

**Course Name:** Mechanisms of Disease: Introduction to General Physiopathology

**Course Number:** BHS 329

**Instructor:** Dr. Luiz Bermudez

SPRING 2020

**Course Credits:** 3

**Pre-reqs:** BI 211 or BI 211H and BI 212 or BI 212H

**Office Hours:** By appointment with Dr. Bermudez, [luiz.bermudez@oregonstate.edu](mailto:luiz.bermudez@oregonstate.edu)

**Course Description:** The course provides basic knowledge on basic principles of disease. The course will cover mechanisms at cellular, biochemical and molecular level, from the basic to the clinical consequences.

### **Learning objectives**

Demonstrate familiarity and be able to explain important principals related to physiology, pathology and medicine-related issues. Identify important questions about organ and processes in the human body.

Develop critical thinking associated with physiology, and pathology.  
Be able to demonstrate knowledge of the fundamentals and applications of medical-related concepts.

The assessment of one's own learning can be done by evaluating performance in the quizzes and during classes talks.

### **Course Schedule:**

#### **Week 1:**

Monday: Introduction to the class

Wednesday: Tissue Biology

Friday: Distribution of Body Fluids and Electrolytes

#### **Week 2:**

Monday: Innate Immunity

Wednesday: Adaptive Immunity

Friday: Examples of Inflammation and Autoimmune Conditions

#### **Week 3:**

Monday: Infections and Defense Mechanisms

Wednesday: Infections and Defense Mechanisms

Friday: Infections and Defense Mechanisms. TAKE HOME TEST

#### **Week 4:**

Monday: Hematologic System. Introduction

Wednesday: Alterations in hematologic cell function

Friday: Examples of Disorders of Coagulation. TAKE HOME TEST DUE.

#### **Week 5:**

Monday: GAME DAY REVIEW

Wednesday: MIDTERM

Friday: Cardiovascular System. Introduction.

**Week 6:**

Monday: Cardiovascular Function

Wednesday: Cardiovascular Disorders

Friday: Examples of Cardiovascular Disorders

**Week 7:**

Monday: Respiratory System

Wednesday: Oxygen and CO<sub>2</sub> transport

Friday: Respiratory Function and Disorders. How it Works.

**Week 8:**

Monday: Mechanisms of Hormonal Regulation

Wednesday: Hormonal Regulation and the function of many organs

Friday: Diabetes Mellitus. TAKE HOME TEST

**Week 9:**

Monday: Renal and Urologic System. Introduction

Wednesday: Renal Function and interaction with different systems

Friday: Urologic Disorders. TAKE HOME TEST DUE

**Weeks 10:**

Monday: Digestive System: Introduction

Wednesday: Understanding a few disorders of the Digestive System

Friday: GAME DAY REVIEW

**Week 11:** FINAL EXAM

**Evaluation of Student Performance:**

**What is Expected from YOU ?:** Understand the main concepts and much more, such as, participate in class discussions, do the homework assignments, and be “present” in class.

**What do you need to do?**

Participate. Do not be afraid.

*Be Prepared for classes!!! READ THE MATERIAL PRIOR TO THE CLASS*

*Ask questions when you cannot understand*

**We are going to work in groups. Make sure you have yours!**

**Students are expected to have “professional behavior”. It is assumed that if one is enrolled in a class he/she/they should give their best.**

**Grades:** A, 90-100%; B, 80-89 %; C, 65-79%; D, 55-64%.

- Total of 100 points
- Take-home tests will be given (total of two), covering designated topics (weight of 10 each; total 20 points). It will be a group activity, and one week will be given for the completions of the task.
- A mid-term multiple choice (or similar) test covering designated topics will be given. Duration 1 h. (weight of 25).

- A final test, multiple choice test covering the material either partially or totally. It will be administered by the end of the course. Duration is 110 minutes (weight of 40).
- Quizzes MIGHT be administered at the beginning of classes (pop quizzes) or given as class work. WILL DEPEND ON THE MOOD OF THE PROFESSOR!! These will have 3 questions, from each of the 3 previous topics. One minute will be given to answer each question. (Quizzes : Total amount of points equals 10).
- Homework: Class Notes will likely contain study questions that you should respond and give to Dr. Bermudez at the beginning of the following class. This is MANDATORY, and only take from your grade (1 point deducted from the participation, for each missing homework)
- Student participation will be part of the grade (5)

Make-up exams will be available only to those with DOCUMENTED medical excuses, or other documented emergencies, including student illness or death of immediate family.

**How to Study:** Read the textbook prior to the class and after the class. Do not rely on the powerpoint presentation as the only material to study from.

### Methods Used During Class

- a. Learning time will be divided into an introductory lecture *and a self-learning period*. Bring your book to class! You are going to use it.
- b. Student participation is expected *and is part of the grade*.
- c. The self-learning period is made up of *group activities*, including topic discussion, student presentations and case discussion, games.
- c. Use of computers in the classroom will be allowed only for class-related activities. Those caught using it for other purposes will *have to sing a song for everyone by the end of the class period*.

Good Luck and Have Fun.

**Text:** “Applied Pathophysiology: a conceptual approach to the mechanisms of disease, by Carie A Braun and Cindy M. Anderson. Year 2017; 3<sup>rd</sup> Edition.

### Link to Statement of Expectations for Student Conduct, i.e., cheating policies:

<http://oregonstate.edu/admin/stucon/achon.htm>

**Statement regarding students with disabilities:** List verbatim: “Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at <http://ds.oregonstate.edu>. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations. ”

### Reach Out for Success:

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or

academic advisor. Learn about resources that assist with wellness and academic success at [oregonstate.edu/ReachOut](http://oregonstate.edu/ReachOut). If you are in immediate crisis, please contact the Crisis Text Line by texting OREGON to 741-741 or call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255)

**Diversity statement:** The College of Science strives to create an affirming climate for all students including underrepresented and marginalized individuals and groups. Diversity encompasses differences in age, color, ethnicity, national origin, gender, physical or mental ability, religion, socioeconomic background, veteran status, sexual orientation, and marginalized groups. We believe diversity is the synergy, connection, acceptance, and mutual learning fostered by the interaction of different human characteristics.

**Religious Holiday Statement:**

Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me immediately so that we can make alternative arrangements.