

Text: Hernandez M, Forthofer RN, Lee ES (2007) Biostatistics: A Guide to Design, Analysis And Discovery. Second Ed. Academic Press. ISBN: 0123-69492-2 ([Print](#)) (Book website)

Instruction: Co-lecturers Drs. **Yu**, **Mercante**, and Velasco.

Course Outline:

Sesion	Date	Topics
1	Jan-09	Course presentation Concepts
2	14	Chapter 9 Nonparametric tests 9.1 Why Nonparametric Tests 9.2 The Sign Test 9.3 The Wilcoxon Signed Rank test
3	16	9.4 The Wilcoxon Rank Sum Test 9.5 The Kruskal-Wallis Test
4	21	Off – Martin Luther King Holiday
5	23	9.6 The Friedman Test Other Tests and Resources
6	28	Chapter 10 Analysis of Categorical Data 10.1 The Goodness-of-fit Test
7	30	10.2 Two-way contingency tables(1): 10.2.3 Measure of association
8	Feb-04	10.2 Two-way contingency tables(2): 10.2.2 Chi-Square Test 10.2.3 Fisher's Exact Test
9	06	10.3 The r by c contingency table 10.4 Multiple contingency tables
10	11	1st Mid-term test
11	13	Chapter 12 Analysis of Variance 12.1 Assumptions for use of ANOVA 12.2 One-way ANOVA
12	18	12.3 Multiple comparisons
13	20	12.5 Two-Way ANOVA with Interaction
14	25	12.4 ANOVA for the Randomized Block Design
15	27	12.6 Linear Models for one- and two-way treatment structures in the CRD and RCB designs
16	Mar-03	12.6 Linear Models for one- and two-way treatment structures in the CRD and RCB designs

		12.7 ANOVA with unequal subgroup numbers
17	05	Chapter 13 Linear Regression 13.1 Simple Linear Regression 13.1.1 Estimation of Coefficients 13.1.2 Variance of Y/X 13.1.3 The Coefficient of Determination (R^2)
18	10	13.2 Inference about the Coefficients 13.2.1 Assumptions for Inference in Linear Regression 13.2.2 Regression Diagnostics 13.2.3 The Slope Coefficient 13.2.4 The Y -intercept 13.2.5 ANOVA Table Summary
19	12	13.3 Interval Estimation of $\mu_{Y X}$ and Y/X 13.3.1 Confidence Interval for $\mu_{Y X}$ 13.3.2 Confidence Interval for Y/X
20	17	13.4 Multiple Linear Regression (MLR) 13.4.1 MLR Model 13.4.2 Specification of the MLR Model
21	19	13.4.3 Parameter estimation
22	24	13.4.4 Multicollinearity
23	26	13.4.5 Dummy variable regression
24	31	2nd Mid-term test
25	Apr-02	Chapter 14 Logistic Regression (Another way of looking at a two-way contingency table) 14.1.1 Proportion, odds and logit 14.1.2 Estimation of Parameters 14.1.3 Computer Output
26	07	14.1.2 Statistical inference 14.2.1 Multiple logistic regression: model and assumptions 14.2.2 Residuals
27	09	14.2.3 Goodness-of-Fit Statistics 14.2.4 The ROC curve
28	14	14.3 Ordered logistic regression 14.4 Conditional logistic regression
29	16	Chapter 11 Analysis of Survival Data 11.1 Data Collection in Follow-up Studies 11.2 The Life Table Method
30	21	11.3 The product Limit Method 11.4.1 The CMH Test
31	23	11.4.2 The Normal Distribution Approach

		11.4.3 The Log-Rank Test 11.4.4 Use of the CMH Approach with Small Data Sets Other considerations
32	28	Chapter 14 14.5 Introduction to Proportional Hazards Regression
	May-05	Final Exam