

CHEM 488
Senior Seminar
Spring 2025

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Office Hours: Mon & Wed: 9-10:30 am, Thu: 1-2 pm, Fri: 9-10 am *(also available by appointment in person or in Zoom)

Meeting Times: Monday 4-5:50pm (Roddy 149/153)

COURSE TEXTBOOK/MATERIALS:

No textbook is required for this course. Photocopied handouts will be provided when appropriate. Content will be posted on the Desire2Learn (D2L) course website. It is your responsibility to keep up with due dates for this seminar course.

COURSE ATTENDANCE

Departmental seminars will be held Mondays at 4pm. You must attend all departmental seminars and evaluate them using nearly the same criteria that will be used to evaluate you. To receive credit, you must arrive on time, behave in a professional manner during the seminar, and submit an evaluation. Students who are presenting a seminar must practice their seminars at least 1 week prior with the instructor of the course. Each student's research advisor, or academic advisor will also be invited (if their schedule permits) to attend the practice and give feedback to the student for their presentation. If there are two student presentations, it may be necessary to schedule those seminar practices at different days of that week.

COURSE CONTENT & REQUIREMENTS

- 1) **Attendance:** This is a seminar course in which you will attend seminars and evaluate your peers. You must attend all the seminars and submit the evaluations. On seminar days, I will be checking for attendance as you will be awarded an attendance grade. If you do not attend seminars on those days, you will receive a grade of zero for that day.
- 2) **MFTs and Exit Interview:** Additionally, you will be given problem sets in selected areas of chemistry and perform a major field test (MFT) on a designated day (closer to the end of the semester). The review topics and problem sets include organic chemistry, inorganic chemistry, analytical chemistry, physical chemistry, and biochemistry. Review sessions may be scheduled with different professors in the specific disciplines for the students (dates, times, and locations will be announced closer to the end of the semester). These will help you prepare for the MFT. You must also submit the completed exit interview on the due date which will be designated later in the semester.

- 3) **Your Senior Seminar:** I will ask that you meet with me two weeks before your seminar presentation to look over your slides and have a discussion about your presentation. You will practice your seminar at least once before it is presented, where I will be in attendance and I will time your presentation and give you feedback (slide by slide). If you are doing research with a faculty member here, he or she will also be in attendance (or your academic advisor could be invited if you are presenting a literature review). You may also invite classmates or other instructors to attend your practice talk if you wish.
- 4) **Flyers to Advertise your Seminar:** You must post seminar advertisements, or flyers, on or before the Wednesday prior to your seminar. Post them on the second and third floors of Caputo Hall in conspicuous places. Also, it has been the custom in this department that the students bring refreshments (but this is not mandatory).

You will present your seminar to the chemistry department for a grade. You will be evaluated by your peers and by the faculty members of this department. You may be asked questions at the end of your seminar. If you are doing a thesis defense for departmental honors/University honors, you may expect a higher level of scrutiny. Plan on about 20-25 minutes, leaving a few minutes for questions at the end. ***If you are still speaking 25 minutes after you begin your seminar, I will stand up and give a signal that you are to end your seminar immediately.*** It is the custom in academic seminars for the visiting speaker to be introduced by the host. In your seminars, your host will be your research advisor, if you performed research with one of our faculty members. If you did not, I will be happy to introduce you. **You should provide a *brief* biographical sketch to me or to the faculty introducing you. This may include, but it is not limited to, information about where you grew up or went to school, or whether you changed your major, or any awards you have received.**

The seminar should present substantial chemical information at a technical level appropriate for an advanced undergraduate chemistry student. Visuals should illustrate or outline the material. Remember your own comments from last semester: Example: "We hate it when someone reads from their overheads." You are not required to use PowerPoint, but my prediction is that all of you will.

References used in preparing the seminar should be refereed professional journals. In particular, web resources should be kept to a minimum, and you may not copy and paste material from web sources. The Chemistry Department Internet Policy was created mostly in response to disappointing senior seminars:

Some original thinking or synthesis of ideas from various sources is expected in all research assignments. A collection of copied material, even if the sources are cited, does not constitute original work. In particular, it is NOT permissible to copy and paste charts, diagrams, formulas, structures, or text. These must be adapted and recreated by the student, with the source acknowledged. There may be some exceptions in the case of photographs, spectra, and complex structures or charts that cannot reasonably be drawn by

the student. However, permission to use these must be granted by the instructor and the source must be prominently acknowledged.

