

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
ADVANCED RESEARCH METHODS	SAYD1214048	Spring Semester	3+0	3	8
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	Third Cycle (Doctorate Degree)				
Course Type	Elective				
Course Coordinator	Prof.Dr. Abdulbari BENER				
Name of Lecturer(s)	Prof.Dr. Abdulbari BENER				
Assistant(s)					
Aim	To demonstrate advanced statistical methods that can be used in scientific research.				
Course Content	This course contains; Introduction to multivariate statistical methods,Multi-eyed chi-square tests,Multiple regression analysis methods,Logistic regression analysis 1,Logistic regression analysis 2,Probit analysis,ROC analysis,One factor analysis of variance in repeated measures,Two-factor analysis of variance in repeated measures,One-way analysis of variance in independent groups,Two-way analysis of variance in independent groups,MANOVA,Survival analysis methods 1,Survival analysis methods 2.				
Course Learning Outcomes				Teaching Methods	Assessment Methods
Interprets statistical results.				10, 16, 9	E
Applies multivariate statistical methods on computer.				6, 9	E
Summarizes multivariate statistical methods.				16, 9	E
Teaching Methods	10: Discussion Method, 16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	E: Homework				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction to multivariate statistical methods	Hair, Joseph F. "Multivariate data analysis: 2018 (p.1-45)			
2	Multi-eyed chi-square tests	Barton, Belinda, and Jennifer Peat. Medical statistics: A guide to SPSS, data analysis and critical appraisal. John Wiley & Sons, 2014. p.249-286			
3	Multiple regression analysis methods	J. Hair, p.259-370			
4	Logistic regression analysis 1	J. Hair, p.548-598			
5	Logistic regression analysis 2	J. Hair, p.548-598			
6	Probit analysis	J. Hair, p.548-598			
7	ROC analysis	Barton and Belinda, p. 331-349			
8	One factor analysis of variance in repeated measures	Belinda and Peat p.161-196			
9	Two-factor analysis of variance in repeated measures	Belinda and Peat p.161-196			
10	One-way analysis of variance in independent groups	Belinda and Peat p.112-160			
11	Two-way analysis of variance in independent groups	Belinda and Peat p.112-160			
12	MANOVA	J. Hair, p. 371- 468			
13	Survival analysis methods 1	Belinda and Peat p.350-368			
14	Survival analysis methods 2	Belinda and Peat p.350-368			
Evaluation Methods			Weight(%)		
Midterm Exam			50		
General Exam			50		

Resources	
1. Advanced Statistics, Larry Stephens, McGraw Hill, 2004.	
2. Bilgisayar istatistik ve tıp Dr. Murat Hayran, Dr. Oktay Özdemir.	
3. Bilimsel arařtırmalarda biyoistatistik prensip ve yöntemlerinin bilinçli kullanımı 4. Kadir Sümbülođlu, Vildan Sümbülođlu.	
5. Paket programlar ile istatistiksel veri analizi Kazım Özdamar 1999-1-2.	
6. Sađlık alanına özel istatistiksel yöntemler Kadir Sümbülođlu.	
7. Sađlık Arařtırmaları İin Temel İstatistik, Murat Hayran, Mutlu Hayran.	
8. Tıbbi arařtırmalarda istatistiksel analiz teknikleri "SPSS uygulamaları" Aziz Akgül.	
9. Barton, Belinda, and Jennifer Peat. Medical statistics: A guide to SPSS, data analysis and critical appraisal. John Wiley & Sons, 2014.	
10. Hair, J. F. (2019). Multivariate data analysis: An overview. 8. edition, Örneklendirilmiş Bilimsel Arařtırma Yöntemleri Prof. Dr. Veysel Sönmez, G. Füsün Alacapınar ANI YAYINCILIK	