האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

HUMAN ANATOMY AND PHYSIOLOGY- PART II - 65131

Last update 12-10-2021

HU Credits: 3

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Nutrition Sciences

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: Rehovot

Course/Module Coordinator: Betty Schwartz

Coordinator Email: betty.schwartz@mail.huji.ac.il

Coordinator Office Hours: Tuesday 11-12

Teaching Staff:

Prof Bertha betty Schwartz

Course/Module description:

- *The course is based on 3 lecture hours per week.*

The course will focus on understanding the anatomy and physiology of several systems in the body and the interactions between the systems for maintaining homeostasis. Will learn the following topics:

1) Lymphatic system Lymph nodes and organs belonging to the lymph, immune system.
2) Respiratory system: The structure of the lungs, their function under changing operating conditions. Transfer of oxygen and carbon dioxide in the blood.
3) Urinary system: the psychology of the kidney.
4) Digestive system excretion and absorption. The sections and organs in the digestive tract. Salivary glands, esophagus, stomach, small intestine, pancreas, liver, gallbladder, colon.

Course/Module aims:

Gain knowledge of the anatomy and physiology of 4 major systems in the body:
1) The lymphatic system
2) The respiratory system
3) The excretory system
4) The digestive system

Learning outcomes - On successful completion of this module, students should be able to:

Basic physiological knowledge of 4 main systems in the human body:

1) The lymphatic system
2) The respiratory system
3) The excretory system
4) The digestive system

Attendance requirements(%):

NO ATTENDANCE REQUIREMENTS

Teaching arrangement and method of instruction: Frontal lessons

Course/Module Content:

Week 1 10/10/21 The lymphatic system, and its role as part of the immune system

Week 2 17/10/21 Upper respiratory system, lower respiratory system, exhalation and inhalation
Week 3 24/10/21 Lung volumes and their significance, partial pressure differences of oxygen and carbon dioxide, internal and external respiration
Week 4 31/10/21 Respiratory gas transport, respiration rate control
Conditions that affect breathing rates
Pulmonary and bronchial circulation and ventilation-perfusion distribution, acid-base balance in the body
Topic summary + sample questions
Week 5 07/11/21 Kidney structure, external and internal anatomy
Nephrone, ureters, urethra, function
Week 6 14/11/21 Anatomy and physiology of renal blood vessels.
Early and late filtration systems
Week 7 21/11/21 Hormonal viscosity of the filtration system
Control of volume and osmolality of the urine, blood pressure medications for different areas of the nephron
Topic summary + sample questions
Week 8 28/11/21 General anatomy of the gastrointestinal tract
Nervous system in the gastrointestinal tract
Week 9 5/12/21 Hormones of the gastrointestinal tract, oral cavity and esophagus
Week 10 12/12/21 Stomach and its secretions, pancreas and its secretions
Week 11 19/12/21 Liver and gallbladder
Week 12 26/12/21 Small intestine, digestion and absorption of carbohydrates
Week 13 02/01/22 Small intestine, digestion and absorption of proteins, small intestine, digestion and absorption of fats
Week 14 09/01/22 Colon Physiological and pathological activity
Topic summary + sample questions

<u>Required Reading:</u>

) Physiology / [edited by] Robert M. Berne ... [et al.].

Edition 5th

Published St. Louis : Mosby, c2004.

2) Physiology / edited by Robert M. Berne, Matthew N. Levy.

Edition 3rd ed.

Published St. Louis : Mosby Year Book, c1993.

3) Ganong, William F.

Review of medical physiology.

Edition 15th ed.

Published Norwalk, Conn. : Appleton & Lange, 1991.

4) Physiology / John Bullock, Joseph Boyle, Michael B. Wang

Edition 2nd ed.

Published Media, PA : Harwal Pub. Co., 1990

5) Guyton, Arthur C.

Textbook of medical physiology / Arthur C. Guyton, John E. Hall.

Edition 10th ed.

Published Philadelphia : Saunders, c2000.

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 100 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 0 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information: