

## Advanced conversion systems of resource energy

2 units (selection)

Yoshiyuki Kidoguchi · PROFESSOR / RESOURCE CIRCULATORY ENGINEERING, ECOSYSTEM ENGINEERING, EARTH AND LIFE ENVIRONMENTAL ENGINEERING

**Target)** To learn special knowledge concerning present energy resources and energy supplying systems, to understand principle and mechanism of energy conversion, and to improve thinking faculty for application of new energy and its conversion

**Outline)** To explain effective combustion technologies, reasonable utilization of energy and application of unused energy for saving consumption of fossil fuels and primary energy on the point of saving resources, energy and preserving the environment

**Style)** Portfolio

**Keyword)** *energy conversion, energy resources, utilization of energy, environmental protection, energy saving*

**Requirement)** None

**Notice)** None

**Goal)** To understand fundamentals of energy conversion and to consider effective utilization of energy and improvement of energy conversion technologies

**Schedule)**

1. Present state of energy resources
2. Energy and environmental problem
3. Future view of energy resources
4. Fundamentals of energy conversion
5. Typical Systems of energy conversion
6. Principle of energy conversion
7. Important notices of energy conversion
8. Present Technologies of energy conversion
9. High Technologies of energy conversion
10. New technologies of energy conversion
11. Problems of energy conversion technology
12. Approach to effective utilization of energy
13. Systems of effective utilization of energy
14. Introduction of new energy
15. Application of new energy

**Evaluation Criteria)** Appraise the understanding of the content of the lecture by setting some reports

**Textbook)** None

**Reference)** None

**Webpage)** <http://www.eco.tokushima-u.ac.jp/w3/miwa/index.html>

**Contents)** <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216677>

**Student)** Able to be taken by only specified class(es)

**Contact)**

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**Note)**

- ◇ Need to submit some reports
- ◇ Every lesson is planned to attain the targets of this lecture. Students' achievement of the targets is partly accessed by the reports.