



<b>Course Code</b> SPSC-300	<b>Course Title</b> Research Methods & Statistics in Sports	<b>ECTS Credits</b> 6
<b>Department</b> Sports Science	<b>Semester</b> Spring	<b>Prerequisites</b>
<b>Type of Course</b> Required	<b>Field</b> Research in Sports & PE	<b>Language of Instruction</b> Greek
<b>Level of Course</b> 1 <sup>st</sup> Cycle	<b>Year of Study</b> 3 <sup>rd</sup>	<b>Lecturer</b> Prof Kioumourtzoglou
<b>Mode of Delivery</b> face-to-face	<b>Work Placement</b> N/A	<b>Co-requisites</b> None
<b>Recommended Optional Programme Components:</b> N/A		

**Objectives of the Course:**

This course introduces students to research and statistics in sports. The course will help students interpret existing knowledge and data in their other modules, and it will begin the development of the skills of the independent researcher, which will blossom in the final year optional dissertation. The course describes the broad framework of approaches to research in the sports, exercise sciences and physical education, and identifies the steps and iterations of these approaches. Students will be introduced to statistical analysis using SPSS and develop competence in a range of fundamental statistical techniques.

The aims of the course are to:

1. Introduce the framework of key research themes such as: inductive, deductive, empirical, observational, survey-based, qualitative and quantitative.
2. Describe the steps (and iterations) in the research process from/to establishing a question to/from interpreting data
3. Introduce SPSS and develop skills in data entry, statistical analysis and statistical interpretation.

**Learning Outcomes:**

On completion of this module, students should be able to:

1. Understand and apply the various sources of information storage and retrieval.
2. Know and understand the various types of research used in sports, physical education and athletics.
3. Know and understand the basics of "good" experimental design used in research investigations.
4. Interpret and critique research experiments and reports.
5. Present opportunities for the discussion of specific examples of various types of research reports in a seminar setting.
6. Explain basic approaches to research and differentiate between them.
7. Design and conduct the statistical analysis of a basic research investigation.
8. Examine an existing investigation and recognize strengths and weaknesses.

- Demonstrate competence in the use of SPSS to perform basic statistical procedures and to draw appropriate conclusions from the output (specifically: paired & unpaired t-tests, ANOVA, chi-square, Mann-Whitney, Wilcoxon, correlations (Spearman's & Pearson's correlation).

### Course Contents:

- Identifying research methodologies related to different types of research for example highlighting pros and cons of a variety of research styles in terms of reliability, internal/external validity, ethical considerations, samplings etc.
- Data analysis and presentation – different styles and strategies for analysing data and results and present findings.
- Philosophy of research.
- Basic descriptive statistics: measures of central tendency, variation, distribution.
- Interpreting qualitative data: transcribing interviews; identifying themes, different ways to present qualitative finding and analyse data.
- Choosing appropriate statistics for various quantitative research designs.
- Identifying differences between variables and identifying relationships between variables.
- Identifying a research interest and ascertaining its viability; planning research: action plans; timelines, how to organise a comprehensive review of literature, what to include in a protocol.
- Ethical considerations in research.

### Learning Activities and Teaching Methods:

Lectures

### Assessment Methods:

Midterm Exam, Final Exam, Coursework: research proposal, data collection, data analysis and research presentation , Attendance & Participation

### Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Jerry R. Thomas, Jack K. Nelson, Stephen J. Silverman	Research Methods in Physical Activity-5 <sup>th</sup> Edition	Human Kinetics, Champaign, II.	2005	0736056203
Vincent, W.J.	Statistics in Kinesiology-3 <sup>rd</sup> Edition	Human Kinetics, Champaign, 11.	2005	0736057927

### Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Gratton, C. and Jones, I.	Research Methods for Sport Studies	London: Routledge.	2004	0415268788
Salkind, N.J.	Statistics for People who (think they) Hate Statistics	Sage Publications, Inc.	2007	978-1-4129- 5151-7
Mr Alistair W Kerr, Howard K	Doing Statistics with SPSS	London: Sage	2002	0761973850

Hall, Stephen A Kozub				
Morrow, J.R., Jackson, A.W., Disch, J.G. and Mood, D.P.	Measurement and evaluation in human performance. 2nd ed	Human Kinetics, Champaign, IL.	2005	0736065032