



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

SYLLABUS DEL CORSO

Fisiologia e Condizionamento Muscolare

1920-1-I0201D130-I0201D192M

Aims

The course aims to show the main principles of

muscular physiology and to illustrate the basis of the training

methodology in order to give to the physical therapist the appropriate tools for the assessment and training of the specific muscular

performance.

Contents

Detailed program

Based on the principles of muscular

conditioning the course will cover: - characteristics of the contractile tissue

- tendon characteristics - characteristics of the support structures of the

muscle - muscular metabolism - the modifications of the muscular tissue

in relationship with the stimulus: immobilization in elongated position or

in shortened position, electrostimulation, voluntary contraction, training

of the specific task the methodology of the training will cover: - type of muscular contraction and their characteristics - theory of the training: objectives and optimal stimulus to achieve it - methodological basis for the resistance training - methodological basis for the power training - stretching and muscular modifications in length - recovery strategies - relationships between alignment and muscular activity - the physiologic movement - recruitment schemes of a selection of elementary movements - the break test for the muscular evaluation based on a defined grading - basic muscular dysfunction: weakness, stiffness, shortness and long muscle

Prerequisites

Teaching form

Lectures

Textbook and teaching resource

* Kendall Florence Peterson, Elizabeth Kendall McCreary, Patricia Geise Provance, I muscoli - funzioni e test (quinta edizione), Verducci Editore, Roma, 2002 * Skeletal Muscle Structure, Function, and Plasticity: The Physiological Basis of Rehabilitation, 3rd Edition Richard L. Lieber ISBN: 978-0-7817-7593-9 * Jürgen Weineck, l'allenamento ottimale, Calzetti e Mariucci, 2006 * Ola Grimsby e Jim Rivard, STEP – Scientific Therapeutic Exercise progression – basic theory, The academy of graduate physical therapy, 2009

Semester

2nd semester

Assessment method

Described in the subject's syllabus

Office hours

By appointment
