The Johns Hopkins Biostatistics: Graduate Program

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Programs

- PhD
- ScM
The ScM training is geared toward the development of the skills necessary to appropriately design studies and analyze data using existing statistical methods.

The PhD training is geared toward the development of the skills necessary to appropriately design studies and analyze data using existing statistical methods and develop new statistical methods.
PhD Program: Coursework

- **Core**: 2 six term sequences in Statistical Methods and Statistical Theory

- **Additional Statistical Coursework**: Statistical Computing, Longitudinal Data Analysis, Survival Analysis, Multi-level Models, Causal Inference, Clinical Trials, Spatial Statistics, Bayesian Statistics, Decision Theory, Foundations, Advanced Topics ...

- **Extra-department Coursework**: Epidemiology, Introduction to Biomedical Sciences, Research Ethics, Public Health Perspectives

- **Scientific Minor**
PhD Program - Evaluations

- Written qualifying after 4 terms of coursework
- School-wide oral exam taken between 7th and 10th terms
- Thesis defense
PhD Program - Additional Features

- Rigor
- Working groups
- Apprenticeship model
- Research summers
- Seminars
- Collaborations
- Consulting center
- Jointly earn Master’s degree in other areas (e.g., Bioinformatics)
- Hanging out
- Full tuition plus stipend/health insurance scholarships
- Excellent job prospects
PhD Program - Applications

What are we looking for?

▶ Quantitatively-oriented, scientifically-minded, self-motivated, intellectually curious individuals who are interested in public health research.

▶ Great references

▶ Strong essay

▶ Excellent GRE scores and academic performance

▶ Extra stuff (e.g., research experience)

▶ Coursework: Calculus, linear algebra, real analysis (not required, but a plus)
ScM Program: Coursework

- **Core:** 2 four term sequences in Statistical Methods and Statistical Theory
- **Additional Statistical Coursework:** Statistical Computing, Longitudinal Data Analysis, Survival Analysis, Multi-level Models, Causal Inference, Clinical Trials, Spatial Statistics, Bayesian Statistics, ...
- **Extra-department Coursework:** Epidemiology, Introduction to Biomedical Sciences, Research Ethics, Public Health Perspectives
ScM Program - Evaluations

- Written qualifying after 4 terms of coursework
- Thesis
ScM Program - Additional Features

- Rigor
- Working groups
- Apprenticeship model
- Research summers
- Seminars
- Collaborations
- Consulting center
- Hanging out
- Tuition Repayment program
- Excellent job prospects
What are we looking for?

- Quantitatively-oriented, scientifically-minded, self-motivated, intellectually curious individuals who are interested in public health research.
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- Strong essay
- Excellent GRE scores and academic performance
- Extra stuff (e.g., research experience)
- Coursework: Calculus, linear algebra
What proportion of individuals interested in biostatistics experimented with marijuana before finishing their second year of college?

I will assume that the individuals in this room are a representative sample from this cohort.
Roll an 8-sided die.
Sensitive Question

- If rolled 1, then answer 'yes' regardless of the truth.
- If rolled 2,3, then answer 'no' regardless of the truth.
- If rolled 4,5,6,7,8 then answer truthfully.
greenberg = function(x,n) {
    res = binom.exact(x,n)
    lower = (res$lower-0.125)/0.625
    upper = (res$upper-0.125)/0.625
    prop = (res$proportion-0.125)/0.625
    c(prop,lower,upper)
}