CHEM 489 Advanced Environmental Chemistry: Introduction to Green & Sustainable Chemistry
Class Presentations - Spring 2020 (Posted on class web page)

Class Presentations. Each student will give a **20 minute** power point presentation to the class on one of the **Green Chemistry Challenge Awards**:

https://www.epa.gov/greenchemistry/green-chemistry-challenge-winners

Each student must choose a different topic on a first-come basis, and one that has not been discussed in class. **I will begin accepting topics at any time, but your submission deadline is Tuesday, February 18.**

The presentation dates are scheduled for **February 25, 27 and March 3.** There will be 2-3 presentations each day. The presentation order will be based on the preference of students based upon submission of your topic.

No written report is required, but you must provide me with an electronic copy of your power point presentation no later than March 3. Your oral report will be graded on a 50 point scale, and is worth 25% of your grade for the green chemistry portion of the course.

Format: Power Point is required. No other presentation media will be accepted. Please note that you will be graded on your ability to follow the Roman Numeral format below, the scientific content of your presentation, the visual effects (i.e., neatness and organization), and your delivery and presentation style (keeping within the time limits, chemical accuracy, evidence that you practiced beforehand). Avoid reading directly from your slides. **A 15 minute presentation is borderline acceptable.** The grading rubric I will use can be found on the back of this page.

I **require** that you use the following headings on your slides, with the Roman Numerals:

I. Title Slide. Title of the project that won the Green Chemistry award, the year it was awarded, the name of the scientist and/or institution/company, and an outline of your talk.

II. Introduction Slides. In bullet format, you should summarize the relevant background work related to the prior state of the science/technology and why "greener" improvement was warranted.

III. Results and Discussion Slides. Address the Green Chemistry significance of your topic with a brief statement on how the traditional process or technology was improved. Give an overview of the award-winning process or technology (i.e., explain a new synthesis or process). Discuss the advantages of the green process as compared to the one being replaced using several of the metrics we discussed in class, such as: risk assessment; 12 Principles of Green Chemistry and/or UN Sustainable Development Goals; Chemical Efficiency (atom economy, % yield, PMI, and/or Selectivity), or any other Green Chemistry metric that is relevant. It might be helpful to construct a side-by-side comparison table on one or several slides. Keep in mind that "a picture is worth a thousand words" (accompanied by a good explanation, of course!).

IV. Conclusion Slides. Give a brief summary of your paper, restate the award, summarize the improvements compared to the old technology, and include a final statement to pull everything together. Be sure to address how the Green Chemistry technology has been implemented in the U.S., and the expected impact on others in the sciences, and/or on society in general. Feel free to discuss limitations or problems, and prospects for the future.

V. Literature Cited Slide. In addition to the information provided at the Presidential Green Chemistry Awards website, it is expected that you will need to rely on reference material from other sources to help you understand and explain your project. You can use any of the literature resources on the course web page (including journal club articles), new resources you found in the library or through the internet, or your current or past textbooks. List all literature used as reference material, using proper citation format.

VI. Questions. There will be a 5-minute period for questions.

CHEM 489 Advanced Environmental Chemistry: Introduction to Green Chemistry - Spring 2020
Grade Sheet: Green Chemistry Reports

Name: _____ Grade _____ (50)

_____ (5 points) Title Slide.
- Title of the project that won the Green Chemistry award; Year awarded; Name of the scientist and/or institution/company
- Outline of your talk

_____ (10 points) Introduction Slides. In bullet format summarize:
- Relevant background work related to the prior state of the science/technology
- Why "greener" improvement was needed

_____ (15 points) Results and Discussion Slides. Address the Green Chemistry significance:
- How the traditional process or technology was improved
- Overview of the award winning process or technology
- Discuss the advantages of the green process as compared to the one being replaced using metrics discussed in class: risk assessment; 12 Principles of Green Chemistry and/or UN Sustainable Development Goals; Chemical Efficiency (atom economy, % yield, PMI and/or Selectivity), or any other Green Chemistry metric that is relevant
- Side-by-side comparison table (if relevant)
- Effective use of graphics

_____ (5 points) Conclusion Slides. Give a brief summary of your paper:
- Restate the award
- Summarize the improvements compared to the old technology
- Final statement to pull everything together
- How the Green Chemistry technology has been implemented
- Expected impacts
- Limitations or problems, and prospects for the future.

_____ (5 points) Literature Cited Slide. List all literature used as reference material, using proper citation format.

_____ (10 points) Overall Format.
- Overall quality of the power point media
- Roman Numeral format
- Scientific and chemical accuracy (depth of content vs superficial)
- Visual effects (i.e., neatness and organization)
- Delivery and presentation style (20 minutes; evidence that you practiced; answering questions)