

CHEM 4601 - CHEMISTRY SEMINAR (2 Credit Hours)

Course Policies and Syllabus

Fall Term 2015

Course meeting location and time:

Section A (CRN 81719) Mondays 3:05-4:55 Mason Building 3132

Course website:

T-square: <https://t-square.gatech.edu/portal>

Instructor: Professor Donald Doyle, Ph.D.

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Preferred communication method: email. Put “Chem 4601” at the beginning of the subject line.

Course Goals

The goal of CHEM 4601 is for students to learn how to read and critique contemporary biochemical research literature with technical comprehension and appreciation for its contribution to science. We also aim for students to develop communication skills by openly discussing biochemical research, making Power Point-style presentations and posters, and presenting published research. Active verbal participation in class discussions each week is essential for success.

The first part of this course focuses on the scientific literature. We will teach you how to keep abreast of developments in biochemistry, pursue your own personal and professional scientific interests in depth methodically, and research future developments/interests that we do not yet foresee. Also, with a biochemistry degree you may be expected by family and friends to be an “expert” resource in science and medicine. This course will help you actually live up to that expectation (should you choose to do so!).

Students will practice oral and written communication in various ways throughout the term:

- “Team” Paper Presentations: Students will work in teams of 2 people to prepare and present a rigorous and thorough 1-hour presentation on a research article published in the biochemical literature. The instructor will randomly assign teams. It is the responsibility of the team members to meet outside of class for at least one practice oral presentation during the week preceding each student’s presentation. If a team does not meet, I want to hear about it. (You may reserve a presentation room in Clough.) Each student will select a biochemistry paper of interest published within the last ~6 years (e.g. 2009-2015), have it approved by the instructor, and present it in an oral presentation to the rest of the class. Students should avoid papers that are exclusively cellular (i.e. gels and cell images) and include quantitative data (e.g. graphs and tables). Rather we encourage students to select papers that describe studies in molecular science

that involve biochemistry. Also, students should select papers from a reputable journal with extensive and relatively broad readership (e.g. Impact Factor rating of 3 or higher).

- Poster Presentations: Each student will select another biochemistry paper of interest (published within the last ~6 years), have it approved by the instructor, and present it in a poster presentation open to the School of Chemistry and Biochemistry at the end of the term.
- Class Participation: During each class period, students are expected to contribute verbally to the class discussion for the day. Additionally, written critiques of other students presentation will be handed in and graded. Students who fail to participate at all will earn a grade of "0" for the day. Please see the grading policy below for more details.

Honor Code

All students are expected to comply with the honor code regulations set forth by this institution. All violations of the honor code will be reported to the office of student affairs. Violations of the honor code can result in a zero on the particular assignment, a letter grade reduction, and can, in some instance, result in expulsion from the institution. For this course, plagiarism is a particular concern- if text is copied or quoted directly credit must be given to the source!

Course Grading

30% = Class Participation and Attendance

40% = Oral Presentation (PowerPoint-based presentation to the whole class)

20% = Oral Presentation (poster)

10% = Homework. Homework received by me within 24 hours after the assigned due date (or time) without a pre-approved excuse will receive 50% credit.

Homework received more than 24 hours after the assigned due date (or time) will receive zero credit.

I. CLASS PARTICIPATION AND ATTENDANCE

- Attend each class on time and participate in class discussions during each class period.
- Read the papers that are the subject of the presentation before the class at which the presentation will be given. Student comprehension of modern chemical/biochemical techniques is one of the objectives of this course.
- Every class (except the first week) will receive a maximum of 50 points for attendance and participation. Students who are absent without a pre-approved excuse will earn a class participation grade of "0" for the day.
- Students who fail to verbally participate in a class will receive 25 points off of their class participation grade for the day.

- Students who arrive to class after the presenter has begun giving his/her presentation will receive 10 points off of their class participation grade for the day. (Disruptions have proven to make some presenters very nervous.)
- The lowest class participation grade will be excluded from averaging of final grades.

Extended absences may constitute the need for special consideration of grading. Those cases will be handled individually and uniquely at the discretion of the instructor.

II. ORAL PRESENTATIONS

1. Team Paper Presentations

Students will each present at least one 30-35 minute “team” presentation over the course of the term. You should finish within the 30-35 minute timeframe, not including the class discussion at the end. We have a total of 55 minutes allotted to each student presentation. Each talk should contain core information that is pertinent to the overall quality of the presentation. Send the Powerpoint file to the instructor the night before the presentation. Presentations will be graded by all course members on the following criteria:

- Introduction
- Background: give some background information about the topic so that the audience members can understand and appreciate the beauty and impact of the science.
- Significance: give an impactful description of why the research is important and give it near the beginning of the talk.
- Goal: clearly state the purpose of the research being described.
- Accuracy: make sure that your statements and analyses are correct.
- Stage Presence: use of body language should be to enhance the talk and not to detract from the goal, which is to communicate your ideas.
- Speech: be sure to speak articulately, at a sufficiently high volume, at a reasonable pace, and with a sensible amount of content within the time frame allotted.
- Flow: present your ideas in a logical, organized manner, especially in regard to the description of the experimental methods and results.
- Visual aids: exploit your visual aids to engage the audience and communicate content in an effective manner.
- Questions/Answers: address all questions or comments with integrity and respect.
- Time Management: conclude your talk within the time frame allotted, leaving some time for questions at the end (and possibly throughout the talk).
- Conclusions: end the talk with a take-home message and path forward
- Critique- your opinion

- **Class Discussion:** the presenter is expected to take it upon him/herself to stimulate class discussion

The oral presentation grade is determined by the other students and by the instructor. Your presentation grade would be an average of the class grade and the instructor grade. I reserve the right to change the balance if I see a bias for or against any student. Typically, the scores have been within ~5%. **You cannot get an “A” if you do not manage the time properly.**

2. Poster Presentation

Students will give a poster presentation on contemporary biochemical research article of the student's choice (with the instructor's approval). The poster should describe work published in a biochemical research article that was published within the last ~6 years (e.g. 2009-2015).

Poster Printing. Posters will be mounted on boards that are 3.5-feet high x 5-feet wide, so each poster should be 3' high x 4' wide. There are several resources for printing posters including:

- **Georgia Tech Library**
- Craft Center (3rd Floor Student Center)
- School of Biology
- School of Materials Science and Engineering
- Kinko's (least economical)

Poster Grading. Submit an electronic copy of the final poster to the instructor by the beginning of the poster presentation session. Allow at least 1 week for poster printing! Posters will be graded based on:

- Organization
- Content
- Aesthetics
- Presentation

III. HOMEWORK

There will be a few homework assignments scheduled over the course of the term. Homework is due in hard-copy format by the beginning of class on the scheduled date.

In the event that a student must be absent for any reason, homework may be submitted via email to the instructor by the beginning of class on the due date. **NOTE:** Any electronic homework must be converted to PDF format prior to sending. Make sure that the PDF converter did not alter the integrity of the work in any way.

Grading Scale

A	Excellent	90 – 100% will guarantee an "A"
B	Good	80 – 90% will guarantee a "B"
C	Average	70 – 80% will guarantee a "C"
D	Fair	60 – 70% will guarantee a "D"
F	Failing	Less than 60%