



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

Course Title	Scale Development								
Course Code	BİS535			Course Level		Second Cycle (Master's Degree)			
ECTS Credit	4	Workload	99 (Hours)	Theory	2	Practice	0	Laboratory	0
Objectives of the Course	To cover fundamental procedures in development of instruments for health sciences and social research.								
Course Content	Measurement in the social and health sciences, an introduction to the principles and practice of developing and evaluating scales, reliability, validity, item analysis, scaling techniques including summative methods such as Likert, Guttman, Thurstone scaling and analytic methods of scale development.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Project Based Study, Individual Study								
Name of Lecturer(s)									

Assessment Methods and Criteria

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

Recommended or Required Reading

1	DeVellis, R. F. (2016). Scale development: Theory and applications (Vol. 26). Sage publications.
2	Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). Scaling procedures: Issues and applications. Sage Publications.
3	Johnson, R. L., & Morgan, G. B. (2016). Survey scales: A guide to development, analysis, and reporting. Guilford Publications.
4	Özdamar, K (2016). Ölçek ve Test Geliştirme Yapısal Eşitlik Modellemesi. Nisan kitabevi yayınları

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction; review of correlation & regression
2	Theoretical	Overview of measurement and "latent variable"
3	Theoretical	Causal flow and path analysis
4	Theoretical	Matrices and variances of combinations
5	Theoretical	Factor analysis-1
6	Theoretical	Factor analysis-2
7	Theoretical	Internal consistency reliability-1
8	Intermediate Exam	Midterm exam
9	Theoretical	Internal consistency reliability-2
10	Theoretical	Interrater and change-score reliability
11	Theoretical	Validity
12	Theoretical	Scale construction techniques-1
13	Theoretical	Scale construction techniques-2
14	Theoretical	Item Response Theory (IRT) and the broader context
15	Theoretical	Literature review and discussion
16	Final Exam	Final exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	0	2	28
Reading	5	0	3	15
Individual Work	14	0	2	28
Midterm Examination	1	10	1	11



Final Examination	1	15	2	17
Total Workload (Hours)				99
[Total Workload (Hours) / 25*] = ECTS				4
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Learning the basic concepts of assessment and evaluation
2	Conduct validity and reliability analyses of field test data
3	Learning classical and modern methods in scale development
4	Be able to analyse pilot test instruments and conduct item analyses to select items
5	Develop items consistent with a set of construct specifications

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	L2	L4	L5
P1	2	3	4	4
P2	3	3	4	4
P3	3	2	4	4
P4	2	3	4	4
P5	2	3	5	5
P6	3	2	4	
P7	3	3	4	4
P8	2	3	4	4
P9	2	3	5	5
P10	2	3	5	5

