



FISIOLOGIA I - channel 1

BIO/09 - 2 CFU - 1° Semester

Teaching Staff

AGOSTINO PALMERI

Email: apalmeri@unict.it

Office: Ed. 1 - I piano - Policlinico - Via s. Sofia

Phone: 095-3781333

Office Hours: venerdì ore 11-13

LEARNING OBJECTIVES

Physiology studies the human vital functions, even in comparative manner. It discusses how the human organism obtains and maintains the homeostasis of its internal environment at molecular, cellular and tissue levels, in the context of the changes of the surrounding environment.

COURSE STRUCTURE

Frontal lessons.

DETAILED COURSE CONTENT

1. Cardiovascular system

- **Heart functions.** Cardiac automatism: pacemaker and conduction tissue. Electrical and mechanical cycle of the heart. Heart sounds. Systolic and cardiac output range. Starling law of the heart. The heart rate and its regulation. Cardiovascular nervous control.

- **The fetal circulation.**

- **Blood pressure** and its control.

2. Respiratory system

- **Respiratory mechanics.** Respiratory mechanics. Pulmonary surfactant. Functions of the pleura. Pneumothorax. Pulmonary gas exchange.

- **Transport of oxygen and carbon dioxide in the blood.**

- **Adjustment of breathing.** Peripheral and central chemoreceptors. Respiratory centers and their

functional significance.

3. Urinary System

- **The functional unit of the kidney.** Functions of nephron. Ultrafiltration glomerular functions. The clearance.
- **The process of reabsorption.** The obligatory and optional reabsorption in the renal tubules. Action of aldosterone and vasopressin.
- **The concentration of urine:** the loop of Henle function.
- **Renin-angiotensin-aldosterone system.**

4. Digestive system, Metabolism and Nutrition

- **Digestive canal.** Gastric secretion. Nervous and humoral regulation of gastric secretion. Exocrine pancreatic secretion. Secretin and pancreozymin. gastrointestinal hormones.
- **Liver and gallbladder bile.**

TEXTBOOK INFORMATION

AA.VV. - FISIOLOGIA UMANA (Fondamenti) - I Ed. - Casa Ed. Edi-Ermes, 2018

Costanzo L. - FISIOLOGIA - V Ed. - Casa Ed. Edra, 2017
