Honors option for BCMB3100
Instructors: Debra Mohnen & Daniel DerVartanian
Fall Semester 2019

Goals: To enable the student to learn how to read and critique a scientific research paper in biochemistry and to understand the underlying biochemical principals. To enhance the student’s scientific writing and presentation skills and to broaden the student’s understanding of science research and the scientific process.

Overall Requirements
Each student must select one primary research paper (NOT a review) in the field of biochemistry published within the last year in a high quality scientific journal. There are many journals to choose from including: Science, Nature, Journal of Biological Chemistry, Proceedings of the National Academy of Science (PNAS), the EMBO Journal, etc.

Specific Requirements
1. To take the course for honors the student must sign up with the Honors office by August 20 (or earlier if required by Honors Department) and email a confirmation of your application to Dr. Mohnen by Aug. 20. You must inform Dr. Mohnen in the Breakout Session of your intent to take the class for Honors by Aug. 20.

2. By the end of Breakout session on Sept. 10 the student must supply Dr. Mohnen with a Xeroxed copy of your selected research paper. These will NOT be returned so be sure to keep a copy for yourself. Be sure to label with your full name and email address.

3. In the Breakout session on Sept. 17 the student must speak with Dr. Mohnen to ensure that their selected research paper is acceptable. Bring your own copy of the research paper with you at this time. Dr. Mohnen should already have her copy which you gave her the proceeding week.

4. By the end of day Oct. 8 the student must turn in a detailed outline of their proposed paper to Dr. Mohnen. This should be emailed with contact phone number and the following SUBJECT LINE: “BCMB3100 HONORS OUTLINE from “your first and last name”

5. By the end of the breakout session on Oct. 15, the student must discuss with Dr. Mohnen to determine if the outline is satisfactory.

6. If time allows, we may have one or more meetings, with students taking the class for honors, for scientific discourse/presentations.

7. The research paper must be turned in to Dr. Mohnen by 5:00 PM on Dec. 5.

Each student will be expected to write a 10-15 page critical review of the research paper that will be due on Monday, Dec. 5 by 5:00 PM. (see guidelines on next page)
The paper should have the following parts:

1. A title page that should include (1) the title of YOUR paper (e.g. Critical review of the research paper by XXXX et al. entitled XXXX); (2) Followed by the FULL citation of the paper reviewed; (3) the statement “In partial fulfillment of BCMB3100 Honors Fall 2019”, (4) your name, (5) the date.

2. Abstract: A coherent, brief summary of YOUR review of the paper

3. Introduction: should provide a background of the area studied in the research paper and end with a clear statement of the hypothesis tested or question(s) asked (be sure to include references). It is expected that you reference, and have read, other papers outside your selected paper to write your introduction.

4. Methods and Results: summarize the types of experiments performed to test the hypothesis and most importantly include a critical description and evaluation of the results of the experiments. The results section MUST include a text-based description of the results along with numbered Figures and/or Tables. The Tables must have Table headings and Figures must have figure legends (see below).

5. Discussion: summarize the conclusions presented in the research paper AND YOUR EVALUATION OF THE PAPER. End the discussion by proposing what the next step (experiments) should be in the research. (see below)

6. References: give full citations, including titles, for ALL of the references that you used. BE SURE TO INCLUDE THE PAPER YOU ARE SUMMARIZING. Most references should be published scientific papers. Web-based citations should be used only sparingly or not at all.

7. Tables and Figures: You should include numbered tables and/or figures. You can intersperse these in the text or put the numbered tables and figures on separate pages after the References. All figures require a figure legend and the content of figures and tables must be described in the text. You must mention each figure or table at least one time in the text (i.e. “see Fig. 1”, etc). You MUST also acknowledge (with a citation) any figure or table you take from a paper.

NOTE: DO NOT PLAGIARIZE. Write the paper using your own words.

Any suggestions you have to improve Honors BCMB3100 the experience would be appreciated.