

# UNIVERSITÀ DEGLI STUDI DI MILANO-BICOCCA

# **COURSE SYLLABUS**

# **Assessment and Recovery of Spinal Cord Lesion**

2425-2-I0201D136-I0201D132M

#### **Aims**

Know and understand the use of new available technologies for rehabilitation

### **Contents**

The development of technology and robotics has led to applications in rehabilitation and effective treatment systems.

Robotics applications make it possible to increase the intensity of physiotherapy treatment, propose stimulating and motivating scenarios using virtual reality and allow an objective measurement of some parameters.

# **Detailed program**

- robotics in phyiscal therapy: principles and rationale
- systems for data collection and data analysis
- robotic devices (upper and lower limb)
- · virtual reality
- efficacy and limitation of the robotic rehabilitation

### **Prerequisites**

no

## **Teaching form**

Classes

Interactive teaching (clinical case discussion)

### Textbook and teaching resource

Swinnen E, Beckwée D, Meeusen R, Baeyens JP, Kerckhofs E. Does robot-assisted gait rehabilitation improve balance in stroke patients? A systematic review. Top Stroke Rehabil. 2014 Mar-Apr;21(2):87-100

Krebs HI, Hogan N. Robotic therapy: the tipping point. Am J Phys Med Rehabil. 2012 Nov;91(11 Suppl 3):S290-7

Krebs HI. Robotic technology and physical medicine and rehabilitation. Eur J Phys Rehabil Med. 2012 Jun;48(2):319-2

Lewis GN, Rosie JA. Virtual reality games for movement rehabilitation in neurological conditions: how do we meet the needs and expectations of the users? Disability and Rehabil.

2012;34(22):1880-6.

#### Semester

1st semester

#### **Assessment method**

Described in the subject's syllabus

#### Office hours

By appointment davide.terranova@unimib.it

# **Sustainable Development Goals**

GOOD HEALTH AND WELL-BEING | QUALITY EDUCATION | GENDER EQUALITY