



Code and Name:

FİZ5710 CRYSTALLOGRAPHY OF SHAPE-MEMORY ALLOYS

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: Place:

Face-to-face lessons per week 3 It will be done on an hourly basis.

YY: UE: -

Purpose:

To provide students with the basic background of shape memory alloys, which are from the smart material class.

Material:

1) Shape Memory Alloys , HIROYASU FUNAKUBO 2) Phase Transformations in Metals and Alloys, D.A.PORTER and K.E.EASTERLING

Student Responsibility :

Weekly Lesson Plan

Week	Topic	Method
1	Obtaining Phase Diagrams and Information Obtained from Diagrams	YY
2	Phase Transformations	YY
3	Martensitic Phase Transformations and Types	YY
4	Bain Distortion and fcc→bcc(bct), bcc→fcc(fct) and bcc→orthorhombic transformations	YY
5	Bain Distortion and fcc→bcc(bct), bcc→fcc(fct) and bcc→orthorhombic transformations	YY
6	Shape Recall and Crystallography in β-Phase Alloys	YY
7	Super braids	YY
8	MIDTERM EXAM	YY
9	The Mechanism of the Shape Recall Event	YY
10	Relationship Between Electron Concentration and Shape Remembering Alloys	YY
11	Classification of Shape Recall Alloys	YY
12	Basic Analysis Methods Used in the Investigation of Shape-Remembered Alloys	YY
13	Uses of Shape Recall Alloys	YY
14	Literature Review	YY

Assessment and Evaluation

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

Course Outcomes:

1	To give the basic background about shape-remembered alloys and to gain the ability to evaluate the basic analysis results obtained from these alloys before.
2	
3	
4	
5	

Course-Specific Explanations:

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



T.C.
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Course Syllabus Form

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