

Course of Study in  
**"Sport sciences, practice and management of sporting activities" - [L22].**  
 a.y. 2021/2022

**SUBJECT**  
**PHYSIOLOGY**

SDS: **BIO/09**; ECT: **9**  
 I YEAR; I SEMESTER

Lecturer: **Prof. Mario Carletti**  
 Disciplinary tutor: **Dr. Federico Egidì**

<p><b>Qualification and scientific background of the lecturer</b></p>	<p>Mario Carletti, medical doctor, graduated from the University of Pavia (with honours), specialist in sports medicine (Univ Statale Milano), orthopaedics (Univ Statale Milano), space and aeronautical medicine (Univ La Sapienza Roma), freelance journalist, since 1976. Adjunct professor of human physiology at the University of Pavia first, and then at Insubria in Medicine and Surgery and in Sport Sciences from 1983 to 2014, doctor for the Varese professional basketball team (since 1982). He was a member of the Health Governing Council (Sport Medicine) for three years, a member of ministerial commissions (labour and health) for ten years, America's Cup doctor (+ 39), Head of the Italian Institute of Social Medicine (one year), two Olympics Vancouver and London, Head of Rehabilitation and Prosthetics Centre of Inail for 4 years.</p>
<p><b>Description of contents and subdivision of the programme into teaching modules</b></p>	<p><b>TABLE AND DEFINITION OF CONTENTS</b></p> <p>The course in human physiology will introduce students to the study of the human body as a machine capable of transforming the energy of food into energy for daily activity.</p> <p>An overview of the most important organs and apparatuses with particular attention to those used for movement as well as nutrition and diet. Hints on doping and its consequences.</p> <p>➤ The <b>first module</b> includes notions of the cardiovascular system, respiratory system and muscle activation (nervous system and muscle).</p>

	<ul style="list-style-type: none"> <li>➤ The <b>second module</b> covers the digestive system, energy metabolism and diet.</li> <li>➤ The <b>third module</b> covers the renal system, endocrine system, sensory apparatus and doping.</li> </ul>
<b>Learning objectives</b>	<p>The learning objective is to provide the student with a starting point to deepen topics and situations useful in the daily management of people who practice motor activities.</p> <p>The latter is seen not only as an elite professional activity but even more as a lifestyle and ideal prevention of metabolic diseases with a high economic impact on society as well.</p>
<b>Expected learning outcomes</b>	<p>The expected result is a global knowledge of the human body, of its main physiological characteristics in order to have a general approach that favours an ideal prevention of the most common pathologies as well as an intelligent ability to administer physical and motor activity.</p>
<b>Skills to be acquired</b>	<p>The expected result is that the student knows how to identify, choose and propose to the subject the most suitable sport motor activity for his/her characteristics and, above all, for the required objectives.</p> <p>The identification, therefore, of a programme that in terms of environment, workloads, age, type of vehicle used, frequency and intensity is suitable for promoting a correct metabolism.</p> <p>The ability to work in a team with health professionals to guarantee a protected and risk-free programme for anyone who wants to use nutrition and motor activity also for preventive purposes and general well-being.</p>
<b>Didactics organisation</b>	<p><b>DIDACTICS PROVISION</b></p> <ul style="list-style-type: none"> <li>➤ 12 video lessons</li> <li>➤ Podcasts of all the above-mentioned video lessons.</li> </ul> <p><b>INTERACTIVE DIDACTICS</b></p> <ul style="list-style-type: none"> <li>➤ 1 orientation forum;</li> <li>➤ 3 thematic follow-up forums (1 for each module);</li> <li>➤ 3 structured <i>e-activities</i> (as described in the section "<b>in itinere assessment methods</b>").</li> <li>➤ 2 synchronous interactive meetings with students (e.g. <i>question time, student reception, review of individual assignments, etc.</i>.)</li> </ul> <p><b>SELF-LEARNING</b></p>

	Teaching materials are provided for each module: in-depth thematic studies, articles by the lecturer, open access readings, online resources, reference bibliography.
<b>Recommended texts</b>	<ul style="list-style-type: none"> <li>➤ G. Barbatelli, L. Bertoni, F. Boccafoschi, M. Bosetti, F. Carini, AAVV, <i>Anatomia umana – Fondamenti (with Institutions of Histology)</i>, 2018, Milan, Edi-Ermes.</li> <li>➤ A. Belfiore, C. Berteotti, G. Biella, M. R. Buffelli, B. Colombini, AAVV, <i>Fisiologia umana - Fondamenti (digital content included)</i>, 2018, Milan, Edi-Ermes.</li> </ul>
<b>In itinere assessment methods</b>	Access to the final examination is subject to the completion of the following 3 e-activities: anatomy, biochemistry, biology.
<b>Procedure for the final examination</b>	<p>The assessment of learning will take place through an oral interview on the course contents (at least three). The grade (min 18, max 30 with possible honours) is determined by the level of performance for each of the following dimensions of the oral interview: mastery of contents, appropriateness of definitions and theoretical references, clarity of argument, command of specialist language.</p> <p>Oral interview in presence.</p>
<b>Language of instruction</b>	Italian