هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission
اعتماد
NCAAA
2024
TP-153

Course Specification
(Bachelor)

Course Title:	**Principles of Statistics**
Course Code:	**STA 1110**
Program:	**All Bachelors of Business College**
Department:	**All Departments of Business College**
College:	**Business**
Institution:	**Imam Mohammad Ibn Saud Islamic University**
Version:	**2024 – V1**
Last Revision Date:	**None**

Table of Contents

A. General information about the course

1. Course Identification

1. Credit hours:					
2 Credit hours (1 Lecture, 0 Lab, 2 Tutorial)					
2. Course type					
A.	☐University	☒ College	☐ Program	☐Track	☐Others
B.	☒ Required		☐Elective		
3. Level/year at which this course is offered: Level 1 / Year 1					
4. Course general Description:					
This course describes the most important ideas, theoretical results, and examples of descriptive statistics, simple linear regression, time series, and Index number. The emphasis is on calculations, and some applications are mentioned. Basic use of statistical packages is provided during the course.					
5. Pre-requirements for this course (if any)**:**					
None.					
6. Co-requisites for this course (if any)**:**					
None.					
7. Course Main Objective(s):					
This subject is designed to provide students majoring in management, accounting, economics, and other fields of business administration with an introductory survey of the many applications of descriptive statistics. When the students have completed this course, they will be able to: • **Organize, analyze, interpret, and summarize the data in a useful and informative manner.** • **Calculate the central tendency and dispersion measures and interpret their meanings.** • **Measure the growth rate, inflation or price index and real value.** • **Understand, calculate, and interpret the regression and correlation concept.** • **Calculate and interpret the general trend in time series.**					

2. Teaching mode (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	**45**	**100%**
2	E-learning	**0**	**0%**
3	Hybrid • Traditional classroom • E-learning	**0**	**0%**
4	Distance learning	**0**	**0%**

3. Contact Hours (based on the academic semester)

No	Activity	Contact Hours
1.	**Lectures**	**15**
2.	**Laboratory/Studio**	**0**
3.	**Field**	**0**
4.	**Tutorial**	**30**
5.	**Others (specify)**	**0**
Total		**45**

B. Course Learning Outcomes (CLOs), Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
1.0	Knowledge and understanding			
1.1	**To outline the types of variables used in statistics, and the measurement scales of variables.**	K1, K2	**Lecturing, Interactive learning.**	**Direct: Regular Exams, Assignments, Short Quizzes**
1.2	**To describe how to collect data and samples in different ways.**	K1, K2	**Lecturing, Interactive learning.**	**Direct: Regular Exams, Homework, Short Quizzes**
1.3	**To define categorical and quantitative data using tabular, graphical representation, and linear regression.**	K1, K3	**Lecturing, Interactive learning.**	**Direct: Regular Exams, Homework, Short Quizzes**
1.4	**To list the different numerical measures including measures of central tendency, measures of dispersion, and index numbers.**	K2, K3	**Use of statistical software, Lecturing, Interactive learning.**	**Direct: Regular Exams, Homework, Short Quizzes**
2.0	Skills			
2.1	**To report data using tables and charts.**	S1, S2	**Lecturing, Interactive learning, Use of statistical software.**	**Direct: Lab Exam, Assignments, Practical exam**
2.2	**To compute descriptive summary measures for a population and the coefficient of correlation.**	S1, S2	**Use of statistical software, Lecturing, Interactive learning.**	**Direct: Lab Exam, Assignments, Practical exam**
2.3	**To use the Internet in searching for scientific information**	S3, S4	**Self-study Real-life problems**	**Direct: Lab Exam Participations Short Quizzes**
2.4	**To perform calculations orally and mentally.**	S3, S4	**Self-study Real-life problems**	**Direct: Lab Exam Participations Short Quizzes**
3.0	Values, autonomy, and responsibility			
3.1	**To generate formulated conclusions.**	V1, V2	**Interactive learning, Group interaction, Problem solving.**	**Direct: Lab Exam, Practical exam**
3.2	**To produce meaningfully and productively with others.**	V1, V3	**Group interaction, Problem solving.**	**Direct: Assignments and Mini projects**

