UNIVERSIDADE FEDERAL DE GOIÁS
INSTITUTO DE MATEMÁTICA E ESTATÍSTICA - IME/UFG
GRADUAÇÃO EM ESTATÍSTICA

Introdução aos modelos de dano cumulativo: metodologia e aplicações
2015-II

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Horário: As aulas serão ministradas às XXX na sala XX do XX a partir de 3 de agosto de 2015.

Objetivo: O principal objetivo é apresentar aos alunos a teoria estatística, metodologia e aplicações de modelos de dano cumulativo, em especial modelos Birnbaum-Saunders. Os alunos serão instigados a fazer pesquisa. A distribuição Birnbaum-Saunders é muito flexível para modelar diferentes tipos de dados (principalmente dados de tempo de vida). No tocante à plataforma computacional, será usado o programa `R` (`www.R-project.org`).

Avaliação: Consistirá de um artigo científico a ser entregue no final do semestre e em alguns exercícios ao longo do semestre. O artigo tera peso 0.6 ao passo que os exercícios terão peso 0.4 na nota final.

Requisitos: 1) Familiariadade com o software `R` (`www.R-project.org`), de preferência o aluno ter cursado Estatística Computacional I; 2) Conhecimento de Probabilidade e Inferência, de preferência o aluno ter cursado as disciplinas de Probabilidade I e II, Inferência I e II; 3) É veementemente recomendável que os alunos utilizem o LaTeX para digitação do trabalho da disciplina.

Conteúdo programático:

1. Introdução a modelos de dano cumulativo.
2. Caracterização (cdfs, pdfs, momentos, propriedades, etc).
3. Inferência pontual e intervalar. Testes de hipóteses.
4. Aplicações a dados reais, qualidade do ajuste, valores preditos.
5. Distribuições Birnbaum-Saunders com `R`.
6. Diagnóstico e qualidade de ajuste com `R`.
7. Modelagem Birnbaum-Saunders.
8. Avanços em modelos Birnbaum-Saunders.

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