Chemical Literature Seminar CHEMISTRY 4100 (1 hr)

Fall 2017 Friday, 1:00-2:00 pm Room 103 CFS

Dr. Haines; CFS317F
Dr. Donovan C. Haines
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Office hours (tentative – listen in class for any changes):
TuTh 10:00am-10:45am; Tu 3:30pm-4:00pm; Other hours by appt.

Chemistry 4100 is a seminar course in Chemistry. Course Objectives:

To develop specific skills needed by scientific professionals in the field of chemistry
To develop skills in expressing descriptions of scientific experimentation orally and in writing

1. Attendance is mandatory. The instructor may lower your final grade after 2 unexcused absences. Excused absences included sickness that involves a doctor or health clinic visit, death in the immediate family, and emergencies like fires or automobile accidents. Documents for excused absences must be presented by the student to the instructor within one week of the student's return to class.

2. Each student enrolled in this course is required to present a 15-20 minute seminar on a peer-reviewed research paper available in the scientific literature **or** their on-going or completed scientific research. If the presented talk's length is substantially less than the allotted time, your grade will suffer. The subject may come from any field of chemistry (analytical, biochemical, environmental, forensic, inorganic, organic, physical, or chemical education).

3. The paper will be selected from the current literature (journals) and a hard copy submitted for approval to Dr. Haines at least 2 weeks prior to the presentation date; the earlier the better. Literature **review articles** are not acceptable. The stipulation that it must be a peer-reviewed journal is sometimes difficult to determine. Please contact your instructor well in advance if you have any questions about determining which journals are peer-reviewed. If you are presenting your own research, you must meet me and give me the title 2 weeks before your talk. Presentation dates will be chosen on the first day of class. Students presenting at a scientific meeting that semester have priority for earlier presentation dates. Contact a faculty member in your field of interest if you need help selecting a paper. **Missing this (2-week precheck) deadline is the single most common grade lowering error of this course.** Please reread that sentence**. If you are presenting your research, you must let Dr. Haines know the general research topic by this deadline.**

4. A written one paragraph summary of the topic (paper) being presented must be posted in the Abstract discussion board in Blackboard **by** 11:00 am two days before the day when your presentation is made; so that's Wednesday before your Friday talk. Your grade in the course will be

one letter grade lower if you do not meet this deadline. If no abstract is available one day prior to your presentation day, your course grade will be zero. The maximum length of the abstract's body text is limited to 200 words.

Your written abstract will be entitled with the literature paper's title and the journal **citation** (abbreviated journal name, year, volume, inclusive page numbers), and **your name**. Pay attention to the format for the citation below.

Copying the abstract—even one or a few sentences—of your journal paper for your own summary is not allowed—this is plagiarism. This is very important. Copying the abstract or written parts of the paper *for* your abstract will result in an F in the course. Period. You must learn to succinctly summarize the important points—that you will present—yourself. Reading many abstracts will help you to do this. Quoting directly from the abstract—using quotes—is also not allowed.

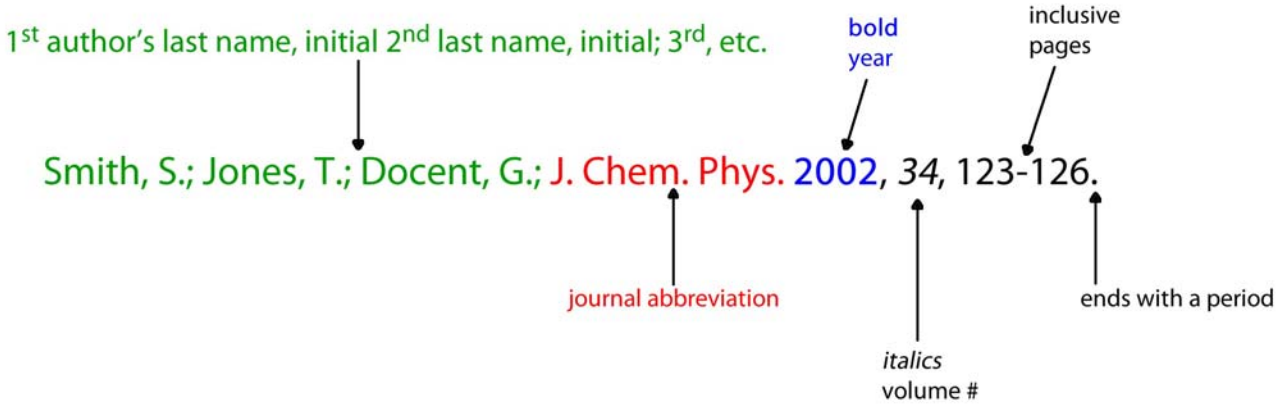
Note in the "Anatomy of a Citation" below that the journal abbreviation is not italicized; the year is bold, the volume is italicized, and the authors' names separated by a semicolon (obviously the colors seen below are just used for clarity; they do not appear in literature citations). No footnotes will be included in the abstract. Do not list the company or school affiliations, or degrees or titles (Ph.D., Dr. BS., Ms., etc.) of the authors. **Make sure the citation ends with a period.** For instance: Smith, S.; Jones, T.; Docent, G.; J. Chem. Phys. **2002**, *34*, 123-
126. If the article you're using is an article in press the citation becomes: Smith, S.; Jones, T.; Docent, G., J. Chem. Phys. **2009**, in press.

