

## Faculty of Medicine



### IEPR2101 Biometrics and exercise physiology

[60h] 5.5 credits

**Teacher(s):** Marc Francaux, Xavier Sturbois  
**Language:** French  
**Level:** Second cycle

#### Aims

To allow the student to be able to apply the concepts of general physiology under various conditions of efforts and environments.

#### Main themes

The course is based on the assets of the student in general physiology and biochemistry and on its personal experiment of the physical activity. Some general chapters consider the adaptation of the organization as a whole (system circulatory, respiratory, metabolism, locomotor apparatus...) at the time of the physical effort. The following chapters more particularly relate to the various methods of effort and the tests of laboratory and ground. Several chapters study various particular conditions of efforts related to the environment (altitude, diving, thermoregulation). The nutrition, the drive and doping are covered in the final chapters of the course. As a whole, it is still refers to the growth, the sex, various handicaps.

#### Content and teaching methods

Summary:

Methods to study energetic metabolism during exercise

Metabolism of phosphogenes during exercise

Metabolism of carbohydrate during exercise

Metabolism of lipide during exercise

Hormonal regulation during exercise

Exercise in medium and high altitude

Exercise and thermal stress

Diving

Exercise testing

Muscle contraction and typology

Heart function during exercise

Methods:

Lectures

**Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)**

Pre-requiste:

Anatomy, biochemistry, biology, human physiology

Evaluation:

Written and oral examination

Support:

Biochimie des activités physiques (J.R. Poortmans et W. Boisseau)

Exercise physiology (McArdle, Katch, Katch)

Slide shows on ICampus

**Programmes in which this activity is taught**

**MESP3DS** Diplôme d'études spécialisées en médecine du sport

**Other credits in programs**

<b>EDPH21</b>	Première licence en éducation physique	(5.5 credits)	Mandatory
<b>KINE21</b>	Première licence en kinésithérapie et réadaptation	(5.5 credits)	Mandatory
<b>MESP31DS</b>	Première année du diplôme d'études spécialisées en médecine du sport	(5.5 credits)	Mandatory