



Mutah University
Academic Development & Quality Assurance Center

COURSE PLAN SPECIFICATION FORM

Course: Medical Biostatistics
Faculty: Faculty Of Medicine
Department: Public Health

Academic Year: 2018-2019

A. Course Specification & General Information:

• University: Mutah University	• Course Title: Medical Biostatistics
• College: Medical College	• Code: 1506102
• Department: Public Health	• Credit Hours: 3 Hours
• Semester & Academic Year: (Summer Semester) 2014/2015	• Instructor: Department Teaching Staff Dr. Nedal Awad Alnawaiseh
• Office Hours: 40 Hours	• Course Level: First Year

B. Objectives and Expected Learning Outcomes

After completing this course, the student can ordinarily expect to be able to:

1. Create graphs using SPSS to communicate important information about data, and interpret these graphs.
2. Produce a statistical summary of continuous, categorical or censored survival data in a single sample using SPSS, and interpret it.
3. Explain fundamental concepts in the design and analysis of medical studies, including the difference between observational and experimental studies, the unit of randomization in randomized studies, the outcome measure of a study, the comparability of the control group or control population, and adjustment for confounding.
4. Explain the concept of a random, representative sample from a population.
5. Explain the logic behind statistical confidence intervals and hypothesis tests.
6. Explain the logic behind parametric tests, and confidence intervals; compute them and interpret them.
7. Compare two (or more) groups based on continuous, categorical or censored survival data using comparative measures and hypothesis tests and adjusting for potential confounding or matching variables using stratification.
8. Compute estimated power or sample size for a proposed study comparing two (or more) groups with or without stratification adjustment.
9. Compute and interpret measures of association for continuous and categorical data.
10. Explain how statistical techniques we have studied are incorporated in the analysis of medical research data and its presentation.
11. Explain what properties are enjoyed by the statistical techniques we have studied under different circumstances.

C. Course Plan Distribution & Learning Resources

Week No.	Topics to be Covered
1.	Introduction to biostatistics
2.	Sources of data
3.	Types of data: Quantitative variables (continuous, discrete)
4.	Types of variables: Qualitative Variables (Nominal, ordinal)
5.	Research methods: Descriptive methods (cross section study, correlation study)
6.	Research Methods: Analytical Methods (cohort, case control study)
7.	Presentation of data: Tabular presentation (Simple frequency, Contingency, Two way classification and complex tables)
8.	Presentation of data: Graphical presentation (Line graph, Bar chart, Histogram, Frequency polygon, Pie chart)
9.	Presentation of data: Mathematical presentation (Measures of central tendency, and measures of dispersion)
10.	Inferential statistics: Normal curve and standard scores
11.	Inferential statistics: Percentiles
12.	Inferential statistics: Probability distribution
13.	Inferential statistics: Central limit theory
14.	Inferential statistics: Abnormalities of data distribution
15.	Inferential statistics: Sampling methods (simple random sample, systematic random sample, stratified sample, cluster sample, and non-probability samples)
16.	Test of significance for quantitative data (eg t-test, analysis of variance)
17.	Test of significance for qualitative data (Chi square)
18.	Correlation and regression analysis

D. Teaching strategies to be used to develop that knowledge

No	Teaching strategies
1	Lectures
2	Seminars
3	Clinical Training (computer Lab)

E. Methods of assessment

No.	Assessment task	Proportion of Final Assessment
1.	Mid-Exam	40%
2.	Final Exam	60%
	Total	(100%)

F. General Instructions:

No	Additional Notes, office hours, attendance policy, etc....
1	All university roles are adopted strictly by the department
2	Days of absence during the course are included in daily assessment of the student