

Textbook: *Biostatistics, A Bayesian Introduction*, by Woodworth, John Wiley & Sons.

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Dept. of Statistics: Location: 241 SH
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Goals: This is an introductory course on statistical reasoning in biology, health sciences, and related fields. The material covered includes basic concepts of probability, statistical inference, and decision theory. Applications covered in this course include diagnostic testing; inference on rates, relative risks, and odds ratios; inference on means; basic experimental design; linear, logistic, and proportional-hazards regression; survival analysis; and statistical adjustment of means, odds ratios, and hazard ratios. The course provides a basic introduction to the statistical computer packages WinBUGS and SAS. The course is entirely Bayesian.

Exams: There will be two midterm exams and a final.

Weights: Homework 20%, Reports 10% (5% each), Midterms & Final 50% (16%, 16%, 18%), Computing: 15%, Attendance: 4% lecture, 1% discussion

Lab Reports: There will be two data analysis projects requiring the writing of two short (4 pages or less) lab reports in scientific style.

Homework Homework is assigned daily and is generally due the second lecture after it was assigned unless noted otherwise. Some assignments require the use of a computer – instruction will be provided on all software used in the course.

Final Grade: 100 - 98 A+ / 97 - 93 A / 92 - 90 A-
89 - 88 B+ / 87 - 83 B / 82 - 80 B-
79 - 78 C+ / 77 - 73 C / 72 - 70 C-
69 - 60 D / 59 - 50 D - / 49 - 0 F

Lecture	Day	Date	Read	HWK	DUE	Links	Week
1	M1	08/27/07	1-2.4	1.1,2;2.1,4,6,7	F2	Textbook Website	1
2	W1	08/29/07	2.5-8	2.2,3,5	M2	TradeSports IEM	
3	F1	08/31/07	3.1-3.8.1	3.1,2	W2		
4	M2	09/03/07	University Holiday		F2		2
5	W2	09/05/07	3.8.2-3.8.4	3.3;AE3.6	M3	Additional Exercises	
6	F2	09/07/07	3.8.5-3.9	3.4;AE3.1	W3		
7	M3	09/10/07	4.1-4.4.2	4.1,2	F3	Intro to MS Excel	3
8	W3	09/12/07	C.1-3	4.4,5	W4	Table 4.1 Table 4.5	
9	F3	09/14/07	5.1-5.2.2	5.1,2	W4		

10	M4	09/17/07	5.2.3	5.3	F4		4	
11	W4	09/19/07	5.3-5.5	5.4,5	M5	Bernoulli.xls		
12	F4	09/21/07	6.1-6.3	6.1,3	W5			
13	M5	09/24/07	6.4-6.6	6.2, 6.6, 6.8	F5	BetaTailArea.xls	5	
14	W5	09/26/07	MCMC					
15	F5	09/28/07	B.1-B.3	Use WinBugs to do 6.7c, 6.8c&d	M7	Appendix B		
16	M6	10/01/07	7.1-7.4	7.1; AE7.1	M7		6	
17	W6	10/03/07	7.5	7.3,7.5; AE7.10	W7			
	F6	10/05/07	Midterm I (covers thru W5)					
18	M7	10/08/07	7.6.1-3	7.4,5	F7		7	
19	W7	10/10/07	7.6.4-5	7.6,7	M8			
			7.7.1; B4	7.11 (data of 7.9)	W8			
20	F7	10/12/07	7.7.2	7.10 (Data of 7.9)	F8	-		
21	M8	10/15/07	8.1-2	8.1	F8	tTailArea.xls	8	
22	W8	10/17/07	8.3.1-3	8.2,4	M9			
23	F8	10/19/07	8.5	8.7; AE8.8	W9			
24	M9	10/22/07	8.4.1-8.4.4	8.8	F9		9	
25	W9	10/24/07	8.6.1-.2; C3	Report I	W12	Lab Report I	Data	
26	F9	10/26/07	9.1-9.3.2	9.1(ExCr); 9.2	W10			
27	M10	10/29/07	9.3.3-9.4	9.3; AE9.1	F10		10	
28	W10	10/31/07	9.5	AE9.2	M11			
29	F10	11/02/07	9.6	9.4,5,6; AE 9.6	W11			
30	M11	11/05/07	9.7-9.8	AE9.7,8	M12		11	
31	W11	11/07/07	10.1-3	10.1,2,5,7,8	W12			
	F11	11/09/07	Midterm II (M6 thru F10)					
32	M12	11/19/07	10.4-5	10.3,4,6	F12		12	
				Report II	F15	Lab Report II	Data	
33	W12	11/21/07	12.1-12.3.1;12.5	12.1	M13			
34	F12	11/23/07	12.3.2-.6	12.3, AE12.3	W13			
34	M13	11/26/07	12.4	12.5	F13	Table12.2.txt	13	
35	W13	11/28/07	11.1-.6	AE11.1,2	M14			
36	F13	11/30/07	11.6-.8	11.3,4	W14			
37	M14	12/03/07	13.1-13.3	13.1,2,3	F14		14	
38	W14	12/05/07	13.4	38.1,2;13.4,5	M15	RatePrePost.sas		
39	F14	12/07/07	Power	39.1,2	W15	-		
40	M15	12/10/07	Multi-norm, Chi ²	Handout	F15		15	
41	W15	12/12/07	ChiSqr GoF	Handout	Final			
42	F15	12/14/07	Multi-t, F, Anova	Handout	Final			

FINAL EXAM 9:45-11:45 AM Tuesday Dec 18, 2007