

**Seminar (CHEM 453)  
Spring 2020**

**Professor:** Davis Oldham  
**Office:** 438 Jepson  
**Contact:** eoldham@umw.edu, (540) 654-1412  
**Class:** M,W,F 12 pm – 12: 50 pm, Jepson 451

**Office Hrs:** M,F 9-10:30 am and 1:00-2:00 pm

**Canvas Website** canvas.umw.edu/login

**Required materials**

Hofmann, Angelika, *Scientific Writing and Communication*, 3<sup>rd</sup> edition

Coghill, Anne M. and Garson, Lorrin R., *ACS Style Guide*, 3<sup>rd</sup> edition

Available at <https://pubs.acs.org/isbn/9780841239999> (on campus) or <https://pubs-acso.org.umw.idm.oclc.org/isbn/9780841239999> (off campus)

**Course objectives:**

Chemistry seminar provides students with the opportunity to research and deliver an oral presentation on a recent topic from the chemical literature in a setting where ample feedback and instruction is provided. The American Chemical Society (ACS) and chemical industry view communication of scientific knowledge as one of the essential skills a practicing chemist should possess. According to the *ACS Guidelines and Evaluation Procedures for Bachelor's Degree Programs* (§7.4, 2015),

“Effective communication is vital to all professional chemists. Speech and English composition courses alone rarely give students sufficient experience in oral and written communication of technical information. The chemistry curriculum should include critically evaluated writing and speaking opportunities so students learn to present information in a clear and organized manner, write well-organized and concise reports in a scientifically appropriate style, and use relevant technology in their communications.”

After completing the course, a student should

- gain competence using library and information resources to research chemical literature
- gain competence in reading and interpreting primary chemical literature
- develop and/or improve oral communication skills
- demonstrate an understanding of chemical concepts related to a chosen topic

In addition, as an SI course,

- Students will understand and be able to explain the conventions and expectations of oral communication as practiced within the discipline of the course taken.
- Students will apply theories and strategies for crafting messages (verbal, nonverbal, and visual) for particular audiences and purposes.
- Students will be able to craft oral messages after a conscious process in which various options are reviewed and will be able to explain and support their choices.
- Students will be able to metacommunicate about their own communication patterns.

**ADA:** The Office of Disability Resources has been designated by the college as the primary office to guide, counsel, and assist students with disabilities. If you receive services through the Office of Disability Resources and require accommodations for this class, make an appointment with me as soon as possible to discuss your approved accommodation needs. Bring your accommodation letter, along with a copy of our class syllabus with you to the appointment. I will hold any information you share with me in strictest confidence unless you give me permission to do otherwise.

If you have not made contact with the Office of Disability Resources and have reasonable accommodation needs, (note taking assistance, extended time for tests, etc.), I will be happy to refer you. The office will require appropriate documentation of disability.

## **Title IX**

University of Mary Washington faculty are committed to supporting students and upholding the University's *Policy on Sexual and Gender Based Harassment and Other Forms of Interpersonal Violence*. Under Title IX and this Policy, discrimination based upon sex or gender is prohibited. If you experience an incident of sex or gender based discrimination, we encourage you to report it. ***While you may talk to me, understand that as a "Responsible Employee" of the University, I MUST report to UMW's Title IX Coordinator what you share.*** If you wish to speak to someone confidentially, please contact the below confidential resources. They can connect you with support services and help you explore your options. You may also seek assistance from UMW's Title IX Coordinator. Please visit <http://diversity.umw.edu/title-ix/> to view UMW's *Policy on Sexual and Gender Based Harassment and Other Forms of Interpersonal Violence* and to find further information on support and resources.

## **Policy on Recording of Class**

In this class, students may not make audio or video recordings of any course activity unless the student has an approved accommodation from the Office of Disability Resources permitting the recording class meetings. In such cases, the accommodation letter must be presented to the instructor in advance of any recording being done and all students in the course will be notified whenever recording will be taking place. Students who are permitted to record classes are not permitted to redistribute audio or video recordings of statements or comments from the course to individuals who are not students in the course without the express permission of the faculty member and of any students who are recorded. Distribution without permission is a violation of educational privacy law. This policy is consistent with UMW's Policy on Recording Class and Distribution of Course Materials.

