

STT200 Syllabus for Fall 2009

(rev. date 10-28-09)

Prof. LePage's Lecture 4 sections are 13-16.

The syllabus may be revised in the interests of the course.

Dr. LePage Office Hours: Tu 2-4, Wed 1:45-2:45, A428 Wells Hall (or by appt.).

Graduate Assistant Nick Jin Wei office hours: Tu 12:30-1:30, Wed 1:30-2:30, Fri 10-11, A511 Wells Hall (or by appt.).

Recitations will meet beginning 9-8-09 (be sure you submit the graded assignment, posted 9-3-09, by the end of your recitation).

Website www.stt.msu.edu/~lepage (click on STT200 F09) will be up 9-3-09.

Course: STT 200 Statistical Methods

Semester: Fall of every year, Spring of every year, Summer of every year

Credits: Total Credits: 3 Lecture/Recitation/Discussion Hours: 4
3(4-0)

Prerequisite: (MTH 103 or MTH 110 or MTH 116 or MTH 124 or MTH 132 or LB 118) or designated score on Mathematics Placement test

Not open to students with

credit in: STT 201 or STT 315 or STT 421

Description: Data analysis, probability models, random variables, estimation, tests of hypotheses, confidence intervals, and simple linear regression.

Textbook. Intro Stats by DeVeaux et. al. 3rd Ed. Addison-Wesley.

Course Plan. Selected portions from all chapters except 10, 27-29. Order of presentation and specific selections from the book to be announced in timely fashion and through updates to this syllabus. Some modifications of methods may differ from the book.

Course materials. Available at www.stt.msu.edu/~lepage (9-3-09) and later also www.Angel.msu.edu.

Lecture topics.

Date	Material
W 9-2	Ch. 1 and 2.

Classes do not meet on 9-7-09. Your recitation section will meet 9-8-09.

Our first unit introduces the subject of statistics and the basics of data gathering and display.

W 9-9	Ch. 3.
M 9-14	Ch. 3, Ch. 4.
W 9-16	Ch. 4.
M 9-21	Review: Ch. 1-4.
W 9-23	Exam 1 on Ch. 1-4

Our next unit introduces the "Bell Curve," role of standard deviation, correlation for two variables x , y , joint normal plot (elliptical), naive line, regression line, least squares line (chapter 6 thru 8), then moves to briefly treat "margin of error" for the sample mean.

M 9-28	Ch. 6
W 9-30	Ch. 7, part of 8
M 10-5	Ch. 8
W 10-7	Ch. 23 pp. 586-596
M 10-12	Review: Ch. 6 thru 8, 23 pp. 586-596
W 10-14	Exam 2 on Ch. 6 thru 8, 23 pp. 586-596

Our next unit begins with an estimator of the population mean y that improves upon the estimator \bar{y} (i.e. improves upon using the sample average of y -scores). In addition to taking data on y the improved estimator also takes data on a related score x whose population mean μ_x is known. We then take up the margin of error for a difference of two means (chapter 24), followed by the margin of error for a proportion (chapter 19) and the margin of error for the difference of two proportions (chapter 22).

M 10-19	Not from text. Improved estimation of the population mean of y based on a regression employing a score x related to y whose population mean is known (regression-
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	based estimator).
W 10-21	Ch. 24 (diff of two means only).
M 10-26	Ch. 19 and 22 (diff of two proportions only).
W 10-28	Ch. Stratified and post-stratified CI for μ_x
M 11-2	Review: Regr-based est; ch 19, 22, 24, strat ^d
W 11-4	Exam 3 on Ch. 6, 19, 23 pp. 586-596, strat ^d .

The next unit is shortened by one week in order to not have exam 4 on November 25 (day before Thanksgiving) but instead have it on November 18. We will cover probability, chapter 15.

M 11-9	Ch. 15 addition rule and multiplication rule.
W 11-11	Ch. 15 independence.
M 11-16	Ch. 15 trees and Bayes formula.
W 11-18	Exam 4 chapter 15.

The schedule above will be extended in a timely fashion.

STT200 Lecture 4 3 - 4 : 20 MW B108 WH

Recitation sections (13-16) meet every Tuesday according to the schedule below.

