

## Honors Readings – Chem 3690 (CRN 84884)

**Co-requisite Course:**

**HONORS BIOCHEMISTRY I – Chem 4600 (CRN 89211)**

**Fall 2015**

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| Instructor:                                       | <b>Dr. Gigi B. Ray, 212 Courtland North, Tel. (404) 413-5540, <a href="mailto:gbray@gsu.edu">gbray@gsu.edu</a></b>   |
| Meetings:   | Attend several group sessions to discuss case study assignment and material related to Biochemistry I course. Also meet individually with the instructor, once every other week, times TBA.  |
| Case Study Report:                                | Honors students will be assigned a case study by the instructor on a biochemically or medically relevant problem. Students will write an essay <b>explaining the case in biochemical terms</b> . This is an analysis and communication exercise.   |
| Course Objectives:                                | Each student will examine a particular topic in depth. Topics will cover some material not discussed in the Biochemistry I course, so additional reading will be necessary to understand and explain the case material. Students will need to integrate topics from several different chapters.  |
| Desire2Learn:                                     | Class notes posted on Desire2Learn as Cross Listed Section:<br><b>BIOCHEMISTRY I XLS Group VW Fall Semester 2015 CO</b>  |
| Grading for Students taking Honors Biochemistry I | <ol style="list-style-type: none"><li><b>1. Case Study Report due Friday Nov 13, 2015</b>, one week before the Thanksgiving holidays.</li><li><b>2. One-page Outline due Friday Oct 16<sup>th</sup></b>, presenting topics and organization of Case Study Report.</li><li>Grade for case study will be given for Honors Readings (Chem 3690).</li><li>Grade for Honors Biochemistry I (Chem 4600) will be the same as for other students, except submission of case study is required.</li><li>Evaluation (100 pts): 90 points for biochemical explanation of case study, and 10 points for presentation of information.</li></ol> |
| Grading Scale:                                    | A+ 97% A 90% A- 87% B+ 84% B 80% B- 76% C+ 71%<br>C 65% C- 58% D 50% F <50%  |

## Honors Biochemistry I - Case Study Directions

1. The student will submit a clear, concise and well-organized ESSAY, incorporating the answers to the questions within the case study text. Every question does not need to be answered or the case “solved” (ie treatment plan), but try to answer as much as possible. ***Explain in biochemical terms how the data provided leads to an understanding of the medical/biochemical problem presented, utilizing material you have learned this semester and from your reading.***
2. Focus on analysis rather than simply presenting facts. Student is not intended to find the answer in the literature, rather to figure out the answer using their understanding of biochemistry.
3. ***Try to define all the relevant terminology, and explain the basic system, relevant biochemical pathways or processes. Make sure analysis is consistent with all the data provided.***
4. This is a technical writing exercise so use spell-check, good grammatical structure, etc.
5. The paper should be typed, with about **5-7 pages of typed text**, double-spaced. Have a title page with your name, course, instructor, and an appropriate title for your case study.
6. You can discuss the case study ONLY with the instructor. ***Please do NOT discuss this with any other person, either faculty, student, or acquaintance.***
7. To explore your topic beyond the textbook, you may use any **written source**, preferably other biochemistry textbooks or **peer-reviewed journal articles**. Use of Web references (including Wikipedia) as your primary source of information is strongly discouraged because these are often not reliable or accurate, as they do not go through any kind of peer or editorial review.
8. **Use of ChemBioDraw, Accelrys Visualizer, and SciFinder Scholar** will be discussed in small group meetings.
9. Include one additional page (beyond the 5-7 pages of text) with structures, relevant biochemical pathways, etc as **FIGURES** that help clarify and explain your exposition. Each figure should have an **informative figure caption** and a **figure number**. In the text refer to this figure number in your explanation. Draw **structures** and **biochemical pathways** using **ChemBioDraw**, which is available on every library computer and as a free download for GSU students. **3D protein structures** using data from the Protein Data Bank (PDB) can be generated using **Accelrys Visualizer** (free download). You can include a legible and high resolution **relevant** diagram from another source such as a textbook, but make sure the source (including figure and page number) is clearly referenced in the figure caption.
10. **References** should be included on a separate page at the end of the report. Each time you refer to material in your text that comes from another printed source, it should include a footnote number as a **superscript** (after the punctuation). The first reference in the text should be number 1, then 2, 3, ... If you use the same reference a second time, reuse the same number. The format for the references is that of the Journal of the American Chemical Society (JACS) a central journal in the chemical and biochemical literature (examples on next page).

## **Journal reference:**

(1) Traylor, T. G.; Campbell, D.; Wang, C-B.; Mitchell, M. "CO Binding to Heme Model Compounds", *J. Am. Chem. Soc.*, **1985**, *107*, 604-614.

- Authors (last name, initials) separated by semicolons
- "Article title in quotes, main terms capitalized"
- *Journal title (in italics, using standard abbreviations if you know them, otherwise use full title), followed by a coma*
- **year of publication (in bold), followed by a coma**
- *volume of publication (in italics), followed by a coma*
- page numbers (give start and end page range, in plain text), followed by a period

## **Book reference:**

(2) Voet, D.; Voet, J. G.; Pratt, C. W. *Fundamentals of Biochemistry*; Wiley: New York, 2002; pp 354-357.

- Text authors (last name, initials) separated by semicolons
- *Full book title (in italics), followed by a semicolon*
- Publisher (followed by colon) then place of publication (followed by a coma) then year of publication (followed by a semicolon) – all in plain text
- Editors (if there is one) as Ed. Sigel, C. M. followed by a semicolon
- page numbers (give start and end page range, in plain text), followed by a period

## **Web References:**

***These are often not reliable or accurate, as they do not go through any kind of peer or editorial review (i.e. use at your own risk).*** I discourage use of these as your primary source of information because of their unreliability, especially types 2 & 3 below. See below for the American Chemical Society (ACS) Citation Style for Internet Sources. The website alone is not enough as these can change frequently. Include the title of the site and who it is run by.

### **Online Periodical Article**

Format: Author(s). Title of article. Journal abbreviation [Online] year, volume, pages.

Example: McCoy, M. Chem. Eng. News. [Online] 1998, 76, 21-22.

### **URL (Web Page)**

Format: Author, if available. Title of page as listed on the site. Address of page (date accessed).

Example: Hsu, D. Chemicool Periodical Table.

<http://www-tech.mit.edu/Chemicool/> (accessed Jan 1999).

### **Discussion List or Newsgroup Message**

Format: Mailing list or newsgroup name, description of information, electronic address.

Example: Chemistry in the Community Discussion List, discussion of zinc and the common cold in archived messages of September 1998, CHEMCOM@listserv.acsu.buffalo.edu.