Chem 6210  
Seminar in Analytical Chemistry  
Spring 2011  

Syllabus

Instructor:  Dr. C. LeRoy Blank  
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Analytical Division Seminars will be held on Fridays,  
starting at 3:30 pm in SLSRC 3410/3430.

Course Content

This seminar consists of a series of presentations by primarily graduate students in the  
Analytical Division. Each student in the division typically presents one seminar each year.  
The nature of the topic(s) selected is dependent upon the current status of the student in the  
Analytical Ph.D. Program (see below).

Grading

The grades assigned will be based upon (1) the presentation of the student, (2) the response  
to questions from the audience concerning the presentation by the student, and (3) the  
participation of the student as a member of the audience in presentations by other students.  
Expectations for the level of quality and depth of understanding of the material notably will  
increase with each subsequent year the student is in the Ph.D. program.

Procedures

Each presenting student should provide a copy of the abstract and any other intended  
handouts in WORD format to the course instructor (Dr. Blank) by email two weeks in  
advance of the presentation. Likewise, the presenter should send a copy of the Powerpoint  
presentation in two formats (1 slide per page and 6 slides per page) to Dr. Blank. Dr. Blank  
will try to make comments for improvements/modifications and return to the presenter within  
a few days. One week prior to presentation, the student MUST upload the abstract (as either a  
WORD.doc or pdf file) and any other appropriate materials (as either WORD.doc or pdf  
files), including the complete Powerpoint presentation itself (as a pdf file) to the class D2L  
website (CHEM 6210-001 for Spring 2011) in the drop box. You can reach this web site by  
going initially to ozone.ou.edu and then selecting “desire to learn” or “D2L” and then  
selecting the course. Alternatively, you can get to this web site by going directly to  
learn.ou.edu. In either case, you will be required to use your OU User Name (4+4) and OU  
Password to gain access. Remember that you must upload ALL materials to the “Dropbox” at  
this site. Each document should be appropriately named with your initials and the content.  
For example, if I were giving a presentation, I (C. LeRoy Blank) might upload an abstract,  
extended text, additional text, and powerpoint presentation files all related to the single  
presentation. In this case, I would upload four (4) separate files labeled as, perhaps  

CLB_abstr.doc   CLB_addl_txt.doc  
CLB_ext_text.doc   CLB_presentation.pdf
Remember that ALL such presentation related materials must be uploaded to the D2L site at least one week prior to presentation. Secondly, one week prior to presentation, you are required to distribute ALL the same materials to ALL persons associated with the Analytical Seminar. To this end, we have created, and we maintain a listserv for all associated with this class. Thus, you can fulfill this responsibility by simply sending an appropriate email (put your name and seminar date in the subject, please) to Chm6210-L@Lists.ou.edu
The email should have ALL the appropriate documents attached, of course.

One week in advance of your seminar, incidentally, means at least by the end of the day (3:30 pm) on the Friday immediately preceding the Friday scheduled for the presentation. This constitutes one week in advance. We would recommend that you send a test email to the listserv address two weeks in advance to verify that it is working for you. Note that all successful emails to this address (chm6210-L(at)Lists.ou.edu) must necessarily be sent FROM the OU email address which has been used for you in the list. If your test email, sent two weeks in advance does NOT successfully return to you and others, you should contact the listserv manager, LBLANK(at)ou.edu, immediately upon discovery so this can be corrected. Send me a copy of the failed (bounced) email.

While it is known that we will reasonably have access to appropriate projection materials as needed, it is the responsibility of each student to (1) schedule the necessary equipment with the Chemistry Office as needed (2) check out the equipment and verify appropriate operation in advance of the presentation, (3) acquire the equipment and any other necessary materials immediately prior to the presentation, (4) be knowledgeable concerning the proper operation of the equipment/materials for the presentation, and (5) return all equipment/materials as soon as possible after utilization. Each presenter is responsible (1) to verify that everything presented/projected can be easily read and/or observed from the most remote part of the seminar room and (2) to define any and all terms used in the presentation and the related abstract/handouts.
**Topic Selection:** The topic is selected according to our *Ph.D. Program Guidelines for the Analytical Division (Spring 2009 Revision)*:

In the first year, the student will present a ~45 minute seminar on an assigned topic. A 1-2 page abstract with references should be distributed to all division members one week before the seminar.

