

**Statistics 551: Introduction to Applied Bayesian Methods**  
**TTh 8:00-9:20 am, 299 TMCB**  
**Winter 2005**

The objective of this course is to provide a *gentle* introduction to Bayesian Methods and demonstrate their usefulness. We will be doing computation in this course, but I will give you adequate tools and examples so this should be no problem for anyone in the class.

**Prerequisite:** Statistics 441, 442 (or instructor approval)

**Instructor:** C. Shane Reese  
208 TMCB, ph: 422-9250  
reese@stat.byu.edu

**Office Hrs.:** 11-12:00am MWF

**Graders:** Garritt Page, gpage2990@yahoo.com  
David Stromberg, das68@email.byu.edu

**Required**

**Materials:** *Bayesian Data Analysis* (2004), Gelman, Carlin, Stern, and Rubin

**Optional**

**Materials:**

- *Bayesian Statistical Modelling* (2001), Congden.
- *Statistics: A Bayesian Perspective* (1996), Berry.
- many others...

**Website:** Check <http://madison.byu.edu/st551.html> for course announcements and homework assignments.

**Policies:**

- Students are expected to follow University policies (including dress and grooming, and the Honor Code) when attending class.
- Coordinate scheduling conflicts with the instructor in advance.

**Grades:** Homework: 10%, Midterm: 20%, Mini-projects (4): 20%  
Project: 20%, Final: 30%

**Grading Scale**

A	94-100	A-	90-93.9	B+	87-89.9
B	83-86.9	B-	80-82.9	C+	77-79.9
C	73-76.9	C-	70-72.9	D+	67-69.9
D	63-66.9	D-	60-62.9	E	0-59.9

**Class Preparation:** You need to read the material in the text prior to the lecture in which it is covered. If a lecture is missed, you can obtain copies of notes from fellow students.

**Labs:** Periodically through the semester we will have lab sessions where you will work on computer code and mini-project assignments.

**Homework:** Your name & assignment number must be written on top of the first page of each homework set to receive credit.

**Preventing Sexual Harassment** BYU's policy against sexual harassment extends not only to employees of the university but to students as well. If you encounter sexual harassment or gender based discrimination, please talk to your professor, contact the campus Equal Employment Office at 422-5895, or contact the Honor Code Office at 422-2847.

**Students With Disabilities** BYU is committed to providing reasonable accommodation to qualified persons with disabilities. If you have any disability that may adversely affect your success in this course, please contact the Services for Students with Disabilities Office at 422-2767. Services deemed appropriate will be coordinated with the student and instructor by that office.

**(very) Tentative Schedule**

<b>Date</b>	<b>Chapter</b>	<b>Topic</b>
Jan 4	1	Foundations
Jan 6	1	Foundations
Jan 11	2	Single Parameter
Jan 13	2	Single Parameter
Jan 18	2	Single Parameter
Jan 20	2	Single Parameter
Jan 25	3	Multiple Parameter
Jan 27	3	Multiple Parameter
Feb 1	4	Classical Properties
Feb 3	4	Asymptotics
Feb 8	10	Computation
Feb 10	10	Computation
Feb 15	10	Computation
Feb 17	10	Computation
Feb 24	10	Computation
Mar 1	10	Computation
Mar 3	10	Computation
Mar 8	6	Model Checking
Mar 10	6	Model Checking
Mar 15	6	Model Checking
Mar 17	6	Model Checking
Mar 22	5	Hierarchical Models
Mar 24	5	Hierarchical Models
Mar 29	5	Hierarchical Models
Mar 31	5	Hierarchical Models
Apr 5	14	Regression
Apr 7	15	Hierarchical Regression
Apr 12	15	Hierarchical Regression