### BI410L -- Advanced Human Physiology: Nutrition and Metabolism

Fall 2017

Synabus	
Instructor:	Dr. Michael Weichhaus
Address:	Wesselkamper, Room 107
Phone:	440-4286
Email Address:	michael.weichhaus@chaminade.edu
Office Hours:	Tue: 13:00-16:00, Thu: 13:00-16:00
Class Hours:	M or F 14:30-17:20 Henry Hall Lab 2

#### Required Text:

Cullabua

• <u>PhysioEx 9.1</u>, Pearson, Benjamin Cummings. (<u>http://physioex.com/login.html</u>)

Prerequisite: BI 308/BI 308L

**COURSE DESCRIPTION AND GOALS**: BI 410L aims to provide the student with the environment to design and conduct a research project on Human Physiology, thus allowing student groups to undertake the responsibility of experimental design based upon scientific methodology. Furthermore, students will learn physiological concepts during virtual lab sessions.

Course Learning Outcomes	Program Learning Outcomes		
Develop your ability to interpret physiological data and present reasonable explanations for any observations	<ul> <li>#1) An understanding of the scientific method and the ability to design and test a hypothesis.</li> <li>#2) Ability to visualize, statistically evaluate, validate and interpret scientific data, and to communicate science effectively both orally and in writing.</li> <li>#3) The ability to acquire and comprehend information from published scientific literature and to employ computational resources in the resolution of biological problems.</li> </ul>		
Develop proficiency in designing, carrying out, interpreting and presenting scientific data	<ul> <li>#2) ability to visualize, statistically evaluate, validate and interpret scientific data, and to communicate science effectively both orally and in writing.</li> <li>#3) The ability to acquire and comprehend information from published scientific literature and to employ computational resources in the resolution of biological problems.</li> </ul>		

Develop your ability to carry out accurate scientific design methodology	<ul> <li>#2) ability to visualize, statistically evaluate, validate and interpret scientific data, and to communicate science effectively both orally and in writing</li> <li>#4) An understanding of the chemical and physical principles that unite all life forms, and of biological organization at the molecular, cellular, tissue, organ, organism &amp; systems level.</li> </ul>
Design experiments for future research course(s) and graduate work	#7) An understanding of the entry requirements, career pathways and progression for the major post-graduate fields of research, education and health professions
Work comfortably in a laboratory setting manipulating data and setting up apparatus.	#7) An understanding of the entry requirements, career pathways and progression for the major post-graduate fields of research, education and health professions
Have the ability to work in a group setting	#7) An understanding of the entry requirements, career pathways and progression for the major post-graduate fields of research, education and health professions

### **Course Content:**

This course is designed for you to develop a scientific experiment based on a question. You will have four weeks to develop and present your project and then have the rest of the time to gather your data, which will need to be presented in a final report. Your progress throughout the semester needs to be documented by keeping an up-to-date lab notebook.

### Grade Determination:

- 1. Separate grades will be given for lecture and laboratory. It is possible to receive different grades for lecture and laboratory.
- 2. You are required to complete the 12 PhysioEx exercises by the due date noted below and perform the virtual labs. You are expected to complete this activity as a homework assignment on canvas.
- 3. Attendance is necessary and will form part of your grade.
- 4. The rest of the grade will be assessed from different parts of your project. The report and the lab notebook will be assessed on an individual basis. The final presentation will be a group presentation and will consist of the same grade for all group members. Further instructions will be provided on an individual group level and depend on the project you chose to undertake
- 5. The laboratory grade will be determined in the following manner:

PhysioEx Activities	36 percent
Attendance	10 percent
Group presentation/Materials/Protocol	22 percent
Final Report	22 percent
Final Lab notebook	<u>10 percent</u>
Total	100 percent

### Grading scale:

A 90 – 100%

- B 80 89%
- C 70-79%
- D 50 69%
- F less than 50%

## Situations to avoid:

1. Tardiness and Absences

Arriving late will cause your group to lose valuable time for your project. Please be on time as a mark of respect for your instructor and classmates, and be discreet in entering the lab if you must come late.

2. Turning in assignments late:

If there is insurmountable problem, please let me know ASAP. You can always contact me via email. I would rather have your work late than not at all, but timelines are imposed to help you keep up and comprehend the materials being discussed.

# Music Devices and Cellphones

Use of music devices and cell phones is prohibited during all Natural Science and Mathematics classes at Chaminade, unless specifically permitted by your instructor. Use of cellphones and music devices in laboratories is a safety issue. In addition, use of cellphones and music devices in any class is discourteous and may lead to suspicion of academic misconduct. Students who cannot comply with this rule will be asked to leave class and may be subject to laboratory safety violation fines. Please refer any questions to the Dean of Natural Sciences and Mathematics.

# **ADA Accommodations**

Students with special needs who meet criteria for the Americans with Disabilities Act (ADA) provisions must provide written documentation of the need for accommodations from the CUH Counseling Center (Dr. June Yasuhara; phone 735-4845) by the end of week three of the class, in order for the instructor to plan accordingly. Failure to provide written documentation will prevent your instructor from making the necessary accommodations. Please refer any questions

to the Dean of Students and review the procedures at <u>http://www.chaminade.edu/student\_life/sss/counseling\_services.php</u>.

### Title IX Compliance

Chaminade University of Honolulu recognizes the inherent dignity of all individuals and promotes respect for all people. Sexual misconduct, physical and/or psychological abuse will NOT be tolerated at CUH. If you have been the victim of sexual misconduct, physical and/or psychological abuse, we encourage you to report this matter promptly. As a faculty member, I am interested in promoting a safe and healthy environment, and should I learn of any sexual misconduct, physical and/or psychological abuse, I must report the matter to the Title IX Coordinator. Should you want to speak to a confidential source you may contact the following:

- Chaminade Counseling Center 808 735-4845.
- Any priest serving as a sacramental confessor or any ordained religious leader serving in the sacred confidence role.

Date	Experiment	Assignments due
Week 1	Lab Rules/Projects/PhysioEx	
Week 2	Monday, Labor Day Holiday - No Lab	
WEEK Z	Group Work on project	
Week 3	Group work on project	
Week 4	Group Presentations (9/22) and (9/25)	
Week 5	Students begin project	
Week 6		
Week 7		
Week 8	Monday, Columbus Day Holiday - No Lab	
Week 9	Student projects continue	
Week 10		
Week 11		

**LAB OUTLINE**: Note that the Dates, Experiments, and Reports are subject to change based upon confirmation of field trips and arrival of ordered supplies.

Week 12		
WEEK 12	Friday, Veterans' Day - No Lab	
Week 13	Students finish experiments on projects	
Week 14		
WEEK 14	Friday, Thanksgiving recess - No Lab	
	Final Reports due/Lab book due	