



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 333	Course Title: Thermodynamics (2)	Academic Year/Level: 3rd year / 6th semester	
Specialization: Mechanical	No. of Instructional Units 3 credits	Lecture 2 hrs.	Practical 2 hrs.

2- Course Aim

- To give students of engineering a through grounding in subject of thermodynamics and the design of thermal plant.

3- Intended Learning Outcomes

a- Knowledge and Understanding	Through knowledge and understanding, students will be able to: a.p.1) Fundamentals of thermal and fluid processes a.p.2) Internal combustion, pumps, turbines and compressors, classification, construction design concepts, Operation and characteristics a.p.4) The constraints which mechanical power and energy engineers have to judge to reach at an Optimum solution a.p.6) Mechanical power and energy engineering contemporary issues a.p.7) Basic theories and principles of some other engineering and mechanical engineering disciplines Providing support to mechanical power and energy disciplines.
b- Intellectual Skills	Through intellectual skills, students will be able to: b.p.4) Analyze the performance of the basic types of internal combustion engines and hydraulic machines
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:
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4- Course Content

Week No.1	Mixtures
Week No.2	Mixtures
Week No.3	Psychrometry
Week No.4	Psychrometry
Week No.5	Psychrometry
Week No.6	Refrigeration
Week No.7	Refrigeration / 7th week evaluation
Week No.8	Refrigeration
Week No.9	Refrigeration
Week No.10	Gas Turbine
Week No.11	Gas Turbine
Week No.12	Nozzles / 12 th week evaluation
Week No.13	Nozzles.
Week No.14	Design of a selected topic
Week No.15	Design of a selected topic
Week No.16	Final Examination

5- Teaching and Learning Methods

<ul style="list-style-type: none"> • 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 Assessment 2 Assessment 3 Assessment 4	7 th Week Assessment 12 th Week Assessment Continuous Assessments 16 th Week Final Written Exam
c- Weighing of Assessment	7 th Week Evaluation 12 th Week Evaluation Final-term Examination Oral Examination Practical Examination Semester Work Total	30 % 20 % 40 % 00 % 00 % 10 % 100%

8- List of References:

a- Course Notes	N/A
b- Required Books (Textbooks)	• T.D. Eastop “Applied Thermodynamics for Engineering Technologists“, Longman, Latest Edition
c- Recommended Books	• Engineering Thermodynamics, B.M. David
d- Periodicals, Web Sites, etc.	N/A

Course Instructor: Prof. Rouchdy Hamouda

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: