UNIVERSITY OF PUERTO RICO
SCHOOL OF MEDICINE

PHYSIOLOGY DEPARTMENT

COURSE DESCRIPTION

COURSE TITLE:	**PROBLEMS IN PHYSIOLOGY**
COURSE CODE:	**FISA 8541**
CREDIT HOURS:	**3 CREDITS (each credit is equivalent to 5 hours of research/week: ~15hrs./week)**
COURSE DURATION**:**	**18 WEEKS**
NUMBER OF STUDENTS:	**MIN.: 1 MAX.: 15**
COORDINATOR NAME:	**TO BE ANNOUNCED**
COORDINATOR OFFICE HOURS:	**TO BE ANNOUNCED**
COORDINATOR OFFICE:	**TO BE ANNOUNCED**
COURSE HOURS:	**TO BE ARRANGED**
WHEN WILL BE OFFERED:	_____ QUATERLY __**X**__ SEMESTER (S1) __X__ YEAR (1^{ER}) _____ SUMMER
PREREQUISITE:	**VERTEBRATE PHYSIOLOGY I - II**

JUSTIFICATION: **During the first year in the graduate program, students will start the process of choose or select a thesis advisor and a research project. This process will be simplified, attending seminars and presentations by faculty members, and performing experiments in different laboratories within the department (rotations) selected by the student. Therefore, this course was designed to expose students to the laboratories of different investigators in the Physiology Department and develop experimental skills in several research areas of Physiology. In addition, the rotations will help the students to define a research project of interest and select a thesis advisor. Under departmental**

approval, this course will be available to students of other departments and from other units of the University of Puerto Rico.

DESCRIPTION: **Topics assigned for laboratory work, conferences, and reading. At the end of the course, each student should choose a research project that will constitute his or her thesis work. To succeed, the graduate students should make two rotations in research laboratories of investigators in the Physiology Department. Therefore, every graduate student should rotate in two different laboratories for a period of 9 weeks in each laboratory. The rotations are periods of scientific training in laboratories of the Physiology Department, selected by the student and each credit is equivalent to 5 hours of research work per week (135 research hours/ 9 weeks of rotation). During these rotations, the student will learn research techniques related to a specific project and the rationale to perform those experiments. These rotations should be performed with different members of the Physiology faculty, in order to obtain the greater advantage of diversity among the research areas in the Department. The final goal in this course is that students may choose a thesis project to develop during the graduate training and select an advisor that will supervise the student academic and scientific progress.**

COURSE OBJECTIVES:

1) **Develop general technical skills to be used in a research laboratory.**

2) **Learn research techniques, specific to the field of Physiology (PCR, Western blots, immunohistochemistry, microscopy, enzymatic assays, etc...)**

3) **Understand the biological concept or rationale of a research project that may help the student develop a thesis project.**

4) **Provide the students, different possibilities or research areas, within the Physiology Department, that are appropriate to complete a thesis project.**

5) **Help the graduate students, select a thesis advisor during their graduate training.**

TEACHING STRATEGIES:

METHODS:

Laboratory
Group Discussions
Assigned Readings

AUDIOVISUAL RESOURCES:

N/A

ESSENTIAL REQUIREMENT:

Attendance and punctuality

EVALUATION STRATEGIES:

Category	Value (%)
Written Report	25%
Oral Presentation	25%
Attendance and work in the laboratory	50%
Total	**100%**

GRADING SCALE:

Average (%)	**Grade**
100-90	A
89-80	B
79-70	C
69>	F

BIBLIOGRAFY:

Professors will provide the graduate students (book & articles) according to the investigators research interests.