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| Course Unit | Growth and Motor Development | Field of study | Sport Sciences |
| Bachelor in | Sports - Minor in Sports Management | School | School of Education |
| Academic Year | 2023/2024 | Year of study | 2 |
| Type | Semestral | Semester | 1 |
| Workload (hours) | 108 | Contact hours | T 30 TP - PL 15 TC - S - E - OT - O - |
| Level | 1-2 | ECTS credits | 4.0 |
| Code | 9563-624-2201-00-23 | | |

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

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|-------------------|---------------------------------|--|------------------------------|
| Vitor Pires Lopes | Pedro Miguel Monteiro Rodrigues | Pedro Miguel Queirós Pimenta Magalhaes | Carlos Manuel Costa Teixeira |
| 30-01-2024 | 25-02-2024 | 26-02-2024 | 27-02-2024 |