PSL 101: Frontiers in Physiology

Mondays 1:50-2:40 PM in 136 Chemistry Building
Spring 2017

CONTACT INFORMATION for Dr. Lori Seischab

- *E-mail:* seischab@msu.edu
- *Phone*: 517-884-5200
- *Office*: 2201 Biomedical Physical Sciences Building

- *Walk-in office hours:* Please feel free to stop by my office, weekdays 9:00-12:00 and 1:00-5:00. If you do not have an appointment, you might have to wait.
- *To schedule appointments:* You may use the Student Success Dashboard to schedule an appointment. After logging in, click on the blue "Get Advising" button and follow the directions. You'll need to know that I am in the College of Natural Science and the Department of Physiology.

EXPECTATIONS

- Your attendance and participation is expected at all classes. If you cannot attend a class, you are expected to discuss your absence with me. I will determine whether your absence will be excused and what you will need to do to make up the work.
- All e-mail correspondence related to the course should adhere to the guidelines described in this presentation from the University Of Maryland Baltimore County: http://vimeo.com/22255753.

GRADING

- You will be graded on a pass / no-credit basis. To pass the course, you must receive a passing grade on *all assignments*. If you do not pass an assignment, you may repeat the assignment until you earn a passing grade.
- There will be approximately 1 assignment per week. All assignments should be typed, unless otherwise announced. Most assignments will be submitted through the Dropbox on D2L.

WEBSITE RESOURCES

You do not need to purchase a textbook. All resources will be posted on D2L. Below is a sample of the resources you will be using in the course, and hopefully throughout your undergraduate career.

- AAMC core competencies for entering medical students
- AAMC postbaccalaureate premedical programs
- Aspiring Docs
- American Physiological Society
- Explore Health Careers
- iBioSeminars
- Journal of Visualized Experiments
- Khan Academy
- MIT Career Development Handbook
- MSU Career Services Network
- MSU Center for Service-Learning
- MSU Physiology research
- Pathways to Science
- USA Jobs

BROAD GOALS

When I designed this course, I had several broad goals in mind. By the end of the semester, I want students to be able to

- Explain what physiology is.
- Compare the possible career paths in physiology and the skills necessary for success in those paths.
- Develop a plan for acquiring those necessary skills.
- Evaluate their progress towards their career goal.

COURSE FRAMEWORK

Physiology is a professional discipline that is partly defined by its foundational concepts. For example, many of the foundational concepts of physiology are taught in courses such as PSL 250, 310, 431 and 432. A professional discipline, however, is more than a set of concepts. Among other things, a professional discipline encompasses a set of professional norms, career paths, and co-curricular training for those career paths. The overall goal of this course is to help students develop an understanding of the broad field of physiology (i.e. its professional norms, career paths, and co-curricular training) through three categories of assignments: professional communication, self-evaluation, and research-related skills.

LEARNING OBJECTIVES & HOMEWORK ASSIGNMENTS

As much as possible, the homework assignments and in-class activities mimic things you will need to do as a working professional. Samples of some of the assignments are listed below.

As a result of participating in class activities and completing assignments, students will be able to:

Professional communication

- Compose a resume that is consistent with expectations in scientific disciplines by following the guidelines in the MIT Career Development Handbook.
  Reference: https://gecd.mit.edu/sites/default/files/about/files/career-handbook.pdf
- Correspond effectively with scientists by applying the UMBC guidelines to all e-mails that are related to the course.
  Reference: http://vimeo.com/22255753
- Develop reflective writing skills, using the DEAR framework for reflection and the REFLECT rubric for evaluation.
  Reference: Wald et al., Acad Med. 2012; 87:41-50.

Self-evaluation

- Develop self-assessment skills by applying SWOT analysis to their academic progress.
  Reference: https://www.psychologytoday.com/blog/career-transitions/201104/strategy-writing-the-dreaded-cover-letter
- Develop an understanding of the core competencies for entering medical students by constructing a 4-year plan for enrichment activities, co-curricular activities, and gap year activities.
  Reference: https://www.aamc.org/initiatives/admissionsinitiative/competencies/
- Describe several career paths in physiology, including paths in various sectors (i.e. government, academia, and industry) and in different functions (ex. researcher, medical writer, health care administrator, and clinical trial manager).

Research-related skills

- Recognize the harms from research misconduct and describe the factors that can cause misconduct to occur by completing two modules of the CITI training course for Biomedical Responsible Conduct of Research.
- Describe in his/her own words a physiology research project after participating as a subject or as an observer in a physiology capstone project (PSL 475L).
- Attend and evaluate a physiology-related research seminar by composing an evaluation tool that includes the criteria described in the iBioSeminar “Designing Effective Scientific Presentations”.
  Reference: http://www.ibiology.org/ibioseminars/techniques/susan-mcconnell-part-1.html.

COURSE CALENDAR (tentative)

There will be two types of homework assignments: pre-assignments and post-assignments. Pre-assignments are designed to help you prepare for the class discussion. Thus, you will be learning some things on your own, before you come to class. Post-assignments are designed to help you apply what you learned in class. In general, only one assignment will be due each week. It might be a pre-assignment or it might be a post-assignment.

WEEK	DATE	TOPIC	RELATED ASSIGNMENT
1	Jan 9	Course goals: mine and yours	Post-assignments, due 1/23: • Website review • Syllabus e-mail
	Jan 16	MLK Day- no class	Check out the events and MSU service-learning project here.
2	Jan 23	What is physiology?	Post-assignment, due 1/30: • Rubric based on iBio Seminar
3	Jan 30	Alternative careers (ex. science writing, clinical trial management, sales, health care admin, patent agent, etc.)	Post-assignment, due 2/6: • O-Net
4	Feb 6	Careers in health care	
5	Feb 13	Cultural competence	Pre-assignment, due 2/13: • To treat me, you have to know me
6	Feb 20	Mistakes in medicine & Responsible conduct of research	Pre-assignment, due 2/20: • Mistake essay Post-assignment, due 2/27: • CITI modules and quizzes
7	Feb 27	Physiology research careers Guest: Isola Brown, MSU PhD student	Post-assignment, due 3/13: • Data analysis
	Mar 6	Spring break- no class	
8	Mar 13	Undergraduate research opportunities	
9	Mar 20	Career panel with physiology alumni	Pre-assignment, due 3/20: • Questions for panelists Post-assignment, due 3/27: • Characteristics for success
10	Mar 27	Gap year panel with physiology alumni	Post-assignment, due 4/3: • SWOT and 4 year plans
11	Apr 3	Academic success strategies	Post-assignment, due 4/10: • Do something new

12	Apr 10	Teamwork	Pre-assignment, due 4/10: • Pit crew video & quiz prep
13	Apr 17	Resume writing	Pre-assignment, due 4/17: • Resume Post-assignment, due 4/24: • Revised resume
14	Apr 24	Interviewing	
Exam	May 1	3:00-5:00 PM, final exam	