

Universidade de Pernambuco



Universidade Federal da Paraíba

# Graduate Program in Physical Education: Master's and Doctoral Degree Programs



# Introduction

The University of Pernambuco's Higher School of Physical Education (ESEF/UPE) and the Federal University of Paraíba's Department of Physical Education (DEF/UFPB) are traditional higher education institutions in the Northeast region of Brazil, ESEF/UPE having a continuous history of almost 70 years and one of the oldest undergraduate courses in Physical Education in Brazil. Partners since 2007, when the proposal to introduced the Master's course was launched, the UPE and the UFPB having been making extraordinary efforts to develop joint action, with successes in many fields, such as the development of a proposal to introduce a doctorate in Physical Education.

The proposal to introduce the doctorate in Physical Education is a natural consequence of the development and the academic maturity of the UPE/UFPB's Post-Graduate Associate Program in Physical Education (PAPGEF UPE/UFPB). In 2008, the Master's course had its first intake of just eleven, one for each of the permanent members of the advisoring staff. The Doctorate in Physical Education with the first intake of eleven began in 2013. This is the first doctorate in physical education in the Northeast of Brazil, demonstrating once again the pioneering spirit of the program.

# Main areas and lines of research

The academic structure of the graduate program comprises five lines of research, with two main areas, as outlined below:

# Area of Research 1

### HEALTH, PERFORMANCE AND HUMAN MOVEMENT

Studies of the various kinds of human movement, including biodynamic features and those related to health.

### Line 1 – Kinanthropometry and Human Performance

Covers studies relating to human performance and the morphological, metabolic and functional dimensions of kinanthropometry, from a biological and behavioral perspective, in various groups and settings.

### Line 2 – Exercise in Health and Disease

Covers studies relating to investigation of the acute and chronic effects of exercise in individuals with different health conditions, using physiology and biochemistry as theoretical and methodological points of reference.

### Line 3 – Epidemiology of Physical Activity

Covers studies relating to physical activity and sedentary behaviors, their determining factors and inter-relations with various health indicators, taking epidemiology and public health as the theoretical and methodological points of reference.

# Area of Research 2

#### CULTURE, EDUCATION AND HUMAN MOVEMENT

Studies of the various kinds of human movement, including sociocultural and pedagogical features.

### Line 4 – Socio-cultural studies in Physical Education

Covers sociocultural studies of human movement, taking philosophy, sociology, anthropology and psychology as the theoretical and methodological points of reference to approach the inter-relations between the bodily practices and lifestyles of different social groups.

# Line 5 – Teaching Practices and Professional Training in Physical Education

Covers studies relating to initial and continuous professional training, and teaching practices in Physical Education at various levels of education and in various fields of intervention, taking history, politics and sociology of education as the theoretical and methodological point of reference (curriculum, teaching, organization of pedagogical work) and the ludic and/or agonistic expressions of human movement.

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# Advisors for each Line of Research

## Line 1: Kinanthropometry and Human Performance

Dr. Alexandre Sergio Silva - UFPB Dr. Manoel da Cunha Costa - UPE Dr. M. do Socorro Cirilo de Sousa - UFPB Dr. Maria Teresa Cattuzzo - UPE Dr. Rodrigo Cappato de Araújo - UPE

### Line 2: Exercise in Health and Disease

Dr. Amilton da Cruz Santos - UFPB Dr. Alexandre Sergio Silva - UFPB Dr. M. do Socorro Brasileiro Santos-UFPB Dr. Raphael M. Ritti Dias - UPE Dr. Wagner Luiz do Prado - UPE

# Line 3: Epidemiology of Physical Activity

Dr. José Cazuza de Farias Júnior - UFPB Dr. Mauro Virgilio Gomes de Barros - UPE Dr. Raphael M. Ritti Dias - UPE

# Line 4: Socio-cultural Studies in Physical Education

Dr. Clara M Silvestre Monteiro de Freitas - UPE Dr. Iraquitan de Oliveira Caminha - UFPB

# Line 5: Pedagogical Practices and Professional Training in Physical Education

Dr. Marcelo Soares Tavares de Melo - UPE Dr. Marcílio Barbosa M. de Souza Jr. - UPE Dr. Pierre Normando Gomes da Silva - UFPB



