# Course Report of Thermodynamics – MEP 111– Spring 2017

**University:** Ain Shams **Faculty:** Engineering

# Basic Information

## Title and code:

Thermodynamics – MEP 111

## Program on which the course is given:

Mechanical Power Engineering

* 1. **Year / Level of program(s)** 2015-2016 / 2nd year Mechanical Engineering Students.

## Units / Credit Hours:

|  |  |  |
| --- | --- | --- |
| i. | Lecture: | 3 |
| ii. Tutorial / Practical: 1.5 |
| iii. Total: 4.5 |

1. **Names of lecturers contributing to the delivery of the course:**

Dr. Walid Aboelsoud

Dr. Mostafa Abdelkhalek

**Course coordinator:** Dr. Walid Aboelsoud

**External evaluator:** -------------

1

# Statistical Information

No of students attending the course: 394

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Number** | **Percentage (%)** |
| **Students completing the course** | 394 | 100 |
| **Results** | Passed | 273 | 69 |
| Failed | 121 | 21 |
| **Grading of successful students** | **Percentage** | **Number** | **Percentage (%)** |
| Excellent | 543 | 13.7 |
| Very Good | 41 | 10.4 |
| Good | 52 | 13.2 |
| Passed | 126 | 32 |
| Weak | 64 | 16.2 |
| Very weak | 57 | 14.5 |

# Professional Information

## 1- Course Teaching:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Course Content** | **Lecture****(hours)** | **Tutorial****(hours)** | **Total** |
| **1** | Introduction and basic concepts ***(Chapter 1).*** | **3** | **1.5** | **4.5** |
| **2** | Energy, energy transfer and energy analysis ***(Chapter 2).*** | **3** | **1.5** | **4.5** |
| **3** | First law of thermodynamics ***(Chapter 2).*** | **3** | **1.5** | **4.5** |
| **4** | Properties of pure substances: phase change,property diagrams, property tables, EES software and the ideal-gas | **6** | **3** | **9** |
| **5** | Energy analysis of closed systems: energy balance, internal | **9** | **4.5** | **13.5** |
| **6** | Mass and energy analysis of control volumes:conservation ofmass, flow work, energy analysis of steady-flow | **9** | **4.5** | **13.5** |
| **7** | Thermodynamics’ applications ***(Chapter 5).*** | **9** | **4.5** | **13.5** |
| **8** | Simple-ideal power cycles ***(Chapter 9&10).*** | **3** | **1.5** | **4.5** |
|  | **Total** | **45** | **22.5** | **67.5** |

**Topics taught as percentage of the content specified:**

**ʘ > 90%** **70% - 90%**

**< 70%**

# Reasons in details for not teaching any topic:

**If any topics were taught which are not specified, give reasons in details:**

## None

* 1. **Teaching and learning methods:**

Lectures



Practical training/laboratory

Seminar / workshop

Class activity 

# Case study:

Other assignments / homework

If teaching and learning methods were used other than those specified, list and give reasons: N/A - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

# Studentassessment:

|  |  |
| --- | --- |
| **Method of assessment** | **Percentage of total** |
| Assignments | 5 % |
| Quizzes | 5% |
| Written midterm exam | 15 % |
| Participation in class | 5 % |
| Written final exam | 70% |
| Total | 100% |

**Members of examination committee:**

Dr. Walid Aboelsoud

Dr. Mostafa Abdelkhalek

# Role of the external evaluator

To express his views on the course - - - - - - - - - - - NONE- - - - - - - - - - - -

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

# Facilities and teaching materials:

Totally adequate

Adequate to some extent 

Inadequate

## List any inadequacies

* 1. **Administrative constraints**

**List any difficulties encountered**

None - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

# Student evaluation of the course:

# Comments from external evaluator(s)

|  |  |
| --- | --- |
| **Comments** | **Response of Course team** |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |
| - - - - - - - - - - - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - - - - - - - - - - - |

# Course enhancement:

**Progress on actions identified in the previous year's action plane:**

|  |  |
| --- | --- |
| **Action** | **State whether or not completed and give reasons for any non-completion** |
| N/A - - - - - - - - - - - - - - - - - - - - - -- **- - - - - - - - - - - - - - - - - - - - - - - - -****- - - - - - - - - - - - - - - - - - - - - - - - - -** | - - - - - - - - - - - - - - - - - - - - - - - **- - - -****- - - - - - - - - - - - - - - - - - - - - - - - - - -****- - - - - - - - - - - - - - - - - - - - - - - - - - -** |

* 1. **Action plan for academic year 2016-2017**

|  |  |  |
| --- | --- | --- |
| **Actions required** | **Completion date** | **Person responsible** |
| - - - - - - - - - - - - - - - - - - **- -****- - - - - - - - - - - - - - - - -** | - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - | - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - - - -- - - - - - - - - - - - - - - - - |

**Course Content/ILO Matrix**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Course Content | a1 | a2 | a3 | a4 | a5 | a6 | b1 | b2 | b3 | c1 | c2 | d1 | d2 | d3 |
| Introduction and basic concepts |  |  | • |  |  |  |  | • |  |  |  |  |  |  |
| Energy, energy transfer and energy analysis |  | • |  |  |  |  | • |  |  |  |  |  |  |  |
| First law of thermodynamics | • |  |  |  |  |  | • |  | • |  | • |  | • |  |
| Properties of pure substances: phase change,property diagrams, property tables, EESsoftware and the ideal-gas equation of state |  |  |  | • |  | • |  | • |  | • | • | • |  |  |
| Energy analysis of closed systems: energybalance, | • | • | • |  | • |  | • | • | • | • | • |  |  |  |
| Mass and energy analysis of control volumes:conservation of mass, flow work, energy analysis of steady-flow systems | • | • | • |  | • |  | • | • | • | • | • | • |  |  |
| Thermodynamics’ applications | • | • | • | • | • | • | • | • | • | • | • |  | • |  |
| Simple-ideal power cycles | • | • | • | • | • | • | • | • | • | • |  | • |  |  |