



Code and Name: FİZ5510 INTERPRETATION OF RESULTS IN NUCLEAR DETECTION SYSTEMS

Unit: Graduate School of Natural and Applied Sciences

Detail: Period: 2023-2024 Status: Optional Class: 1 Credits: 3-0-0-3 ECTS: 6 Language: Turkish

INSTRUCTOR

Title, Name and Surname:

Phone:

Email:

Social Account: -

Student Day and Time:

COURSE ASSISTANT

Title, Name and Surname:

Phone:

Email:

Social Account:

Student Day and Time:

Lessons Weekly Program:	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			-			

Rendering: Face-to-face lessons per week 3 It will be done on an hourly basis.
Place: YY: - UE: -

Purpose: The aim of this course is to provide students with the necessary skills to understand experimental errors, learn statistical analysis techniques, and interpret experimental data correctly.

Material: 1. Data Reduction and Error Analysis for the Physical Sciences. Philip R. Bevington ve D. Keith Robinson
2. Statistical Methods . Prof. Enis Sınıksaran, MD
3. Benzetim ve Modelleme. Prof. Dr. Filiz Ersöz

Student Responsibility : Attending classes, submitting assignments on time, and taking exams .

Weekly Lesson Plan	Week	Topic	Method
	1	Experimental Errors	YY
	2	Error Predictions	YY
	3	Random and Systematic Errors	YY
	4	Sigma Distributions	YY
	5	Mean, Standard Deviation and Gaussian Distributions	YY
	6	Combination of Errors in Linear and Nonlinear Situations	YY
	7	Characterizing the Data	YY
	8	Statistical Models and Applications	YY
	9	Optimizations in Counting Systems	YY
	10	Time Change Distributions and Probability Rules	YY
	11	Binomial, Poisson, Gaussian Distributions	YY
	12	Using Error Matrices and Fitting Parameters	YY
	13	Testing of Hypotheses and Normalizations	YY
	14	Monte Carlo Calculations and Curve Fitting to Experimental Data	YY

Assessment and Evaluation	Method		Number	Weight
	Break Exam	Exam	Face	1 % 50
		Quiz	-	-
		Homework	-	-
		Project	-	-
	General Exam	Face	1	% 50

Course Outcomes:	1	Students will gain the skills to understand and analyze arbitrary and systematic errors encountered in experimental studies. ktir .
	2	Students l They will gain knowledge on how to combine errors in inert and nonlinear situations and optimization techniques in counting systems.
	3	Students b ability to understand various probability distributions such as inom, Poisson, and Gaussian and to use these distributions in practical applications will win.
	4	Students will be able to work in the modeling of complex systems Simulation Techniques Will be able to use is .
	5	Students will gain the ability to fit curves to experimental data and to perform hypothesis tests on these data is .

Course-Specific Explanations:

UE: Distance Education; YY: Face-to-Face Education

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Course Syllabus Form

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