



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

| | | | | | | | | | |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------------|---|----------------------------------|---|------------|---|
| Course Title | Alternative Current Circuits | | | | | | | | |
| Course Code | ELE108 | | | Course Level | | Short Cycle (Associate's Degree) | | | |
| ECTS Credit | 4 | Workload | 100 (Hours) | Theory | 3 | Practice | 1 | Laboratory | 0 |
| Objectives of the Course | In this course, it is aimed to have the students gain the abilities and knowledge like solution and calculations of circuit in AC. | | | | | | | | |
| Course Content | Serial and parallel circuits in AC, resonance circuits, 1 and 3 phase systems, power and compensation calculations in AC | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Experiment, Demonstration, Problem Solving | | | | | | | | |
| Name of Lecturer(s) | Ins. Serkan ARTAN, Ins. Zafer KORKMAZ | | | | | | | | |

Assessment Methods and Criteria

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

Recommended or Required Reading

| | |
|---|----------------------------------------------------------|
| 1 | Alternative current circuits(Mustafa Yağımlı-Feyzi Akar) |
| 2 | A.A Circuit analyze(Murat Ceylan) |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|---------------------------------|
| 1 | Theoretical | AC |
| 2 | Theoretical | AC |
| 3 | Theoretical | Serial circuits |
| 4 | Theoretical | Serial circuits |
| 5 | Theoretical | Parallel circuits |
| 6 | Theoretical | Parallel circuits |
| 7 | Theoretical | Resonance |
| 8 | Theoretical | Resonance |
| 9 | Theoretical | Power and compensation in AC |
| 10 | Theoretical | Power and compensation in AC |
| 11 | Theoretical | Power and energy in monophas AC |
| 12 | Theoretical | Power and energy in monophas AC |
| 13 | Theoretical | Power and energy in triphas AC |
| 14 | Theoretical | Power and energy in triphas AC |

Workload Calculation

| Activity | Quantity | Preparation | Duration | Total Workload |
|---------------------------------------|----------|-------------|----------|----------------|
| Lecture - Theory | 14 | 1 | 3 | 56 |
| Lecture - Practice | 14 | 0 | 1 | 14 |
| Assignment | 4 | 2 | 0 | 8 |
| Midterm Examination | 1 | 10 | 1 | 11 |
| Final Examination | 1 | 10 | 1 | 11 |
| Total Workload (Hours) | | | | 100 |
| [Total Workload (Hours) / 25*] = ECTS | | | | 4 |

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

| | |
|---|-----------|
| 1 | AC basics |
|---|-----------|



| | |
|---|---------------------------------------------|
| 2 | Making circuit solutions in AC, |
| 3 | Making power and energy calculations in AC. |
| 4 | Makes compensation calculations. |
| 5 | Arrange compensation panel. |

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 EVALUATION/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 |
|-----|----|----|----|----|----|
| P4 | 3 | 3 | 3 | 3 | 3 |
| P7 | 3 | 4 | 4 | 3 | 3 |
| P12 | 3 | 4 | 3 | 4 | 4 |
| P13 | 3 | 4 | 3 | 4 | 4 |

