

Theoretical and practical course plan form - Ilam University of Medical Sciences

Introduction to the lesson. Biostatistics Methods 2

Second Semester 2020-2021

School of Health Department: Biostatistics

* Name and course number: Biostatistics methods 2

* Field and degree: Master of Biostatistics I

* Day and time: Thursday 8-12

* Venue: Epidemiology Group

* Number and type of unit (theoretical): 3

* Prerequisite courses: Biostatistics 1

* Name of the person in charge of the course (course instructor): Dr. Kourosh Sayeh Miri

* Phone and contact days: 2232457

Email: sayehmiri@razi.tums. Ac.ir Address

* Office Address:

***General purpose of the lesson:**

Familiarity of students with the basic methods of analysis of variance in the analysis of medical data

*** Specific or partial objectives of the lesson:** The specific objective is better to be written behaviorally (the behavioral objective has an audience, behavioral verb, degree and criteria of the conditions to be done

Student:

- Be able to explain the reason for performing one-way analysis of variance with fixed effects.
- Can calculate and interpret one-way analysis of variance table.
- Be able to interpret a two-way analysis of variance table.
- Be able to interpret the interaction in the two-way analysis of variance table.
- Be able to describe the applications of the Latin square design, the random block design and the repetition scheme of sizes.
- Be able to calculate and interpret Kruskal-Wallis test statistics.
- Be able to calculate and interpret Friedman test statistics.
- Be able to explain the uses of analysis of covariance.
- Be able to interpret a practical example of analysis of covariance
- Explain the use of the ROC curve and its diagram interpreter.

- Be able to explain the uses of the survival function
- Describe the types of censorship
- Interpret the survival function, risk function, distribution function and density function in survival.
- Calculate the probability of survival by the Kaplan-Meyer method.

Lesson resources:

- 1- Book: Statistical methods and health indicators: Compiled by Dr. Kazem Mohammad, Dr. Hossein Malek Afzali and Vartex Naha Patian, 7th edition, Tehran, Chapter 8 to the end
2. Applied Biostatistics and Research Method by Dr. Kourosh Sayeh Miri Chapter 8 to 11
- 3- Principles and methods of Daniel's biostatistics - translated by Seyyed Mohammad Taghi Ayatollah
- 4- Principles of Razner Biostatistics-Translated by Hamid Haqqani
- 4-Statistics for research. Shirly Dowdy and Stanly Wearden
- 5-statistical method in medical Research. Peter Armitage, G. Berry

*** Teaching method + teaching aids used:**

Lecture based on problem solving method and teacher supervision of students

*** Methods and time of assessment and evaluation of the student and the bar related to each value B:**

Method	Score	Date	Time
Written exam	8		8-10

Lesson rules and expectations from students:

Absence of more than 5 sessions will result in deletion.

Session	Time	Topic	Lecturer
1	8-12	Perform one-way analysis of variance with fixed effects	Dr. sayamire
2		Perform one-way analysis of variance with fixed effects	
3		One-way analysis of variance	
4		One-way analysis of variance	
5		Two-way analysis of variance table	
6		Two-way analysis of variance table	
7		Interaction in two-way analysis of variance table	
8		Interaction in two-way analysis of variance table	
9		Applications of Latin square design, random block design, and repetition of size schemes	
10		Applications of Latin square design, random block design, and repetition of size schemes	
11		Applications of Latin square design, random block design, and repetition of size schemes	

12		Mid-term	
13		Kruskal-Wallis test	
14		Friedman test	
15		Analysis of covariance	
16		How to calculate the probability of survival with Kaplan-Meyer method	
17		Cox regression	
18		ROC curve and its graph interpretation	
19		Uses of the survival function	
20		Types of censorship	
21		Survival function, hazard function, distribution function and density function	
22		Probability of survival by Kaplan-Meyer method	