DE LA SALLE UNIVERSITY
College of Science
Department of Mathematics

SELESTA – Selected Topics in Statistics – Selected Topics in Survey Sampling
Prerequisite: *Prerequisite to:*

Instructor: **Contact details:**
Consultation Hours: **Class Schedule and Room:**

Course Description

A course on special topics in statistics such as Bayesian statistics, data mining, survey operations, small Area estimation and other recent developments.

Learning Outcomes

On completion of this course, the student is expected to present the following learning outcomes in line with the Expected Lasallian Graduate Attributes (ELGA)

ELGA	Learning Outcome
Critical and Creative Thinker Effective Communicator Lifelong Learner Service-Driven Citizen	

Final Course Output

As evidence of attaining the above learning outcomes, the student is required to submit the following during the indicated dates of the term.

Learning Outcome	Required Output	Due Date
		Week 13

Rubric for assessment

CRITERIA	Excellent (4)	Good (3)	Satisfactory (2)	Needs Improvement (1)

Additional Requirements

Grading System

	FOR EXEMPTED STUDENTS (w/out Final Exam)	**FOR STUDENTS with FINAL EXAM**	
		with no missed quizzes	*with one missed quiz*
Average of quizzes	90%	60%	50%
Other requirements	10%	10%	10%
Final exam		30 %	40%

Scale:

95-100%	4.0
89-94%	3.5
83-88%	3.0
78-82%	2.5
72-77%	2.0
66-71%	1.5
60-65%	1.0
<60%	0.0

Learning Plan

LEARNING OUTCOME	TOPIC	WEEK NO.	LEARNING ACTIVITIES
	1. Stratified Multi-stage Design 1.1 Sampling Schemes 1.2 Estimation Procedures 1.3 Efficiency	4.5 hrs.	
	2. Weighting Survey Data 2.1 Generation of Base Weights 2.2 Generation of Non response Weights 2.3 Generation of Postratification Weights	4.5 hrs	
	QUIZ 1	1.5 hrs.	
	3. Variance Estimation 3.1 Random groups method 3.2 Linearization Methods 3.3 The Bootstrap and the Jackknife	9.0 hrs.	
	QUIZ 2	1.5 hrs.	
	4. Imputation Procedures 4.1Patterns of missing data and their implications to inference 4.2 Imputation Procedures 4.3 Weighting Procedures for no response	9.0 hrs.	
	Quiz 3	1.5 hrs.	
	5. Introduction to Small Area Estimation	6.5 hrs.	
	Final Examination		

References

Rao, J.N.K. (2003). Small Area Estimation. John Wiley. 313p.Hoboken, N.J.: Wiley Interscience

Skinner, C.J., D. Holt, and T.M.F. Smith.(1989). Analysis of Complex Surveys. John Wiley. P.305

Wolter, Kirk M. (2007). Introduction to Variance Estimation.(2nd Edition) Springer-Verlag. 427 pages

Lohr, Sharon L. (1999). Sampling: Design and Analysis. Pacific Grove: Duxbury Press. 494 pages.

Kalton, G. (1983). Compensating for Missing Survey Data. Survey Research Center, Inst. for Social Research. Univ of Michigan.

Little, R.J.A. and D.B.Rubin.(2002). Statistical Analysis with Missing Data. (2nd Edition). John Wiley.

Class Policies

1. The required minimum number of quizzes for a 3-unit course is 3, and 4 for 4-unit course. No part of the final exam may be considered as one quiz.
2. Cancellation of the lowest quiz is not allowed even if the number of quizzes exceeds the required minimum number of quizzes.
3. As a general policy, no special or make-up tests for missed exams other than the final examination will be given. However, a faculty member may give special exams for
   A. approved absences (where the student concerned officially represented the University at some function or activity).
   B. absences due to serious illness which require hospitalization, death in the family and other reasons which the faculty member deems meritorious.
4. If a student missed two (2) examinations, then he/she will be required to take a make up for the second missed examination.
5. If the student has no valid reason for missing an exam (for example, the student was not prepared to take the exam) then the student receives 0% for the missed quiz.

6. Students who get at least 89% in every quiz are exempted from taking the final examination. Their final grade will be based on the average of their quizzes and other prefinal course requirements. The final grade of exempted students who opt to take the final examination will be based on the prescribed computation of final grades inclusive of a final examination. Students who missed and/or took any special/make-up quiz will not be eligible for exemption.
7. Learning outputs are required and not optional to pass the course.
8. Mobile phones and other forms of communication devices should be on silent mode or turned off during class.
9. Students are expected to be attentive and exhibit the behavior of a mature and responsible individual during class. They are also expected to come to class on time and prepared.
10. Sleeping, bringing in food and drinks, and wearing a cap and sunglasses in class are not allowed.
11. Students who wish to go to the washroom must politely ask permission and, if given such, they should be back in class within 5 minutes. Only one student at a time may be allowed to leave the classroom for this purpose.
12. Students who are absent from the class for more than 5 meetings will get a final grade of 0.0 in the course.
13. Only students who are officially enrolled in the course are allowed to attend the class meetings.

Approved by:

DR. ARTURO Y. PACIFICADOR, JR.
Chair, Department of Mathematics