If you are presenting your own research, an abstract describing your research will have your name and the name of your research advisor and any additional workers who contributed to the research (again no company or school affiliations, or degrees or titles: Ph.D., Dr. BS., Ms., etc.) Ask your instructor if there are any questions about this author list. If you are presenting work from your research group that has already been abstracted and presented elsewhere that's OK but you must write a new abstract yourself with no help from your research advisor. The formal abstract writing exercise is ~15% of this course's grade and so submitting a prewritten abstract from your group is not OK. Read that sentence again.

If you bring the printed abstract by to me early I will help you edit it and then you can submit the result with no penalty in points. This will almost certainly increase your grade. Read that last sentence again.

The format for scientific citation is important. The anatomy of the citation format we'll use in this class is detailed below. Look carefully, especially when you're writing your abstract.

Anatomy of a citation



The colors above are only used to help differentiate the parts of the citation. The entire abstract and correctly formatted citation are printed in black.

Need some help finding your journal's abbreviated title: See here: http://cassi.cas.org/search.jsp

5. All students in this course are required to read a copy of the summary of the talk that week **one or two days before the scheduled talk**. You must post a reply to the abstract in the discussion board stating that you have read it, it is the posts in the discussion board that Dr. Haines will use to determine whether you have read the abstract as required.

6. Your verbal presentation of the paper that you have selected or your own research should include:

a. A brief background of the subject

b. A discussion of the procedures and results of the paper

Leave out superfluous details (experimental volumes used, temperatures, company catalog numbers, photographs of the instrument from the web. etc.) They are almost never appropriate for a 20 minute scientific talk. Inclusion of superfluous detail will lose grade points. Just because the authors included experimental detail does not mean that you present that to us. Your ability to see the scientific forest for the trees is a skill that this course aims to teach you. This holds if you're presenting your own research too.

c. Conclusions and/or implications based on the results

d. Include graphic images as a visual aid to the presentation (See PowerPoint section below)

Make your images clear—small, poorly labeled graphics are bad. Make the images large enough to be read in the back of a room with 80 seats.

Don't include anything in a graphic that you don't want to explain—too much detail in a graphic can be confusing to your audience.

You may scan figures, tables, and images from you paper if necessary, but complex tables should be reduced to include only what is useful to your talk. Digitally cutting images, tables, and reactions from your paper's PDF file is best. Be able to clearly discuss error bars and special notation in data displays such as calibration plots, histograms, etc.

Any images or information to display on your slides from other sources besides your paper must be referenced on the same slide. Include a URL if you get that item from the web.

Make sure your PowerPoint background doesn't interfere with your slides' text or images.

Use your graphic images as a means of triggering your verbal presentation. Try not to read directly from your slides nor from index cards if possible.

Be able to pronounce correctly all words on every slide—especially chemical terms.

Make sure you use correct chemical notation (subscripts, superscripts, etc.) in all slides and in your article abstract.

7. Your entire talk must be presented as a PowerPoint presentation; other presentation software is not allowed for this assignment. This requires that you prepare your talk's Microsoft PowerPoint file in advance and check out how it works on a Windows computer prior to the talk. You are responsible for how your presentation displays. CDs you burn yourself or files transported via a disc-on-key (flash drive, memory stick) or network access of your S Drive (if it's healthy) are all OK, but talk to Dr. Haines in advance about how you plan to access your PowerPoint file.

8. If you include data from outside the paper you've chosen, then provide a readable citation at the bottom of the slide where that data is presented. Do not provide a bibliography at the end of your talk. If you are presenting your own research group's work—some data that's yours and some for others in your group—then you need not provide a citation on slides presenting work from other group members even if you weren't involved in generating that particular data. This is routinely taken care of in the scientific community by including an **acknowledgement slide** at the talk's end that recognizes the workers that contributed research to your talk if they weren't in the talk's author list.

9. A period of 5 minutes will be allowed for questions from your audience after you finish as well as spontaneous questions from your audience **during** your talk. A request by a speaker for the audience to hold questions (until the speaker has finished) will probably not be heeded.

10. Presentations will be evaluated by all students and faculty in attendance (see attached sheet). You are required to pay close attention to the talk that someone else gives and fairly evaluate that talk based on the categories on the evaluation sheet. The members of the audience will be evaluated by the faculty as to their attentiveness and ability to **ask questions of the presenter**.

11. A bit about Digital Object Identifier (DOI; see www.doi.org). A DOI address in the case of scientific publications are used to allow access to digitally available documents with one address no matter where the publisher stores the file. Once a paper has been accepted for publications—following the peer review process— a DOI address is assigned and once that address is published—it's usually sent to the authors as soon as it becomes available—submitting that address to the DOI server (example: http://dx.doi.org/10.1111/j.1574-6976.2009.00177.x) will send you to at least the abstract of the document and often to a digital version of the entire document.

