Course Specification

(Postgraduate)

Course Title:	**Sampling theory**
Course Code:	**202662-3**
Program:	**M.Sc. in Statistics**
Department:	**Mathematics and Statistics**
College:	**Science**
Institution:	**Taif University**
Version:	2023
Last Revision Date:	**7/4/1445H**

Table of Contents

A. General information about the course:

1. Course Identification:

1. Credit hours: (3)				
2. Course type				
A.	☐University	☐College	☒ Department	☐Track
B.	☐Required		☒ Elective	
3. Level/year at which this course is offered: (N/A)				
4. Course general Description:				
Introduction to random sampling -Simple random sampling - Proportion Sampling- Determination of sample size - Stratified random sampling - Systematic sampling - Single stage cluster sampling - Two stage sampling - Formal theory of sampling.				
5. Pre-requirements for this course (if any)**:**				
6. Pre-requirements for this course (if any)**:**				
7. Course Main Objective(s):				
After careful study of this course, student should be able to do the following: **1.** Understand the kinds of random sampling. 2. Determine the sample size.				

2. Teaching Mode: (mark all that apply)

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

3. Contact Hours: (based on the academic semester)

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

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	**Recognize** the **simple random sampling**.	**K1**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
1.2	**Outline proportion Sampling.**	**K2**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
1.3	**Outline** the **stratified random sampling**	**K2**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
1.4	**Describe cluster sampling.**	**K3**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
1.5	**Describe** stratified **sampling.**	**K3**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
2.0	**Skills**			
2.1	**Apply** the studied methods to find the sampling error.	**S2**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
2.2	**Evaluate**, the sample size.	**S4**	• Lectures • Group discussions	• Quizzes • Exams • Assignments
3.0	**Values, autonomy, and responsibility**			
3.1	**Participate** effectively within groups and independently.	**V1**	Projects	Through the oral presentation of the projects.

Code	Course Learning Outcomes	Code of CLOs aligned with program	Teaching Strategies	Assessment Methods
3.2	**Express** mathematical and statistical ideas orally and in writing	**V4**	Projects	Through the oral presentation of the projects.
...				

C. Course Content:

No	List of Topics	Contact Hours
1.	**Introduction to random sampling, Simple random sampling**	**9**
2.	**Proportion Sampling, Determination of sample size**	**9**
3.	**Stratified random sampling, Systematic sampling**	**9**
4.	**Single stage cluster sampling, two stage cluster sampling**	**9**
5.	**Formal theory of sampling, Revision**	**9**
Total		**45**

D. Students Assessment Activities:

No	Assessment Activities *	Assessment timing (in week no)	Percentage of Total Assessment Score
1.	Quizzes + Homework+ oral presentation +written test+ group project	Continues	**30%**
2.	Continues	**16th**	**70%**
3.			
...			

*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	Francis R Pitard, Theory of Sampling and Sampling Practice, 3 d edition, (2019), CRC Press.
Supportive References	
Electronic Materials	
Other Learning Materials	**Blackboard system**

2. Educational and Research Facilities and Equipment Required:

Items	Resources

Items	Resources
facilities (Classrooms, laboratories, exhibition rooms, simulation rooms, etc.)	**Lecture halls, containing white boards, and electronic monitors - The seats fit the number of students - Laboratories equipped with suitable numbers of computers**
Technology equipment (Projector, smart board, software)	**Data Show**
Other equipment (Depending on the nature of the specialty)	**Wi-Fi internet connections**

F. Assessment of Course Quality:

Assessment Areas/Issues	Assessor	Assessment Methods
Effectiveness of teaching	Students	Indirect
Effectiveness of students' assessment	Professor	Direct
Quality of learning resources	Students	Indirect
The extent to which CLOs have been achieved	Peer review	Direct
Other		

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

Assessment Methods (Direct, Indirect)

G. Specification Approval Data:

COUNCIL /COMMITTEE	**Department of Mathematics and Statistics**
REFERENCE NO.	
DATE	**7/4/1445 H**

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