esf.edu/ie/documents/Chemistry Assessment Plan Overview.pdf](http://www.esf.edu/ie/documents/Chemistry%20Assessment%20Plan%20Overview.pdf)>. It specifically addresses departmental learning outcome (6):

The ability to engage in independent inquiry, using a hypothesis-driven approach based on the scientific method, thereby integrating Items 1-5.

Examples of student work from this course may be used for assessment purposes, but student names and all identifiers will be removed.

Office Hours

I have office hours as listed, but recognize that I also teach FCH151, General Chemistry lab (320+ students). You may be best served by making an appointment outside my standard hours so we have time to chat without interruption. The preferred method of communication is by email for routine matters. If I am not in my office, feel free to check the lab (436 Jahn) down the hall.

College Policy on Students with Learning and Physical Disabilities:

SUNY-ESF works with the Office of Disability Services (ODS) at Syracuse University, who is responsible for coordinating disability-related accommodations. Students can contact ODS at 804 University Avenue- Room 309, 315-443-4498 to schedule an appointment and discuss their needs and the process for requesting accommodations. Students may also contact the ESF Office of Student Affairs, 110 Bray Hall, 315-470-6660 for assistance with the process. To learn more about ODS, visit <http://disabilityservices.syr.edu>. Authorized accommodation forms must be in the instructor's possession one week prior to any anticipated accommodation. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

College Policy on Academic Dishonesty:

Academic dishonesty is a breach of trust between a student, one's fellow students, or the instructor(s). By registering for courses at ESF you acknowledge your awareness of the ESF Code of Student Conduct (<http://www.esf.edu/students/handbook/StudentHB.05.pdf>), in particular academic dishonesty includes but is not limited to plagiarism and cheating, and other forms of academic misconduct. The Academic Integrity Handbook contains further information and guidance (<http://www.esf.edu/students/integrity/>). Infractions of the academic integrity code may lead to academic penalties as per the ESF Grading Policy (<http://www.esf.edu/provost/policies/documents/GradingPolicy.11.12.2013.pdf>).

FCH 495 - Professional Chemistry

2018 Tentative Schedule (Subject to Change)

Date	Topic	Reference	Assignment and due date* *due on Friday following class unless otherwise noted
Week 1 August 28	Introduction to the class Contemporary moral/social/scientific issues		Scientific societies
Week 2 September 4	Reading and writing scientifically	Manuscript	Write an abstract
Week 3 September 11	Searching scientific literature, scientific databases, and reference managers	Chemdraw, Scifinder, and other tools	Literature search tools
Week 4 September 18	Peer review and the research process		Interview 2-3 faculty
Week 5 September 25	Grant proposals and review		Research project
Week 6 October 2	Science ethics. Writing the Preproposal and Proposal. Understanding the review process.	"Sample pre-proposal"	Literature search and annotated bibliography
Week 7 October 9	Chemical safety		Writing an SOP
Week 8 October 16	Being a chemist: What is out there? Industry, graduate school, other. How do you find out where to go?	ACS career navigator. "Non-traditional jobs"	Preproposal due
Week 9 October 23	Job Skills: Writing a resume and CV	Writing your resume	Resume due
Week 10 October 30	Job skills: Letters of recommendation and personal statements.	Writing letters of Recommendation	Proposal due for peer review
Week 11 November 6	Job Skills: Interviewing	TBA	Final proposal due
Week 12 November 13	Interviews		Letter of recommendation due
Week 13 November 20	No class. Thanksgiving break.		
Week 14 November 27	Communication Skills: Oral presentations and the elevator pitch	TBA	Assessing presentations
Week 15 December 4	Overview of the different senior research projects		Oral presentations