## **Grading**

Class Participation	10%
Initial Topic Presentation	10%
10 Minute Proposal Presentation	15%
Draft Abstract	5%
Final Abstract	10%
Practice Presentation	10%
Oral Presentation	40%
Final Exam (Major Field Test)	not graded, but required to pass course

*Midsemester deficiency reports* will be submitted for students who have made insufficient progress finding a topic and/or course participation (attendance, meeting assignment deadlines)

Letter Grades Your percentage at any point in the class is defined by total points earned / total points possible \* 100, using the weighting described above. Letter grades will be assigned based on the following scale. The values are expressed as percentages. Grades are rounded to the nearest integer.

No exceptions will be made!

A: > 93%      A-: 90-92%

B+: 87-89%    B: 83-86%    B-: 80-82%

C+: 77-79%    C: 73-76%    C-: 70-72%

D+: 67-69%    D: 60-66%

F: < 60%

Class Participation This is assessed solely by the instructor and comprises the following requirements: (1) completion of all assignments by given deadlines; (2) regular class attendance (*only one absence is permitted and missed work must be completed*); (3) preparation for and participation in class discussions and peer evaluations; (4) attendance at and evaluation of all other students' seminars (students missing a seminar have one week to view the recording and submit an evaluation); (5) regular participation in Q&A periods following oral presentations.

Initial Topic Presentation This is assessed solely by the instructor with input from peer evaluations submitted by students. It comprises the following requirements: (1) selecting three possible primary papers; (2) submitting the *Reading the Literature* assignment for each paper; (3) presenting a 10 minute "elevator pitch" of the papers to the other students in class. The *Reading the Literature* assignment must be submitted on or before the date of the elevator pitch. Student questions and comments after the elevator pitch are expected, and these comments as well as instructor feedback about the possible primary topics should guide the final selection of a primary paper. Any initial papers not selected by a student for further research are free to be used by other students who are searching for a primary topic.

10 Minute Proposal Presentation This is assessed by the faculty in your section, with feedback from other Chemistry faculty members, if relevant. Students will deliver a 10 minute oral proposal based on their chosen primary and supporting paper(s) and concurrently submit a draft outline for their final oral presentation. The primary paper must be submitted as a pdf to the instructor at least two days before the presentation. The proposal should include PowerPoint or equivalent visual aids to introduce your research topic. The proposal must demonstrate to the faculty that you: (1) have chosen an appropriate topic of sufficient quality; (2) understand your primary topic in enough detail to clearly present its central elements; (3) have found an appropriate primary paper(s) and supporting materials that will enhance the depth and breadth of your final oral presentation; (4) can clearly articulate the conceptual and technical details you intend to present in your final oral presentation. The draft outline of your oral presentation must be provided to all faculty on or before your proposal presentation and must include: (1) an alphanumeric outline of topics to be presented; (2) explicit statement of how you plan to budget the speaking time allotted for each point.

Draft Abstract *Due at least two weeks before your oral presentation.* This is assessed by the instructor and the student's faculty mentor. Students will submit a draft abstract that contains the following elements: (1) properly formatted identifying information; (2) an abstract with a maximum of 150 words discussing what the oral presentation will cover; (3) an alphanumeric outline of the topics covered in the oral presentation; (4) an annotated bibliography. The annotated bibliography should begin on a separate page from the abstract and outline. It should repeat all references noted in the abstract and

include any additional references used in developing the oral presentation. The annotations should specify (in proper written prose) how each reference was used in preparing the talk.

Final Abstract *Due at least one week before your oral presentation.* This is assessed by the full faculty and should be a final version of the abstract and annotated bibliography (do not include an outline of the talk!) that takes into account comments and feedback from the instructor and faculty mentor about the Draft Abstract. A copy (hard or electronic) must be given to all faculty members. Furthermore, an electronic version must be provided to the course instructor along with electronic copies of the primary articles for posting on Canvas.

