



**INSTITUT TEKNOLOGI SEPULUH NOPEMBER
FACULTY OF SCIENCE AND DATA ANALYTICS
DEPARTMENT OF STATISTICS
STATISTICS UNDERGRADUATE PROGRAM**

Course	Course Name	: Sampling and Survey Techniques
	Course Code	: SS234310
	Credit	: 3 SKS
	Semester	: III

COURSE DESCRIPTION

Sampling and Surveying Techniques are courses that underlie the process survey research.

The objectives of the Sampling Engineering course are:

- 1) capable design a sampling plan for the purposes of the survey accordingly correct sampling procedure;
- 2) able to explain the definition of population, sampling frame, experimental unit;
- 3) able to understand various kinds Sampling methods include: nonprobability sampling and probability sampling;
- 4) able to estimate parameters as well determine the sample size according to the sampling method; and
- 5) capable designing and carrying out surveys.

The learning strategy used in addition to using the lecture method and discussion, students were also given the task of practicing questions, designing assignments sampling and practice conducting surveys. Students are also given assignments field as the final project done in groups, namely carry out sampling design exercises for a particular case taking into account the various possible sampling methods. Result the fiinal project is communicated either in writing or orally

PROGRAM LEARNING OUTCOME

- PLO-5 Able to apply statistical theory to statistical methods
- PLO-6 Able to design, collect, and perform data management with the right methodology
- PLO-7 Able to use modern computing devices to solve statistical problems
- PLO-9 Able to apply statistical methods to analyze theoretical and real problems

COURSE LEARNING OUTCOME

- CLO-1a Understand the basic concepts of sampling techniques, advantages and disadvantages of sampling, principles of sampling techniques, random concepts, bias in sampling, mean square error and be able to define the population, sampling frame, parameters and variables to be measured.
- CLO-1b Understand various sampling methods and how to estimate appropriate parameters, understand how to apply them and be able to make a sampling design that is suitable for the objectives and conditions of the population for a survey research
- CLO-2a Able to perform sampling in accordance with the sampling method
- CLO-2b Understand the concept of surveys, how to make instruments, data collection methods

	and survey management in an effort to design a survey and be able to carry out surveys, the organization of surveying to produce valid data.
CLO-3	Able to manage survey data, perform analysis for parameter estimation
CLO-7	Able to communicate effectively and work together in interdisciplinary and multidisciplinary teams
CLO-8	Have professional responsibilities and ethics
CLO-9	Able to motivate oneself to think creatively and learn throughout life
MAIN SUBJECT	
<ol style="list-style-type: none"> 1. Sampling technique concept, parameter estimation, sampling technique principle, bias possibility, random sampling process 2. Simple Random Sampling (SAS): procedures, notation definitions, various parameter estimation methods. 3. Stratified Random Sampling (SAstra) 4. Systematic Sampling (SS) 5. One-stage Cluster Sampling (1-stage SK) 6. Two-stage Cluster Sampling (2-stage SK) 7. Wildlife Sampling 8. Survey Organization and Final Project (Survey Mapping Practice Selected sample locations) 	
PREREQUISITE	
Introduction to Statistical Method	
REFERENCES	
<ol style="list-style-type: none"> 1. Mendenhall, W., Scheaffer R.L., Ott Lyman [1986], Elementary Survey Sampling, 3rd Edition, Duxbury Press Boston . 2. Cochran, W.G.[1977], Sampling Techniques, 3rd Edition, John Wiley & Sons, New York 3. Tryfors P. [1996], Sampling Methode for Applied Research Text and Cases, John Wiley & Sons, New York . 	