neu770 - Basics of Statistical Data Analysis

Module label | Basics of Statistical Data Analysis
Module code | neu770
Credit points | 6.0 KP
Workload | 180 h

(1.5 SWS Lecture (VO) Total workload 68h: 28h contact / 20h background reading / 20h exam preparation 2.5 SWS Seminar (SE) Total workload 113h: 28h contact / 20h background reading / 65h exercise solving)

Used in course of study
- Bachelor's Programme Physics, Engineering and Medicine > Aufbaumodule
- Master's Programme Biology > Skills Modules
- Master's Programme Neuroscience > Skills Modules

Contact person
Module responsibility
- Fabian Otto-Sobotka

Authorized examiners
- Fabian Otto-Sobotka

Entry requirements
Skills to be acquired in this module
+ Social skills
+ Interdiscipl. knowl.
++ Maths/Stats/Progr.
+ Scientific English

Upon successful completion of this course, students

have basic statistical competencies for understanding data

understand the main statistical methods and their practical use through application

can evaluate statistical methods regarding the qualities and their limits

Module contents
- populations and samples; exploratory data analysis through describing statistics
- elementary probabilities and random variables
- important discrete and continuous distributions
- estimating parameters through the method of maximum likelihood
- confidence intervals and classical significance testing
- pairs of random variables; distribution and dependence
- classical regression analysis
- basic use of the software R to apply those methods

Reader's advisory
Will be available in Stud.IP

Links
Language of instruction | English
Duration (semesters) | 1 Semester
Module frequency | annually, winter term
Module capacity | unlimited
Modulart | ---
Modulart | je nach Studiengang Pflicht oder Wahlpflicht
Lern-/Lehrform / Type of program | basic mathematical knowledge; une of probabilities
Vorkenntnisse / Previous knowledge | recommended in combination with neu720 Statistical programming with R

Examination
Time of examination | after the course
Type of examination | written exam, 2h

Course type | Comment | SWS | Frequency | Workload attendance
Lecture | 2.00 | 28 h
Seminar | 2.00 | 28 h

Total time of attendance for the module | 56 h