

Modern Statistical Modeling (STAT 410/510)

Sp 2017

MWF 8am (CRN: 25194/23620), Lab T 9am @ BSS 317

Lecture notes: *To be provided*

Class: 8:00-8:50 MWF @ FH 204 (lecture) + 9:00-9:50 T @ BSS 317 (lab)

Professor: Dr. Yoon G. Kim, Department of Mathematics

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Office hours: 10:00-10:50 MWF; 11:00-11:50 T

More Info: <http://users.humboldt.edu/ygkim>

Objectives: The objective of this course is learning principles of basic statistical modeling methods and related **R** procedures. This class is applications oriented, using well-established theories in modern statistical modeling procedures, and does not include too many theoretical proofs. Emphasis is on (i) Model Selection, Diagnostics, Transformation & Nonlinear Models, (ii) GLM (generalized linear models) and relevant issues, (iii) Mixed-effects models and related issues, (iv) Time-series analysis and related issues, and (v) Bayesian modeling and related issues. **R** will be used to analyze these problems.

Tests & etc.: There will be **two mid-term tests** and one **final exam**. The final exam is scheduled on **5/10/17 (Wednesday, 8:00-9:50)**. There will be **one** assignment per week always using **R** computer package.

Grading:

Quiz + Homework on Friday: every week (20 points per each Quiz and Homework)	45 %
Two midterm tests	35 %
Final	20 %

- (a) You are strongly encouraged to attend regularly. If you miss a class or a lab you are responsible for finding out what you missed. "***I wasn't there last time***" is never an acceptable excuse.
- (b) Homework assignments, which are not turned in on time, will receive a grade of zero. Any tests taken at different time will be always **more difficult** than the regular test.

♣	Those over 85% performances will get an "A or A-." Those under 45% (out of total) fail (F).
•	(i) Use a pencil (not ball pen) to do your homework or exam. (ii) Use a clean 8½×11 (letter-size) paper. Do not tear off spiral notes.

Special Notes

Students with Disabilities: Persons who wish to request disability-related accommodations should contact the Student Disability Resource Center in House 71, 826-4678 (voice) or 826-5392 (TDD). Some accommodations may take up to several weeks to arrange. See <http://www.humboldt.edu/disability/> for additional information.

Add/Drop policy: Students are responsible for knowing the University policy, procedures, and schedule for dropping or adding classes. See <http://www.humboldt.edu/~reg/regulations/schedadjust.html> for additional information.

Emergency evacuation: Please review the evacuation plan for the classroom (posted on the orange signs), and review http://studentaffairs.humboldt.edu/emergencyops/campus_emergency_preparedness.php for

information on campus emergency procedures. During an emergency, information can be found on campus conditions at <http://www.humboldt.edu/emergency> or by calling 826-INFO.

Academic honesty: Students are responsible for knowing policy regarding academic honesty. See http://studentaffairs.humboldt.edu/judicial/academic_honesty.php for information.

Attendance and disruptive behavior: Students are responsible for knowing policy regarding attendance and disruptive behavior. See http://studentaffairs.humboldt.edu/judicial/attendance_behavior.php for information.

Class Calendar:

	Monday	Tuesday (LAB)	Wednesday	Friday
Week 1		1/17/17	1/18/17	1/20/17
Week 2	1/23/17	1/24/17	1/25/17	1/27/17
Week 3	1/30/17	1/31/17	2/01/17	2/03/17
Week 4	2/06/17	2/07/17	2/08/17	2/10/17
Week 5	2/13/17	2/14/17	2/15/17	2/17/17
Week 6	2/20/17 Test #1	2/21/17	2/22/17	2/24/17
Week 7	2/27/17	2/28/17	3/01/17	3/03/17
Week 8	3/06/17	3/07/17	3/08/17	3/10/17
SPRING BREAK				
Week 9	3/20/17	3/21/17	3/22/17	3/24/17
Week 10	3/27/17	3/28/17	3/29/17	C. Chavez Holiday
Week 11	4/03/17 Test #2	4/04/17	4/05/17	4/07/17
Week 12	4/10/17	4/11/17	4/12/17	4/14/17
Week 13	4/17/17	4/18/17	4/19/17	4/21/17
Week 14	4/24/17	4/25/17	4/26/17	4/28/17
Week 15	5/01/17	5/02/17	5/03/17	5/05/17
			FINAL	

Syllabus

0. Review

1. Model Selection, Diagnostics, Transformation & Nonlinear Models
2. GLM (generalized linear models) and relevant issues
3. Mixed-effects models and related issues
4. Time-series analysis and related issues
5. Bayesian modeling and related issues