BMSC 8215 COURSE DIRECTOR

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COURSE OBJECTIVES

The objectives of the 1st year laboratory rotations are to:

- Identify faculty research programs appropriate for the student's dissertation research
- Establish mentor-mentee relationships that support student progress
- Expose students to different approaches and new techniques
- Guide the student in communication skills for preparation of rotation presentation and report

POLICIES & PROCEDURES

- Only faculty with active programs and funding should host a rotation student.
- Each faculty mentor may host only one student per semester.
- Students must complete each rotation with a different faculty mentor. Repeat rotations will not be permitted.
- The IBS office and Graduate Program Directors will assist in identifying possible rotations.
- Students are responsible for contacting faculty on the rotation availability list to discuss placement for a rotation in their lab each semester. Once a placement is agreed upon, the student must submit a Rotation Commitment Form signed by the mentor to the IBS office.
- At the end of the year, students will select their PhD research mentor from among the 3 they worked with, as well as their specific PhD program.

EXPECTATIONS & GUIDELINES

- Each rotation is about 11 weeks long, and the student is expected to dedicate 30 hours per week in the laboratory.
- The mentor should guide the student during the rotation by having frequent meetings to discuss the research project, both conceptually and experimentally. The student should develop at least a basic understanding of the concepts behind their experiments, and acquire the technical skills to carry out experiments.
- On the final day of every semester, each student will give a short presentation on their work over the course of the rotation as part of a symposium with their classmates and faculty. Students will also submit their completed research report to the Course Director at

this event.

- The mentor should guide the revision of the student's research report, which is due at the end of the semester, and review the short presentation. Regardless of research progress, a report detailing the experiments, outcome and future experiments is required. It is expected that the mentor will require at least one re-write of the research report before it is handed in to the BMSC 8215 Course Director.
- At the end of each rotation, the mentor and the student must complete separate evaluation forms, provided by the IBS office. The Course Director will not submit a grade for any student until both evaluations forms are completed.

GRADING

BMSC 8215 is graded on a Credit/No Credit basis. In order to receive credit for each rotation, the following conditions must be met:

1. Prior to the start of the semester, student submits a Rotation Commitment Form signed by an approved faculty mentor (see deadlines below)
2. At the conclusion of the semester, student gives a presentation (conforming to instructor guidelines) that describes their work over the course of the rotation as part of the symposium
3. Student submits a written research report (conforming to instructor guidelines) on the day of the symposium
4. Student submits a Mentor Evaluation Form by the stated deadline
5. Faculty mentor submits a Student Evaluation Form by the stated deadline

COURSE SCHEDULE

Rotation Dates	Forms Due	Symposium Presentations & Reports Due	Evaluations Due
Rotation #1: Sept 17 to Dec 7	Sept 10	December 7	December 12
Rotation #2: Jan 7 to March 28	Dec 17	March 28	April 5
Rotation #3: April 1 to June 7	March 20	June 7	June 14

Oral presentations are scheduled in the morning from 9:00 am to 12:00pm on the dates indicated in the table. An email reminder will be sent out in the weeks before each symposium with the classroom location. The rotation report must also be submitted to the Course Director at each semester's symposium.

PRESENTATION GUIDELINES

PowerPoint files should not contain more than eight slides, and presentations should be limited to no more than 10 minutes. A short Q&A session will take place following each presentation. Generally, the order of presentations will proceed alphabetically by last name.

Slide format:

1. Your ppt file should have a slide with the title of your research, your name and the name of your mentor, and the name of the institution.
2. This should be followed by a slide detailing the main objective and hypothesis of your project. You should only include a slide on methods if they are not generic in order to educate your audience.
3. Then your next set of slides should pertain to your results, followed by a slide on your main findings, perspective, etc.
4. Your final slide should have acknowledgement. No slide with references.

You must bring your PowerPoint presentation to the symposium on a USB drive, and email a copy of it to the IBS office before the start of the symposium [gwibs@gwu.edu].

REPORT GUIDELINES

Writing the rotation report provides an excellent platform to gain experience in scientific writing and is an integral component of the rotation. Furthermore, it gives an opportunity to the students to organize their scientific thoughts and experimental results in a scholarly way, bringing the rotation project to a conclusion. The final grade for each rotation can only be assigned after submitting the written report along with the appropriate evaluation forms. Finally, the written report for the Fall rotation will also be a graded exercise for the BMSC 8216 scientific writing course under the direction of Dr. Annie Colberg-Poley.

The written report must follow the Proceedings of the National Academy of Sciences of the United States of America (PNAS) guidelines. The written report must be formatted as a PNAS manuscript, with double columns and figures integrated in the text (see any PNAS issue for example). It must include the following sections:

1. Abstract: It should briefly describe the major finding of the study and should be no longer than 250 words. Although some rotations might not result in "major findings", you still need to describe what you did.

2. Introduction: This section should be short and provide essential background about the system used and what is known in the field. Also, briefly outline the main objective of the study, and describe the overarching hypothesis your work addresses.

3. Materials and Methods: This section should be a thorough description of the procedures and special reagents used in the study. Normally, it should be detailed enough to allow any investigator to reproduce the experiments described in the study. PNAS has specific guidelines on this section. Please read them carefully.

4. Results: In this section, you describe your experiments in detail, why you undertook them, and how you performed each experiment by including all the necessary controls. In this section, you also summarize the results and refer to any relevant figures. Each figure should include a title and a complete legend that helps the reader understand the figures. This section should not contain any interpretation of the conducted experiments.

5. Discussion: In this section, you need to interpret your findings and the outcome of your main

hypothesis that was outlined in the introduction section. Compare your findings and interpretations to others in the field by citing other investigators studies. Finally, conclude the discussion section by describing experiments you would perform next in order to advance your study.

6. References: Please follow the specific PNAS guidelines.

All figures and tables should be properly incorporated in the text. When applicable, the results and discussion sections can be combined.