Practice Presentation *There are two due dates here:* (1) At least 10 days before the Oral Presentation students have made an appointment and visited the Speaking Center to practice the presentation (<http://academics.umw.edu/speaking/speaking-center/>); (2) at least one week before the Oral Presentation students must deliver a practice presentation in front of their faculty mentor. The practice is assessed student's faculty mentor according to the following elements: (1) clarity of oral and visual communication; (2) accuracy scientific and technical details; (3) organization; (4) adherence to the time requirements of 25 minutes minimum, 30 minutes maximum. By the date of the final Oral Presentation, students must also submit a written statement to the course instructor detailing how the faculty mentor's feedback was incorporated into the final Oral Presentation. The practice presentation grade will be 20% speaking center attendance and 80% practice presentation and feedback incorporation. *Failure to submit this statement by the due date will result in a 0 for the Practice Presentation grade.*

Oral Presentation This is assessed by the faculty in your section, with feedback from other Chemistry faculty members, if relevant: (1) scope and quality of topic focus; (2) clarity and coherence of the central message throughout the talk; (3) organization of material and visual aids; (4) attention to including information appropriate to the audience specialization level; (5) appropriate use of information from primary paper(s), supporting information, and prior coursework to draw conclusions, make connections, and compare and contrast results from different sources; (6) accuracy of the scientific information and ability to demonstrate a firm grasp on the conceptual and technical details; (7) general quality of the delivery with respect to poise, articulation, transitions between ideas, etc.; (8) ability to answer questions during the Q&A portion after the talk. Presentations will be recorded so that faculty and students who may miss a talk can fully participate and so you have the chance to observe and critique yourself. If you give permission, recorded presentations may also be used to help instruct future students.

Extra Credit Students will be given the opportunity for 10 extra credit points by critiquing practice presentations of up to 3 other students. Students must sign up in advance, and the audience student must complete a formal written critique of the seminar including strengths and areas for improvement in the science presented as well as the delivery.

Final Exam Students are required to take the Diagnostic of Undergraduate Chemistry Knowledge Exam (DUCK) to complete the course. This is a standardized exam given by the ACS that allows the Chemistry Department to assess the effectiveness of our major curriculum. Failure to complete the DUCK exam will result in failure of the course.

**Course Schedule, Spring 2020 (dates subject to change)**

Monday	Wednesday	Friday
1/13 Goals, expectations, describe the syllabus	1/15 Finding a topic/brainstorming	1/17 Scifinder, citing supporting, down the rabbit hole of footnotes
1/20 <b>NO CLASS</b>	1/22 Reading the literature	1/24 3 topics
1/27 ACS webinar on seminars	1/29 Initial Topic Presentations 1-3	1/31 Initial Topic Presentations 4-6
2/3 Initial Topic Presentations 7-9	2/5 Initial Topic Presentations 10-11	2/7 Initial Topic Presentations 12-13
2/10 How to present experimental section	2/12 How to present results and discuss them	2/14 Flex day
2/17 10 Minute Proposals 1-3	2/19 10 Minute Proposals 4-6	2/21 10 Minute Proposals 7-9
2/24 <b>NO CLASS</b>	2/26 10 Minute Proposals 10-11	2/28 10 Minute Proposals 12-13
3/2 <b>SPRING BREAK</b>	3/4 <b>SPRING BREAK</b>	3/6 <b>SPRING BREAK</b>
3/9 Presentation on presentations	3/11 Previous seminar	3/13 <b>FLEX DAY</b>
3/16 Meeting with instructor/mentor	3/18 Meeting with instructor/mentor	3/20 Meeting with instructor/mentor
3/23 <b>NO CLASS</b>	3/25 Presentation 1	3/27 Presentation 2
3/30 Presentation 3	4/1 Presentation 4	4/3 Presentation 5
4/6 Presentation 6	4/8 Presentation 7	4/10 Presentation 8
4/13 Presentation 9	4/15 Presentation 10	4/17 Presentation 11
4/20 Presentation 12	4/22 Presentation 13	4/24 Research & Creativity Day Honors Presentations

**Final: Monday, April 27<sup>th</sup>, 12:00 pm – 2:30 pm**