In the second year, the student must present a seminar on a topic of their choice. The topic must be approved by the faculty member in charge. The student will thoroughly review the literature, prepare a 5-15 page typewritten report including appropriate references, and present a seminar on the subject. The written report should be distributed to all members of the division and of the student’s Ph.D. Advisory Committee at least one week before the seminar. In both the written report and the seminar, the student must demonstrate the ability to identify the significant problems and results within the area. [Due to the fact that the seminar may be related to the student’s Preliminary Exam, the student must independently notify their Ph.D. Advisory Committee members of the date/time of the seminar.]

In the beginning of the third year, the student will present a seminar based on their research project. The seminar should include the background material, results, and plan for future studies. An extended abstract, 5-10 pages in length, with appropriate references should be prepared and distributed to all members of the division at least one week before the seminar.

For the fourth year and beyond, the student must present a seminar on her/his research or on a faculty-approved topic, typically related to the student’s research project. A 1-3 page abstract with references should be distributed one week before the seminar.
ADDITIONAL NOTES:

Transparencies, PowerPoint and/or other visual aids should be utilized with the oral presentation.

In addition to the reviews (and/or lead papers) you use for your abstract, you should read, understand, and summarize approximately 25-50 (or more) original research publications for the abstract. Your abstract should be current through all of the most recent publications, including references from the current year. Each reference, including reviews, books, etc., used in the preparation of your written paper must be included in your list of references at the end of the report. The references should include all authors, year of publication, full title, journal name, volume, and pages, e.g.:


Furthermore, all material appearing in the text must have appropriate reference annotation — anything less will be considered plagiarism. Any material(s) (i.e., paragraphs, sentences, phrases, ideas, concepts) which is/are, for the most part, taken directly from a particular reference should be placed in quotes and/or indented. Likewise, you should be sure to properly reference material that was viewed only through a secondary source. If, for example, you only saw a summary of an original article in Chemical Abstracts but were unable to actually view the original document itself, your reference should cite both the Chemical Abstract summary and the original publication.

I strongly recommend against utilization of any reference materials taken from the World Wide Web (Internet). Materials obtained from the original literature sources are to be far preferred due to the fact that original literature is, for the most part, carefully scrutinized and validated through the peer review process. There is, unfortunately, no established review process for the vast, vast majority of the material which appears on the web. Or, stated another way, there is very little acceptable scientific veracity associated with such material. [And, thus, you become more responsible for establishing the veracity as opposed to the acceptable shifting of this responsibility to the editor/publisher/reviewers of a peer reviewed publication.] Nonetheless, if you do employ any materials from the web, these must be properly referenced by annotation and inclusion in the Reference List in the same manner as original and secondary sources mentioned above. Likewise any directly borrowed materials must be properly placed in quotes and/or indented in the same manner as mentioned above. In the utilization of web references, it is particularly important, one should note, to include the date that the page/site/material was accessed, since web sites are notoriously changed at random times. Fortunately, there are locations where one can find the web page as it existed at a previous date in time if this becomes necessary. In other words, the date accessed is essential for the reader to be able to find the original source you viewed in such a case.

If there is any doubt whatsoever concerning how/if you should reference material(s) and/or concern about possible interpretations of the proper method(s) for doing so, you should consult with the instructor in charge of the course. Such consultation should occur well in advance of the due date for the abstract distribution and presentation.