013	3	M W	3:00 PM - 4:20 PM	B108	Wells Hall
		Tu	1:50 PM - 2:40 PM	C103	Wells Hall
014	3	M W	3:00 PM - 4:20 PM	B108	Wells Hall
		Tu	3:00 PM - 3:50 PM	C111	Wells Hall
015	3	M W	3:00 PM - 4:20 PM	B108	Wells Hall
		Tu	4:10 PM - 5:00 PM	C216	Wells Hall
016	3	M W	3:00 PM - 4:20 PM	B108	Wells Hall
		Tu	5:30 PM - 6:20 PM	C111	Wells Hall

Exam Policy

There will be **NO final exam** held for the sections 13-16 of STT 200. As required by MSU, I will instead meet at the time scheduled by the registrar for completely optional activities, to be announced. This will have no bearing on your course grade. Your course grade will be based on five exams (all held in your Tuesday recitations), homework, and other credit activities as outlined below.

SPRING 2009 REGULAR FINAL EXAMINATION SCHEDULE		
If Your Class Meets*	Beginning at One of These Times	Your Exam Date and Time Is
MWF MTUThF MTWTF	3:00 p.m.	Monday December 14 3:00-5:00 p.m.

Important Dates

September 2	Classes Begin MONDAY SCHEDULE OBSERVED (even though this is Wednesday)
September 7	Labor Day Holiday - University Closed
September 9	End of online adds
September 10	See Sue in A413 WH to add class
September 28	End of tuition refund period - no refund after this date
October 21	Middle of Semester - last day for withdrawal or dropping courses with no grade
November 26 & 27	Thanksgiving Holiday - University Closed
December 11	Last day of classes
Final Exam	N/A

Course Calendar

September			October			November			December		
M	Tu ^{rec}	W	M	Tu ^{rec}	W	M	Tu ^{rec}	W	M	Tu ^{rec}	W
		2				2	3	4		1	2
LD	8	9	5	6	7	9	10	11	7	8	9
14	15	16	12	13	14	16	17	18	No final		
21	22	23	19	20	21	23	24	25	exam		
28	29	30	26	27	28	30					

Exams

- Exam 1, Wednesday, September 23.
- Exam 2, Wednesday, October 14.
- Exam 3, Wednesday, November 4.
- Exam 4, Wednesday, November 18. Note change from 25th.
- Exam 5, Wednesday, December 9.

Exams are closed book, no notes or extra paper may be used.

No electronics may be used or in view except a calculator.

All needed tables are provided.

Seating is assigned on exam days.

No Final Exam for Lecture 4. The following time is **scheduled by the registrar** for a final exam but WE WILL NOT HOLD A FINAL EXAM. Attendance is entirely optional for these times and **will not affect your course grade in any way:**

Final Exam (sections 13-16), **Monday, Dec. 14, 3-5 p.m., B108 WH.**

Attendance Policy. Any student may be called upon in any class or recitation period for credit. We have 28 lecture periods **5** of which are devoted to **EXAMS**, plus 14 Tuesday recitations. The recitations typically require that graded work be submitted. **THERE ARE NO MAKEUP EXAMS OR MAKEUP ASSIGNMENTS.** Exceptions to this rule may be made in rare circumstances upon the approval of Prof. LePage (in advance unless it is an emergency).

Graded Activities. Each activity will have its own grade scale which will be announced in timely fashion after scoring is complete. Ordinarily, you will submit both your written solutions and a bubble sheet asking questions about the solutions. You will be scored first on the bubble. Points may be withdrawn however for answers given without substantiation on your written submission.

The average of 14 recitation **GRADES** (this includes homework, worksheets, etc.) accounts for **20%** of your course grade.

The average of the **5 EXAMS** accounts for **80%** of your course grade. **There may be extra credit assignments from time to time, some announced or conducted in lecture.**

Course Grade. Your course grade will be calculated as follows:

$$\begin{aligned} \text{Course Grade} = & .2 \text{ Average Recitation Activity Grade} \\ & + .8 \text{ Exams 1 through 5 Average} + \text{any extra credit} \end{aligned}$$

Your course grade will be converted to a registrar's grade according to the formula:

below 0.9	0.0
0.9 to < 1.4	1.0
1.4 to < 1.9	1.5
1.9 to < 2.4	2.0
2.4 to < 2.9	2.5
2.9 to < 3.4	3.0
3.4 to < 3.9	3.5
3.9 upward	4.0

This scale may be relaxed as the instructor deems appropriate.