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# **Research Groups**

# Lifestyles and Health Research Group

## Institution: UPE (Pernambuco State University)



The group's activities began in 2004, formally indicating the interest of the institution and its researchers in consolidating and breathing new life into high-priority areas for the production of knowledge and intervention. At present, three research projects are under way: (a) Longitudinal Study of the Health and Wellbeing of the Preschool Age Child (ELOS-Pre Project); (b) Physical activity and unhealthy behavior among middle school students in the State of Pernambuco, a timetrend study, 2006-2011 (Atitude Project); (c) Evaluation of Programs and Interventions relating to Physical Activity during Basic Health Care in the State of Pernambuco (SUS mais ativo Project). In its relations with the private sector the GPES has kept in touch with Social Services for Industry, an organization with which it has engaged in technical cooperation in the fields of leisure, physical education, and health promotion. The group's Internet page contains information on research activities, training, courses and other services. In terms of cooperation with other research groups, the GPES has collaborated with groups from the USP, UNIFESP, UFPR, UEL, UFPB and UFPel. The GPES is also a center for investigations that formally collaborates with overseas research units (CIAFEL, Portugal; RICH, Denmark; Coventry University, UK). In post-graduate training, the GPES supports research projects and other academic activities developed by the Post-Graduate Program in Hebiatrics and the Post-Graduate Associate Program in Physical Education UPE/UFPB.

# Hemodynamics and Exercise Metabolism Research Group

#### Institution: UPE (Pernambuco State University)



The Hemodynamics and Exercise Metabolism Research Group was set up in 2012 and works with the physical exercise in health and disease line of research for the Associate Post-Graduate Program in Physical Education UPE/UFPB. The group's investigations involve experimental studies analyzing the effects of different forms of physical exercise on health indicators, in particular metabolic, inflammatory, and hemodynamic indicators. At present, the group is carrying out research into obesity among adolescents and adults with hypertension and cardiovascular disorders.

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# Human Performance Evaluation Research Group

#### Institution: UPE (State University of Pernambuco)

The Human Performance Evaluation Research Group began work in 2002, arising out of studies carried out by the Human Performance Group (HPG) linked to the former LESEF (ESEF Physical Education and Sports Studies Laboratory). With the official installation of the Brazilian Ministry of Sport's CENESP/UPE (Center for Excellence in Sports), the area began to grow steadily, with the acquisition of stateof-the-art equipment and consolidation of a Specialization Course in Human Performance Evaluation. The group is interested in carrying out research in the following fields: (a) organic responses to motor activities in different age groups; (b) technological development in Physiology, Biochemistry, Kineanthropometry and Biomechanics, as a way of assessing performance and improving physical ability and sporting prowess. It also cooperates, including the sharing of infrastructure, with the UFPE's Strictu Senso Post-Graduate Program in Nutrition. In 2002, it joined the Ministry of Sport's REDE CENESP, which is responsible for research and provision of services for Olympic and Paralympic Sports in Brazil, in the field of science applied to sport.

# Ethnographic Research in Physical Education and Sports Group

#### Institution: UPE (Pernambuco State University)



Bringing together people interested in conducting research into physical education (content, practice, interfaces and institutions), both in schools and other settings, ETHNÓS (as the group styles itself), which is has links with the Teaching Practice and Professional Training in Physical Education line of research of the Post-Graduate Associate Program in Physical Education of the UPE and UFPB (Master's and Doctorate), seeks to forge find common ground with the epistemological bases of the dialectical approach in terms of historical materialism and hermeneutical dialectics. At present, interlinked research projects are under way that investigate different subjects at different levels, ranging from term papers to dissertations and theses. The following projects are currently under way 1- The Meanings of Sport: a systematic review; 2- Fight sports in various proposed physical education curricula in Brazil; 3- The systematic introduction of fight sports in physical education classes in State-run public schools in the State of Pernambuco; 4- Dance in Physical Education classes; 5- Teaching Methods for Physical Education: a systematic review of periodicals in the fields of education and physical education; 6- Physical Education text books in the State public school network in the State of Pernambuco: contributions, potential and limitations; 7- Play in primary education; 8- Proposed State Curricula in Brazil; 9- Higher Education Teaching: an analysis of teaching practices using the UPE's new physical education curriculum; and 10- a project in partnership with SEDUC-PE: Physical Education in Primary School and Continuous Training for Public School Teachers in the State of Pernambuco - 2012- 2014.

