# Course Report of Thermodynamics – MEP 111– Spring 2018

**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)** 2017-2018 / 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. Nashwa Abbas

**Course coordinator:** Dr. Walid Aboelsoud

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

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# Statistical Information

No of students attending the course: 377

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Number** | **Percentage (%)** |
| **Students completing the course** | | 377 | 100 |
| **Results** | Passed | 335 | 89 |
| Failed | 42 | 11 |
| **Grading of successful students** | **Percentage** | **Number** | **Percentage (%)** |
| Excellent | | 643 | 17 |
| Very Good | | 67 | 18 |
| Good | | 75 | 20 |
| Passed | | 129 | 34 |
| Weak | | 29 | 8 |
| Very weak | | 13 | 3 |

# 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 of  mass, 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 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

# Student assessment:

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| --- | --- |
| **Method of assessment** | **Percentage of total** |
| Assignments | 5 % |
| Written midterm exam | 15 % |
| Participation in class | 10 % |
| Written final exam | 70% |
| Total | 100% |

**Members of examination committee:**

Dr. Walid Aboelsoud

Dr. Nashwa Abbas

# Role of the external evaluator

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

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# Facilities and teaching materials:

Totally adequate

Adequate to some extent 

Inadequate

## List any inadequacies

* 1. **Administrative constraints**

**List any difficulties encountered**

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

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# Student evaluation of the course:

# Comments from external evaluator(s)

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

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| --- | --- | --- |
| **Actions required** | **Completion date** | **Person responsible** |
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**Course Content/ILO Matrix**

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| 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, EES  software and the ideal-gas equation of state |  |  |  | • |  | • |  | • |  | • | • | • |  |  |
| Energy analysis of closed systems: energy  balance, | • | • | • |  | • |  | • | • | • | • | • |  |  |  |
| Mass and energy analysis of control volumes:  conservation of mass, flow work, energy analysis of steady-flow systems | • | • | • |  | • |  | • | • | • | • | • | • |  |  |
| Thermodynamics’ applications | • | • | • | • | • | • | • | • | • | • | • |  | • |  |
| Simple-ideal power cycles | • | • | • | • | • | • | • | • | • | • |  | • |  |  |