Statistics 447  
Fall 2014

**Instructor:** V. Roy  
Office: 3415 Snedecor Hall  
Phone: 294-8701  
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Web add: Blackboard Learn

**Office hours:** M/W 2:10 – 3:10 PM in 3415 Snedecor  
And by appointment

**Lectures:** T/R 12:40 – 2:00 PM, Town 250 W 1:10 – 2 PM Town 230

**Grader:** Name: Rodrigo Plazola  
Office: 3406 Snedecor  
E-mail: rodrigo@iastate.edu  
Office Hours:  
R - 2:30 – 4:00 PM at 2404 Snedecor  
F - 1:00 – 2:30 PM at 2404 Snedecor

**Textbook:** *John E. Freund’s Mathematical Statistics, 8th ed., By I. Miller & M. Miller*

**Grading System:** The following system will be used to determine course grades:

- Assignments 20%  
- Exam 1 20%  
- Exam 2 20%  
- Final 40%

(Guaranteed grade: Overall score 90% => A- or up, 80% => B- or up, 70% => C- or up)

**Tentative Course Topics:**

1. Review of set operations and combinatorics  
2. Definitions and properties of probability  
3. Discrete and continuous distributions  
4. Marginal and conditional distributions  
5. Expectation, moments and moment generating function of probability distribution  
6. Various useful probability distributions  
7. Transformation of random variables  
8. Sampling Distributions  
9. Properties of estimators  
10. Methods for obtaining estimators  
11. Interval estimation  
12. Basic theory of hypothesis testing  
13. Methods for obtaining statistical tests  
14. Examples of statistical tests
# Tentative Schedule: Fall 2014

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Chapter 1 – Permutations and Combinations</th>
<th>Chapter 2 – Probability</th>
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<tbody>
<tr>
<td>Aug 25-29</td>
<td><strong>Permutations and Combinations</strong></td>
<td><strong>Probability</strong></td>
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<tr>
<td>Sept 1- Sept 5</td>
<td><strong>Chapter 2 (Cont.)</strong></td>
<td><strong>Chapter 3 (3.1-3.4 –Discrete and Continuous Random Variables and Probability)</strong></td>
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<tr>
<td>Sept 8-12</td>
<td><strong>Chapter 3 (3.5-3.7)- Joint Distributions/densities</strong></td>
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<td>Sept 15-19</td>
<td><strong>Chapter 3 (Cont.)</strong></td>
<td><strong>Chapter 4 (4.1-4.5)-Expectation, Moments &amp; MGF</strong></td>
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<td>Sept 22 – 26</td>
<td><strong>Chapter 4 (Cont.)</strong></td>
<td><strong>Chapter 5 –Special Probability Distributions</strong></td>
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**Thursday 9/25/10**

*EXAM 1 over materials through part of week 5*

<table>
<thead>
<tr>
<th>Week 6</th>
<th>Chapter 5(cont.)</th>
<th>Chapter 6 - Special Probability Densities</th>
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<tr>
<td>Sept 29 – Oct 3</td>
<td><strong>Chapter 6 (cont.)</strong></td>
<td><strong>Chapter 7 –Functions of Random variables</strong></td>
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<tr>
<td>Oct 6 – 10:</td>
<td><strong>Chapter 7 (cont.), Chapter 8–Sampling Distributions</strong></td>
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<tr>
<td>Oct 13 –17:</td>
<td><strong>Chapter 7 (cont.), Chapter 8–Sampling Distributions</strong></td>
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**Thursday, 10/23/10**

*EXAM 2 over materials from part of Week 5 – Week 9*

<table>
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<tr>
<th>Week 10</th>
<th>Chapter 8 –Sampling Distributions</th>
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<td>Oct 27– Oct 31</td>
<td><strong>Chapter 8 –Sampling Distributions</strong></td>
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<tr>
<td>Nov 3 - 14</td>
<td><strong>Chapter 10 - Estimation :Properties</strong></td>
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<tr>
<td>Nov 17 –Nov 21</td>
<td><strong>Chapter 10(cont), Chapter 11 –Interval Estimation</strong></td>
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**Nov 24 – 28:** Week 14

Thanksgiving Holiday: No Class

**Dec 1– Dec 5: Week 15**

Chapter 12 -Testing of Hypothesis

**Dec 8 – 12: Week 16**

Chapter 12 (cont), Chapter 13 (reference) Additional topics, if time permits.

**Dec 15– 19: Week 17**

**Final Exam Friday, Dec 19, 9:45 – 11.45 am.**
Iowa State University complies with the American with Disabilities Act and Section 504 of the Rehabilitation Act. Any student who may require an accommodation under such provisions should contact me as soon as possible and no later than the end of the first week of class or as soon as you become aware. **No retroactive accommodations will be provided in this class.**

Please make sure that a Disability Resources staff send a SAAR form verifying your disability and specifying the accommodation you will need.

The Disability Resources (DR) office is located on the main floor of the Student Services Building, Room 1076, 515-294-7220.