# Sociocultural Studies Research Group: the individual in sports and physical education

### Institution: UPE

The group has sought to contribute to analysis of the nature of explicit interconnections between lines of research and to provide a fresh conceptual vocabulary for this purpose. It seeks to engage in further studies of research paradigms and methods, bringing together different fields of the human sciences, and providing greater understanding of the everyday life of individuals, through communication, exchange of ideas and experiences, and reflection on the sociological and behavior dimensions of the issues. It aims to help the academic community study the body of knowledge on sociocultural aspects of human movement and sports, as a way of providing a new perspective on social values.

### Human Motor Behavior and Health Research Group

### **Institution: UPE**

The Human Motor Behavior and Health Research Group aims to produce and spread knowledge on the way human motor behavior is modified by practice, the processing of information, the process of development and its relation with healthy lifestyles. It is linked to the Post-Graduate Associate Program in Physical Education of the UPE/ UFPB. The group's studies seek to describe the nature and diversity of changes in motor behavior, to study the effect of various variables on motor development, and to put forward models to explain such changes. This is fundamental for arriving at an understanding of and being able to intervene in human motor practices in so far as they are allied to healthy living. The Motor Development line of research carries out studies of the various factors (such as knowledge of results; instructions) that influence the acquisition of motor skills, guided by the idea that learning is a continual process of change that leads to increasingly complex systems. The Physical Activity relating to Health line of research examines the association between the level of physical activity and motor skills from a systemic and dynamic perspective.



# **Kinanthropometry and Human Performance Research Group**

#### **Institution: UFPB**



The Group's research activities concern issues related to kinanthropometry: morphological (studies of the area of body composition, growth and ageing), metabolic (ergonomics, ergospirometry and energy expenditure) and neuromuscular (strength training and restriction of blood flow, diameter of veins), the construction and validation of test equipment, and ways of measuring and evaluating human performance. The purpose of these studies is to improve the quality of diagnosis, control and follow-up activities and to redesign actions involving physical activity, exercise and sports for different sectors of the population.

### Research and Study Group for the Body, Culture and Education

#### Institution: UFPB (Federal University of Paraíba)



The GEPEC was set up in 2006, as part of the Human Movement Sciences Research Unit -CCS/UFPB, and is known for its research into the body, culture and education, along two main lines of research: the Study of Popular Culture applied to Physical Education (Marcello Bulhões) and Teaching the Body (Pierre Gomes-da-Silva). The aim of the latter is to investigate/innovate, systematize and publicize teaching methods for bodily exercise involving play, in various settings and for various target publics, which expand awareness of the human body, specifically in the sub-fields of (macro-projects under way): Complex Learning (with schoolchildren), Collaborative Teaching (with teachers) and Education/Integral Health (with the elderly and other segments of the population). The issues are scientific and pedagogical, in so far as they see scientific method and teaching methods as part of a living and dynamics process of generating knowledge, based on the experience of the body (learning from experience, especially play) and dialogue with society (in action). The research is engaged, involving pedagogical intervention, accompanied by action and dialogue with the research subjects and analysis of information (movement, verbalization and representation) to better interpret practice and intervene in a meaningful fashion.

# Physical Training applied to Performance and Health Research Group (LETFADS)

## **Institution: UFPB**

The LETFADS was initially set up as a Training Research Laboratory (LEPET) in October 1996, and at that time its aim was to study questions relating to Sports Training. Later, in view of the possibility of setting up a Master's course in the Science of Human Movement and that of forming a more wide-ranging critical mass it changed its name to the Movement Studies and Research Laboratory (LEPEM). However, as the initiative was not successful, the directors of the Department of Physical Education suggested that the laboratory be restructured as a way of creating a new more effective proposal for the Master's. Thus, the LETFADS was set up to bring together the scientific production of teachers and researchers from the Federal University of Paraíba's Department of Physical Education who devote themselves to the study of physical training for improving human performance and health. This research group began work in February 2006, making official the interest of the institution and of its members in consolidating and breathing new life into high-priority lines of research and intervention. At present, efforts are being directed towards the CNPq-supported project: the Influence of Aerobic Physical Training on Automatic Cardiac Modulation in Asthmatic Children.

# Laboratory for Studies of the Body, Aesthetics and Society (Laisthesis) Institution: UFPB

Laisthesis conducts studies and research regarding the body from the point of view of aesthetic experiences, considering the interrelations between the bodily practices and lifestyles of different social groups. It aims to develop activites relating to research, outreach teaching involving undergraduate and postgraduate students of Physical Education and related subjects, and exchanges involving teachers, researchers and professionals from other areas and institutions. Laisthesis studies the body as lived experience in the aesthetic expression of social organizations through bodily practices that involve the care of the self. Aesthetics is thus viewed not only as a theory of beauty, but above all as a theory of feeling.

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# **Epidemiology of Physical Activity Research Group – GEPEAF**

### **Institution: UFPB**



Conducts research into physical activity and sedentary behavior, with a focus on the analysis of the distribution of such behavior in the population, its determining factor and inter-relations with health and quality of life indicators, as well as developing and testing ways of measuring these outcomes, their determining factors and health and quality of life indicators. It also carries out studies of interventions in the field of physical activity and sedentary behavior in various settings. The GEPEAF cooperates with various research groups in Brazil and abroad and provides support for the Associated Postgraduate Program in Physical Education of the UPE/UFPB. At present, it is running a longitudinal study, called LONCAFS – Longitudinal Study of Sedentary Behavior, Physical Activity and Health in Adolescents. The main aim of this is to use a cross-sectional and longitudinal approach to analyze interrelations between the level of physical activity, sedentary behavior and risk factors for coronary artery disease and metabolic syndrome, health and quality of life in adolescents; and to investigate the relation between psycho-social and environmental factors and levels of physical activity among adolescents. This is a three-year longitudinal follow-up study (2013-2016), with a target-population of schoolchildren in the sixth year of primary school.





# **Research Laboratories**

# Laboratories at UPE

### 1. Human Performance Laboratory (LAPH)

Serves the "Health, Performance and Human Movement" area of research of the UPE/UFPB's Associate Master's Program in Physical Education. Covering 120 square meters, it is equipped with various apparatuses, including: cycloergometers (conventional and adapted for the upper limbs); ergometric treadmills (conventional and for wheelchair-users); electrocardiograph and cardioverters; conventional and portable ergospirometry system (COSMED K4 Portable Metabolic System); cardiac frequency sensors; anthropometric scales; spirometers; dynamometers and a jump-test platform, Peak Motus Central; high-speed video cameras connected to computers; spatial calibrator; stairs and ramp simulators for biomechanical tests; skinfold calipers of various models; devices to measure bioelectrical impedance; pachymeters of various sizes and models; symmetographs; sports radar.

# 2. Laboratory for Studies of Sports and Leisure Practices (LAPEL)

Covers the two research areas of the UPE/UFPB's Associate Master's Program in Physical Education. With a surface area of 110 square meters, it is equipped with various apparatuses, including: a multimedia station with resources for digitalization, treatment and storage of images; a computer station for measuring physical activity using accelerometers, with 40 sensors, cables for data transfer and specific software. There is also a space for holding meetings and computers connected to the Internet. The laboratory forms part of the Ministry of Sport's CEDES Network at the UPE.

# **3. Laboratory for Studies in the Teaching of Physical Education (LAPED)**

Serves the "Culture, Education and Human Movement" research area of the UPE/ UFPB's Associate Master's Program in Physical Education. With a surface area of 100 square meters it has a video, TV, digital camera and camcorder system. It has two study booths and rooms for meetings of small groups. There are computers with software used for data analysis in studies involving qualitative approaches to research. The laboratory forms part of the Ministry of Sport's CEDES Network at the UPE.

# 4. Hemodynamics and Exercise Metabolism Laboratory (LABHEME)

Serves the "Health, Performance and Human Movement" research area of the UPE/UFPB's Associate Master's Program in Physical Education. It covers a surface area of 120 square meters, with various apparatuses including: a doubleenergy radiological absorptiometer, an isokinetic dynamometer, a digital photoplethysmographer, an ergospirometry system, an ergonomic bicycle, mobile arterial pressure monitors, a vascular Doppler, a non-invasive heart failure monitor, a mechanical ventilator, an automatic cardioverter, a holter, frequency meters, a wireless electrocardiogram, a respiratory belt, an analogue-digital converter and automatic arterial pressure monitors.

