TISHK INTERNATIONAL UNIVERSITY
FACULTY OF APPLIED SCIENCE
Department of MEDICAL ANALYSIS,
-2022 Fall
Course Information for MA 209 BİOSTATİSTİCS

Course Name:	BİOSTATİSTİCS

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
MA 209	3	2	-	2	3

Name of Lecturer(s)-Academic Title:	Tola Faraj - PhD Hazhar Talaat - MSc
Teaching Assistant:	Hazhar Blbas
Course Language:	English
Course Type:	Main
Office Hours	2
Contact Email:	tola.faraj@tiu.edu.iq hazhar.talaat@tiu.edu.iq Tel:07509988344 009647504813436
Teacher's academic profile:	Medical Immunology Master in Applied Statistics at UCF in USA
Course Objectives:	A. Ability to know the process of data analysis in Statistics B. Understanding types of data, and appropriate statistical tools for their analysis. C. Describing data using tables, graphs, or numbers. C. Using different tests depending on data D. Using statistics for generalizations and decision making. E. Evaluate statistical conclusions based on experimental design.
Course Description (Course overview):	Description of Bio-Statistics Course The application of statistical principles to questions and problems in medicine, public health, or biology is known as biostatistics. Biostatistics is made up of several processes, including hypothesis creation, data collecting, and statistical analysis. The Bio-Statistics course is related to all majors such as Economics, Biology, Medical Analysis, Engineering, Finance, Business, Accounting, and so on. Furthermore, this course can make a decision in the sample that have been collected from the population and it is one of the important course for the researchers during their work in their thesis or dissertation. There are variant important tests that students have to learn in this course before they go to the next stages such as A. Understanding types of data, and appropriate statistical tools for their analysis. B. Describing data using tables, graphs, or numbers. C. Testing hypothesis in different datasets D. Writing a report depending on the results E. Using statistics for generalizations and decision making. F. Evaluate statistical conclusions based on experimental design.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	4-7/10/2021	Introduction of Statistics , Process of Data Analysis in Statistics
2	2	10-14/10/2021	Source of Data Collection Sampling Method - Probability of Sampling - Non-probability Sampling
3	2	17-21/10/2021	Measures of Central Tendency - Mean, Median, and Mode
4	2	24-28/10/2021	Measures of Dispersion - Range, Variance, Standard Deviation, and CV
5	2	31/10-4/11/2021	Introduction of BioStatistics Hypothesis testing - Null hypothesis - Alternative hypothesis
6	2	7-11/11/2021	- Type I error and type II error - Significant level and power of the test
7	2	14-18/11/2021	Midterm Exam
8	2	21-25/11/2021	Normal distribution - Boxplot - Q-Q-plot - Histogram - Kolmogorov and Smirnov Test
9	2	28/11-2/12/2021	One Sample T-Test
10	2	5-9/12/2021	Examples and group activity

11	2	12-16/12/2021	Independent Sample T-Test Paired Sample T-Test
12	2	19-23/12/2021	Examples and group activity
13	2	26-30/12/2021	One Way ANOVA
14	2	2-5/1/2022	Chi-Square Test
15	2	9-13/1/2022	Final Exam
16	2	16-20/1/2022	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

1	a) Knowledge and understanding about Bio-Statistics
2	b) Intellectual skills
3	c) Understanding various tests
4	d) Writing Report
5	e) Doing thesis in the last year of study

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

	Program Learning Outcomes	**Cont.**
1	Evaluate clinical laboratory data by interpreting laboratory results and relating the data to various disease states.	A
2	apply principles of evidence-based medicine to determine clinical diagnoses.	A
3	apply the basic principles of gross and microscopic anatomy, physiology, biochemistry, immunology, microbiology/virology.	P
4	formulate and implement acceptable treatment modalities to various disease states.	P
5	use technology effectively in the delivery of instruction, assessment, and professional development.	P
6	exhibit essential employability qualities by demonstrating laboratory safety, analyzing laboratory results, and displaying professional conduct.	I
7	exhibit organizational skills, accountability, and ethical behavior.	P
8	apply skills needed in operating laboratory equipment for testing, assessing quality assurance for lab equipment, and adhering to standard safety practices in the laboratory environment.	A
9	apply problem-solving and decision-making skills.	
10	apply and promote health policies and regulatory standards in the field career.	I
11	develop research in the field of medical analysis using qualitative and quantitative methods.	P

Prerequisites (Course Reading List and References):	1. Bernard Rosner. Fundamentals of Biostatistics, Seventh Edition. USA: Brooks/Cole, Cengage Learning; 2011. 2. Rowe Philip. Essential statistics for the pharmaceutical sciences. England: John Wiley & Sons Ltd; 2007. 3. K, park. Park\\\\\\\\\\\\\\\\'s textbook of preventive and social medicine, nineteenth edition. India: m/s Banarsidas Bhanot; 2007.
Student's obligation (Special Requirements):	1. Bernard Rosner. Fundamentals of Biostatistics, Seventh Edition. USA: Brooks/Cole, Cengage Learning; 2011. 2. Rowe Philip. Essential statistics for the pharmaceutical sciences. England: John Wiley & Sons Ltd; 2007. 3. K, park. Park\\\\\\\\\\\\\\\\'s textbook of preventive and social medicine, nineteenth edition. India: m/s Banarsidas Bhanot; 2007.
Course Book/Textbook:	Hazhar Blbas, Elementary Statistics, First Edition, 2017
Other Course Materials/References:	1. Bernard Rosner. Fundamentals of Biostatistics, Seventh Edition. USA: Brooks/Cole, Cengage Learning; 2011. 2. Rowe Philip. Essential statistics for the pharmaceutical sciences. England: John Wiley & Sons Ltd; 2007.
Teaching Methods (Forms of Teaching):	Lectures, Practical sessions, Exercises, Seminar, Assignments, , ,

COURSE EVALUATION CRITERIA

Method	**Quantity**	**Percentage (%)**
Attendance	1	5
Participation	1	5
Homework	1	5
Midterm Exam	1	30
Term Paper	1	15

Final Exam	1	40
Total		**100**

Examinations: Essay Questions, True-False, Fill in the Blanks, Multiple Choices, Short Answers, Matching, , ,

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	16	2	32
Practical Hours	16	0	0
Final Exam	1	5	5
Attendance	1	5	5
Participation	1	5	5
Homework	1	5	5
Midterm Exam	1	30	30
Term Paper	1	15	15
Total Workload			**97**
ECTS Credit (Total workload/25)			**3.88**

Peer review

Signature:	Signature:	Signature:
Name:	Name:	Name:
Lecturer	Head of Department	Dean