

LING82100: final study guide

The final will be a one-week take-home exam. You are not permitted to work with others. **This study guide covers only the second half of the course; the final will also cover material on the midterm study guide** (available from the course website).

- State when we use *linear regression* vs. *logistic regression*.
- State when the *likelihood ratio test* is or is not appropriate.
- Given a continuous independent variable, what are benefits of
 - *centering* it and of
 - *standardizing* it?
- Given the description of an experiment, say which independent variables are *fixed effects* and which are *random effects*.
- State the consequences of failing to include per-subject or per-item *random intercepts*.
- State when *random slopes* are appropriate, and their relationship to interactions of two fixed effects.
- Given a set of continuous independent variables, diagnose *multicollinearity* and eliminate it using *residualization*.
- Given the *log-likelihoods* of two models, compute and report the *likelihood ratio test*.
- Given a regression model with *multinomial categorical independent variables* encoded using
 - *sum coding* or
 - *contrast coding*generate the full table of *coefficients*, *standard errors*, and test statistics and *p-values* from *likelihood ratio tests*.
- Given the coefficients of a *logistic regression*, compute the model predictions and convert them from *log-odds* to probabilities.
- Given the output of the *Tukey HSD test*, report the results using “less-than/greater-than” notation (as in Homework 7, §2).