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Effective Approaches to Sports Performance and Health Enhancement

PROF. CHRISTEL GALVANI, PAOLO BRUSEGHINI, SOLLAZZO FABRIZIO, FLAVIO NASCIMBENE

TERM: SUMMER 2025

DATE: 9 - 20 JUNE (2 WEEKS)

Description

The course will provide an overview of 2 perspectives in sport performance or health enhancement.

Sports training represents a complex process which involves planning, organization, leading and assessments. For a successful preparation, it is important to actively involve the athlete in his/her own training and development processes. The key to success in performance sports relies on the coach ability to enhance the athlete's abilities, by providing the feed-back in the training process, using correct indicators that relate to performance and injury prevention and using effective communication and motivational techniques.

The significant health benefits of physical activity (PA), which includes exercise, have long been recognized. The main difficult is to follow key considerations when making a cardiovascular (CV) exercise prescription, so that it can be tailored individually for each subject. Such awareness of the need to improve exercise prescription does constitute a major challenge in the worldwide context. The correct cardiorespiratory fitness (CRF) assessment and CV exercise training process and its follow up are at the core of this course. During the course students will deepen their understanding of theoretical concepts by performing many laboratories. Moreover, in order to get a more intensive experience about Italian sport and health systems, two field visits will be organized.

Course contents

The learning goals of the course are:

- a) to explore the main dimensions of performance and health enhancement with different professionals;
- b) to point out the main issues related to planning customized loads, with a specific focus on functional evaluation;
- c) to get familiar with the main aspects of load monitoring;
- d) to deepen knowledge about some peculiar Italian sectors.

Method of teaching

The course aims to implement a student-centered approach to learning; teacher and students will play an equally active role during classroom activities. Teacher's role is to facilitate student learning and comprehension of subjects.

Lecture, in-class discussion, group work, training activities, companies' visits.



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Course requirements

Students are expected to comply with the following requirements:

- Regularly attend classes and actively participate to the discussions and practical sessions
- Take a final written exam

Credits

6 ECTS

Grading

Assessment of in class participation	20% of final grade
Assessment of group work	20% of final grade
Final written exam (multiple choice test)	60% of final grade

Course readings and materials

All the readings and the lecturer's slides will be available on Blackboard

Instructor bio

Christel Galvani obtained her PhD in the Sciences et Techniques des Activités Physiques et Sportives (STAPS) in 2008. She is an Associate Professor in Sport Science. She is Co-coordinator of the Master degree course in Sport science for prevention and rehabilitation. She teaches different courses in Bachelor and Master degrees. She is head of the Exercise & Sport Science Laboratory. She is Member of the teachers' board of the international PhD in Exercise and sport sciences, of the governing board of the Master's Degree in Physical training specialist in soccer, of the Scientific Committee of the Center for Research in Sports Biochemistry and Nutrition (CRIBENS), and of the "Catholic for sport" working table. She is Fellow Member of the European College of Sport Science (ECSS). She has been involved in research activities for over 20 years in the field of physiological responses to exercise, physical activity, and exercise therapy.

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Paolo Bruseghini is a researcher in Sports Science at the Università Cattolica del Sacro Cuore, where he teaches Theory and Methodology of Training. He obtained his PhD in the Science of Physical Exercise and Human Movement from the University of Verona. He has been involved in research activities for over ten years in the field of exercise physiology and physical activity. He has collaborated with various sports organizations, both professional and non-professional, as a coach and expert in functional assessment. Additionally, he has worked with several private companies and national public institutions on projects promoting physical activity across different fields and settings.

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Fabrizio Sollazzo Male, 33 years old, degree in Medicine and Surgery, specialist in Sports and Exercise Medicine, consultant at Sports Medicine Unit in Fondazione Policlinico Universitario Agostino Gemelli IRCCS



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in Rome, experience as a team doctor (Italian Volleyball Federation, Eolo-Kometa Professional Cycling Team).