Students engaging in academic misconduct (including cheating, plagiarism, and any other action that may improperly affect evaluation) will be subject to sanctions in accordance with the Norman Campus Academic Misconduct Code.
Plagiarism is fundamentally an act of dishonesty in which one claims the work of another to be his/her own. If this has occurred, in the judgment of the evaluator, s/he is mandated to charge the student with plagiarism. Dr. Blank routinely recommends a grade of F for the course and expulsion from the University for all occurrences of academic misconduct.

Electronic copies (WORD format) of all abstracts and all materials used in the presentation must be submitted prior to abstract distribution and prior to the presentation, respectively. [See specific instructions and timing for submission above in “Procedures.”] All e-copies submitted to the D2L (learn.ou.edu) web site will be routinely submitted to and examined by TurnItIn.com to check for possible incidents of plagiarism.

Other Pertinent Policies

The University of Oklahoma is committed to providing reasonable accommodation for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with the professor as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in Goddard Health Center, Suite 166, phone 405/325-3852 or TDD only 405/325-4173.

Each student should acquaint her or his self with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on physical handicap.

In order to aid in communication, the University has established email as an acceptable means of official communication. All University students are assigned an official University email account. Your instructor will be communicating with you through this account. Email sent to this account is expected to be read by you in a timely fashion. For convenience, you can arrange to have your email forwarded to another email account (go to https://webapps.ou.edu/pass), however the University warns that you do so at your own risk. Failure to receive or read, in a timely manner, the communications sent to you via your official email account does not absolve you from knowing the information being sent to you.

The instructor reserves the right to change any items contained in this syllabus. This includes, but is not limited to: course content, scheduled dates, and fraction(s) of final grade assigned to individual components of the course.

Students are expected to be attentive and respectful during the course lectures and to remain seated until the end of the period. Disruptive behavior in the lecture will not be tolerated.

There is NO extra credit in this course.

The final day to withdraw without a grade is Friday, February 4, 2011. The final day to withdraw from the course is April 1, 2011. Students who stop attending but who do not officially withdraw from the course will be assigned a course grade.
Plagiarism

[Some students have claimed that they were unsure concerning what was or was not considered to be examples of plagiarism. Thus, your instructor has provided the following comments to help clarify this issue.]

[Note that simply putting quotes around large fractions of your text is NOT the solution to a potential plagiarism problem. We fully expect you to write your abstract/paper in YOUR OWN WORDS for the most part. Only minor portions of your text should ever require quotations if you have written a proper paper.]

Most of us clearly recognize that the copying of whole paragraphs and/or pages from another’s work without any recognition of the source as being plagiarism. The problem comes when dealing with only sentences, sentence fragments and/or paraphrasing. One of the interesting statements I have heard repeated by many undergraduate and graduate students concerns the referencing of a sentence or entire paragraph (putting a reference number at the end of a sentence or paragraph). Many of these students presume that the inclusion of the reference number absolves them of any plagiarism, in spite of the fact that they may have copied the sentence and/or paragraph word for word without using quotations, indentation or some other form (italics, bold, etc.) to clearly distinguish the text in question. This is blatant plagiarism in my interpretation.

I would like to make it very clear that my interpretation and judgment in the more difficult cases of what does and does not constitute plagiarism is just that: MINE. The judgment of every individual instructor will be somewhat different. Thus, it is essential that you understand exactly what I will interpret as plagiarism. Hopefully, the following definition and five examples will help clarify this situation.

My Definition of Plagiarism.

Plagiarism is fundamentally an act of dishonesty in which one claims the work of another to be his/her own. If this has occurred in the judgment of the evaluator, s/he has no moral option but to charge the student with plagiarism.

