

|                  |   |               |                |                           |      |
|------------------|---|---------------|----------------|---------------------------|------|
| Course Unit      | Option III - Growth and Motor Development |               | Field of study | Training in Teaching Area |      |
| Bachelor in      | Basic Education                           |               | School         | School of Education       |      |
| Academic Year    | 2022/2023                                 | Year of study | 3              | Level                     | 1-3  |
| Type             | Semestral                                 | Semester      | 2              | ECTS credits              | 3.0  |
| Code             | 9853-531-3205-04-22                       |               |                |                           |      |
| Workload (hours) | 81  | Contact hours | T -            | TP 27                     | PL - |
|                  |   |               | TC -           | S -                       | E -  |
|                  |   |               | OT 9           | O -                       |      |

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Vítor Pires Lopes

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. To understand the motor development process
2. To understand the physical fitness and capabilities growing process
3. To understand the difference between the modal and differential growing and development

### Prerequisites

Before the course unit the learner is expected to be able to:  
Knowledge about anatomy, physiology and statistic

### Course contents

Somatic growth; Biologic maturation, Growth and maturation of nervous system; Skills development Motor capabilities Environment and genetic regulation of growth, maturation and performance; Motor competence; Trainability and readiness for sport Variation of motor and sport performance during growth Physical activity, play and development

### Course contents (extended version)

1. Methods and current trends in growth and motor development
2. The dynamic of development process
3. Somatic growth
  - Growth curves
  - Skeletal growth
  - Muscular and adipose tissues growth
  - Nervous system growth
  - Growth as genetic regulated process
4. Biologic maturation
  - Concepts and assessment
  - Bone maturation assessment
  - Sexual maturation
  - Somatic maturation
  - Inter-individual variability in maturation
  - Adult height prediction
5. Physical training, Growth and maturation
6. Growth and maturation of nervous system
  - Myelination
  - Synaptogenesis
7. Influencing factors of variation in growth, maturation and performance
  - Introduction to the variability of continuous characteristics
  - Environmental factors
  - Secular tendency
8. Motor skills development Concepts in motor skills development
  - Theories in motor skills development
  - Descriptive model of motor skills development
  - Assessment of fundamental motor skills
  - Instruction effects in motor skills development
9. Motor capabilities
  - Concepts
  - Physical aptitudes and motor development
  - Aptitudes differentiation
  - Physical fitness, a multidimensional construct
10. Motor competency
11. Trainability and readiness for sport
12. Variation of motor and performance during growth
  - Somatic shape and performance
  - Somatotype and body composition
  - Sexual dimorphism and performance
13. Children Play
  - Characteristics of children play
  - Playgrounds characteristics

### Recommended reading

1. Gabbard, C. (2016). Lifelong Motor Development: Wolters Kluwer Health.
2. Lopes, V. P. ; Maia, J. A. R. ; Mota, J. (2000). Aptidões e habilidades motoras. Uma visão desenvolvimentalista. Livros Horizonte. Lisboa
3. Malina, R. M. ; Bouchard, C. (2004). Growth, maturation and physical activity. 2ª ed. Human Kinetics. Champaign
4. Lopes, V. P. (1998). Desenvolvimento motor. Indicadores bioculturais e somáticos do rendimento motor de crianças de 5/6 anos. Bragança: Instituto Politécnico de Bragança.

### Teaching and learning methods

Presentation and discussion of the topics Practical work. Inverted classroom teaching method may be adopted in some subjects

**Assessment methods**

1. Continue evaluation - (Regular, Student Worker) (Final)
  - Intermediate Written Test - 50% (Individual test)
  - Intermediate Written Test - 50% (Individual test)
2. Exam evaluation - (Regular, Student Worker) (Supplementary, Special)

**Language of instruction**

Portuguese

**Electronic validation**

|                   |                                 |  |                              |
|-------------------|---------------------------------|--|------------------------------|
| Vítor Pires Lopes | Pedro Miguel Monteiro Rodrigues | Maria Cristina do Espírito Santo Martins | Carlos Manuel Costa Teixeira |
| 10-12-2022        | 03-01-2023                      | 08-01-2023                               | 09-01-2023                   |