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Flavio Nascimbene is a sports psychologist and systemic-relational psychotherapist. He is a Professor at the Catholic University of the Sacred Heart of Milan. He has coordinated Psychology Area of several club's Youth Sectors. Scientific Director of MAPS - Master in Sports Psychology of the Center for Studies and Training in Sports Psychology of Milan. He coordinates the Sport Psychology Project of the Order of Psychologists of Lombardy and teaches at the FIGC Italian Football Federation's UEFA courses.

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Course Schedule

Lesson	Date and Time (CET)	Topic	Reading/Course Material
1	09/06/25, 2-5 P.M. Prof Sollazzo	The role of physical activity in the prevention of chronic cardiovascular diseases Benefits of physical exercise; aims, fields of application and methodologies of exercise prescription in the general population; Complementary role of exercise over pharmacotherapy in primary prevention, treatment of metabolic diseases (diabetes, obesity, dyslipidaemia) and cardiovascular diseases; The importance of a multidisciplinary approach to the prevention and treatment of major chronic non-communicable diseases.	American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 11th edition. Wolters Kluwer Health, Philadelphia, 2021
2	10/06/25, 9-12 A.M. Prof Sollazzo	The role of the sports medicine physician in team sports Qualifications, duties and responsibilities of the team physician; Coordination and integration of the sports physician's role with other essential athlete support professionals within the team; Sideline preparedness and emergencies on the field.	Bruckner & Khan's clinical sports medicine. Volume 1, Injuries. 5th edition. McGraw-Hill Education, North Ryde, New South Wales, 2017 Madden C, Putukian M, McCarty E, Young C. Netter's Sports Medicine. 3rd edition. Elsevier, Philadelphia, 2021
3	11/01/25, 9-12 A.M. Prof Sollazzo	The role of the team physician in team sports Medical issues in athletes: multidisciplinary approach to athlete health issues; Injury prevention, diagnosis and treatment in team sports; Doping in the athlete: the WADA Code of prohibited substances and methods.	Bruckner & Khan's clinical sports medicine. Volume 1, Injuries. 5th edition. McGraw-Hill Education, North Ryde, New South Wales, 2017 Madden C, Putukian M,



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		Information and anti-doping within the team.	McCarty E, Young C. Netter's Sports Medicine. 3rd edition. Elsevier, Philadelphia, 2021
4	11/06/25, 1:30-4:30 P.M. Prof Nascimbene	Optimize participant adherence by using effective communication, motivational techniques and behavioral strategies Motivation's origin, drive and orientation are growth process' key-factors. Motivational techniques, self-report forms and goal-setting programs are widely effective and verified psychological methods.	Weinberg R.S. - Gould D. (2024). Foundations of Sport and Exercise Psychology, Human Kinetics, Champaign (Ill)
5	12/06/25, 9-12 A.M. Prof Nascimbene	The role of sports psychologist in team sports Involving athlete favors his level of adherence to the work program just as effective communication enhances quality of the learning process, especially with athletes belonging to Generation Z (born between 1997 and 2012). Finally sport psychologist's role works on communication skills within the work team, facilitating a healthier balanced "emotional climate", clear roles, alignment of respective work programs.	Nascimbene F. (2024). Psicologia dello Sport. Nuove frontiere relazionali con l'atleta della Generazione Z. Vita e Pensiero (Università Cattolica Sacro Cuore), Milano
6	13/06/25, 10-12 A.M.	ISOKINETIC Appointment Via Vivaio, 22 - 20122 Milano (M4 S. Ambrogio-Tricolore) Isokinetic is an international medical group for the prevention, diagnosis, treatment, and rehabilitation of muscular pathologies and orthopaedic and sports injuries. Course name: Introduction to the Isokinetic Green Room Visit takeaways: Receive some notions to understand the basics of the Isokinetic working method and recognize what the Green Room is and its use in clinical practice.	
7	13/06/25, 2-4 P.M.	TECHNOGYM Appointment at 2pm Via Durini n° 1, Milano (M4 S. Ambrogio-San Babila) Founded in 1983, Technogym is a world leading brand in fitness, wellness, sport, and health. Technogym provides a complete Ecosystem made of connected smart fitness equipment, digital services, and training contents. Thanks to it people can connect to their personal training experience anywhere, both on Technogym	



