

General Linear Model Workshop. University of Manitoba. 18-19 March 2021

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Workshop goals. Many of the statistical analyses in the natural sciences are special cases of the general linear model (GLM). These include regression, multiple regression, t-tests, ANOVA, ANCOVA. These are readily extended to experimental studies using general linear mixed models (GLMM). GLM analyses are readily extended to non-normal errors for count data with the generalized linear model (GzLM). Examples are goodness of fit tests, contingency tests, and logistic regression, Many of the analyses undertaken by graduate students do not have a name but can be done in the framework of the GLM, GLMM, or GzLM. The goal of this workshop is to introduce you to a GLM/GLMM analysis, which frees you from "name that test" thinking.

Questionnaire for planning purposes. No names please.

1. Program: Masters PhD Other

2. Thinking about your thesis. Do you have a thesis topic? Yes No

If so, are you doing manipulative experiments in the lab or field? Yes No

If so, are you doing surveys or other observational studies (most of ethology)? Yes No

If so, do you have count data? Yes No

Have you collected data yet for your thesis? Yes No

2. Previous experience with statistics Number of courses

Statistical packages: R SPSS Other

Experience with R: None Beginner Advanced

3. Univariate and multivariate statistics.

Univariate means a single Y variable plotted relative to one or more explanatory variables.

This includes ANOVA, multiple regression, and ANCOVA.

Multivariate means many Y variables, as a matrix of variables and cases.

This includes MANOVA, PCA, and discriminant analysis.

List your interests: Univariate Yes Somewhat

Multivariate Yes Somewhat

4. Experience with online learning Number of courses

List learning management systems (LMS) you have used.

Zoom Webex Brightspace/UMLearn Others

If you have used a LMS,

Did you as student participate in breakout rooms? Yes No

Did you as student use the share screen function? Yes No

Have you as student made a presentation (use share screen and mike)? Yes No

If you plan to attend please send an email to Victor Valdez at [valdezv@myumanitoba.ca]. We will need these to set up online access for you.