# AYDIN ADNAN MENDERES UNIVERSITY
# SÖKE VOCATIONAL SCHOOL
# ELECTRICAL AND ENERGY
# ALTERNATIVE ENERGY SOURCES TECHNOLOGY
# COURSE INFORMATION FORM

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Course Title | Solar Energy | | | | | | | | |
| Course Code | AET105 | | Couse Level | | Short Cycle (Associate's Degree) | | | | |
| ECTS Credit | 4 | Workload | 99 *(Hours)* | Theory | 2 | Practice | 1 | Laboratory | 0 |
| Objectives of the Course | In this course it is aimed to equip students with following competencies; determining the place where solar energy would be mounted, preparing mounting place, mounting collector, mounting storage tank, doing installment connections and doing maintenance and repair. | | | | | | | | |
| Course Content | Determining the direction of the collector, considering shadowing effect, preparing mounting place for flat installment, preparing mounting place on the roof, mounting panel collector, mounting the storage tanks, making cold water connections, making hot water connections, isolating pipes and installments, repairing breakdown about the installment, repairing problems about low efficiency. | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Demonstration | | | | | | | | |
| Name of Lecturer(s) | Ins. Baybars DAL | | | | | | | | |

**Assessment Methods and Criteria**

| Method | Quantity | Percentage (%) |
|---|---|---|
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 60 |

**Recommended or Required Reading**

| | |
|---|---|
| 1 | Güneş enerjisi ve uygulamaları - Doç.Dr.H.Hüseyin Öztürk |

| Week | Weekly Detailed Course Contents | |
|---|---|---|
| 1 | Theoretical | Determining the direction of the collector |
| 2 | Theoretical | considering shadowing effect, |
| 3 | Theoretical | preparing mounting place for flat installment |
| 4 | Theoretical | preparing mounting place on the roof |
| 5 | Theoretical | mounting panel collector |
| 6 | Theoretical | |
| 7 | Theoretical | mounting the storage tanks |
| 8 | Theoretical | |
| 9 | Theoretical | making cold water connections |
| 10 | Theoretical | making hot water connections |
| 11 | Theoretical | isolating pipes and installments |
| 12 | Theoretical | isolating pipes and installments |
| 13 | Theoretical | repairing breakdown about the installment |
| 14 | Theoretical | repairing problems about low efficiency. |

**Workload Calculation**

| Activity | Quantity | Preparation | Duration | Total Workload |
|---|---|---|---|---|
| Lecture - Theory | 14 | 1 | 2 | 42 |
| Lecture - Practice | 14 | 0 | 1 | 14 |
| Assignment | 7 | 3 | 0 | 21 |
| Midterm Examination | 1 | 10 | 1 | 11 |
| Final Examination | 1 | 10 | 1 | 11 |
| | | | Total Workload (Hours) | 99 |
| | | | [Total Workload (Hours) / 25*] = **ECTS** | 4 |

**25 hour workload is accepted as 1 ECTS*

**Learning Outcomes**

| | |
|---|---|
| 1 | Determining the place where solar energy would be mounted |

| | |
|---|---|
| 2 | Preparing mounting place of solar energy |
| 3 | Mounting solar energy collector |
| 4 | Mounting solar energy water storage tank |
| 5 | Doing installment connections |
| 6 | Doing maintenance and repair |

| **Programme Outcomes** *(Alternative Energy Sources Technology)* | |
|---|---|
| 1 | Carry out installing work |
| 2 | Do mechanical drawing |
| 3 | Do pipe welding |
| 4 | Do basic electricity works |
| 5 | Do Computer assisted design |
| 6 | Install solar energy hot water preparation system. |
| 7 | Do measurement and calculations practices. |
| 8 | Do basic practices of geothermal energy. |
| 9 | Install control and automation system. |
| 10 | Install domestic water heating system with solar energy. |
| 11 | Generate electricity with solar energy |
| 12 | Generate electricity with wind power |
| 13 | Do geothermal energy practices |
| 14 | Install domestic cooling system |
| 15 | Do heating pump practices |
| 16 | Manage a business |
| 17 | SET UP A WORKPLACE/ BUSINESS (pre-requisite) |
| 18 | OBEY VOCATIONAL ETHICAL VALUES |
| 19 | RESEARCH AND EVALUA0TION/OBSERVATION |
| 20 | SELFIMPROVEMENT WITH USING INFORMATION FACILITIES |
| 21 | Knows the effects of all energy sources on the environment. |
| 22 | Can communicate in a foreign language |

**Contribution of Learning Outcomes to Programme Outcomes** *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

| | L1 | L2 | L3 | L4 | L5 | L6 |
|---|---|---|---|---|---|---|
| P6 | 4 | 5 | 5 | 5 | 5 | 5 |
| P10 | 4 | 2 | 1 | 5 | 5 | 5 |
| P11 | 4 | 3 | 1 | | | |