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SYLLABUS STAT 109 – Biostatistics

Week	Title
W1	Introduction to Bio-Statistics, (1.1-1.4).
W1	Types of data and graphical representation, (1.1-1.4).
W2	Descriptive statistics: Measures of Central tendency- Mean, median, mode (2.1 -2 .6 Excluding stem plot percentiles).
W2	Measures of dispersion-Range, standard deviation, coefficient of variation (2.1 - 2.6 Excluding stem plot percentiles).
W3	Calculating Measures from an ungrouped frequency table (2.1 - 2.6 Excluding stem plot percentiles).
W3	Basic probability. Conditional probability, concept of independence, sensitivity, specificity, (3.1 - 3.6).
W4	Bayes Theorem for predictive probabilities. (3.1-3.6).
W4	Some discrete probability distributions: cumulative probability (4.1-4.4).
	First Mid Term exam
W5	Binomial, and Poisson -their mean and variance (4.1 - 4.4 Excluding the use of binomial and Poisson tables).
W5	Continuous probability distributions: Normal distribution (4.5 - 4.8).
W6	Standard normal distribution and t distributions (4.5-4.8).
W6	Sampling with and without replacement, sampling distribution of one and two sample means and one and two proportions. (5.1 - 5.7 Excluding sampling without replacement).
	Second Mid Term
W7	Statistical inference: Point and interval estimation.
W8	Type of errors, Concept of P-value (6.2 - 6.6, 7.1 - 7.6).
W9	Testing hypothesis about one and two samples means and proportions including paired data.
W10	Different cases under normality. (6.2 -6.6, 7.1 - 7.6).
	Final Exam

Grading Policy: MID 1: 30 Marks (1.5 hours), **MID 2**: 30 Marks (1.5 hours), **Final exam**: 40 Marks (2 hours**). No** other marks will be counted in the total.

Homework and exam policy: Collaboration on homework assignments is encouraged. You may consult outside reference materials, other students, the instructor, or anyone else. There is one restriction: you must write, type, or otherwise record your answers yourself, alone, so that your homework reflects your understanding. No late homework or make-up exams without prior approval; penalties may apply.

Text Book: *Biostatistics: Basic Concepts and Methodology for the Health Sciences by Wayne W. Daniel*. [9th ed.] , available in university book store below SAMBA bank. The book costs 70 Riyals for students.