

Data Analysis in Psychology

Course Information

Instructor:	Prof. Bert Forrin	Tutorial:
Office:	S-638	Tutor:
Telephone:	(416) 287-7469	Office:
Office Hours:		Office Hours:

Texts: Forrin, B. Data analysis in psychology: supplements and problem sets (1993 ed.). Scarborough College Bookstore. (DAP)

Howell, D. C. Statistical methods for psychology (3rd ed.). Boston: PWS-Kent, 1992. (SMP)

Course Outline

Week	Topic	SMP
PART ONE: DESCRIPTIVE STATISTICS		
1	Unit I: Introduction to Data Analysis	
	1. Statistics and scientific inquiry	1-13
	*2. A basic skill: summational notation	28-30
2-3	Unit II: Frequency Distributions and their Characteristics	
	*1. Empirical frequency distributions	14-15
	*2. Graphic representations of distributions	15-28
	*3. Measures of central tendency (location)	30-35
	*4. Measures of variability (dispersion)	35-54
4	Unit III: Locating Individual Scores	
	1. Percentiles and percentile ranks	54
	2. Linear transformations	52-56
	3. z-scores and the standard normal distribution	64-76
PART TWO: INFERENCE STATISTICS		
5-6	Unit IV: Foundations of Inferential Statistics	
	1. Basic concepts of hypothesis-testing	79-95
	*2. Elementary probability theory	98-110
	3. The binomial distribution	110-115
7	Unit V: Tests concerning Proportions in 2-Category Populations	
	*1. Binomial test of a true proportion	115-116
	*2. Sign test of difference between matched groups	117
	*3. Normal approximation to exact binomial probabilities	

Week	Topic	SMP
8-9	Unit VI: Tests concerning Proportions in k-Category Populations	
	1. The Chi-square distribution	122-124
	*2. Chi-square goodness-of-fit test	126-131
	*3. Chi-square test of independence	132-144
	4. Median test	
	*5. Chi-square test of correlated proportions	
10	Unit VII: Tests concerning a Single Mean	
	*1. Sampling distribution of means	159-161
	2. z-test of a true mean	162-164
	*3. t-test of a true mean	164-171
	*4. Confidence limits for a true mean	193-196
11-12	Unit VIII: Tests concerning a Difference between Two Means	
	*1. Sampling distribution of differences between independent means	178-182
	*2. t-test of a difference between independent means	182-185
	*3. Sampling distribution of differences between related means	
	*4. Direct-difference t-test	171-178
13	Unit IX: Correlation and Regression	
	*1. The Pearson product-moment correlation coefficient	220-230, 254-258
	*2. Significance test of a correlation coefficient	247-249
	*3. Linear regression and prediction	230-247
	*4. Correlating rank-order data	275-277
	5. Correlation and differences between means	

* Supplementary materials available in DAP. Also in DAP are problem sets associated with each course unit (two in the case of Unit II) and their complete solutions.

Grading Policy: The final grade in PSYB07F will be determined as follows.

	Points	Work Covered	Date
Quizzes (10, best 9 count)	100	Current unit	R Weekly
Term test (following Unit IV)	100	Units I-IV	M 24 Oct 5-7
Term test (following Unit VIII.2)	100	Units I-VIII.2	R 24 Nov 5-7
Final examination	<u>200</u>	Units I-IX	TBA
	500		