The requirement for at least 3 refereed journal articles in the references applies to the seminar also. If you fail to meet the minimum requirements, you will be asked to repeat the seminar for the department to pass the course. This has happened in the past, although it is rare. You may anticipate that the questions asked by the audience in the case of a second attempt are likely to be greater in number and more complex than they were during your first attempt.

GRADING

We will use a 550-point scale with the highest possible score being 550. The total possible points are as follows:

| | |
|--|-------------------|
| Seminar Attendance and Evaluation | 50 |
| Meeting with Dr. Schiza - two weeks before the Seminar Presentation | 25 |
| Seminar Practice - one week before the Seminar Presentation (Dr. Schiza/Advisor) | 100 |
| Posting of the flyers – by Wednesday before the Seminar Presentation | 15 |
| Seminar Presentation | 250 |
| MFT Problem sets / MFT Review Sessions | 30 |
| MFT Exam* (Wed, May 7 th 12:30-2:30 pm) and Exit Interview* | 80 |
| Total | 550 points |

The items marked with an asterisk (*) must be completed in order for you to receive a passing grade in CHEM 488. If either of these items is not completed, you will receive a grade of F regardless of the number of points you have earned.

SPRING 2025 – TENTATIVE SEMINAR SCHEDULE (MONDAY 4-4:50 PM – RODDY 149)

| Seminar Date | Presenter's Name | Seminar Title |
|----------------------------|---|--|
| January 20 | Holiday – No classes | |
| <i>January 27</i> | <i>Dr. David Olsen Merck</i> | <i>Drug Discovery: An Antimalarial Academic Pharma Collaboration Case Study</i> |
| February 3 & 10 | No Seminar | |
| February 17 | Logan T. Weaver | Setschenow Constants of Secondary Organic Aerosol Precursors |
| <i>February 24</i> | <i>Dr. Lisa Fredin Lehigh University</i> | <i>Physical Chemistry</i> |
| March 3 | Kelly J. Sprenkel | mVOCs Important to Indoor Air Quality and their Setschenow Coefficients |
| | Megan C. Malecki | Vulgarin Isolation for Semisynthetic Derivatization Studies |
| March 10 | Spring Break – No classes | |
| March 17 | Keyvin J. Martinez | Nanoparticle Filtration |
| March 24 | Spring 2025 National ACS Meeting – San Diego, CA | |
| March 31 | Hunter Rowe | Calculating Heat of Formation of HEDM's |
| | Bethany G. Dravk | Forensic Chemistry / Literature Topic |
| April 7 | Jared P. Martin | Optimization of Rengyolone Synthesis for Derivatization Studies |
| | Nicholas T. Allen | Optimization of Benzisothiazole, Benzisoxazole Synthesis |
| April 14 | Andrea B. Forry | Chemical Analysis of Spotted Lanternfly Tainted Honey |
| | Edward L. Thievon | Affecting Glyoxylate Shunt Expression by Transcription Regulator Multimerization |
| April 21 | Munachukwuso C. Charles- Monwuba | High-Throughput Screening of DNA- Stabilized Silver Nanoclusters |
| April 28 | Zachary P. Nikolaus | Looking at the Benefits of Using Organic Beeswax Candles Instead of Synthetic Paraffin Candles |
| | Khanh H. Vo | Development of an Arduino-Based Spectrophotometer |
| May 5 | No Seminar | |

Title IX Statement

Millersville University and its faculty are committed to assuring a safe and productive educational environment for all students. In order to comply with the requirements of Title IX of the Education Amendments of 1972 and the University's commitment to offering supportive measures in accordance with the new regulations issued under Title IX, the University requires faculty members to report to the University's Title IX Coordinator incidents of sexual violence shared by students. The only exceptions to the faculty member's reporting obligation are when incidents of sexual violence are communicated by a student during a classroom discussion, in a writing assignment for a class, or as part of a University-approved research project. **Faculty members are obligated to report to the person designated in the University [Protection of Minors policy](#) sexual violence or any other abuse of a student who was, or is, a child (a person under 18 years of age) when the abuse allegedly occurred.**