

# PSL 101: Frontiers in Physiology

Fridays 10:20-11:10 AM in 1200 Molecular Plant Sciences  
Spring 2019

## CONTACT INFORMATION for Dr. Lori Seischab

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- **E-mail:** [seischab@msu.edu](mailto: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 "Schedule Appointment" 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

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- Your attendance and participation is expected at all classes. Attendance will be taken with [iClicker Cloud](#). If you cannot attend a class, you must submit a make-up assignment by April 26<sup>th</sup>. See page 3 for a description of make-up assignments. You may submit up to 3 make-up assignments.
- All e-mail correspondence related to the course should adhere to the guidelines described in [this presentation from the University Of Maryland Baltimore County](#).

## GRADING

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- 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 a Dropbox on D2L. Please allow 2 hours to complete each assignment (some assignments might be shorter).

## COURSE ACCOMMODATIONS

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Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at <http://rcpd.msu.edu>. Once your eligibility for an accommodation has been determined, you will be issued a verified individual services accommodation ("VISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (assignment, discussion, etc). Requests received after this date will be honored whenever possible.

## WEBSITE RESOURCES

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

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

## BROAD GOALS

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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

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

## COURSE FRAMEWORK

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Most of your PSL courses explore the scientific concepts of physiology, including homeostasis, cell membrane, cell-cell communication, interdependence, flow down gradients, energy, and structure/function. In contrast, this course explores the professional skills of physiologists, including teamwork, communication, and navigating conflicts. Since medical education research has shown a relationship between reflection and professionalism, most of the homework assignments will be reflective essays.

Reference: [Hoffman LA, Shew RL, Vu TR, Brokaw JJ, Frankel RM. Is Reflective Ability Associated With Professionalism Lapses During Medical School? Academic Medicine. 2016 Jun;91\(6\):853-7.](#)

## LEARNING OBJECTIVES & HOMEWORK ASSIGNMENTS

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As much as possible, the homework assignments and in-class activities mimic things you will need to do as a working professional and/or as a successful applicant to a job or professional school. In particular, we will focus on the skills that are important for applicants to health profession schools. Samples of some of the assignments are listed below.

By participating in class activities and completing assignments, students will be able to do the following:

### Professional Communication

- Compose a resume that is consistent with expectations in scientific disciplines by following the guidelines in the [MIT Career Development Handbook](#).
- Correspond effectively with scientists by applying the [UMBC guidelines](#) to all e-mails that are related to the course.
- Apply a Reflective Ability Scoring Rubric to write and evaluate reflective essays.

### Self-Evaluation

- Apply [SWOT analysis](#) to self-asses their progress towards a career goal.
- 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.
- 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, healthcare 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.

## MAKEUP ASSIGNMENTS

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Students who miss a class are expected to attend one of the events listed below and submit a reflective essay to D2L by April 26. You may not use an event type more than once. For example, if you miss two classes, you cannot use two physiology seminars as your make-up assignments.

- **Department of Physiology seminar:** <https://physiology.natsci.msu.edu/> (Look for the events section)
- **Mock interview at MSU Career Services:** <http://careernetwork.msu.edu> (Click on “Make an appointment” to schedule a mock interview)
- **An MSU career fair**
  - **MSU Diversity Career Fair** on January 29: <http://careernetwork.msu.edu/jobs-internships/Career-Fairs/index.html>
  - **Summer Job and Internship Fair** on March 19: <https://careernetwork.msu.edu/jobs-internships/Career-Fairs/index.html>
- **Watch the video “Not Networking 101: Building Relationships for Success”:** <https://www.ibiology.org/professional-development/networking/>
- **Bioethics webinar – live or recorded:** <https://www.bioethics.msu.edu/brownbag-webinar>

## 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. The **yellow highlighting** indicates an unusual due date.

Week	Date	Topic	Related Assignment
1	Jan 11	Course goals & The reflective ability rubric	Post-assignment — Due 1/18 <ul style="list-style-type: none"><li>● #1 Essay analysis</li></ul>
2	Jan 18	Reflective writing	Post-assignment — Due 1/25 <ul style="list-style-type: none"><li>● #2 How do you study?</li></ul>
3	Jan 25	Retrieval and other study skills	Post-assignment — Due 2/1 <ul style="list-style-type: none"><li>● #3 Do something new</li></ul>
4	Feb 1	What is physiology?	Post-assignment — Due 2/8 <ul style="list-style-type: none"><li>● #4 Phys-MAPS</li></ul>
5	Feb 8	Physiology careers and translational skills	Post-assignment — Due 2/15 <ul style="list-style-type: none"><li>● #5 O-Net</li></ul>
6	Feb 15	Resume writing	Pre-assignment — Due 2/15 <ul style="list-style-type: none"><li>● #6 Resume first draft</li></ul> Post-assignment — <b>Due 3/19</b> <ul style="list-style-type: none"><li>● #7 Revised resume</li></ul>
7	Feb 22	Competencies for careers in health	Pre-assignment — Due 2/22 <ul style="list-style-type: none"><li>● #8 Your career: Three perspectives</li></ul>
8	Mar 1	Problem solving, navigating conflicts, and stress management	Pre-assignment — Due 3/1 <ul style="list-style-type: none"><li>● #9 Stress management – part 1</li></ul> Post-assignment — Due 3/15 <ul style="list-style-type: none"><li>● #10 Stress management – part 2</li></ul>
<b>Spring Break</b>			
9	Mar 15	Teamwork	Pre-assignment — Due 3/15 <ul style="list-style-type: none"><li>● Pit crew video</li></ul>
10	Mar 22	Cultural competence	Pre-assignment — Due 3/22 <ul style="list-style-type: none"><li>● #11 To treat me, you have to know me</li></ul> Post-assignment <ul style="list-style-type: none"><li>● Three minute challenge</li></ul>

Week	Date	Topic	Related Assignment
11	Mar 29	Mistakes in medicine & Responsible conduct of research	Pre-assignment — Due 3/29 <ul style="list-style-type: none"> <li>• #12 Mistake essay</li> </ul> Post-assignment — Due 4/12 <ul style="list-style-type: none"> <li>• #13 CITI modules</li> </ul>
12	Apr 5	Undergraduate research	
13	Apr 12	Gap year opportunities	Post-assignment — Due 4/26 <ul style="list-style-type: none"> <li>• #14 SWOT and 4 year plan</li> </ul>
14	Apr 19	Interviewing	
15	Apr 26	Multiple Mini Interviews	
15	Thurs May 2	Final discussion and in-class assignment; 10:00 AM-12:00 PM in 1200 Molecular Plan Sciences	

*I'm looking forward to spending the semester with you! I'm excited about the course. I hope you are too.*  
*—Dr. S*