| | |
|---|---|
| **Code and Name:** | **FİZ5220 SOLAR PHOTOPANELS** |
| **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:** **The course will be conducted face-to-face for 3 hours per week.**

**Place:** **YY:** Faculty of Science, Department of Physics **UE:**

**Purpose:** **To provide graduate students with a fundamental background in Solar Energy and Applications**

**Material:** **The course will be taught using books and lecture notes.**

**Student Responsibility :**

**Weekly Lesson Plan**

| Week | Topic | Method |
|---|---|---|
| 1 | Course Introduction, Weekly Course Topics Overview, Course Objective, Fundamental Concepts, Structural Properties of the Sun. | YY |
| 2 | Electric Current, AC Current, DC Current, PN Junctions | YY |
| 3 | Concept of Energy and Its Types | YY |
| 4 | Solar Radiation, Electromagnetic Spectrum, Photon Concept | YY |
| 5 | Solar Energy, Technological Applications of Solar Energy, and Its Areas of Use | YY |
| 6 | Project Planning of Solar Energy Applications in Various Fields | YY |
| 7 | Cooling with Solar Energy | YY |
| 8 | Midterm Exam | YY |
| 9 | Storage of solar energy | YY |
| 10 | Direct conversion of solar energy into electrical energy and solar cells | YY |
| 11 | What is Efficiency and How Can It Be Improved? | YY |
| 12 | Thermal stability and chemical stability factors | YY |
| 13 | The principle of operation and design of solar panels | YY |
| 14 | General review and achievement evaluation | YY |

**Assessment and Evaluation**

| | Method | | Number | Weight |
|---|---|---|---|---|
| Break Exam | Exam | Face-to-face | 1 | %5 0 |
| | Quiz | It will not be done. | - | |
| | Homework | Activities will be given before and after the midterm exam. | 2 | |
| | Project | It will not be issued. | - | - |
| | | | | |
| General Exam | Face-to-face | | 1 | %5 0 |

**Course Outcomes:**

| | |
|---|---|
| 1 | To have general knowledge about the subject. |
| 2 | To learn the formulas, equations and proofs related to the course content and subject. |
| 3 | To learn the applicability of the achievements obtained in scientific studies. |
| 4 | To understand its applicability and usability in the branches of physics and other sciences. |
| 5 | |

**Course-Specific Explanations:**

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