

## 98-1 Preliminary Syllabus, Da-Yeh Univ

| Information       |                          |                       |                |
|-------------------|--------------------------|-----------------------|----------------|
| Title             | 熱力學(一)                   | Serial No. / ID       | 1079 / MAI2041 |
| Dept.             | 機械與自動化工程學系               | School System / Class | 大學日間部2年2班      |
| Lecturer          | 謝其源                      | Full or Part-time     | 專任             |
| Required / Credit | Required / 3             | Graduate Class        | NO             |
| Time / Place      | (二)6 / H441 (四)12 / H441 | Language              | Chinese        |

### Introduction

A. Da-Yeh University, Department of Mechanical and Automation Engineering education goals:

#### Education Goal 1

Imparting knowledge: education students to apply mathematics, science and engineering principles to solve mechanical and automation engineering. Students should have the learning outcomes:

- 1.1 Graduates should have the ability to analyze and design systems, and familiar with the principles of mechanics, electrical and mechanical theory and application integration, and automation systems expertise.
- 1.2 Graduates should have the necessary mechanical engineering and applied mathematics and physics knowledge.
- 1.3 Graduates should have the use of computers in mechanical and automation engineering capabilities.

#### Education Goal 2

Technical training: emphasis on both theory and practice, education students with the implementation of the experimental and the ability to verify the theory. Students should have the learning outcomes:

- 2.1 Graduates should have the design, planning and conduct experiments, interpret data, identify problems and seek solutions to the capacity of both theory and practice to achieve the educational goals.
- 2.2 Graduates should have the data collection and finishing ability.
- 2.3 Graduates should have a written and oral report on the implementation of capacity.

#### Education Goal 3

Thinking Innovation: to train students with the ability of independent thinking and innovation, c r e a t e i v i t y and quality to become the concept of corporate professionals. Students should have the learning outcomes:

- 3.1 drill through the operation and implementation, training students to think independently analyze and solve problems.
- 3.2 equip students with the analysis and design innovation, and having mechanical and automation engineering to solve problems of basic skills.
- 3.3 Special research and through the practice of industry-university cooperation, c r e a t e i v i t y and enterprise to cultivate the love of machinery and automation professionals.

#### Education Goal 4

Team: training students have the organizational ability and communication technology, so that he / she can play a professional team to solve the power problem. Students should have the learning outcomes:

- 4.1 through group projects and published research, training students organizational skills and communication

techniques.

4.2 The concept of integration through technology, so that graduates understand the importance of teamwork.

4.3 teach students to understand professional and ethical responsibility for engineering, personal ethics in the team understand the importance of fostering cooperation teamwork teamwork.

#### Education Goal 5

Global vision: to provide students with enough practical application of globalization, and social needs of a wide range of educational content, self-education students continue to grow, to become a professional talents with international vision. Students should have the learning outcomes:

5.1 is to enable students to understand the international situation, mechanical and automation engineering to understand the overall environmental, social and global impact.

5.2 Graduates should be able to enjoy the arts and culture, and have adequate foreign language skills, basic legal knowledge and cultural literacy.

5.3 Graduates should have the capacity for lifelong learning.

#### Outline

Theme of the unit introduced the concept of a thermodynamic

The second theme of the unit properties of pure substances

Theme III and thermal power unit

Four theme of the unit first law of thermodynamics

Theme of the unit control the volume of five first law of thermodynamics

Six theme of the unit second law of thermodynamics

Seven entropy unit topic

#### Prerequisite

Calculus