

Statistics in Physical Education and Sport

Doctoral studies · academic year 2026/27 · how the course works

Course

Lecturers	Ivan Ćuk · Olivera Knežević · Dragan Mirkov
Status	compulsory course, first semester
ECTS credits	15
Classes	4 × 45 min per week, 12 weeks (26 Oct 2026 – 22 Jan 2027): introductory class, 10 weeks of lectures and the early exam

Course aim and learning outcomes

The aim of the course is for students to acquire more advanced theoretical assumptions and practical procedures used to analyze, process and evaluate data in physical education and sport. After the course, students should be able to:

- use more advanced tools for statistical analysis;
- independently collect valid data for later statistical analysis;
- choose an appropriate statistical procedure for a practical or research problem;
- correctly interpret and present the results of the statistical procedure applied.

Textbook and software

Textbook: Weir, J. P., & Vincent, W. J. (2021). Statistics in kinesiology (5th ed.). Human Kinetics. The PDF is in Teams (Files). Each week follows the chapters of this textbook.

Further reading: Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). SAGE.

Software: jamovi (free, www.jamovi.org), Solid version 2.7.39. All analyses in class and in homework are done in jamovi.

What a week looks like

Before class	Read the chapters listed in the schedule. Submit the homework from the previous class in Teams (deadline: start of class).
In class (4 × 45 min)	Unannounced short quiz (5 min) · video lesson · independent work in jamovi on sport data.
After class	Homework: Problems to Solve at the end of the chapters. Each lesson ends with a reminder of the homework and of the reading for next week.

The video lesson is posted in Teams only in class. Read the textbook first, then watch the lesson.

Assessment (maximum 100 points)

Component	Points	How it is scored
Homework	0–10	Homework submitted on time earns the full points for that homework; homework submitted late earns half.
Quizzes	0–10	Quizzes are unannounced and may be given in any class, on earlier material and on the lesson covered that day: they check whether you read the lesson with understanding and came prepared. Each quiz is scored from 0 to 10; the lowest score is dropped and the mean of the others is taken.
Exam	0–60	Early exam in the last week of classes (18–22 Jan 2027); after that, the exam in an exam period, as agreed with the lecturer. First exam period: 25 Jan – 19 Feb 2027.
Activity	0–20	Awarded if the exam is passed at the early exam or in the first exam period. This recognizes the work done outside class.

Schedule

Week	Dates	Lecturer	Ch.	Topic
0	26–30.10.2026	Mirkov	–	Introductory class: how the course works
1	2–6.11.2026	Mirkov	1–5	Measurement, statistics and research; organizing and displaying data; percentiles; central tendency; variability
2	9–13.11.2026*	Mirkov	6–7	The normal curve; fundamentals of statistical inference
3	16–20.11.2026	Mirkov	8–9	Correlation and bivariate regression; multiple correlation and regression
4	23–27.11.2026	Čuk	10	The t test: comparing means from two sets of data
5	30.11–4.12.2026	Čuk	11–12	Simple analysis of variance; analysis of variance with repeated measures
6	7–11.12.2026	Mirkov / Knežević	13	Quantifying reliability
7	14–18.12.2026	Knežević	14	Factorial analysis of variance
8	21–25.12.2026	Knežević	15	Analysis of covariance
9	28–31.12.2026*	Knežević	16–17	Analysis of nonparametric data; clinical measures of association
–	1–8.1.2027	–	–	<i>No classes (New Year and Christmas)</i>
10	11–15.1.2027	Knežević	18	Advanced statistical procedures
11	18–22.1.2027	Knežević	–	Early exam (final test)

* Public holiday in that week (11 Nov; 1–2 Jan). A class that falls on a holiday is made up (a day earlier or online), as agreed with the lecturer. The early exam may be held on another day of the last week.

Before the first class (week of 2–6 Nov 2026)

1. Read chapters 1–5 of the textbook. You have covered this material before; in the first class we start working right away.
2. Install jamovi (Solid 2.7.39) on your computer, following the official guide: docs.jamovi.org → Installation.
3. Work through the official documentation (docs.jamovi.org): First steps in jamovi, The Spreadsheet, Data Variables (variable types). You are expected to know this before the first class.

Teams

Everything is in the course team: schedule, textbook, guides, data, homework and video lessons. Folders are by week (W01, W02...), and each week has: 1 Before class • 2 In class • 3 Homework.

References

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). SAGE.

The jamovi project. (2026). *jamovi* (Version 2.7) [Computer software]. <https://www.jamovi.org>

Weir, J. P., & Vincent, W. J. (2021). *Statistics in kinesiology* (5th ed.). Human Kinetics.

Use of artificial intelligence: the author led the work on this material from the initial idea to the finished content, designing it, setting the rules for writing and language use, and checking every part. Claude Code (Anthropic), an AI-based assistant, was used to write the programs that generate the slides, figures and documents, to draft text, and to check the language against the author's rules. The author is responsible for the content.