Instituto Politécnico de Bragança

Course Unit	Epidemiology of Physical Activity			Field of study	Health Sciences
Master in	Physical Exercise and Health			School	School of Education
Academic Year	2025/2026	Year of study	1	Level	2-1
ECTS credits	6.0				
Type	Semestral	Semester	2	Code	6125-520-1203-00-25

Workload (hours)	162	Contact hours	T	TP	PL	TC	S	E	OT	O
			10	-	10	10	10	-	5	-

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. Understand and apply concepts/methodologies related to the epidemiological research of the relationship between physical activity and health among children, adults and seniors.
2. Develop skills of scientific analysis and design of different epidemiological studies relating physical activity and health.
3. Apply knowledge of key aspects of physical activity epidemiology surveillance by intervening in planning, evaluation and decision making: school context and life course epidemiology

Prerequisites

Not applicable

Course contents

Epidemiology and Physical activity epidemiology. Physical activity assessment (exposure). Prospective evolution of the physical activity recommendations Physical activity and cardiovascular disease risk factors management

Course contents (extended version)

1. Epidemiology
   - historical perspective
   - basic concepts (frequency measures, association measures, impact measures, bias and confounding
   - types of studies (advantages and disadvantages)
2. Physical activity epidemiology
   - definition and evolution of the research field – since the start
3. Physical activity definitions and evolution of the associations with different health outcomes
   - dimensions of physical activity, exercise and fitness level
4. Physical activity assessment (exposure)
   - methods, advantages, limitations
   - different levels of approaching (different ages, small/large samples, prevention and treatment)
5. Descriptive epidemiology of (in)activity
   - USA, Europe, Portugal
6. Prospective evolution of the physical activity recommendations
7. Physical activity and cardiovascular disease risk factors management
   - data analysis and discussion

Recommended reading

1. Gordis L. (2009). Epidemiology. 4 ed. Philadelphia: Elsevier Saunders
2. Dishman RK, Washburn RA, Heath G. (2004). Physical activity epidemiology. Champaign: Human Kinetics
3. Lee IM, Blair SN, Manson JE, et al (2009). Epidemiologic methods in physical activity studies. New York: Oxford University Press
4. Montoye HJ, Kemper HCG, Saris W, Washburn RA. (1996) Measuring Physical Activity and Energy Expenditure. Champaign: Human Kinetics
5. Blair SN et al. (2011). A tribute to Professor Jeremiah Morris: the man who invented the field of physical activity epidemiology. Ann Epidemiol. 20: 651–60

Teaching and learning methods

1. Description of the contents orally and through multimedia; 2. Research work, analysis and discussion of scientific manuscripts; 3. Application of the knowledge acquired in the theoretical lectures and practices, completing worksheets and participation in intervention programs. Inverted classroom teaching method may be adopted in some subjects

Assessment methods

1. Continuous evaluation - (Regular, Student Worker) (Final)
   - Development Topics - 50% (Preparation of a work of literature review)
   - Intermediate Written Test - 50% (written test)
2. Examination - (Regular, Student Worker) (Supplementary, Special)
   - Final Written Exam - 50% (written test)
   - Development Topics - 50% (Preparation of a work of literature review (will be considered the work done during the classes))

Language of instruction

Portuguese

Electronic validation

Vítor Pires Lopes	António Miguel de Barros Monteiro	Catarina Margarida Silva Vasques	Carlos Manuel Costa Teixeira
21-01-2026	21-01-2026	23-01-2026	03-02-2026