Course Specifications of:
Project MEP 598

Program(s) on which the course is give: Diploma in Mechanical Power Engineering
(Conventional and Renewable Power Plants)
Compulsory or Elective element of program: Compulsory
Department offering the program: Mechanical Engineering / Power
Academic year / Level: year/ 2014/2015
Date of specification approval: 2012

B- Professional Information

1- Overall aims of course:

This course helps students to use his acquired knowledge and skills to solve any engineering problems in his field.

2- Intended learning outcomes of course (ILOs)

By completion of the course, the student should be able to:

2.1 Knowledge and understanding

a1 Identify theories, fundamentals and specialized knowledge of conventional and renewable power plants and categorize sciences related to professional practice. (2.1.1)
a2 List ethical and legal principles of professional practice in conventional and renewable power plants area. (2.1.2)
a3 evaluate the Current problems, in conventional and renewable power plants field. (2.1.3)
a4 discuss the effect of professional practice on the environment and work towards its conservation and maintenance. (2.1.4)
a5 Demonstrate methodologies and computer tools available for analysis, design and operation of conventional and renewable power plants. (2.1.5)

2.2 Intellectual skills

b1 Discern and analyze the conventional and renewable power plants problems in both a systematic and a creative way. (2.2.1)
b2 Solve theoretical and practical the conventional and renewable power plants problems. (2.2.2)
b3 analysis and criticize research papers and topics related to the conventional and renewable power plants area. (2.2.3)
b4 Assess the risks and hazards in professional practices. (2.2.4)
b5 Make sound decisions in complex and unpredictable situations. (2.2.5)
b6 Evaluate data sources and make sound judgments in the absence of complete data. (2.2.6)

2.3 Professional and practical skills

c1 Apply professional skills in the area of power plant. (2.3.1)
c2 Prepare professional reports. (2.3.2)
c3 Design, install, maintain and repair power generation systems. (2.3.3)

2.4 General and transferable skills

d1 Communicate effectively using different means. (2.4.1)
d2 Use information technology in order to serve the development of professional practice. (2.4.2)
d3 Assess him/her self and identify his/her own personal learning needs. (2.4.3)
d4 Use different sources for obtaining information and knowledge. (2.4.4)
d5 Work in a group and manage time effectively. (2.4.5)
d6 Lead a team in familiar professional contexts. (2.4.6)
d7 Conduct self-learning and continuous education practices. (2.4.7)

3- Contents

Topic No.	Topic	No. of weeks	Total no. of hours
1	Complete design of power plant	27	108
	Total	27	108

4- Course Matrix

ILO's code number	Teaching/learning methods and strategies	Assessment methods and strategies
2.1.1 2.1.2 2.1.3 2.1.4 2.1.5	Formal lectures, seminars, tutorials, directed reading, project work and independent study.	Individual coursework assignments, quizzes, oral discussions and reports. Mid year and /or final written examination is given.
2.2.1 2.2.2 2.2.3 2.2.4 2.2.5 2.2.6	Analysis and problem-solving skills are developed through tutorial/problem sheets and small group exercises. Research skills are developed through a small subject oriented research project.	Analysis and problem-solving skills are assessed through oral and written examinations. Design and research skills are assessed through project write-ups, coursework and project reports.
2.3.1 2.3.2 2.3.3	Experiments demonstrations, practical work, laboratory visits.	Practical skills are assessed through laboratory experimental write-ups, coursework exercises and reports, project reports and presentations.
2.4.1 2.4.2 2.4.3 2.4.4 2.4.5 2.4.6 2.4.7	Those skills are not explicitly taught; however, along the course of study the student will acquire those skills to be able to perform his obligations. Attendance of seminars, workshops or conferences will help the student in developing those skills. Presentation by students (either group or	Project presentation

	individual) will train students for those skills.	

5- Assessment schedule

Assessment 1	Assignments	on weeks	4, 9, 14, 21
Assessment 2	Quizzes	on weeks	8, 10, 20, 25
Assessment 3	Mid-term exam	on weeks	15
Assessment 3	Oral exam	on week	29
Assessment 4	Final exam	on week	30

6- Weighting of assessments

10% Home assignments
05% Quizzes
20% Mid-term examination
05% Oral examination
60% Final-term examination
100% Total

7- List of References

7.1 Essential books (Text books)

1-Weir, C. D., "An analytical study of the regenerative steam turbine cycles"I., Mech. E. monograph No. 5, 1967.
2- Kearton, W. J., Steam turbine theory and practice, Pitman London 1961
3- Bender, R. J., "Steam generation ", Power magazine, New York, 1960
4-Modern power station practice, (5 vol.), CEGB 1963.

7.2 Websites

- www.4shared.com
- Yahoo email group
- www.sciencedirect.com

8- Facilities required for teaching and learning

Lecture room equipped with overhead projector
Presentation board, computer and data show

Course coordinator Prof. Dr. Eed A. Abdel-Hadi
Course instructor Prof. Dr. Eed A. Abdel-Hadi

Head of Department: Prof. Dr. Osama Ezzat Abdellatif