Syllabus

Course Description

Course Title	Foundations of physical activity and health
Course Code	42803
Course Title Additional	
Scientific-Disciplinary Sector	MEDF-01/A
Language	English
Degree Course	Master in Smart Technologies for Sports and Health
Other Degree Courses (Loaned)	
Lecturers	Prof. Attilio Carraro, Attilio.Carraro@unibz.it https://www.unibz.it/en/faculties/education/academic-staff/person/42261
Teaching Assistant	
Semester	First semester
Course Year/s	1
CP	6
Teaching Hours	36
Lab Hours	24
Individual Study Hours	90
Planned Office Hours	18
Contents Summary	The aim of the course is to provide students with a fundamental understanding of exercise and sport methodology, exercise and sport physiology and the measurement and evaluation of the various dimensions (psychological and physical) of physical performance. Through classroom discussions, laboratory sessions and the use of specialist and field-based equipment, students will become familiar with the scientific foundations of research and practice in the field of physical activity and health
Course Topics	Meaning and definition of physical activity, health-related physical

	activity, physical exercise, sport, leisure time physical activity, fitness, physical education; Foundations of exercise and sport physiology; Guidelines for physical activity and sedentary behaviour; Physical literacy and health literacy; Goal setting and motivation to practice (the SMART approach); Fitness testing, monitoring and surveillance; Subjective and instrumental measures of physical activity: pros and cons; Foundations of exercise prescription, planning and management to general population (from childhood to the elderly) and special groups (e.g. people with special needs and/or non communicable pathologies); Foundations of sports training methodology; Practical experience with testing and monitoring physical activity and fitness.
Keywords	Physical activity; Sedentary behaviour; Sport practice; Fitness monitoring; Exercise physiology.
Recommended Prerequisites	Knowledege and experiences related to physical education and sport practice
Propaedeutic Courses	
Teaching Format	Frontal lectures and discussion; homework; exercises; lab experience.
Mandatory Attendance	Preferrable. Non-attending students should contact the lecturer at the start of the course to agree on the modalities of the independent study
Specific Educational Objectives and Learning Outcomes	Knowledge and understanding • Know and understand the most important definitions in terms of physical activity and exercise, the concepts of physical and health literacy, methods of goal setting and motivation, fitness testing, monitoring and surveillance, and subjective and instrumental measures of health-related physical activity and fitness. Applying knowledge and understanding • Specifically incorporate the interrelationships between physical activity, exercise, sedentary behaviour and health in the design of smart systems for health and exercise and sports practice; Making judgments

	· Ability to independently select documentation from various sources, including technical literature, digital library, scientific journals, web portals; · Ability to work independently and autonomously in small and large projects and with structural responsibilities. Communication skills • Ability to communicate the results of your own work; • Ability to organize and write scientific and technical documentation for project descriptions; • Ability to develop and present technical content in English; • Ability to interact and collaborate with peers or professionals in the context of a project or research activity; • Ability to communicate in interdisciplinary teams/settings by understanding technical terms from other disciplines and presenting complex technical concepts in a clear and understandable way; • Ability to carry out research activities and projects in a team. Learning skills: • Ability to independently expand on knowledge acquired during study by reading and understanding scientific and technical documents; • Ability to expand knowledge, including incomplete knowledge, in the area of problem solving, taking into account the primary objective of the project;
Specific Educational Objectives and Learning Outcomes (additional info.)	Students gain basic knowledge of the most important definitions in terms of physical activity, the concepts of physical and health literacy, methods of goal setting and motivation, fitness testing, monitoring and surveillance, subjective and instrumental measures of physical activity, and fitness testing and monitoring, through diverse lab-based and field-based instruments and tools.
Assessment	Oral exam and project work. The mark for each part of the exam is 18-30 or insufficient. The oral exam comprises verification questions, and open questions to test knowledge application skills. It counts for 60% of the total mark. The project consists of a project and verifies whether the student is able to apply the concepts taught or presented in the course to solve concrete problems. It is assessed through a final

	presentation, and a project report and can be carried out either individually or in a team of 2 to 3 students. It is critically discussed during the oral exam, and it counts for 40% of the total mark.
Evaluation Criteria	The final mark is computed as the weighted average of the oral exam and the project. The exam is considered passed when both marks are valid, i.e., in the range 18-30. Otherwise, the individual valid marks (if any) are kept for all 3 regular exam sessions, until also all other parts are completed with a valid mark. After the 3 regular exam sessions, all marks become invalid. Relevant for the oral exam: clarity of answers; ability to recall principles and methods, and deep understanding about the course topics presented in the lectures; skills in applying knowledge to solve exercises about the course topics; skills in critical thinking. Relevant for the project: skill in applying knowledge in a practical setting; ability to summarize in own words; ability to develop correct solutions for complex problems; ability to write a quality report; ability in presentation; ability to work in teams. Non-attending students have the same evaluation criteria and requirements for passing the exam as attending students.
Required Readings	All the required reading material will be provided during the course and will be available in electronic format. Copy of the slides will be available as well.
Supplementary Readings	Corbin, C.B., Castelli, D.M., Benjamin A. Sibley, B-A., & Le Masurier, G.C. (2022). *Fitness for Life.* Human Kinetics. Dakhia, A. (2026). *Foundations of Sports Training.* ELiVA Press. Murray, R. & Kenney W.L. (2021). *Pratical Guide to Exercise Physiology*. Human Kinetics.
Further Information	//
Sustainable Development Goals (SDGs)	Quality education, Good health and well-being