# 5. The Motor Behavior and Human Cognition Laboratory (LCMCH)

Serves the "Health, Performance and Human Movement" research area of the UPE/UFPB's Associate Master's Program in Physical Education. It has a surface area of around 40 square meters, with various pieces of equipment, including: a Serial Task Tracking System (LYNX Tecnologia Eletrônica Ltda., São Paulo, Brazil), video recorders and computers.

# 6. Biodynamics Laboratory (LABIO)

Serves the "Health, Performance and Human Movement" research area of the UPE/UFPB's Associate Master's Program in Physical Education. It has a surface area of 200 square meters, with equipment for practicing physical exercise, including muscle-building equipment, weights, mats, ergonomic treadmills and ergometric bicycles.

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# Laboratories at UFPB

# **1.Kinanthropometry Laboratory** (LABOCINE)

Serves the "Health, Performance and Human Movement" and "Kinanthropometry and Human Performance" research areas of the UPE/ UFPB's Post-Graduate Associate Program in Physical Education. It has a surface area of 100 square meters, with a variety of equipment, including, dynamometers, isokinetic equipment, goniometers, an electromyograph, computers/Internet, and others, for evaluation of physical ability and human performance.

# 2.Laboratory for Studies and Research in the Field of the Human Body, Culture and Education (LEPEC)

Serves the "Culture, Education and Human Movement" and "Teaching Practices and Professional Training in Physical Education" research areas of the UPE/UFPB's Associate Post-Graduate Program in Physical Education. It has a surface area of 70 square meters, with the following equipment and resources: computers connected to the Internet, a printer, scanner, camcorder, TV, video, DVD-player and digital cameras.



# **3.Laboratory for Studies of Physical Training Applied to Performance and Health (LETFADS)**

Serves the "Health, Performance and Human Movement" and "Physical Exercise in Health and Disease" research areas of the UPE/UFPB's Post-Graduate Associate Program in Physical Education. It covers a surface area of 80 square meters, with a spectrophotometer, fridges, analytical scales, an ordinary and refrigerated centrifuge, a water-bath, a deionizing water purifier for the production of Milli-Q water, a treadmill, an ergometric bicycle and computers connected to the Internet.

# 4.Laboratory for Studies of Physical Training Applied to Health (LETFAS)

Serves the "Health, Performance and Human Movement" and "Physical Exercise in Health and Disease" research areas of the UPE/UFPB's Post-Graduate Associate Program in Physical Education. It covers a surface area of 100 square meters, with a variety of equipment, including a treadmill, ergometric bicycle, ergospirometry system, electrocardiograph, digital anthropometric scales, a spirometer, a manual vacuometer, dynamometers, a venous occlusion plethysmograph, a digital photoplethysmograph, automatic arterial pressure monitors, mobile arterial pressure monitors, a holter, frequency meters, a respiratory belt, a jump-test platform, an electromyograph, and analogue-digital converter and computers connected to the Internet.

# 5.Laboratory for Studies in Leisure, Sport, the Human Body and Society (LAECOS)

Serves the "Culture, Education and Human Movement" and "Sociocultural Studies in Physical Education" research areas of the UPE/UFPB's Post-Graduate Associate Program in Physical Education. It covers a surface area of 70 square meters, with study booths and rooms for small-group meetings, computers/Internet with data analysis software for qualitative studies.

# 6.Laboratory for Studies of Physical Activity and Health (LEPAFS)

Serves the "Health, Performance and Human Movement" and "Physical Exercise in Health and Disease" research areas of the UPE/UFPB's Post-Graduate Associate Program in Physical Education. It covers a surface area of 70 square meters, with a variety of equipment for the investigation of the interrelations between physical activity, physical fitness, and health and social determinants of health and quality of life, as well as the association between health, lifestyles, and environmental and working conditions. The laboratory has computers connected to the Internet, a printer and permanent material infrastructure.

