During the spring 2005 semester, all students enrolled in Chem 692 will be required to give a 15 – 20 minute talk on a recently published research article.

**Purposes of these mini-literature talks:**
1. To review and objectively analyze research articles in the scientific literature.
2. To increase exposure to different experimental approaches, study designs, methodologies, laboratory techniques and statistical analyses.
3. To gain a deeper appreciation of the steps involved from generating a hypothesis, to testing it, collecting data, interpreting results, and drawing conclusions.
4. To assess strengths and weaknesses of a scientific study, and to understand these in interpreting and applying the findings.
5. To improve knowledge about a particular topic or topics of interest.
6. To participate constructively in discussions by reading ahead, preparing, listening during the journal club, questioning and contributing ideas.

**Choosing your scientific articles:**
On those Tuesday afternoons with no regularly scheduled event, 1 or 2 students will each present a journal article on a topic of their choosing.

1. Articles should be original research publications based on primary source data from a scientific study. Usual structure of such articles is: abstract, introduction (background), methods, results, conclusions, references.
2. The articles must relate to some aspects of chemistry.
3. Do not choose review articles (although they may be used as references).
4. Preferably choose articles published within the past 2 years.
5. Obtain seminar instructors approval regarding article choices!

**Steps for each article:**

**When Presenting:**
1. Read your article thoroughly. Examine all tables, figures, graphs, calculations.
2. Submit an electronic copy (in a PDF format) to the seminar instructors for distribution to the class.
3. Prepare a 10-20 minute in-depth discussion of your article. Use the Scientific Literature Evaluation Worksheet as a guide.
4. Hand in two copies of your Scientific Literature EvaluationWorksheet.

**When Not Presenting:**
1. Read each article thoroughly.
2. Come prepared to constructively discuss the articles.

After each presentation, the student will receive personal and private feedback from both Professors Evans and Foster to help with future presentations.
NAME: ________________________________________________________________

Date of your Seminar: _____________________________________________________

I.  GENERAL INFORMATION

1. Article Title: __________________________________________________________
   ______________________________________________________________________

2. All authors listed: ______________________________________________________
   ______________________________________________________________________

3. Full Journal Reference: ________________________________________________
   ______________________________________________________________________

4. Institute from which article was published: ________________________________
   ______________________________________________________________________

II. HYPOTHESES, OBJECTIVES AND OUTCOMES

1. Background data on which authors base their hypotheses and substantiate the need for study:
   ______________________________________________________________________
   ______________________________________________________________________

2. Hypotheses and/or objectives of the study: ________________________________
   ______________________________________________________________________
   ______________________________________________________________________

3. Primary outcomes to be measured: _______________________________________
   ______________________________________________________________________
IV. METHODS

1. Summarize the experimental method *in your own words*: __________________________________________
   __________________________________________
   __________________________________________

2. Methods used to measure dependent variables: __________________________________________
   __________________________________________

V. RESULTS

Concisely summarize the main findings and explain data in tables and figures. Remember to look for variability in the data, in addition to the means.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

VI. CONCLUSIONS AND SIGNIFICANCE

1. Summarize the authors’ conclusions *in your own words*: ________________________________
________________________________________________________________________

2. Do these conclusions seem valid to you? Why or why not? Would your conclusions from this study differ from those of the authors? If so, how?
________________________________________________________________________
________________________________________________________________________

3. Were the hypotheses appropriately addressed? Why or why not?
________________________________________________________________________
________________________________________________________________________
4. Strengths of study: _____________________________________________________

________________________________________________________________________

5. Limitations of study: ____________________________________________________

________________________________________________________________________

6. Possible applications of study: ____________________________________________

________________________________________________________________________

VII. FOOD FOR THOUGHT

1. Would you do anything differently if you were designing and conducting this study? 
   If so, what and why?

________________________________________________________________________

________________________________________________________________________

2. What hypotheses and/or future study designs can be generated from this research?

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________________________________________________________________________

VIII. Instructor Feedback: _________________________________________________

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