



**AYDIN ADNAN MENDERES UNIVERSITY**  
**GRADUATE SCHOOL OF HEALTH SCIENCES**  
**BIostatISTICS**  
**BIostatISTICS (MEDICAL)**  
**BIostatISTICS (MEDICAL) MASTER**  
**COURSE INFORMATION FORM**

Course Title	Sample Theory and Applications								
Course Code	BİS505		Course Level		Second Cycle (Master's Degree)				
ECTS Credit	4	Workload	105 (Hours)	Theory	2	Practice	2	Laboratory	0
Objectives of the Course	To be able to comprehend and apply sampling methods in researches. To be able to determine the appropriate sample size based on sampling methods.								
Course Content	Probabilistic and non-probabilistic sampling, simple random, clustered, stratified, sequential, multistage, systematic sampling technique.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Individual Study								
Name of Lecturer(s)	Prof. Mevlüt TÜRE								

#### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

#### Recommended or Required Reading

1	Thompson, W. (Ed.). (2013). Sampling rare or elusive species: concepts, designs, and techniques for estimating population parameters. Island Press.
2	Sümbüloğlu, V., Sümbüloğlu K. (2005). Klinik ve Saha Araştırmalarında Örneklem ve Örneklem Büyüklüğü. Alp Ofset Baskı, Ankara.
3	Chaudhuri, A., & Stenger, H. (2005). Survey sampling: theory and methods. CRC Press.
4	Şenol, Ş. (2012). Araştırma ve örneklem yöntemleri. Nobel.

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to sampling methods
	Practice	Applications with package programs
2	Theoretical	General definitions of Sampling methods
	Practice	Applications with package programs
3	Theoretical	Sampling distributions and standard error
	Practice	Applications with package programs
4	Theoretical	Estimators and their properties, point and interval estimation
	Practice	Applications with package programs
5	Theoretical	Calculation of sample size for hypothesis testing
	Practice	Applications with package programs
6	Theoretical	Simple random sampling
	Practice	Applications with package programs
7	Theoretical & Practice	Systematic sampling
8	Intermediate Exam	Midterm exam
9	Theoretical	Stratified sampling
	Practice	Applications with package programs
10	Theoretical	Sample size estimation at stratified sampling
	Practice	Applications with package programs
11	Theoretical	Cluster sampling
	Practice	Applications with package programs
12	Theoretical	Bootstrap sampling
	Practice	Applications with package programs
13	Theoretical	Other probabilistic sampling methods
	Practice	Applications with package programs
14	Theoretical	Non-probabilistic sampling methods



14	Practice	Applications with package programs
15	Theoretical	Literature review and discussion
	Practice	Literature review and discussion
16	Final Exam	Final exam

**Workload Calculation**

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Lecture - Practice	14	0	2	28
Assignment	1	5	0	5
Midterm Examination	1	20	2	22
Final Examination	1	20	2	22
Total Workload (Hours)				105
[Total Workload (Hours) / 25*] = ECTS				4

\*25 hour workload is accepted as 1 ECTS

**Learning Outcomes**

1	To be able to comprehend the importance of sampling
2	To be able to understand the concepts of sampling and estimation theory
3	To be able to make calculations related to sampling and estimation theory
4	Knowing the different sampling methods
5	To be able to apply the methods of sampling in health field

**Programme Outcomes (Biostatistics (Medical) Master)**

1	To be able to understand the interdisciplinary interaction related with biostatistics.
2	to be able to use Theoretical and practical knowledge at the level of expertise.
3	To be able to interpret the information by integrating information from different disciplines and create new information
4	To be able to analyze the problems encountered by using research methods
5	to be able to conduct a study as an independent specialist
6	To be able to formulate solutions for complex unpredictable problems encountered by developing new approaches and taking responsibility.
7	To be able to resolve problems in environments that require leadership.
8	To be able to evaluate and direct knowledge and skills with a critical approach at the level of expertise.
9	To be able to give statistical advise at the beginning stages of preparing health related projects
10	To be able to get the knowledge and the ability of using statistical packages

**Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High**

	L1	L4	L5
P1	4	4	4
P2	4	4	4
P3	4	4	4
P4	4	5	4
P5	4	3	4
P6	4	4	4
P7	4	4	3
P8	4	4	4
P9	4	4	5
P10	4	4	5

