

## Module (Course Syllabus) Catalogue 2023-2024

College/ Institute	Erbil Technical Engineering College	
Department	Information Systems Engineering	
Module Name	Engineering Statistic	
Module Code	ENS402	
Degree	Technical Diploma <input type="checkbox"/>	Bachelor <input checked="" type="checkbox"/>
	High Diploma <input type="checkbox"/>	Master <input type="checkbox"/> PhD <input type="checkbox"/>
Semester	4	
Qualification	PHD computer Science	
Scientific Title	Assist. Prof.	
ECTS (Credits)	6	
Module type	Prerequisite <input type="checkbox"/>	Core <input checked="" type="checkbox"/> Assist. <input type="checkbox"/>
Weekly hours	4	
Weekly hours (Theory)	( 2 )hr Class	( )Total hrs Workload
Weekly hours (Practical)	( 2 )hr Class	( )Total hrs Workload
Number of Weeks	15	
Lecturer (Theory)	Dr.Roojwan Sc. Hawezi	
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Lecturer (Practical)	Mrs.Shadan Mohammed And Mrs.Tara Salih	
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Websites		

# Course Book

<p><b>Course Description</b></p>	<p>Statistics are important in many fields of engineering such as how to collecting data and facts about the phenomenon to obtain data, uses the charts, Graphical presentation, there is different statistical methods and practical applications statistical analysis to solve various problems &amp; using Statistical SPSS program. SPSS is important program for students</p>				
<p><b>Course objectives</b></p>	<ul style="list-style-type: none"> <li>– Learn the concept of statistics to collect data to get the digital data or descriptive by accuracy for a particular phenomenon.</li> <li>– Learn the hypothesis specific and organizing, tabulating the data. this data is sorted every phenomenon in the form of the group, to classified on the basis using the statistical relationships.</li> <li>– Present data to the Graphical presentation. There are many ways to graph data, histograms, frequency polygon, bar chart.</li> <li>– Using statistical laws and their practical applications by Measure of Central Tendency, Measures of dispersion General rules in probability (Combinations, Permutation), Basic concepts of probability &amp; Correlation Simple linear regression.</li> <li>– How to extract the numerical values, meanings and interpretations to get the results.</li> </ul>				
<p><b>Student's obligation</b></p>	<p>Students must attend all lectures. They also do quick daily exams. Furthermore, they are required to do their homework and duties that will be assigned to them. Finally, they must pass the final and midterm exam.</p>				
<p><b>Required Learning Materials</b></p>	<p>1- Present the lectures using data show 2-White board 3- Note Book 4-Book</p>				
<p><b>Evaluation</b></p>	<p><b>Task</b></p>	<p><b>Weight (Marks)</b></p>	<p><b>Due Week</b></p>	<p><b>Relevant Learning Outcome</b></p>	
	<p>Paper Review</p>				
	<p>Assignments</p>	<p>(2) Homework</p>	<p>5</p>		
		<p>Class Activity</p>	<p>2</p>		
		<p>(2) Report</p>	<p>10</p>		
		<p>Seminar</p>			
		<p>Essay</p>			
<p>Project</p>					

	Quiz (2 theory)	8		
	Lab.	10		
	Theory Midterm	10		
	Practical midterem	15		
	Final Exam(theory)	20		
	Final exam (Practical)	20		
	Total	100		
<b>Specific learning outcome:</b>	<p>1- Introduce the statistics and how to collecting data and facts about the phenomenon, the Process of data collection, through the field sources or historical sources then organizing &amp; tabulating present data to the Graphical presentation, histograms, frequency polygon, bar chart, ...</p> <p>2- Organize &amp; tabulate the data for facilitates the process of analysis to using the Frequency Distribution Table.</p> <p>3- Use the practical applications by Measure of Central Tendency, Measures of dispersion, standard deviation and variance.</p> <p>4- Use General rules in probability (Combinations, Permutation) &amp; Basic concepts of probability</p> <p>5- Apply on binomial, normal, T- distribution ....</p> <p>6- Use the statistical relationships statistical laws, to extract the numerical values, meanings and interpretations to find the Correlation, Simple linear regression to get the results. different statistical methods and practical applications statistical analysis to solve various problems by using Statistical SPSS program</p>			
<b>Course References:</b>	<p>1) Michael J. Crawley, "statistics an introduction using R ", imperial college London, UK, 2005.</p> <p>2) Willian Navidi, "statistics for engineers &amp; scientists ", 2011.</p> <p>3) Jessica Mutts, 2010, Mind on Statistics, University of California, Irvine, Fourth Edition.</p> <p>4) Murray R Spiegle, "Theory and Problems of Statistics" McGrawHill Book Company,1972.</p>			
<b>Course topics (Theory)</b>		<b>Week</b>	<b>Learning Outcome</b>	
Introduction of description and inferential statistics Pictorial description of data & data classification.		1		
Frequency distribution & cumulative frequency Distribution		2		
Histogram, frequency polygon		3		
Central Measures		4		
Measures of Variation		5		
Probabilities of simple & compound events		6		

Permutations & Combinations	7	
Binomial distribution , poisons distribution	8,9	
normal distribution	10	
correlation and regression	11	
analysis of linear regression	12	
<b>Practical Topics</b>	<b>Week</b>	<b>Learning Outcome</b>
Practical Part :Using SPSS for statistical analysis .	1-12	
<b>Questions Example Design</b> Q1. Find the mode for following data 401, 344, 209, 201, 227, 353		
<b>Extra notes:</b>		
<b>External Evaluator</b> As assistant Professor I have reviewed the Course Book related to the subject of statistics for second year, fourth semester, Department of ISE Engineering, College of Technology, I found that the course Book is very good describing the aim and objectives of the subject. Moreover it is covering all the required syllabus and contents of the course and describes successfully the aspects related to the course which is approved by the department.		