
Moulinath Banerjee

University of Michigan

September 3, 2002

1 Instructor information.

Instructor: Moulinath Banerjee.

Office: 445B, West Hall.

e-mail: moulib@umich.edu

Course web-page: www.stat.lsa.umich.edu/~moulib/stat426fall02.html

Office Hours: 4:30 to 5:30 P.M. on Mon, Tue and Wed. Note that class meets 3:00 to 4:00 p.m. on Mon, Wed and Fri, in G127, Angel Hall.

2 Course information.


Distribution of weights: 2 Midterms each carrying 20, Final Exam carries 40 and 4 Homeworks (best 4 out of 6) carry 20.

Exam schedule:

- Midterm 1: Oct 16 (Wednesday) in class during class hours.
- Midterm 2: Nov 22 (Friday) in class during class hours
- Final Exam : Dec 17 (Tuesday) in class from 4:00 to 6:00 p.m.
Table 1: HOMEWORK INFORMATION.

<table>
<thead>
<tr>
<th>HW #</th>
<th>handed out</th>
<th>due</th>
<th>returned</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sep 11</td>
<td>Sep 25</td>
<td>Oct 2/3</td>
</tr>
<tr>
<td>2</td>
<td>Sep 25</td>
<td>Oct 7</td>
<td>Oct 14</td>
</tr>
<tr>
<td>3</td>
<td>Oct 9</td>
<td>Oct 23</td>
<td>Oct 30</td>
</tr>
<tr>
<td>4</td>
<td>Oct 23</td>
<td>Nov 6</td>
<td>Nov 13</td>
</tr>
<tr>
<td>5</td>
<td>Nov 6</td>
<td>Nov 20</td>
<td>Nov 27</td>
</tr>
<tr>
<td>6</td>
<td>Nov 20</td>
<td>Dec 4</td>
<td>Dec 11</td>
</tr>
</tbody>
</table>

Outline of topics to be covered:

- **Probability Revision:** Basic probability; Random Variables; Joint Distributions; Expectation; Law of Large Numbers; Convergence in Distribution, Central Limit Theorem.

  Relevant Chapters: 1 - 5

- Distributions related to the Normal; Sampling

  Relevant Chapters: 6 and 7

- **Parametric Statistical Inference (Estimation):** Introduction; Parametric Distributions; Exponential Families and Sufficiency; Estimation Techniques: Method of Moments, Maximum Likelihood Estimation; The Cramer Rao Inequality; Asymptotics of the MLE.

  Relevant Chapter: 8

- **Parametric Statistical Inference (Hypothesis Testing):** Confidence Intervals and Hypothesis Testing; Likelihood Ratio Tests; Chi-Squared Tests.

  Relevant Chapter: 9

- **Some nonparametric methods:** The Cumulative Distribution Function; Two Sample Problems; Rank Based Methods. (based on Chapter 10)

  **Homework information:** There will be 6 Homeworks handed out and the best 4 will be counted towards your grade. Each homework will contribute 5 points towards your total grade.