# Other laboratories at UPE and UFPB

The UPE and the UFPB also have other laboratories specializing in the areas of physiology, anatomy, biology, biochemistry and computing, genetics and others; all of which are available for specific studies or for the purposes of teaching. By way of existing joint projects and cooperation agreements with other national and international institutions (the University of Porto, Portugal; Kennesaw State University, USA; California State University at Long Beach, USA; Sheffield Hallam University, UK; Universidade de Granada, Spain; Université Montpellier, France), they have access to other laboratories for the development of specific projects.



# Aims of the UPE/UFPB's Post-Graduate Associate Program in Physical Education

The main aim of the UPE/UFPB's Post-Graduate Associate Program in Physical Education is to train researchers and specialized staff-members in the field of Physical Education, with autonomy in their area of specialization, providing the capacity to plan, develop and execute activities related to research, teaching and outreach projects in the field of Physical Education, in an intermodulery manner with points of reference in different academic disciplines.

The specific aims of the program are:

 (a) to foster research and build up knowledge in the field of Physical Education;

- (b) to train researchers committed to investigation of problems relating to the development of the area and improving the quality of life in society;
- (c) to help to improve research activities developed by research groups from other IES in the region, putting together centers for new postgraduate programs in the Northeast region of Brazil;
- (d) to help to train and provide security for autonomous researchers in the Northeast region of Brazil.

# COURSES

The Master's and Doctorate Courses include taught modules, participation in academic and scientific activities and the defense of research reports. The requirements for conclusion of the courses are listed below.

| MASTER'S              |           |
|-----------------------|-----------|
| Required credits:     |           |
| In taught modules:    | 24        |
| Mandatory modules:    | 8         |
| Optional modules:     | 16        |
| Dissertation:         | 8         |
| Deadlines:            |           |
| Qualifier Exam:       | 12 months |
| Pre-defense:          | 18 months |
| Dissertation defense: | 24 months |

# DOCTORATE

#### **Required credits:**

| In taught modules: | 40        |
|--------------------|-----------|
| Mandatory modules: | 12        |
| Optional modules:  | 28        |
| Thesis:            | 20        |
| Deadlines:         |           |
| Qualifier exam:    | 18 months |
| Pre-defense:       | 36 months |
| Thesis defense:    | 48 months |

# **Taught Modules**

The PAPGEF UPE/UFPB's taught modules are organized around a common core and the Program's areas and lines of research. Taught modules offered by PAPGEF UPE/UFPB for the Doctorate\*

| Module  | Credits | ıA | Area |     | Mandatory |       |
|---|---------|----|------|-----|-----------|-------|
|   |         | 1  | 2    | Yes | No        | Level |
| Ethics and Innovation in Physical Education Research                      | 4       | Х  | X    | X   |           | D     |
| Management of Research Activities   | 4       | X  | X    | X   |           | D     |
| Advanced Methods in Research in Kinanthropometry and Human Development    | 2       | Х  |      |     | Х         | D     |
| Advanced Research Methods in Exercise for Health and Disease              | 2       | X  |      |     | X         | D     |
| Advanced Research Methods in Epidemiology of Physical Activity            | 2       | Х  |      |     | Х         | D     |
| Advanced Research Methods in Sociocultural Studies for Physical Education | 2       |    | X    |     | Х         | D     |
| Advanced Research Methods in Teaching Practices in Physical Education     | 2       |    | X    |     | X         | D     |
| Advanced Seminars in Health, Performance and Human Movement               | 4       | X  |      | X   |           | D     |
| Advanced Seminars in Culture, Education and Human Movement                | 4       |    | X    | Х   |           | D     |
| Kinanthropometry and Human Performance                                    | 4       | Х  |      |     | Х         | M/D   |
| Higher Education Teaching Methods   | 4       | X  | X    |     | Х         | M/D   |
| General Epidemiology and the Epidemiology of Physical Activity            | 4       | Х  |      |     | X         | M/D   |
| The Epistemology of Human Movement  | 4       | Х  | Х    | Х   |           | M/D   |
| Teaching Internship   | 3       | Х  | X    |     | X         | M/D   |
| Statistics Applied to Physical Education I                                | 4       | Х  | Х    |     | Х         | M/D   |
| Statistics Applied to Physical Education II                               | 4       | X  | X    |     | Х         | D     |
| Aesthetics and Ethics of Human Movement                                   | 4       |    | Х    |     | Х         | M/D   |
| Lifestyles and Health   | 4       | Х  |      |     | Х         | M/D   |
| Individual Studies  | 2       | Х  | Х    |     | Х         | M/D   |
| Exercise Physiology   | 4       | Х  |      |     | X         | M/D   |
| Games, Physical Education and Culture                                     | 4       |    | X    |     | Х         | M/D   |
| Research Methodos in Physical Education                                   | 4       | X  | X    | Х   |           | M/D   |
| Qualitative Research Methods for Physical Education                       | 4       | Х  | Х    |     | Х         | M/D   |
| Quantitative Research Methods for Physical Education                      | 4       | Х  | Х    |     | Х         | M/D   |
| Prescription and Supervision of Exercise Programs                         | 4       | Х  |      |     | Х         | M/D   |
| Education Policy, Knowledge and Teacher Training                          | 4       |    | Х    |     | Х         | M/D   |
| Special Topics I  | 3       | Х  |      |     | Х         | M/D   |
| Special Topics II   | 3       |    | X    |     | Х         | M/D   |
| Dissertation Seminars (Master's)  | 4       | Х  | X    | х   |           | м     |
| Thesis Seminars (Doctorate)   | 4       | Х  | X    | Х   |           | D     |
| Sociology of the Body and the Culture of Movement                         | 4       |    | X    |     | Х         | M/D   |

