

KOCW Content Development Application

1. Outline

가. Name of a Class

Class Name	AC Circuits Analysis		
Semester	2023학년도 2학기	Division	Major (X) Liberal Art ()

나. Goal of a Class

This course is a continuation of *Electrical Engineering and Circuit Analysis 2* and will familiarize students with the more advanced concept of alternating current (AC) circuit analysis. This course will further strengthen students' foundation in electrical engineering and help them to advance in their program. In particular, it will greatly enhance student performance in their future courses on electrification systems used in modern railroads.

다. Method

(1) Methodology : (ex- theory-focused, discussion-oriented, or Practice-centered)

Lectures will begin by establishing a grounding in the basic theory that underlies the topic of study. Theory will then be supplemented with examples that reinforce the concepts being taught. More advanced examples, derived from real engineering problems, will be presented to further strengthen understanding of the material.

(2) Tools : (ex- lecture note, PPT, Word Software, Video)

- Lecture Notes
- PPTs
- PDFs
- Videos

2. Weekly Plan

Week	Content	How to Operate		
		Methodology	Material	Reference
1	Introduction to Alternating Current (AC)	Lecture Notes PPTs	Original	Created by Instructor
2	Signals and Waveform Characteristics	Lecture Notes PPTs	Original	Created by Instructor
3	RMS Values	Lecture Notes PPTs	Original	Created by Instructor
4	Complex Numbers	Lecture Notes PPTs	Original	Created by Instructor
5	Reactance and Impedance	Lecture Notes PPTs	Original	Created by Instructor
6	AC Series RLC Circuits	Lecture Notes PPTs	Original	Created by Instructor
7	AC Parallel RLC Circuits	Lecture Notes PPTs	Original	Created by Instructor
8	Phasor Analysis of AC Driven Circuits	Lecture Notes PPTs	Original	Created by Instructor
9	Phasor Analysis of Series-Parallel Circuits Resonance and Tank Circuits	Lecture Notes PPTs	Original	Created by Instructor
10	Electric Motors Introduction	Lecture Notes PPTs	Original	Created by Instructor
		Lecture	Original	Created by

11	Rotating Magnetic Fields	Notes PPTs		Instructor
12	Types of Motors	Lecture Notes PPTs	Original	Created by Instructor

※ You can freely complete the content sections based on the feature of the class.

3. How are you going to use your class?

For a credit class (), For a non-credit class (), For a public view (X)

4. Expected Outcome

This course will provide students with a background in AC systems that will assist them in their program in SIRA. Students will gain a greater appreciation and deeper understanding of the electrical systems used in modern railways. Overall, it will provide students with a more robust skill set that will enhance their skills in solving engineering problems.