C. Course Content

No	List of Topics	Contact Hours
Ch. 1	**Data and Statistics:** Introduction, Data, Descriptive and Inferential Statistics, Basic Concepts of Statistics, Qualitative and Quantitative Data, Methods of Data collection, Types of Variables, Levels of Measurement, Types of Sampling, Types of Survey Errors.	5
Ch. 2	**Tabular and Graphical presentations:** Introduction; Summarizing Qualitative Data: Tabular Presentation for Qualitative Data, Graphical Presentation for Qualitative Data; Summarizing Quantitative Data: Tabular Presentation for Quantitative Data, Graphical Presentation for Quantitative Data.	6
Ch. 3	**Measures of Central Tendency (Location):** Introduction; Arithmetic Mean (AM): Calculation of AM in an Individual (Ungrouped) data, Calculation of AM in Discrete Data, Calculation of AM in Continuous data, Calculation of Missing Value ; Weighted Mean; Median: Computation of Median in case of Individual data, Computation of Median in case of Discrete Data, Computation the Median in case of Grouped Data; Mode: Computation of Mode in case of Ungrouped Data, Computation of Mode in case of Grouped Data; Discussion on Mean, Median and Mode: Symmetric, Left Skewed, Right Skewed; Geometric Mean (GM); Harmonic Mean (HM); Measures of Position: Percentiles, Quartiles. View and tabulate data and use different statistical measures through Excel	6
Ch. 4	**Measures of Dispersion (Variability):** Introduction; Absolute and Relative Measures of Dispersion: Absolute Measures of Dispersion, Relative Measures of Dispersion; Range; Interquartile Range (IQR): IQR for Ungrouped Data, Computation of Interquartile Range in case of Grouped Data; Quartile deviation and Coefficient of Quartile Deviation; Mean Deviation and Coefficient of Mean Deviation; The Variance and Standard Deviation: Ungrouped Data, Discrete Data, Continuous Series; The Coefficient of Variation; The Five-Number Summary and Boxplots; Measures of Shape: Skewness, Kurtosis.	6
Ch. 5	**Correlation and Simple Linear Regression:** Introduction; Understanding Correlation Analysis; Measures of Correlation Coefficients: Scatter Diagram, Karl Pearson's Correlation Coefficient, Spearman's rank correlation coefficient, Contingency and Association Coefficients; Simple Linear Regression Model: Random Error Term, Estimation of Simple Linear Regression Parameters; Coefficient of Determination: Standard error for estimation, Formula for Standard error.	6
Ch. 6	**Time Series Forecasting:** Introduction; Example of Time Series Data; Time series components; Time-Series Model; Smoothing Techniques: The Smoothing by hand (graphical method), The Semi Average Method, The Moving Average Method, The Least Squares Method, Exponential Smoothing; Trend Analysis: Linear Model for Long-Term Trend, Quadratic Model for Long-Term Trend.	6

No	List of Topics	Contact Hours
Ch. 7	**Index numbers**: Introduction; Characterization of index numbers: Basic Notation, Types of index numbers; An unweighted price index: Simple index numbers, Composite index numbers; Weighted Aggregate Price Indices: Laspeyres Method, Paasche's Method, Fisher ideal Index, Marshall-Edgeworth Method, Value Index Numbers; Time and Factor Reversal Tests.	**6**
	Using Microsoft Excel Software: Practical applications that show how to use Excel in displaying, tabulating data, and analyzing it, using the studied statistical methods in the course.	**4**
Total		45

D. Students Assessment Activities

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	**Attendance, Participation, Homework, Mini projects**	**During the semester**	**10%**
2.	**Quiz 1**	**Week 4-5**	**10%**
3.	**Midterm**	**Week 8-9**	**30%**
4.	**Quiz 2**	**Week 11-12**	**10%**
5	**Final Exam**	**Week 16-17**	**40%**

*Assessment Activities (i.e., Written test, oral test, oral presentation, group project, essay, etc.).

E. Learning Resources and Facilities

1. References and Learning Resources

Essential References	***Principles of Statistics for Economics, Accounting and Management,*** 3rd Edition, N. M. Alotaibi, I. I. Elbatal, E. A. Amin, A. S. Ben Ghorbal, 2022. ISBN-13: 9786030288328. **(Main Reference).**

Supportive References	• ***Statistics for Business and Economics***, 11th Edition, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, South-Western- USA, 2010. ISBN-10: 0324783256 ISBN-13: 978-0324783254 • **Essentials of Statistics for Business and Economics**, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, Jeffrey D. Camm, James J. Cochran, Cengage Learning; 7th edition, 2014. ISBN-13: 978-1133629658 • **Statistics for Business and Economics**, 12th Edition, James T. McClave, P. George Benson, Terry T Sincich. Publisher: Pearson, 2012. ISBN-13: 978-0321826237
Electronic Materials	**None**
Other Learning Materials	**None**

2. Required Facilities and equipment

Items	Resources
Facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	▪ **Each class room should be equipped with a whiteboard and a projector.** ▪ **Laboratories should be equipped with computers and an internet connection.**
Technology equipment (projector, smart board, software)	▪ **The rooms should be equipped with data show and Smart Board.** ▪ **Computer Labs equipped with windows as operating system, internet access and Microsoft Excel software.**
Other equipment (depending on the nature of the specialty)	**None.**

F. Assessment of Course Quality

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	**Chair, students, external stakeholders, department, and quality committee.**	**Open discussions with the students, anonymous surveys.**
Effectiveness of students assessment	**Chair, students, external stakeholders, department, and quality committee.**	**Checking marking by the students themselves if it's possible, using the help of other members in reviewing the assignments/exams**
Quality of learning resources	**Chair, students, external stakeholders, department, and quality committee.**	**Review of course portfolios, Instructor assessment by students**

Assessment Areas/Issues	Assessor	Assessment Methods
The extent to which CLOs have been achieved	**Chair, students, external stakeholders, department, and quality committee.**	**Course specifications are periodically reviewed at the departmental level, courses are updated periodically and compared to the benchmark standards.**
Other		

Assessors (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)

Assessment Methods (Direct, Indirect)

G. Specification Approval

COUNCIL /COMMITTEE	**MATHEMATICS AND STATISTICS DEPARTMENT COUNCIL**
REFERENCE NO.	**3/1447**
DATE	**08/03/1447 (31/08/2025)**