**Iök100 - Data Modelling**

**Module label**: Data Modelling  
**Module code**: Iök100  
**Credit points**: 9.0 KP  
**Workload**: 270 h  
**Used in course of study**: Master's Programme Landscape Ecology > Basismodule

**Module responsibility**
- Vanessa Minden

**Authorized examiners**
- Vanessa Minden
- Cord Peppler-Lisbach

**Module counseling**
- Vanessa Minden

**Entry requirements**
**Skills to be acquired in this module**
- Basic methods of explorative statistics and adequate application of statistical tests relevant to ecological data.
- To learn, interpret and apply methods of habitat modelling
- To understand the fundamentals of spatial explicit analysis of species-environment relationships as well as the fundamentals of spatial prediction of environmental requirements in species
- To adequately analyse measured and observed spatial data applying methods of spatial statistics and geostatistics, respectively
- To learn and to understand relevant methods of multivariate analysis of vegetation data
- To be able to interpret and to assess the results obtained as well as the relevant literature
- To be able to apply the treated methods independently
- To learn and to improve skills in using the statistics software R

**Module contents**

**Part 1: Introduction to statistical analysis of ecological data NN (NN)**
- Experimental design
- Explorative data analysis
- Distribution tests, data transformation
- Chi² test
- Anova, Kruskal-Wallis test
- t & U test
- Multiple comparisons, post-hoc tests

**Part 2: Habitat modelling and spatial statistics (Biedermann)**
- Linear (OLS) regression
- GLM (logistic regression, Poisson regression)
- Spatial explicit modelling, GIS integration
- Spatial statistics

**Part 3: Multivariate analysis of vegetation ecological data (Peppler-Lisbach)**
**Classification:**
- Cluster analysis
- Statistical degrees of fidelity

**Ordination:**
- Indirect procedures: PCA, CA, DCA
- Canonical procedures: RDA, CCA
Reader’s advisory


Additional literature will be announced during the course.

Links

https://www.uni-oldenburg.de/en/landeco/

Language of instruction

German

Duration (semesters)

1 Semester

Module frequency

jährlich

Module capacity

unlimited

Modullevel

MM (Mastermodul / Master module)

Modulart

Wahlpflicht / Elective

Lern-/Lehrform / Type of program

Vorkenntnisse / Previous knowledge

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<td>Final exam of module</td>
<td>Before the end of the course</td>
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Course type

Exercises

SWS

6.00

Frequency

WiSe

Workload attendance

84 h