COURSE OUTLINE

(1) GENERAL

SCHOOL	Engineering		
DEPARTMENT	Electrical & Computer Engineering		
LEVEL OF STUDY	Undergraduate		
COURSE UNIT CODE	7.002	**SEMESTER OF STUDY**	7th
COURSE TITLE	Power Systems – Steady State Analysis		

COURSEWORK BREAKDOWN	**TEACHING WEEKLY HOURS**	**ECTS Credits**
Theory (Lectures)	3	3
Laboratory	1	1
TOTAL	**4**	**4**

COURSE UNIT TYPE	Special Background
PREREQUISITES	None
LANGUAGE OF INSTRUCTION/EXAMS	Greek/Greek
COURSE DELIVERED TO ERASMUS STUDENTS	No
WEB PAGE (URL)	https://eclass.hmu.gr/courses/ECE205/

(2) LEARNING OUTCOMES

Learning Outcomes
Upon successful completion of the course the student will be able to: A) Understands the operation of Electricity Power Systems and Analyses the relevant features and components (Generators, T/F, Transmission Lines, etc). B) Estimates all steady state operating conditions through load flows. C) Understands the principles of operation of Medium and Long Transmission Lines and solves them corresponding ABCD models.
General Skills
The course aims to acquire the following general skills: • Search, analysis and synthesis of data and information, using the necessary technologies • Adaptation to new situations • Autonomous work • Teamwork • Project design and management • Respect for the natural environment

(3) SYLLABUS

The aim of the Course is the knowledge of the operation of the Electricity Power Systems in the steady state situation, understanding the involvement of each parameter and resolving the corresponding load flows on the transmission and distribution networks. To achieve this goal the structure of the Course content is as follows:

Theory

1. Structure of Electricity Power Systems
2. Power Generation Systems
3. Transmission and Distribution Substations
4. Transmission Line Models
6. Load Flow Analysis

Laboratory

Simulations of Power System operation with the help of special educational software and Hardware in the Loop

(4) TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	In-Class Face-to-Face
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	Relevant ICTs Technologies & e-class
TEACHING ORGANISATION	

Method description / Activity	**Semester Workload**
Lectures	35
Exercises	15
Projects	25
Labs	20
Self-Study	25

	Total Contact Hours	**120**
ASSESSMENT METHODS	Language: Greek Evaluation methods: 1. Final exams (80%) 2. Project (20%)	

(5) RECOMMENDED BIBLIOGRAPHY

Journals:
- *IEEE Transactions on Power Systems*
- *Elsevier Electric Power Systems Research*
- *Elsevier International Journal of Electrical Power & Energy Systems*

Sites:
1. *http://www.rae.gr*
2. *http://www.deddie.gr*
3. *http://www.admie.gr*