I presume that, in preparing scientific papers and proposals, students will have read many publications prior to beginning the writing of the paper/report. I presume that they will thoroughly understand and integrate all this information prior to the writing of the report. In short, if such a process of reading, cogitation, deep understanding, and blending of ideas has occurred prior to the writing, it is clear that the written product should be almost exclusively the words of the student/writer. The vast majority of the writing should occur without direct referral to any of the original sources. A few words may have stuck in the memory from previously encountered phases at the moment of writing, and these should be clearly annotated and referenced as appropriate. Also, the general concepts/understandings should be clearly referenced to indicate their source(s). But, such a process, with deep understanding of the
material and simultaneous consideration of multiple sources will almost never provide phrases of four to five (or more) words which can easily be identified as coming directly from and being unique to one of those sources. Indeed, the writer's own wording will almost always select alternative phrases/words that, properly, incorporate their interpretation of the material(s) along with the connotations they have derived from the multiple source(s) observed/consulted.

Plagiarism is becoming much more easy to discover with the many available search tools (e.g., www.google.com and turnitin.com). The professional and personal price for plagiarism, which can and does include expulsion for students from the University of Oklahoma, are extremely serious. Please do not force your instructor (me) to charge you with such an offense.

Five Specific Examples of What I Consider to be Plagiarism

Case 1. We all readily recognize blatant plagiarism. Examples of this, to my way of thinking, are provided by Carol Cole (“Say It Ain’t So, Gary, Say It Ain’t So”, Daily Oklahoma Gazette, Dec. 27, 2001, pp. 15) in which she accuses Gary England, KWTV Meteorologist, of plagiarism in connection with his column written for the Oklahoman. Two examples of this are provided below. In both cases the first cited passage is taken from the Oklahoman article authored by Mr. England, while the subsequent passage is taken from a web site (which was not mentioned or referenced in the Daily Oklahoman article).

1. A. “Mars is strangely reminiscent of our own world. Although having an extremely thin carbon-dioxide atmosphere and a very dry and cold surface – daytime temperatures average about 58 degrees below zero – features resembling ancient river beds tell of more hospitable times…” (Daily Oklahoman, Dec. 10, 2001)

   B. “Mars is strangely reminiscent of our own world. Although having an extremely thin carbon-dioxide atmosphere, and a very dry and cold surface (daytime temperatures average around –50 degrees C), features resembling ancient river beds tell of more hospitable times…” (Science Net observed on/about 12/27/01 at www.sciencenet.org.uk)

2. A. “The sun normally shows signs of variability, such as its 11-year sunspot cycle. Within that time, it goes from a minimum to a maximum period of activity represented by a peak in sunspots and flare activity…” (Daily Oklahoman, Dec. 14, 2001)

   B. “The sun normally shows signs of variability, such as its 11-year sunspot cycle. Within that time, it goes from a minimum to a maximum period of activity represented by a peak in sunspots and flare activity…” (Space Daily observed on/about 12/27/01 at www.spacedaily.com)

Case 2. More difficult circumstances are encountered when the author provides some paraphrasing but maintains much of the original article. The following example is, however, absolutely a clear cut case of plagiarism for me. This was reported in Newsweek in the March 18, 2002 edition. No author was cited for the article. In the article, a passage from William L. Shirer’s book The Rise and Fall of the Third Reich is given as:
"And so at noon on September 19 the British and French ministers in Prague jointly presented the Anglo-French proposals to the Czech's government. They were rejected the next day in a dignified note which explained – prophetically – that to accept them would put Czechoslovakia "sooner or later under the complete domination of Germany." After reminding France of her treaty obligations…"

This is followed by a passage from the later appearing book (1987) written by Doris Kearns Goodwin entitled The Fitzgeralds and Kennedys. [This is somewhat more disconcerting since Ms. Goodwin later (1994) won a Pulitzer Prize for work entitled "No Ordinary Time".]

