**Course Profile**

**Semester: Fall**

**Year: 2018**

**Level/Term: 4/2**

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| --- | --- | --- | --- |
| **I. Course Code:** | EEE 450 | | |
| **II. Course Title:** | Power Plant Engineering Lab | | |
| **III. Credit:** | 1 | **IV. Pre-Requisite:** | EEE 449 |
| **V. Contact Hours:** | Lab class- 2 hours/week | | |
| **VI. Course Objectives:** | | | |
| The objectives of this course are   1. To understand the general terminologies of Power plant 2. To interpret the basic mechanical components used in power stations: internal combustion engines, boilers, steam turbines and gas turbines. 3. To get familiar with various power plant 4. In depth techniques for construction and working principle of power plant | | | |

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| **VII. Course Outcome (COs):** | | | | | | | |
| **Sl. No.** | **COs**  (Upon successful completion of this course, students should be able to) | **Corresponding POs** | **Bloom’s taxonomy domain/level\*** | | | **Delivery Methods & activities** | **Assessment tools** |
| C | A | P |
| CO 450-1 | Demonstrate the basic knowledge related to plant operation & necessary equipment | PO1 | 2 | 2 | - | Lectures,  Tutorials | Lab report/ Final Quiz |
| CO 450-2 | Analyze requirements of different types of power plants to select type, site and unit size | PO2 | 4 | - | - | Lectures,  Tutorials | Presentation/ Final Quiz |
| CO 450-3 | Analyze the layout of different power plant | PO4 | 4 | 2 | - | Lectures,  Tutorials | Lab report/ Final Quiz/ Viva Voce |

\* C: Cognitive, P: Psychomotor; A: Affective

**VIII. Course Plan with Detail Description:**

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| --- | --- | --- |
| **Session** | **Contents** | **COs** |
| **Week 1** | * Study on Power System of Bangladesh | 1 |
| **Week 2** | * Familiarization of various Steam Power Plant equipment | 1 |
| **Week 3** | * Study of Steam/Thermal Power plant and its working principle | 2,3 |
| **Week 4** | * Familiarization of various Hydro Power Plant equipment | 1 |
| **Week 5** | * Study of working and constructional details of Hydro Power plant | 2,3 |
| **Week 6** | * Familiarization of various Combined Cycle Power Plant equipment | 1 |
| **Week 7** | * Study of Combined Cycle Power plant and its working principle | 2, 3 |
| **Week 8** | * Familiarization of various Nuclear Power Plant equipment | 1 |
| **Week 9** | * Study of working principle and constructional details of Nuclear Power plant | 2,3 |
| **Week 10** | * Familiarization of various Renewable Power Plant equipment | 1 |
| **Week 11** | * Study of working principle and constructional details of Renewable Power plant | 3 |
| **Week 12** | * Discuss problems associated with the different power plant. * Group presentation | 1, 2 |

**IX. Evaluation Policy:**

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| --- | --- | --- | --- | --- | --- |
| **Marks Distribution:** | |  |  | | --- | --- | | Attendance  Lab Report  Lab Performance  Quiz | 10%  25%  25%  40% | | **Total** | **100%** | |
| **Grading System:** | As per DIU rule |

**X. Resources:**

**Text Book:**

**[1]** V.K .Mehta, Rohit Mehta, “Principles of Power System”, Published by S Chand & Co Ltd.

[2] G.R Nagpal, “Power Plant Engineering”, Khanna Publishers.

**References:**

**[1]** Deshpande, “Electrical Power Station Design”.

**[2]** William A. Vopat, “Power Station Engineering and Economy”.

**XI. Course Link in Moodle/Google Class Room:**

<https://elearn.daffodil.university/course/view.php?id=2036>

**XII. Course Instructor(s):**

* Name: Nusrat Chowdhury

Designation: Lecturer

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* Name: Abdullah Al Mahmud

Designation: Lecturer

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**XIII. Approval of the teacher along with sign:**

I/We agree that you may excerpt some of my work to share with other teaching assistants and faculty. The purpose is to assess student learning and to improve teaching. I recognize that every effort will be made to keep this information confidential and that my name will not be associated with my comments.

Signature of the Instructors