House sparrows

1. Tarsus, modeled with
   - Hatch island
   - Sex
   - NAO
2. Dispersal, modeled with
   - Hatch year
   - Sex
   - NAO
   - Wing length
3. Number of off-spring, modeled with
   - Dispersal
   - Hatch year
   - Body mass

House sparrows

1. Tarus length
   - Hatch island
   - Sex
   - NAO
2. Dispersal,
   - Hatch island
   - Sex
   - NAO
   - Wing length
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island
   - Sex
   - NAO
2. Dispersal,
   - Hatch island
   - Sex
   - NAO
   - Wing length
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex
   - NAO
2. Dispersal,
   - Hatch island
   - Sex
   - NAO
   - Wing length
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO
2. Dispersal,
   - Hatch island
   - Sex
   - NAO
   - Wing length
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
2. Dispersal,
   - Hatch island
   - Sex
   - NAO
   - Wing length
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
2. Dispersal, categorical, binary
   - Hatch island
   - Sex
   - NAO
   - Wing length
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
2. Dispersal, categorical, binary
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
   - Wing length covariate
3. Number of off-spring
   - Dispersal
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
2. Dispersal, categorical, binary
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
   - Wing length covariate
3. Number of off-spring categorical, counts
   - Dispersal factor, 2 levels
   - Hatch island
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
2. Dispersal, categorical, binary
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
   - Wing length covariate
3. Number of off-spring categorical, counts
   - Dispersal factor, 2 levels
   - Hatch island factor, 5 levels
   - Body mass

House sparrows

1. Tarus length continuous
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
2. Dispersal, categorical, binary
   - Hatch island factor, 5 levels
   - Sex factor, 2 levels
   - NAO covariate
   - Wing length covariate
3. Number of off-spring categorical, counts
   - Dispersal factor, 2 levels
   - Hatch island factor, 5 levels
   - Body mass covariate

Chapters and assignments

Table 1.1 *Major methods of statistical analysis for response and explanatory variables measured on various scales and chapter references for this book. Extensions of these methods from a Bayesian perspective are illustrated in Chapters 12–14.*

Response (chapter)	Explanatory variables	Methods
Continuous (Chapter 6)	Binary	t-test
	Nominal, >2 categories	Analysis of variance
	Ordinal	Analysis of variance
	Continuous	Multiple regression
	Nominal & some continuous	Analysis of covariance
	Categorical & continuous	Multiple regression
Binary (Chapter 7)	Categorical	Contingency tables Logistic regression
	Continuous	Logistic, probit & other dose-response models
	Categorical & continuous	Logistic regression
Nominal with >2 categories (Chapters 8 & 9)	Nominal	Contingency tables
	Categorical & continuous	Nominal logistic regression
Ordinal (Chapter 8)	Categorical & continuous	Ordinal logistic regression
Counts (Chapter 9)	Categorical	Log-linear models
	Categorical & continuous	Poisson regression
Failure times (Chapter 10)	Categorical & continuous	Survival analysis (parametric)
Correlated responses (Chapter 11)	Categorical & continuous	Generalized estimating equations Multilevel models

- Assig. 1: Chp 1 & 2
- Assig. 2: Chp 6
- Assig. 3: Chp 7
- Assig. 4: Chp 8 and 9.
- Assig. 5: Chp 7, 8 or 9.

Assignment 5, Your own data

- We recommend binary / binomial or Poission data with at least one continuous and one nominal/ordinal explanatory variable.
- But any non-Gaussian data / model that fit the course is OK.
- Discuss with Ingelin and Xiangping!