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# Ethics and Innovation in Physical Education Research

Ethics, Science and Technology. Ethical principles and biotechnology. The Code of Professional Ethics in Physical Education. Bioethics and Research in Physical Education. The Scientific and Social Relevance of Research. Research Ethics Committees.

#### **Management of Research Activities**

Scientific production and post-graduate courses in Brazil. Research support organizations. Report writing. Management of research groups. Account-keeping for research support organizations.

#### Advanced Research Methods in Kinanthropometry and Human Performance

The study of the methods and techniques of scientific investigation most commonly used in high-impact studies in the field of kinanthropometry and human performance.

#### Advanced Research Methods for Research in Exercise for Health and Disease

Study of the methods and techniques of scientific investigation most commonly used in high-impact publications and the discussion of emerging issues in the field of physical exercise for health and disease.

# Advanced Research Methods in the Epidemiology of Physical Activity

Creativity and innovation in the design of investigations in the epidemiology of physical activity. Sampling and calculating the power of the sample. Systematic reviews and metaanalysis. Introduction to regression models applied to studies of the epidemiology of physical activity. Analyses applied to the validation of measuring instruments.

#### Advanced Research Methods in Sociocultural Studies for Physical Education

The main characteristics and current methodological tendencies in sociocultural studies of physical education. Contemporary views of anthropological, sociological, philosophical and psychological studies of corporal practices, taking into consideration the interactions between social groups and collective health.

#### Advanced Research Methods in Teaching Practices for Physical Education

Analysis of scientific production on the teaching of physical education. Mapping, characterization and identification of the trends, divergences and challenges in and for the production of knowledge in the field of physical education. Procedures for collection and analysis of data on teaching practices in physical education.

#### Advanced Seminars in Health, Performance and Human Movement

An approach to emerging themes in the field of research into Health, Performance and Human Movement. The content of the module will be determined by the requirements of the program's lines of research, the availability of guest teachers and the need for debate regarding relevant topics.

#### Advanced Seminars in Culture, Education and Human Movement

An approach to emerging issues in research in the field of Culture, Education and Human Movement. The content of the module will be determined according to the requirements of the program's lines of research, the availability of guest teachers and the need for debate on relevant topics.

# Kinanthropometry and Human Performance

Study of the morphological facets of human performance for physical fitness and sport, from the point of view of growth, development, biological maturity and ageing.

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### **Higher Education Teaching**

The responsibility of higher education: the inextricable link between teaching, research and outreach work. The role of higher education in Brazil. Historical, conceptual and operational facets of higher education teaching. Planning and evaluation for teaching.

#### General Epidemiology and Epidemiology for Physical Activity

Fundamental concepts, the history and applications of epidemiology. Causality and association in epidemiology. Confusion, interaction and mediation. Designing epidemiological studies. Validity and accuracy in epidemiological studies. Measures of physical activity.

