

University of Missouri-Columbia, FS12
MATH1602: PRISM-MLS Proseminar III

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Seminar: Monday, 4-4:50 pm, 110 Math. Bldg.
Office Hours: Immediately following seminar, and by appointment
Course Web Site: <http://faculty.missouri.edu/~glaserr/prism/MLS2fall2012.html>

MATH1602-1 (1h credit) is the PRISM-MLS Proseminar III, that is, the research seminar for second-year MLS students. Enrollment is mandatory for all 2011 Fellows in FS12 and SP13. The course will be graded based on attendance and performance; see back page for details.

Course Objectives: Learning and practice of elements of scientific communication and peer review. Scientific writing: text, tables, schemes & figures; Methods for locating chemical information and proper citation; Summarizing, paraphrasing and plagiarism; Structuring a scientific paper; Approaches to data analysis; Recognizing and communicating significance and meaning; Responsible authorship.

Course Materials

- (1) Selected course materials will be posted on the course web site.
- (2) RECOMMENDED. *From Research to Manuscript: A Guide to Scientific Writing*. 2/e. Michael J. Katz. Springer: New York, **2009**. (\$23.92; Amazon, accessed 08/06/12)
- (3) RECOMMENDED. *The ACS Style Guide: Effective Communication of Scientific Information*. Anne M. Coghill and Lorrin R. Garson. American Chemical Society: Washington, D.C., **2006**. (Hardcover: \$37.23; Amazon, accessed 08/06/12)
- (4) FURTHER READING. *Write Like a Chemist: A Guide and Resource*. Marin S. Robinson, Fredricka L. Stoller, Molly Costanza-Robinson, and James K. Jones. Oxford University Press, USA: New York, **2008**. (Paperback: \$38.85; Amazon, accessed 08/06/12).
- (5) FURTHER READING. *Scientific Writing and Communication*. Hofmann, A. H. Oxford University Press, USA: New York, **2009**. (Paperback: \$25.39; Amazon, accessed 08/06/12).

Grading Philosophy

This emphasis on equal time between presentation and scientific discussion is a stratagem of this course. We want open, frank discussion and cross- and interdisciplinary brainstorming, exchange and education. Your performance will be assessed following this spirit. Your grade in this research seminar will be affected by your attendance, your presentation (if any), your peer review performance, and your performance as a discussant. This grading scheme reflects a shift from the traditional assessment of the speaker to an assessment of members of the learning community.

Attendance

Seminar attendance is mandatory for 2011 Fellows. Written excuses are required for absences due to illness etc. MATH1602 is a regularly scheduled course and, as such, the course period does not conflict with any other regularly scheduled course of the 2011 Fellows. Irregularly scheduled events associated with other courses (i.e., reviews, tests,...) do not excuse an absence from MATH1602.

You will earn the grade of B+ for attendance alone. One unexcused absence will have not effect your course grade. Every additional unexcused absence will result in a lowering of your grade by two steps down on the +/- grade scale, i.e., from B+ to B-, B- to C, etc.

Research Presentation Performance Assessment

Research presentations will be assessed in equal parts by rubric-based peer review of the content of the presentation and of your skills as a presenter. The rubric for the peer review is linked to the course web site and it will be explained in the first meeting of the seminar. Several hours of the course will be used for instruction about best practices in scientific communication and to clarify expectations for your presentations.

Each member of the audience will fill out one peer review sheet. The peer review scores will be combined, basic statistical descriptors will be determined (average, standard deviation, minimum and maximum scores), and these data will be provided to the presenters along with the written comments (typed up & anonymous) by the peer reviewers.

Your course grade may be raised by your presentation performance by one step up on the +/- grade scale if your average peer review score is equal to or above the average of all the presentation scores in this semester. If the PR score for your presentation is below average, your course grade will not be affected. (This scheme will not work if all scores are high and fall in a narrow range. In that case, all presentations will count as “average or above” but the peer review performance assessments will drop.)

Peer Reviewer Performance Assessment

We will keep track of your performance as peer reviewer. You will be assigned a unique peer reviewer number (PRN) by in-class lottery for AY12/13 and you must provide this number on every peer review sheet you will be filling out. The peer reviews will be anonymous, that is, your PRN will be known only to you and the instructor and you should not share your PRN with your peers.

Your obligations: (a) You are required to prepare peer reviews for every presentation you attend. (b) We place significant value on meaningful, written constructive criticism (in the appropriate fields on the evaluation sheet). (c) We will keep track of your peer reviews scores in comparison to the average scores awarded. Avoid being overly positive or negative; use the entire range of the 4-point evaluation scale on each item “as appropriate”. (This is nontrivial decision and faculty will make this evaluation in context.)

It is expected that you will participate fully as peer reviewer and you will receive feedback regarding your peer review efforts considering criteria (a) - (c). Your course grade may be affected by your performance as peer reviewer by one step up or down on the +/- grade scale or it may be left unaffected.

Discussant Performance Assessment

We will keep track of your performance as a discussant. The seminar format aims for 25-minute talks followed by 25 minutes of defense, discussion and extrapolation. You should aim to engage in these conversations as best as possible. (a) Try to pay attention and comprehend the issues. (b) Ask for clarification if needed. (c) Provide clarifications if the opportunity presents itself. (d) Feel free to comment and to make suggestions. A fresh perspective, a healthy level of courage and a little boldness go a long way. After the presentation, you will be asked to write a “minute paper”. The minute papers will be collected and their content will be used to initiate / guide the discussion following the presentation by picking parts of out randomly selected minute papers and reading them out loud.

It is one important purpose of the minute papers to provide you with an immediate opportunity to demonstrate your engagement with the material in writing. These minipapers can be structured in a variety of ways. For example, you might be asked to write down (a) the top three themes from the presentation or (b) one statement you agreed with and one issue you disagreed with. You can also write down any questions you might have regarding the materials. These questions can be focused on clarification of points and/or exploration of plausible alternatives (“why didn’t you...?”).

The assessment of this aspect is not trivial. The instructor will seek feedback from other faculty present at the seminars to make these judgments. Your course grade may be affected by your audience performance by one step up or down on the +/- grade scale or it may be left unaffected.

Overall Grade

A **non-presenting student** will have two possibilities to raise his/her grade by one step on the +/- grade scale. A non-presenter with perfect attendance (B+), excellent peer review performance (one step up), and excellent audience performance (one step up) will earn a grade of “A”.

On the other hand, a **non-presenting student** with perfect attendance (B+), poor peer review performance (one step down), and poor audience performance (one step down) would earn a grade of “B-”.

A **presenting student** will have three possibilities to raise his/her grade by one step up on the +/- grade scale. A presenter with perfect attendance (B+), a great talk (one step up), excellent peer review performance (one step up), and excellent audience performance (one step up) will earn a grade of “A+”.