



Arab Academy for Science, Technology & Maritime Transport
College of Engineering & Technology
Mechanical Engineering Department

University/Academy: Arab Academy for Science, Technology & Maritime Transport
Faculty/Institute: College of Engineering & Technology
Program: B.Sc. Mechanical Engineering

Form no. (12): Course Specification

1- Course Data

Course Code: ME 520	Course Title: Thermal Plant Engineering	Academic Year/Level: 5th year / 9th semester	
Specialization: Mechanical	No. of Instructional Units 3 credits	Lecture 2 hrs.	Practical 2 hrs.

2- Course Aim

- To develop the student's capabilities to thoroughly understand the performance of the different thermal plants, Evaluate this performance, compare and choose between them.

3- Intended Learning Outcomes

a- Knowledge and Understanding	Through knowledge and understanding, students will be able to: a.4) Principles of design including elements design, process and/or a system related to specific disciplines. a.p.1) Fundamentals of thermal and fluid processes
b- Intellectual Skills	Through intellectual skills, students will be able to: b.4) Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.
c- Professional Skills	Through professional and practical skills, students will be able to:
d- General Skills	Through general and transferable skills, students will be able to:

4- Course Content

Week No.1 Thermodynamics Review
Week No.2 Steam Plant Components

Week No.3	Steam Plant Cycles
Week No.4	Modifications of Steam Plant Cycle
Week No.5	Design of Feedwater Heater
Week No.6	Gas Turbine Power Plant
Week No.7	Gas Turbine Power Plant – 7th evaluation / 7th week evaluation
Week No.8	Gas Turbine Cycles
Week No.9	Modifications of Gas Turbine Cycle
Week No.10	Application of Gas Power Plant
Week No.11	Combined Cycle
Week No.12	Nuclear Power Plant - 12th week evaluation / 12 th week evaluation
Week No.13	Nuclear Power Plant.
Week No.14	Pressurized Water Reactors
Week No.15	Boiling Water Reactors
Week No.16	Final exam

5- Teaching and Learning Methods

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

6-Teaching and Learning Methods for Students with Special Needs

- Lectures
- Tutorials
- Reports & sheets
- Laboratories
- Seminars

Engineering Requirements and Design Considerations in college Buildings and its Leading Passages

- The design of college buildings and pedestrian passages leading to it are sloppy to allow the transportation of the handicapped;
- Doors are wide enough to let wheel chairs pass through easily and conveniently.
- Lifts are provided for movement between floors.
- Doors are made from light weight materials to make it easy for the handicapped suffering from weakness in limb muscles or those handicapped using prosthetic limbs to deal with them with the least muscular effort.
- Class floors are made from non-slippery materials to prevent falls on the part of the handicapped.
- Sudden changes in the floor level are prevented.

Design Considerations of the Classes

- Class boards are placed at 60 cm high to allow wheeled chair users or those suffering from limited arm mobility use them.
- Enough spaces are left between seats and benches to prevent hindering the movement of wheeled chairs between them.
- Handicapped students sit among normal people in class to be able to interact with them. Nevertheless, in urgent cases according to the nature of the disability, the handicapped students sit in fixed suitable places whether at the front or the back of the class.
- Handicapped students sit close to the main exits of the class to be able to evacuate in case of emergencies.

Academic Support:

- The general academic advisor appoints an academic supervisor for handicapped students.
- Continuous follow ups are made for handicapped students after each assessment to evaluate their academic level of achievement

7- Student Assessment

a-Procedures used	1-Written Examinations to assess The Intended Learning Outcomes.	
	2-Class Activities (Reports, Discussions, -----) to assess The Intellectual Skills.	
b- Schedule:	Assessment 1	7 th Week Assessment
	Assessment 2	12 th Week Assessment
	Assessment 3	Continuous Assessments
	Assessment 4	16 th Week Final Written Exam
c- Weighing of Assessment	7 th Week Evaluation	30 %
	12 th Week Evaluation	20 %
	Final-term Examination	40 %
	Oral Examination	00 %
	Practical Examination	00 %
	Semester Work	10 %
	Total	100%

8- List of References:

a- Course Notes	N/A
b- Required Books (Textbooks)	• Lecture notes
c- Recommended Books	• M.M El-Wakil, "Power Plant Technology ", 1st edition, McGraw-Hill, 1984.
d- Periodicals, Web Sites, etc.	N/A

Course Instructor: Prof. Mohamed Teamah

Head of Department: Prof. El-Sayed Saber

Program Manager: Prof. El-Sayed Saber

Dean of College of Engineering and Technology of AASTMT

Name: Prof. Moustafa Hussein Aly

Signature:

Executive Manager of Quality Assurance Center of AASTMT

Name: Prof. Aziz Ezzat

Signature: