

Physiology

Course Name	Course type (credit/hours)	Required course(3/3)	Course code	G070
	Target students Division/major/grade	Biological Science/Junior	Opening semester	2020 2ND SEMESTER
	Class time and classroom	Mon A(Seong131)Wed A(Seong131)	English Grade	A(100%English)
Reference to this course	Prerequisite courses	Biology I and II		
	Related basic courses	none		
	Recommended concurrent courses	none		
	Related advanced courses	none		

Instructor	Name (title/division)		Bin Bum-Ho(Assistant Professor, Biological Science)			
	Office Room Number	성호관441	Office phone Number	0312192618	e-mail	
	Office hours	Mon, Wed 3-4 pm		Homepage address	http://madang.ajou.ac.kr/~minc	
Teaching Assistant	Name (title/division)					
	Office Room Number	Wonchunkwan 234	Office phone Number	2625	e-mail	hanta8024@hanmail.net

1. Introduction

Physiology is an introductory physiology courses prior to more advanced physiology-related courses such as neurophysiology and biophysics. As such, the course will be divided into two sections. In the first section, general concept of physiology, including electrophysiology, bioenergetics, membrane transport and enzyme kinetics, will be discussed. In the latter section, those coherent principle will be applied to the understanding of circulation, digestion, secretion, and temperature regulation.

2. Course Objectives

The aim of the class is to provide a whole spectrum of human physiology to help students gain insight into the nature of physiology and the underlying principle. Also, this course provides a general background for pre-medical students.

3. Class types and activities

Lectures will be given in Korean and English and so will be the quizzes and other exams. Therefore, students who have knowledgeable skills in reading and writing English are recommended to attend the class. The content of each class will be distributed in the form of electronic files before class. OHP and other teaching support-materials will be used on occasion.

"Real-time non-face-to-face online lectures are the main course."

4. Teaching Method

- | | |
|---------------------------------------------------------------------------------|-------------------------------------------------------------|
| <input checked="" type="checkbox"/> lecture | <input type="checkbox"/> discussion and debate |
| <input checked="" type="checkbox"/> team project(presentation and case studies) | <input type="checkbox"/> experiments(role-playing,etc) |
| <input type="checkbox"/> designing and production | <input type="checkbox"/> on-site learning(on-site training) |
| <input type="checkbox"/> others | |

5. Support Systems in Use

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|----------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------|
| <input checked="" type="checkbox"/> AjouBb | <input type="checkbox"/> automatic recording system | <input type="checkbox"/> web-based assignment |
| <input checked="" type="checkbox"/> cyber lecture | <input checked="" type="checkbox"/> online content | |
| <input type="checkbox"/> class behavior analyzing system | <input type="checkbox"/> others | |

6. Teaching Tools

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|-----------------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------|
| <input checked="" type="checkbox"/> PBL(Problem Based Learning) | <input type="checkbox"/> CBL(Case Based Learning) | <input type="checkbox"/> TBL(Team Based Learning) |
| <input type="checkbox"/> UR(Undergraduate Research) | <input type="checkbox"/> FL(Flipped Learning) | <input type="checkbox"/> DSAL(Data Science Active Learning) |
| <input type="checkbox"/> others | | |

7. Knowledge and ability required for taking this course

Knowledge about introductory-level biology and simple calculation is required.

8. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance	30	5%	
midterm exam	1	45%	
final exam	1	45%	
quiz			
presentation			
discussion			
homework	2	5%	Two takehome quizzes will be given at 5th and 13th week each.
etc			
study hours	6 hrs		

9. Textbook and supplementary material

Main/Sub	Title (Web-site)	Writer	Publisher	Publication year
Main	Vander's Human Physiology, 12th Edition	Widmaier, Raff, Strang	McGraw-Hill	2011
Sub	생물학실험을 위한 수학	안성민 외	월드사이언스	2005

10. Class system and Class shedule

General principles that are applied to physiology in general are presented first, followed by working principles, each adopted by a particular system such as neuro-, cardio-physiology, endocrinology, and secretion.

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
1	Introduction: General principles in physiology		Bin Bum-Ho	lecture		
2	Chemical composition of the body		Bin Bum-Ho	lecture		
3	Binding, enzymes, and energetics I		Bin Bum-Ho	lecture		
4	Binding, enzymes, and energetics II		Bin Bum-Ho	lecture		

< Class Schedule >

* language : K-korean, E-English

Weeks	Topics	language	Instructor	Teaching Method	Evaluation Method	Matter to be prepared
5	Permeability and transport		Bin Bum-Ho	lecture		
6	Chemical messengers and signaling		Bin Bum-Ho	lecture		
7	Muscle and movement 1		Bin Bum-Ho	lecture		
8	Midterm exam		Bin Bum-Ho	exam		
9	Muscle and movement II		Bin Bum-Ho	lecture		
10	The endocrine system		Bin Bum-Ho	lecture		
11	The cardiovascular system I		Bin Bum-Ho	lecture		
12	The cardiovascular system II		Bin Bum-Ho	lecture		
13	The respiratory system		Bin Bum-Ho	lecture		
14	The kidney and regulation of water balance		Bin Bum-Ho	lecture		
15	Regulation of metabolism and energy balance		Bin Bum-Ho	lecture		
16	Final Exam		Bin Bum-Ho	exam		

11. Other items of notification

Reading assignments and other take-home problem sets will be posted through the E-class. So pay a frequent visit to the E-class.