

## Thermal Energy Control

2 units (selection)

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**Target** Aiming at the permanent use of resources and energy, basic principles of thermal energy, heat transmission, and characteristics of energy control devices and working fluid are discussed. Various usages of thermal energy flow are analyzed with exergy method.

**Outline** Principle and characteristic about thermal energy, the control system, practical method and efficiency evaluation of thermal energy control. Energy flow analysis with heat, physical and chemical exergy.

**Keyword** *thermal energy, energy conversion*

**Goal** To use thermal energy effectively and to apply to environmental problems

**Schedule**

1. Basics and characteristic of thermal energy 1
2. Basics and characteristic of thermal energy 2
3. Basics and characteristic of thermal energy 3, report problem
4. Characteristic of thermal energy control 1
5. Characteristic of thermal energy control 2
6. Characteristic of thermal energy control 3, report problem
7. Control elements of thermal energy 1
8. Control elements of thermal energy 2
9. Control elements of thermal energy 3, report problem
10. Control units of thermal energy 1
11. Control units of thermal energy 2
12. Control units of thermal energy 3, report problem
13. Evaluation of thermal energy control 1
14. Evaluation of thermal energy control 2
15. Evaluation of thermal energy control 3, report problem
16. Final test, oral examination

**Evaluation Criteria** Scores of reports and final oral examination are used

**Textbook** To be introduced in the class

**Contents** <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216809>

**Student** Course students only

**Contact**

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