Lecturer
Dr Chris Carter
Office: Room 112A, Old Chemistry Building
Tel: 684 5956
Office hours: Monday and Wednesday 11:00–12:00
Email: chrisc@stat.duke.edu

Teaching Assistant
Laura Gunn
Office: Room 222, Old Chemistry Building
Tel: 684 8840
Office hours: Thursday, 10:00–12:00
Email: laura@stat.duke.edu

Class schedule
Monday and Wednesday, 2:20–3:35, Room 311, Social Sciences Building

Introduction
The course gives an introduction to the theory of statistical inference.
The first part of the course gives some useful results from probability theory.
The second part of the course looks at the properties of a random sample and
introduces some key concepts such as the likelihood and sufficiency.
The final part of the course looks at point estimation, hypothesis testing, and
interval estimation. For each topic, we will study the possible statistical methods,
look at different measures of the accuracy of the methods, and try to make general
statements about the optimal method for particular problems.

Textbook
Topics covered

The proposed syllabus is to cover selected topics from the following chapters of the text:

Transformations and Expectations (Chapter 2)
Common Families of Distributions (Chapter 3)
Multiple Random Variables (Chapter 4)
Properties of a random sample (Chapter 5)
Principles of data reduction (Chapter 6)
Point estimation (Chapter 7)
Hypothesis testing (a few topics from Chapter 8, as time permits)

Grading

• The following weighting scheme will be used to determine your final course grade:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midterm Examination</td>
<td>35%</td>
</tr>
<tr>
<td>Final Examination</td>
<td>40%</td>
</tr>
<tr>
<td>Homework</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

• You will be allowed to bring two A4 pages of self-prepared notes/formulas along to the examinations. All necessary statistical tables will be provided.

• The date for the midterm examination will be announced later in the course.

Web site

Course material will be placed in the library as well as the web site

http://www.stat.duke.edu/courses/Fall02/sta213