2017 STAT Short Course:

Mixed models for agricultural and biological research

Dates: May 31 to June 2, 2017. The short course will meet May 31 and June 1 from 8:00 am to 12:00 pm and on June 2 from 1:00 to 5:00 pm.

Instructor: Nora M. Bello, DVM, PhD, Associate Professor, Department of Statistics, K-State https://www.k-state.edu/stats/people/bello.html

Location: K-State campus, TBD.

Course duration: Total of 12 hours, distributed in 3 consecutive days of 4 hours each.

Brief description: This short course will provide a fairly comprehensive exposition of mixed-model based statistical data analysis, power determination and sample size calculation for commonly used experimental designs in the agricultural and biological sciences. The approach will be workshop-like, example-driven and primarily based on the various mixed model analysis procedures available in SAS software. General and generalized mixed models for normal and non-normal responses will be discussed in the context of structured data from designed experiments and observational studies.

Tentative schedule:

Days	Topic
1	– Why mixed models? Introduction. – Treatment structure and design structure. Dealing with data architecture: blocks, clusters, nested effects, subsampling. – Mixed models diagnostics
2	– Analysis of repeated measures data – Generalized linear mixed models for non-normal responses
3	– Mixed models for power and sample size calculations for normal and non-normal responses – Social at Tallgrass Tap House

Target audience: K-State faculty and affiliated researchers and collaborators, including graduate students and postdocs with an interest on designed experiments and observational studies in the agricultural and biological sciences.

Cost: Free to K-State affiliates. Funding for this workshop has been provided by Shell U.S.

Capacity: Limited to 20 participants. Applications should be sent to Ms. JoAnn Blackburn at jablack@ksu.edu and will be considered on a first-come first-serve basis. Registration will be confirmed by May 5 2017.

Considerations:

- Required background on applied linear models, specifically linear regression and ANOVA (i.e. STAT 705 or equivalent). Graduate students please submit an unofficial transcript (does not have to be a K-State transcript).
- Prior experience programing with SAS would be preferred but it is not required.
- Participants should have available a laptop with a power source and licensed SAS software.