

Syllabus

Energy Storage Technology

Course Name	Course type (credit/hours)		전필(3/3)		Course code	
	Target students Division/major/grade		에너지시스템 학과/		Opening semester	2018년 1학기
	Class time and classroom		수10(팔1002) 수11(팔1002) 수12(팔1002)(팔1002)			
Reference to this course	Related basic courses					
	Recommended concurrent courses					
	Related advanced courses					
Instructor	Name (title/division)		류학기(에너지시스템 학과)			
	Office Room Number	팔달관904-1	Office phone Number	1680	e-mail	hakkiyu@ajou.ac.kr
	Office hours			Homepage address	http://sites.google.com/site/hakkiyu	
Teaching Assistant	Name (title/division)					
	Office Room Number		Office phone Number		e-mail	hakkiyu@ajou.ac.kr

1. Introduction

Introduces principles and mathematical models of electrochemical energy conversion and storage. Students study equivalent circuits, thermodynamics, reaction kinetics. In addition, this course includes applications to batteries, fuel cells, supercapacitors, and electrokinetics, especially focused on Li ion battery

2. Course Objectives

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3. Class types and activities

4. Teaching Method

강의 (ppt + 판서)중심으로 진행 될 예정이며, 매 수업 전 담당 교수가 제공하는 강의 자료를 토대로 할 예정임.

The lecture will be proceeded based on power point materials and hand writing. The ppt file will be uploaded before the class.

5. Knowledge and ability required for taking this course

6. Method of Evaluation

Evaluation Item	The Number of Times	Evaluation Proportion	Remarks
Attendance		10	
midterm exam	1	45	
final exam	1	45	
quiz			
presentation			
discussion			
homework			
etc			

Attendance 10%
Mid-term exam 40%
Final-report 50%

7. Textbooks

Main/Sub	Title	Writer	Publisher	Publication year
주교재	Lecture note uploaded by professor	유학기		

8. Lecture Schedule

Week	Lecture contents	Lesson type	Remark
1	Introduction, equivalent circuit models 1		
2	equivalent circuit models 2		
3	Thermodynamics 1		
4	Thermodynamics 2		
5	Thermodynamics 3		
6	Reaction Kinetics 1		
7	Reaction Kinetics 2		
8	Reaction Kinetics 3		
9	Mid-Term exam		
10	Introduction to Li ion battery		
11	Cathode		
12	Anode		
13	Electrolyte		
14	Li-S battery		
15	Li-Air battery		
16	Final exam		

9. Others

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