STA 114: Statistics

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Lectures: WF 11:40-12:55 Soc-Psy 126
Labs: Th 1:15-2:30, 2:50-4:05 PM, Teer 106
Office Hours: WTh 9:00-10:00 AM

Description

The focus of this course is *statistical inference* – concepts and procedures. A statistician views inference in a data analysis task the same way a detective views deduction in a crime investigation – to conclude about the unseen from what is observed. The two dominating approaches to statistical inference – the **classical** approach based on sampling theory and the modern **Bayesian** approach based on inductive logic – are introduced and discussed through a diverse set of data analysis examples. Equal emphasis is placed on learning **concepts** and mastering the mathematical/computing **tools** needed to apply them. A basic training is offered on the statistical package **R**.

Text

Probability and Statistics (3rd/4th Ed) by Morris H DeGroot and Mark J Schervish. Check out the author webpage (http://lib.stat.cmu.edu/~mark/degroot/) for additional information.

Prerequisite

Proficiency in calculus based probability at the level of STA 104/MATH 135 or STA 213. Consult chapters 1-5 (1-6 in 4/e) of DeGroot and Schervish. HW 1 tests your preparation for this course.

Resources

Handouts, homework/lab assignments and grades will be posted on the Instructor's **course webpage** at http://www.stat.duke.edu~st118/sta114/. Daily, **walk-in help sessions** are available from Statistical Education Center at Old Chem 211A (http://www.stat.duke.edu/secc/). **R** is installed on the university computers and is also freely available from http://cran.r-project.org/. Grades will be maintained on **Blackboard**

Assessment

Course grade consists of weekly homework assignments (25%), weekly lab work (5%), two in-class mid-term exams ($2 \times 20\%$) and the final exam (30%). Discussion is allowed, plagiarism is not!

Policies

We observe strict adherence to Duke Community Standard. Missing work should be notified and make-up should be requested (via appropriate official forms; see course webpave) ASAP.