#### **Epistemology of Human Movement**

Epistemological paradigms and the study of human movement. Epistemological analysis of human movement as a biological, cognitive and sociocultural phenomenon.

#### **Teaching Internship**

Practical module, in which candidates have the opportunity to have supervised experience of higher education teaching. Apart from contributing to undergraduate course classes, other activities related to university research and outreach work may be included in the internship plan.

# **Statistics Applied to Physical Education I**

Aplication of statistical data analysis methods to investigations in the field of Physical Education. Graphs, charts and tables. Descriptive statistics. Analysis of normality. Testing hypotheses. Tests of association. Tests of correlation. Tests to compare two samples.

# Module: Statistics Applied to Physical Education II

Application of advanced statistical data analysis methods to investigations in the field of physical education. Analysis of variance. Analysis of linear regression. Analysis of logistic regression.

#### Aesthetics and Ethics of Human Movement

Aesthetics, ethics, science and sociocultural diversity. The aesthetic and ethical grounds of human action. Ethics, aesthetics and physical education. Reflections on art and beauty involving human movement as a sociocultural activity.

#### Lifestyles and Health

Lifestyle as a determining factor associated with health events in human collectives and the strategies adopted to intervene in the field of physical education. Methodologies and programs to promote more active and healthy lifestyles. Evaluation of the effectiveness and impact of interventions to promote different lifestyles.

#### **Specific studies**

Module based on bibliographical reviews, case studies or exploratory studies. This is an individual module, supervised by the advisor responsible for accompanying and evaluating activities.

### **Physiology of Exercise**

Study of actue and chronic adaptations of various body systems and their impact on human performance, using various methods of investigation and obtaining physiological data.

# Games, physical education and culture

Educational practices, the body and language. Games and culture. Emotions, energy, logic, the aesthetics and ethics of games. Games, symbols, sublimation and school learning. Games, creativity and individuation. Games and mental health. Games and intelligence. Games as a teaching method and in teacher training.

# Research Methods in Physical Education

Approaches to, types of and design of research in physical investigation. Stages in the development of a scientific study. Evidence-based approach. Scientific research methods in physical education for conclusion of a course study.

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# Qualitative Research Methods in Physical Education

Defining and building up qualitative research; theoretical and epistemological research perspectives; study design; data collection methods; analysis of qualitative data; methodological triangulation in research; quality management in research; ethics in qualitative research.

# Module: Quantitative methods in physical education

The main quantitative methods and their different approaches to investigations in the field of physical education. Planning of investigations in quantitative approaches with an emphasis on the discussion of the design, size and selection of samples, identification and control of bias, data analysis and ethical questions.

# Prescription and supervision of physical exercise programs

Study of the bases of the structuring of physical exercise programs for different sectors of the population. Dose-response analyses in relation to various parameters of health and human performance. Effectiveness of physical exercise programs through the application of different regimens.

# Educational policy, knowledge and teacher training

Brazilian educational policies and the shape they take in teaching practice in basic education. The epistemological bases of the processes of education and teacher training. Teacher training, teacher practice and know-how. Theories of education and the organization of physical education teaching work.

### **Special Topics I**

Approach to emerging issues relating to the field of Health, Performance and Human Movement. This module is offered in accordance with the requirements of the program's lines of research, the availability of guest teachers and the need for discussion of relevant issues.

## **Special Topics II**

Approach to emerging issues relating to the field of Culture, Education and Human Movement. This module is offered in accordance with the requirements of the program's lines of research, the availability of guest teachers and the need for discussion of relevant issues.

## **Dissertation Seminars (Master's)**

Module in which candidates must be enrolled during the period in which they are developing their dissertation, for discussion and improvement of the project/report.

### Thesis seminars (Doctorate)

Module in which candidates must be enrolled during the period in which they are developing their thesis, for discussion and improvement of the project/report.

# Sociology of the Body and the Culture of Movement

The sociocultural construction of the body and the emotions in the light of experiences emerging from contemporary customs/ traditions. The socialization of emotions within relations, such as the adoption of habits and the social construction of reality. The body and emotion in social relations as tools for evaluation.

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