INSTRUCTOR NAME  John Hanfelt, PhD

INSTRUCTOR CONTACT INFORMATION

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SCHOOL ADDRESS OR MAILBOX LOCATION:  Dept of Biostatistics and Bioinformatics, Room 314
OFFICE HOURS  By appointment

BRIEF COURSE DESCRIPTION

Introduces the theory of parametric point and interval estimation, tests of hypotheses, and Bayesian inference.

LIST SCHOOL LEVEL, DEPARTMENT, AND/ OR PROGRAM COMPETENCIES

MSPH/MPH/PhD in Biostatistics

- Assist in the interpretation of study results
- Interpret statistical results of biomedical studies effectively
- Assist in the development of new statistical methods as needed to address public health or medical problems
- Apply existing statistical theory and methods to a broad range of medical or public health problems
- Conduct appropriate statistical analyses for a broad range of applications
- Communicate the results of statistical studies both orally and in writing to senior statisticians and other investigators
LIST LEARNING OBJECTIVES ASSOCIATED WITH THE COMPETENCIES

- Likelihood theory: Law of Likelihood; likelihood functions; sufficiency
- Point estimation methods: maximum likelihood; method of moments; minimum variance unbiased estimation
- Interval estimation: likelihood interval; confidence intervals based on pivotal quantities; approximate confidence intervals in large samples
- Tests of hypotheses: uniformly most powerful tests; large-sample tests; Fisherian significance tests
- Bayesian inference

EVALUATION

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<thead>
<tr>
<th>Homework</th>
<th>40 %</th>
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<tr>
<td>Midterm Exam</td>
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<tr>
<td>Final Exam</td>
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ACADEMIC HONOR CODE

The RSPH requires that all material submitted by a student in fulfilling his or her academic course of study must be the original work of the student.