

Subject	Biostatistics And Computer Techniques		
Type	Type	Semester	ECTS
	MANDATORY (M)	IV	3
Lecturer	Dr.Sc. Abedin Bahtiri		
Goals and objectives	The primary aim of the course is to equip students with a solid foundation in biostatistical principles and computational techniques, enabling them to analyze and interpret data in the fields of biology, health sciences, and research. The course also aims to foster the development of practical skills for using statistical software and bioinformatics tools for real-world applications.		
Learning outcomes	<p>Upon completion of this module, students shall be able to:</p> <ul style="list-style-type: none"> ✓ Understand the role and statistics in sports sciences. ✓ Have the skills to record data in excel and SPSS, to have the normal data testing, to have the right analysis for specified purposes. ✓ It has basic scope for applying both excel and SPSS based analyses such as; t-test, analysis of variance, correlations, regressive, factorial analysis, etc. ✓ You have basic knowledge of programs like AMOS, Lisrel, G*power etc. ✓ Have basic skill for the design, conducting analysis and composition of scientific works. 		
Content	Java	Topics	
	1	Syllabus Presentation	
	2	Types of Data: Qualitative and Quantitative	
	3	Data Collection Methods and Sampling Techniques	
	4	Introduction to Probability	
	5	Descriptive Statistics: Measures of Central Tendency: Mean, Median, Mode	
	6	Measures of Dispersion: Range, Variance, Standard Deviation	
	7	Data Visualization: Histograms, Box Plots, Scatter Plots	
	8	Mid-exam – 1	
	9	Inferential Statistics: Basics of Hypothesis Testing	
	10	Parametric Tests: t-test, ANOVA	
	11	Non-parametric Tests: Chi-square, Mann-Whitney U, Wilcoxon	
	12	Correlation and Regression Analysis	
	13	Statistical Techniques for Biological Data: Bioassay and Probit Analysis	
	14	Survival Analysis and Life Tables	
15	Mid-exam – 2		
Teaching/learning methods	Activity		Weight (%)
	Lectures		30
	Laboratory		30
	Research		20
	Independent and group learning		20
Methods of Evaluation	Methods of evaluation:		%
	Participation		20
	a) Medium-term exam-1		20
	b) Medium term exam – 2		20
	Course design (developing a training program for a certain group)		40
Sources	Sources		Number
	Lectures		1
	Presentations		1
	Web of Science		1
	PubMed		1
	Scopus		1
ECTS Workload	Activity	Weekly hours	Workload
	Lectures	1	12
	Lab	1	12
	Course project	n/a	20
	Independent work	n/a	31
Literature	<ul style="list-style-type: none"> • Daniel, Wayne W. and Cross, Chad L. Biostatistics: A Foundation for Analysis in the Health Sciences, Tenth Edition. (2013) New York • Practical Statistics for Medical Research by Douglas G. Altman. 		

	<ul style="list-style-type: none">• Ali Sait Albayrak, Aliye Kayış, Abdullah Erođlu, Ömer L. Antalyalı, Şeref Kalaycı, Nezihe Uçar, Engin Küçükşille, Hakan Demirgil, Belma Ak, Didar B. İşler, Meltem Karaatlı, Onur Sungur. Statistical Techniques with Many Variables with Application in SPSS. Editor: Şeref Kalayıcıö Perkthyes: Kujtim Hameli. From the 6th edition. 2017.• Peter O'Donoghue, Statistics for Sport and Exercise Studies: An Introduction 1st Edition, Routledge, London-Ney York, 2012.• IBM SPSS Statistics Software, version 20.0 or later
Ethical standards	This course follows the UBT College Code of Ethics, requiring all students to behave accordingly. Any instance of academic misconduct, including but not limited to fraud, plagiarism, or other forms of dishonesty, will lead to significant penalties like failure of specific assessment or the entire course, as well as further disciplinary measures in line with UBT College's academic integrity policies.
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