

Module (Course Syllabus) Catalogue

2022-2023

College/ Institute	Choman Technical Institute	
Department	Information Technology Department	
Module Name	Statistics	
Module Code	STA202	
Degree	Technical Diploma <input type="checkbox"/> *	Bachelor <input type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	Second	
Qualification	MSc	
Scientific Title	Lecturer	
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/>	Core <input type="checkbox"/> * Assist. <input type="checkbox"/>
Weekly hours	6	
Weekly hours (Theory)	(2) hr Class	(1) Total hrs Workload
Weekly hours (Practical)	(4) hr Class	(1.5) Total hrs Workload
Number of Weeks	12	
Lecturer (Theory)	Mohamed Moafak Aziz	
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Lecturer (Practical)	Mohamed Moafak Aziz	
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Websites	https://academicstaff.epu.edu.iq/public/faculty/mohamed.arbili	

Course Book

Course Description	<p>Statistics is a concept that has been present in human civilization for a long time. Its origins can be traced back to the need to gather descriptive information on communities and their circumstances. As human societies became more organized, the need to obtain data became urgent. Ancient civilizations such as the Egyptians, Chinese, and Greeks used statistics to measure the amount of agricultural and mineral wealth of their populations. This information was used to guide the conduct of state affairs and fee policies.</p>				
Course objectives	<p>The course aims to cover a range of topics, including the identification of problems that need to be studied, data collection, questionnaire design, classification of data into statistical tables, graphical representation of data, measures of central tendency, summation and multiplication notations, such as arithmetic mean, weighted arithmetic mean, mode, median, geometric mean, harmonic mean, and quadratic mean. The course will also cover measures of dispersion, such as range, quartile deviation, variance, standard deviation, and mean deviation, as well as measures of relative variation, including the coefficient of range, coefficient of quartile deviation, coefficient of mean deviation, and coefficient of variation. Finally, the course will cover correlation and regression analysis.</p>				
Student's obligation	<p>The students are expected to fulfill the following requirements:</p> <ol style="list-style-type: none"> 1. Attend all lectures with readiness. 2. Come prepared for each lecture on a daily basis. 3. Be ready for quizzes or exams after each lecture. 4. Be prepared to submit reports and presentations as required. 5. Collaborate effectively with group members. 6. Have access to a scientific calculator. 				
Required Learning Materials	<ul style="list-style-type: none"> ▶ Projector ▶ White board ▶ Power Point Presentation ▶ Scientific Debate ▶ Work Group 				
Evaluation	Task	Weight (Marks)	Due Week	Relevant Learning Outcome	
	Assignments	Homework	5		
		Class Activity	2		
		Report	10		
		Projects			
	Quiz	8			
	Lab	10			
	Midterm Exam	25			
	Final Exam	40			
	Total	100			

<p>Specific learning outcome:</p>	<p>Upon completion of this course, students will have gained knowledge in the following areas:</p> <ol style="list-style-type: none"> 1. The history and progression of statistics. 2. The types of statistics, including descriptive and inferential statistics, as well as the definitions and methods for displaying and describing statistical data. 3. The ability to use basic statistical instruments, such as statistical tables and charts, to perform simple statistical analyses for small sample sizes and to solve related problems. This will include methods of sampling, time tables, various chart types, measures of central tendency and dispersion, correlation, simple and multiple regression, analysis of conclusions, and additional topics that may be identified as the course progresses. 	
<p>Course References:</p>	<p>Key references:</p> <ul style="list-style-type: none"> ▶ The students have booklet which given by the lecturer. ▶ Also they can benefit from this Resources: ▶ أ-دلشاد شاکر (نامار زانی)، چاپخانه ی روکسانا، 2015. ▶ ب- سمور، خالد قاسم، (الإحصاء) جامعه البلقاء التطبيقية. 2007. ▶ ج- محمد محمد جبر المغربي، عبدالمنعم مرسي محمد، (مبادئ الإحصاء) 	
<p>Course topics (Theory)</p>	<p>Week</p>	<p>Learning Outcome</p>
<p>Introduction. Descriptive & Inferential Statistics.</p>	<p>1</p>	
<p>Frequency Distribution.</p>	<p>1</p>	
<p>Cumulative Frequency Distribution.</p>	<p>1</p>	
<p>Frequency Histogram ,Frequency Polygon, Frequency Curve</p>	<p>1</p>	
<p>Central Measures. Arithmetic Mean , Mode, Median</p>	<p>1</p>	
<p>Quadratic mean, Measure of Variation. Range</p>	<p>1</p>	
<p>Mean Deviation, Standard deviation, Variance, Coefficient of variation, Standard Score</p>	<p>1</p>	
<p>Probabilities of simple and compound events.</p>	<p>1</p>	
<p>Mutually Exclusive, Possible cases, Favourable cases, Equally likely cases , Permutation</p>	<p>1</p>	
<p>Similarity in permutation, combination, None –ordered selection Multiplication Rule, Addition rules.</p>	<p>1</p>	
<p>Theoretical Distribution: Binomial, Poisson, Normal, T Distribution F Distribution.</p>	<p>1</p>	

Questions Example Design

Q1/ Construct a frequency table for below discrete data and find:

1- Mean. 2- Mode. 3- Median.

50, 40, 29, 20, 31, 30, 33, 61, 69, 24, 55, 45, 20, 15, 71, 60, 50, 25, 66, 10, 13, 14, 15, 25, 27.

Q2/ Create a frequency Table for the following data gives the Appreciation of Students and show them in a pie Chart with percentages:

Excellent, very good, Excellent, very good, poor, Fair, Excellent, poor, Fair, good, poor, Fair, Excellent, Fair, good, Fair, poor, good, good, Excellent, good, Excellent, very good, Excellent, very good, good, Fair, poor, Excellent, very good.

Q3/ in this below data& weights find weighted mean:

Weight:	1	2	3	4	5	3
Data:	20	30	40	20	10	20

Extra notes:

all lectures should mostly focus on practical session because students will better learn practically, and rather than exam paper should lectures give higher mark for practical exam or practical work such as projects or practical homework.

External Evaluator