



**Code and Name:**

**FİZ5200 FUNCTIONAL SMART MATERIALS AND THEIR APPLICATION AREAS**

**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**

**Monday**

**Tuesday**

**Wednesday**

**Thursday**

**Friday**

**Saturday**

**Weekly**

**Program:**

**Rendering:**

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

**Place:**

YY: Face-to-face

UE: -

**Purpose:**

Technological Introducing smart materials, which are an important material group, in detail

**Material:**

Smart Materials, Mel Schwartz, Kitap

**Student**

**Responsibility**

:

Conducting Research Before and After the Lecture.

**Weekly Lesson Plan**

Week	Topic	Method
1	Introduction to smart materials, definition, importance	YY
2	Physical properties according to A variety of smart materials	YY
3	Piezoelectric materials	YY
4	Pyroelectric materials	YY
5	Thermoelectric materials	YY
6	Magnetostrictive materials	YY
7	Electrostrictive materials	YY
8	Shape-remembered alloys	YY
9	Phase change in shape-remembered alloys -ARASINAV	YY
10	Magnetic Shape Recall Alloys	YY
11	Magnetocaloric materials	YY
12	Shape-remembered polymers	YY
13	The use of smart materials in engineering	YY
14	Use of smart materials in healthcare	YY

**Assessment and Evaluation**

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

**Course Outcomes:**

1	The student recognizes the types of materials
2	Understands the importance of smart materials
3	Gain knowledge about the production of smart materials
4	Smart Materials learns technological applications.
5	

**Course-Specific Explanations:**

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



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**Course Syllabus Form**

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