Syllabus STT 441 Section 2 Fall 2015.
Class meets MWF 12:40-1:30 in A318 Wells Hall (WH).
Professor Raoul LePage has office C428 WH.
egContact lepage@stt.msu.edu
Office hours are 11:30-1:30, Tu and Th or by appointment.
Final exam will not be held in this class.
Scheduled final exam period Th 12-17-15 12:45-2:45 does meet but you are not obligated to attend. It has no bearing on your course grade. The period will be devoted to answering your questions on any matters related to the course material including career opportunities.

Classes begin/end Wed 9-2-15 / Fri 12-11-15

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<th>Section</th>
<th>Credits</th>
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<th>Days</th>
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<td>3</td>
<td>MWF</td>
<td>12:40 PM - 1:30 PM</td>
<td>A318 Wells Hall</td>
<td>R. LePage</td>
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Academic Calend

Fall 2015

Classes Begin

- Monday, 9/7
- Wednesday, 9/2
- Follow your Monday class Schedule

Martin Luther King Day
- University open, classes cancelled

Holiday-University Closed

- Monday, 9/7

End of Tuition Refund

- Refund dates

Holiday-University Closed

Midterm Break

- Wednesday, 10/21

Spring Break

Holiday-University Closed

- Thursday, 11/26
- Friday, 11/27

Classes End

- Friday, 12/11

Final Exams

- Monday, 12/14-
- Friday, 12/18

Commencements

- Thursday, 12/17 (Law)
- Friday, 12/18
- Saturday, 12/19

Holiday-University Closed

- Thursday, 12/24
- Friday, 12/25

Holiday-University Closed

- Thursday, 12/31
- Friday, 1/1
Other important dates: www.reg.msu.edu/ROInfo/Calendar/Academic.aspx
Text: Ross, A First Course in Probability, Prentice Hall 8th Ed.
Grading is based on 3 in class exams and 6 written homework.
   course grade = 0.5 HW grade avg + 0.5 exams grade avg
   course grade 3.3 is rounded up to 3.5 (etc).
Course page is yet to be posted by the Statistics Department
   http://www.sst.msu.edu/Academics/ClassPages
   click on STT 441 Section 2 (when it is available).
About this course, I will attempt to cover most all of the core material from every chapter plus
specific results referenced from the literature (some modern advances are too important to leave out). Probability models of prominence will be studied, others will be easy enough for you to reference from the textbook as the future need dictates. I take a devils’ advocate approach to some topics, questioning the assumptions behind applications of probability and statistics. This is in line with recent criticisms that too many of applied research conclusions are turning out to be non-replicable, e.g. Google Ioannidis PLOS
   http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0020124
As with most fields of study Probability and Statistics are moving on from earlier paradigms.
When a high school senior I chanced upon the book
   Introduction to the Theory of Games by J.C.C. McKinsey (Rand publ.).
That reading led me to probability thence to statistics. I hope you will be equally enchanted with these subjects which are having so much continuing impact going forward.

441-2  R. LePage first week
Topics for 9-2-15 and 9-4-15 from textbook A First Course in Probability by Sheldon Ross, 8th Ed.

Period 1. Wednesday 9-2-15
1.2 Generalized basic principle of counting p.2.
1.3 Counting permutations p.3.
1.4 Counting combinations p.5.
   Binomial theorem p.7.
1.5 Counting the number of subsets, example 4e.
   Multinomial coefficient (inset panel).
   Multinomial theorem p.8.
Recommended exercises: 2, 4, 10, 13, 17. Do not submit.
Period 2. Friday 9-4-15
2.2 Sample space pp. 22-23.
   Venn diagrams, Laws pp.24-25.
2.4 Basic propositions pp. 29-31.
2.5 Probabilities that are simple proportions of equally likely point outcomes p. 34-36.
   Hands at cards pp. 36-38. Careful, what does it mean to hold a flush?
2.6 Probability is continuous p.44.
2.7 Subjective probability p.48. “It seems logical...” but does it actually follow by some logic?
Recommended exercises: 1, 4, 6, 13, 16, 24, 26, 47, 56. Do not submit.