



## COURSE OF STUDY Attività Motorie e Sportive

### ACADEMIC YEAR 2023/2024

### ACADEMIC SUBJECT Exercise Physiology

General information	
Year of the course	2 Year
Academic calendar (starting and ending date)	1 Term
Credits (CFU/ETCS):	5
SSD	Bio09/Fisiologia
Language	Italian
Mode of attendance	Not Mandatory

Professor/ Lecturer	
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Department and address	Università di Bari – Dip. Di Brain
Virtual room	Microsoft Teams ( codice canale o2bezzl)
Office Hours (and modalities: e.g., by appointment, on line, etc.)	In presence or online by appointment via email

Work schedule			
Hours			
Total	Lectures	Hands-on (laboratory, workshops, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
150	50		100
CFU/ETCS			
5	5		

<b>Learning Objectives</b>	Provide the student with the main notions about the operation of the human organism in relation to the different stages of life. To end of the course students will have to know the basic mechanisms regulating the different organ and apparatus functions
<b>Course prerequisites</b>	Basic knowledge of biochemistry and anatomy

<b>Teaching strategie</b>	Interactive lectures, with student questions and classroom discussion
<b>Expected learning outcomes in terms of</b>	
<b>Knowledge and understanding on:</b>	Knowledge of the integrated functioning of organs and physiological systems



<b>Applying knowledge and understanding on:</b>	be able to describe the physiological mechanisms adopted by the body for the maintenance of physiological homeostasis both in physiological conditions and under physical and mental stress
<b>Soft skills</b>	<i>ability to collect and interpret data in their field of action through written reports or oral exposures in relation also to biochemical and anatomy knowledge.</i>
<b>Syllabus</b>	
<b>Content knowledge</b>	<p><i>General neurophysiology</i>  <i>Excitable membranes and ion channels</i>  <i>Resting potential and action potential</i>  <i>Synapse</i>  <i>Receptors</i>  <i>Reflexes</i>  2. <i>Physiology of the muscle</i>  <i>Anatomical organization of striated muscle tissue and smooth</i>  <i>Contraction mechanism</i>  3. <i>Motor control</i>  <i>Cortical and subcortical organization of movement</i>  <i>volunteer</i>  <i>Control of muscle tone</i>  <i>Cerebellum and nuclei of the base</i>  4. <i>Somatic sensitivity</i>  <i>Peripheral and central mechanisms of somatic sensitivity</i>  <i>Grief</i>  5. <i>Physiology of the vegetative nervous system</i>  6. <i>Cardiovascular system</i>  <i>Electrophysiology and mechanics of the myocardial cell. Cycle cardiac. Electrocardiogram</i>  <i>Principles of hemodynamics</i>  <i>Pressures in the systemic circulation</i>  <i>Sphygmometric wave</i>  <i>Control of peripheral resistances</i>  <i>Microcirculation</i>  7. <i>Respiratory system</i>  <i>Functional anatomy of the lung and airways</i>  <i>Lung volumes and capacity</i>  <i>Respiratory mechanics</i>  <i>Breathing control</i>  <i>Gaseous exchanges at lung and tissue level</i>  <i>Transport of respiratory gases in the blood</i>  8. <i>Kidney</i>  <i>Functions of the renal glomerulus</i>  <i>Functions of the renal tubule</i>  <i>Renal clearance</i>  <i>Composition of urine</i>  <i>Urination</i>  9. <i>Digestive system</i>  <i>Chewing and swallowing</i>  <i>Motor and secretory functions of the digestive system</i>  <i>Digestive and absorption functions</i>  <i>Liver and biliary tract</i>  <i>Pancreas</i></p>
<b>Texts and readings</b>	<p>1. <i>Vander - Fisiologia. Casa editrice Ambrosiana:</i>  <a href="https://www.zanichelli.it/ricerca/prodotti/vander-fisiologia">https://www.zanichelli.it/ricerca/prodotti/vander-fisiologia</a> ;</p>



	<p>2. Taglietti - <i>Fondamenti di Fisiologia generale e integrata</i>. Edises: <a href="https://www.edises.it/universitario/tagliettifondamenti-di-fisiologia-generale-e-integrata.html">https://www.edises.it/universitario/tagliettifondamenti-di-fisiologia-generale-e-integrata.html</a> ;</p> <p>3. Carroll - <i>Fisiologia</i>. Elsevier Masson: <a href="https://www.libraccio.it/libro/9788821430213/robert-g.-carroll/fisiologia.html">https://www.libraccio.it/libro/9788821430213/robert-g.-carroll/fisiologia.html</a></p>
<b>Notes, additional materials</b>	
<b>Repository</b>	Microsoft teams code: o2bezzl

<b>Assessment</b>	
Assessment methods	Written open-ended exam (three questions), in 90 min time Preappello in December
Assessment criteria	<i>Demonstrate that you have achieved a good learning ability, not only in the form of storing the information studied, but also in the form of organizing your own thinking about the topics required in a broad and integrated view of the various topics.</i>
Final exam and grading criteria	<p><i>The student must demonstrate knowledge of the topics under study and have understood the issues related to them, as well as to have reached a level of knowledge to develop independently interpretative arguments</i></p> <p>1) Failure to pass the test: insufficient knowledge of the course contents, insufficient evaluation and reasoning skills, lack of basic knowledge.</p> <p>2) 18 to 21: sufficient or barely sufficient preparation; minimum knowledge of the institutions and of the problems tackled during the course; presence of minor gaps;</p> <p>3) 22 to 24: average preparation characterized by no particular deepening and by gaps that can be filled in the continuation of the overall training;</p> <p>4) 25 to 27: generally good preparation even if not particularly thorough; technical language and adequate expressive ability;</p> <p>5) 28 to 30: excellent or excellent preparation; precise and precise technical language and expressive ability;</p> <p>6) 30 e lode: preparation, technical language, expressive and argumentative skills of the highest level</p>
<b>Further information</b>	
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