EECE326 Fundamentals of Energy Systems LAB
Spring 2023

Course Information
CRN: 13721
Title: Fundamentals of Energy Systems LAB (1 cr)
Class hours: M 3:10 – 5:00pm
Classroom: LKD3028 Lab
Course website: www.mwftr.com/325S23.html

Instructor Information
Instructor: Dr. Charles Kim
Office/phone: LKD 3014 202-806-4821
Email address: ckim@howard.edu
Office hours: WR 1 - 3

Prerequisites or Co-requisites
Pre-requisite: Fundamentals of Circuits
Co-requisite: EECE325 Fundamentals of Energy Systems

TEXTBOOKS AND OTHER RESOURCES
Lab manual is provided

COURSE OUTLINE
I. Intro to Lab equipment
II. Single-phase system with RLC load
III. Three-phase system real and reactive power
IV. Power flow and phase angle and voltage regulation
V. Rotating machines
VI. Micro-power system configuration

COURSE REQUIREMENTS *(What must students do to fulfill the objectives?)*
1. Class Attendance
2. Active Participation
3. On-time submission of assigned work

COURSE POLICIES

Grading
Lab Reports (Pre-Lab (20%) + Main Lab (60%)).....80 %
Mid-term Exam ……..……..10 %
Final Exam ……...10%
On-time arrival …….5%

Late Submission: Max points 10% reduced each day of late submission after the due date

Course Grades:
A: >= 90 %, B: 80 – 89%, C: 70 – 79%
D: 60 – 69%, F: < 60%

Academic honesty and integrity AND student code of conduct
You are expected to adhere to the student code of conduct in academic honesty and integrity. Giving or receiving help in assignments, exams, and any other required course submissions is cheating and violation of the code. If you are caught in the cheating, your score of the submission is automatically zero. Further disciplinary action may follow.

COURSE SCHEDULE (subject to change)

Date	***Topic***	***Assignment***
Week 1	Class Kickoff	
Week 2	MLK Holiday	
Week 3	Lab 1 - Intro to lab equipment	
Week 4	Lab 2 - Single-Phase Systems	
Week 5	Lab 3 - Three-Phase Systems	
Week 6	Lab 4 - Power Flow and Voltage regulation	
Week 7	School Holiday	
Week 8	Lab 5 - Phase angle and voltage drop	
Week 9	Spring Break	
Week 10	Mid-term Exam	Mid-Term Exam
Week 11	Lab 6 - Power Flow between two sources	
Week 12	Lab 7 - Synchronous generator	
Week 13	Lab 8 - Induction Machine	
Week 14	Lab 9 - Stand-alone micro-power systems	
Week 15	Lab 10 - Grid-connected micro-power systems	
Week 16	Lab 11 - Renewable micro-power systems	
Week 17	Final Exam	Final Exam