Course Grading Rubric

You will receive the highest grade for which Dr. Haines determines you meet ***all*** the requirements:

Grade	Presentation	Abstract and Pre-Check	Abstract Reading	Feedback	Disc. Particip.
A	Presentation was of good quality, met time requirements, and was organized. Little to no reliance on notes. Slides contained no more than a few minor grammar or style issues.	Abstract submitted on time, with appropriate summary of presentation; free or nearly free of grammar and style issues and with only very minor deviation from proper citation format. Submitted paper or topic at least two weeks before talk.	Read all or all except one of the abstracts posted (as measured by posts stating abstract was read) prior to class.	Feedback given to other students on presentations was useful and followed appropriate etiquette; Presentations would be expected to improve given this feedback.	Student asked meaningful questions on at least two occasions during the semester. No more than two unexcused absences.
B	Presentation was of fair quality, was close to meeting time requirements, and was at least somewhat organized. May have some reliance on notes. Slides contained no more than a few grammar or style issues.	Abstract submitted, but may not have been on time, with appropriate summary of presentation with only minor grammar and style issues and with minimal deviations from proper citation format. Submitted paper or topic before talk.	Read all except two of the abstracts posted (as measured by posts stating abstract was read) prior to class.	Feedback given to other students on presentations was usually useful and generally followed appropriate etiquette.	Student asked meaningful questions on at least one occasion during the semester. No more than three unexcused absences.
C	Presentation was acceptable but had some significant problems, may have had significant timing or organization issues. May have heavy reliance on notes. Slides contained grammar or style issues.	Abstract submitted, but may not have been on time. Grammar and style issues found or significant deviations from proper citation format.	Read all except three of the abstracts posted (as measured by posts stating abstract was read) prior to class.	Feedback given to other students was only somewhat useful, or lacked appropriateness (mean-spirited, etc.).	Student asked meaningful questions on at least one occasion during the semester. No more than three unexcused absences.
D	Presentation was unacceptable; significant problems, may have had major timing or organization issues. Possibly very heavy reliance on notes to the point it was a distraction. Slides contained major grammar or style issues.	Abstract submitted, but might be after the talk. Major grammar and style issues found or significant deviations from proper citation format.	Read all except four of the abstracts posted (as measured by posts stating abstract was read) prior to class.	Feedback given to other students was of limited use or lacked appropriateness (mean-spirited, etc.)	Student did not participate in class discussions. No more than four unexcused absences.
F	Presentation was unacceptable; may have had major timing or organization issues. Slides contained major grammar or style issues.	Abstract not submitted.	Failed to read enough posted abstracts prior to class.	Feedback given to other students was of no use or lacked appropriateness (mean-spirited, etc.).	Student did not participate in class discussions or had more than four unexcused absences.

Example abstract:

Acidosis, lactate, electrolytes, muscle enzymes, and other factors in the blood of *Sus scrofa* following repeated TASER® exposures

Jauchem, J.; Sherry, C.; Fines, D.; Cook, M.; Forensic Sci. Int., **2006**, *161*, 20-30.

Presented by Krista Baldys

In recent years, the number of deaths associated with repeated exposure to the Thomas A Swift Electronic Rifle (TASER®) has shockingly increased. Several physiological responses, including shifted levels of lactate, hematocrit, potassium, and blood pH, are likely to occur. An experiment was conducted on 10 anaesthetized swine. From those 10, select groups went through different time increments of TASER exposure to all four limbs. Using a blood gas/electrolytes analyzer and other instrumentation, levels of whole blood factors were measured during the pre-exposure period, and several post-exposure periods. Results the scientist saw had a more direct relation of the physiological and biological changes due to muscle contraction rather that the direct electric charge. The decrease of respiration contributed to heighten levels of acidosis during the post-period (one hour after exposure). These effects were found to be short lived and not fatal to a healthy individual. However, these levels found in an unhealthy individual have led to restraint-associated cardiac arrest; ergo, some kind of medical monitoring should be required when individuals are restrained after repeated exposure to the TASER.

Chemistry Seminar **Example Evaluation Sheet**

(I'll bring blanks versions of this form to each talk.)

The Speaker's Name _____

Give careful consideration to the following points about the seminar you have just heard and rate the points accordingly. You may take notes during the seminar that you want the presenter to read later. For the following, provide a rating using a scale of 1 to 5 with 5 being the highest rating. Space is left for comments, which are encouraged. Add up your points for the final evaluation score.

1. The abstract, which you were required to read, was a clear summary of the material presented in this seminar. It mentioned the important points of the research and the results. The citation format was correct. _____

2. The speaker seemed to be familiar with the material and understood what the paper or research project being presented was about. _____

3. The speaker was able to distinguish the major ideas of the seminar from the supporting material: Superfluous, minute details were not unnecessarily presented and important details were included. _____

4. The speaker spoke clearly and distinctly and pronounced technical terms correctly. _____

5. The speaker's presentation materials were clear and useful for the presentation; writing was large enough and graphs were easily read. External material was correctly referenced. _____

6. The speaker answered questions well. _____

7. Your overall evaluation of the seminar. (Add all your points from above.) _____ (0—30)

Talk Length: _____ min