

# Packages for statistical analysis - course description

General information	
Course name	Packages for statistical analysis
Course ID	13.2-WF-FizD-PfSA-S17
Faculty	<a href="#">Faculty of Physics and Astronomy</a>
Field of study	Physics
Education profile	academic
Level of studies	Second-cycle studies leading to MS degree
Beginning semester	winter term 2018/2019

Course information	
Semester	2
ECTS credits to win	3
Course type	obligatory
Teaching language	english
Author of syllabus	<ul style="list-style-type: none"><li>dr hab. Jarosław Piskorski, prof. UZ</li></ul>

Classes forms					
The class form	Hours per semester (full-time)	Hours per week (full-time)	Hours per semester (part-time)	Hours per week (part-time)	Form of assignment
Laboratory	30	2	-	-	Credit with grade

## Aim of the course

The student can use packages for statistical analysis to support biomedical statistical data analysis as well as data visualisation. The student is also able to support less advanced users of statistical packages in their day-to-day work.

## Prerequisites

The knowledge of statistical methods, with the special emphasis on biostatistics. Familiarity with Microsoft office, especially the Excel spreadsheet or LibreOffice and Calc. Ability to program using R.

## Scope

Overview of statistical packages and trends in their applications

Aims and methods of general purpose statistical packages

Spreadsheet based graphical user interface

Data transformations in a spreadsheet

Elements of Visual Basic for spreadsheets

Data transformations in spreadsheet with Visual Basic

File and format exchange between R and xls and ods with the XLCONNECT library

Excel/Calc graphics vs R graphics

Elements of the SPSS package with GNU PSPP

File and format exchange between SPSS and R with the use of the *foreign* library

## Teaching methods

Laboratory classes. Working in groups, joint solving of more complicated or laborious examples.

## Learning outcomes and methods of theirs verification

Outcome description	Outcome symbols	Methods of verification	The class form
The student can analyze biostatistical data and transform between various data formats		<ul style="list-style-type: none"><li>an ongoing monitoring during classes</li></ul>	<ul style="list-style-type: none"><li>Laboratory</li></ul>
The students knows the necessary functions of Excel and Calc. He or she is able to transform and filter data using both the graphical interface nad Visual Basic		<ul style="list-style-type: none"><li>an ongoing monitoring during classes</li></ul>	<ul style="list-style-type: none"><li>Laboratory</li></ul>
The student is able to carry out all the statistical analyses available in the given statistical package.		<ul style="list-style-type: none"><li>an ongoing monitoring during classes</li></ul>	<ul style="list-style-type: none"><li>Laboratory</li></ul>

Outcome description	Outcome symbols	Methods of verification	The class form
The student is able to use statistical packages whether or not he or she has encountered them before, which entails the ability to independently read the documentation and gain knowledge. The student is able to support less proficient users.		<ul style="list-style-type: none"> <li>an ongoing monitoring during classes</li> </ul>	<ul style="list-style-type: none"> <li>Laboratory</li> </ul>

## Assignment conditions

The condition of positive assessment is the accomplishment of all programming exercises.

## Recommended reading

- 1] A. Stanisławski, Przystępny kurs statystyki z zastosowaniem STATISTICA PL na przykładach z medycyny  
 [2] Jerzy A. Moczko, Grzegorz H. Bręborowicz, Nie samą biostatystyką ...

## Further reading

## Notes

Modified by dr hab. Piotr Lubiński, prof. UZ (last modification: 28-06-2018 17:51)

Generated automatically from SylabUZ computer system