The second passage (which never mentioned or referenced the first) reads:

"The following day the Anglo-French proposals were presented to the Czech government, which immediately rejected them with a dignified and prophetic note saying that to accept them would put Czechoslovakia "sooner or later under the complete domination of Germany.: But the British and French were in no mood to allow the Czechs…"

The second is clearly plagiarized from the first in my opinion. To begin with, no citation of the former work was provided in the latter. But, even if it had, the paraphrasing is far too reminiscent of the original. I, thus, would say that the second should be all or mostly in quotes and/or clearly set off from the rest of the text to indicate that it is primarily the phrasing of the original, not the second, author. Additionally, it must be properly referenced.

Case 3. Another example of paraphrasing plagiarism is provided by an article that appeared on the web (http://www.forbes.com/2002/01/17/0117ambrose_2.html; viewed on/about March 28, 2002) accusing Stephen Ambrose, a popular historian, of plagiarism. The first passage below was taken from The Great Persuader, David Lavender, Doubleday, 1970, pp. 9:

"Only three females were aboard – twenty-four-year-old Jessie Benton Fremont… Jesse was on her way to California, escorted by a young brother-in-law, to meet her explorer husband, John Charles Fremont, at the conclusion of his fourth expedition through the western reaches of the continent, this one in search of a usable railroad route to the Pacific."

The second passage, clearly plagiarized from the first although never mentioning or referencing it, was from Nothing Like It in the World, Stephen Ambrose, Simon & Schuster, 2000, pp. 49:

"Twenty-four-year-old Jessie Benton Fremont … was on the ship, on her way to California to meet her explorer husband, John Charles Fremont. He had just competed his fourth expedition through the Western reaches of the continent, this one in search of a usable railroad route to the Pacific."
Case 4. The Writing Center at the University of Oklahoma has also provided guidelines on the issue of plagiarism which are quite useful. The following examples have been taken, with permission, from their brochure entitled "Quoting and Paraphrasing".

In one example, they provide an original quotation of

"Contrary to popular belief, exercise has never been shown conclusively to prolong life."

An acceptable paraphrase of this quotation (which would require proper referencing but not, in my opinion, quotation marks or setting off from the rest of the text) is:

"No one has ever proven that exercise lengthens life.

On the other hand, a paraphrase which is too close to the original (and would be considered plagiarism if not properly referenced AND placed in quotations and/or set off from the rest of the text) is:

"Contrary to critical thinking, exercise has never been demonstrated conclusively to lengthen life."

In a second example, they provide an original quotation of

"Olfactory receptors for communication between different creatures are crucial for establishment of symbiotic relations."

An acceptable paraphrase of this quotation (which would require proper referencing but not, in my opinion, quotation marks or setting off from the rest of the text) is:

"The sense of smell is essential to cooperation among different animal species"

On the other hand, a paraphrase which is too close to the original (and would be considered plagiarism if not properly referenced AND placed in quotations and/or set off from the rest of the text) is:

"Establishing communication with olfactory receptors between different creatures is crucial in symbiotic relations."

Case 5. Plagiarism by Group Effort.

In a very interesting case that recently occurred in the Chemistry & Biochemistry Department, three individuals were working on a lab report together. This was clearly allowed. All labs were being completed by groups of two or three individuals. After collecting virtually all the data, person 1, provided person 2 with the numerical outcomes. Person 2 wrote a preliminary report covering background material and the data received along with some interpretation. Person 3 polished the report, provided a more comprehensive conclusion/interpretation, added a paragraph (verbatim, not referenced, not set off in quotes, and not set off from the rest of the text) from a particularly good article on the subject, and turned it in for a grade. When the TA discovered the plagiarism of the paragraph, all three students were charged with plagiarism. In this case, I have no doubt that all three are equally responsible for the finally submitted report. All three clearly would have accepted an "A" for the report if that had been the outcome. Thus, all three must clearly accept the responsibility for the act of plagiarism as well.
### CHEM 6210
### ANALYTICAL SEMINAR, revision 4
### SCHEDULE FOR 2010-2011

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* Nondiffraction Limited Photolithography Applied to Microfluidics

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