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		<p>equipment and mobile devices.</p> <p>Course name: Unlocking the Full potential of Cardio Machines for Exercise Prescription</p> <p>Visit takeaways: Gain practical insights and understand how new health technologies are an effective tool for designing and prescribing tailored cardiovascular exercise programs.</p>	
8	16/06/25, 9-12 A.M. Prof Bruseghini	<p>Establish key indicators that relate to performance Understanding Sport-Specific Demands: The critical importance of evaluating the fundamental characteristics and requirements of a sport, focusing on the physiological and biomechanical demands placed on athletes.</p>	<p>Handbook of Strength and Conditioning Sport-specific Programming for High Performance. A.Turner, 2018</p>
9	16/06/25, 1:30-4:30 P.M. Prof Galvani	<p>Analyze client data to identify risk, formulate a plan of action and conduct CRF assessment Physical Activity and Fitness Terminology Exercise Preparticipation Health Screening Preexercise Evaluation Purposes of Health-Related Physical Fitness Testing Submaximal Exercise Tests</p>	<p>American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 11th edition. Wolters Kluwer Health, Philadelphia, 2021</p>
10	17/06/25, 9-12 A.M. Prof Bruseghini	<p>Establish assessment strategies to evaluate performance status Strength and Muscle Power Analysis: Utilizing field tests to assess strength and muscle power, with an emphasis on measuring key parameters related to the expression of dynamic and isometric strength and overall muscle power.</p>	<p>Monitoring Training and Performance in Athletes. Routledge, M. McGuigan Human Kinetics, 2017</p>
11	17/06/25, 1:30-4:30 P.M. Prof Galvani	<p>Establish baseline values, set goals and develop individualized CV programs General Considerations for Exercise Prescription Components of the Exercise Training Session Cardiorespiratory Fitness FITT-VP principle</p>	<p>American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 11th edition. Wolters Kluwer Health, Philadelphia, 2021</p>
12	18/06/25, 9-12 A.M. Prof Bruseghini	<p>Establish methods to help understand load measurements as it relates to the sport (e.g. internal vs external load), that will facilitate performance planning, and ongoing monitoring This part of the course will include an overview of the different strategies for monitoring workload in athletes and the application of these in the most appropriate</p>	<p>McGill, SM. Ultimate Back Fitness and Performance. 5th ed. Waterloo, Canada: backfitpro, 2014</p>



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		contexts (e.g., in-season).	
13	18/06/25, 1:30-4:30 P.M. Prof Galvani	<p>Define correct exercise prescription selecting exercise modalities to achieve the desired adaptations Methods of Estimating Intensity of Cardiorespiratory Exercise (internal and external workload) Modes of Aerobic (Cardiorespiratory Endurance) Exercises to Improve Physical Fitness Calculation of Metabolic Equivalents (METs)</p>	American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 11th edition. Wolters Kluwer Health, Philadelphia, 2021
14	19/06/25, 9-12 A.M. Prof Bruseghini	<p>Injury Prevention and rehabilitation in team sports This part of the course will review methods of functional assessment in the athlete, and the main strategies for the musculoskeletal injuries prevention for the major joints (foot, knee, hip, spine, shoulder).</p>	Lephart SM, Fu FH. Proprioception and neuromuscular control in joint stability. Champaign, IL: Human Kinetics; 2000 Neumann D. Kinesiology of the musculoskeletal system; foundations for physical rehabilitation. St. Louis, MO: Mosby; 2002
15	19/06/25, 1:30-4:30 P.M. Prof Galvani	<p>Monitor the client's response to exercise, providing modifications as necessary Physiological responses to exercise Training results' interpretation Ex Rx adjustment</p>	American College of Sports Medicine. ACSM's Guidelines for Exercise Testing and Prescription. 11th edition. Wolters Kluwer Health, Philadelphia, 2021
16	24/01/25, 9-10 A.M.	Final exam	