**Syllabus**

**Spring Semester, 2011**

**Energy Engineering**

**에너지공학**

**LECTURER:** Prof. Yung-Eun Sung (성영은)

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**OUTLINES**

This course aims to present the fundamentals and principles and techniques of energy engineering. Energy engineering covers thermal energy, hydropower, wind power, solar energy, biomass, energy from fission & fusion, hydrogen energy. The principle of energy conversion and storage is also included.

**REFERENCES**

John Andrews, Nick Jelley, **Energy Science**, Oxford, 2007. **(Textbook) (AJ)**

C. Ngo, J. B. Natowitz, **Our Energy Future**, Wiley, 2009. **(NN)**

W. Shepherd, D. W. Shepherd, **Energy Studies**, 2nd Ed., Imperial College, 2003. **(SS)**

A. V. Da Rosa, **Fundamentals of Renewable Energy Processes**, Elsevier, 2005.

G. Bolye (ed.), **Renewable Energy**, 2nd Ed., Oxford, 2004.

J. Twidell, T. Weir, **Renewable Energy Resources**, 2nd Ed., Taylor & Francis, 2006.

Thomas L. Friedman, **Hot, Flat, and Crowded**, ICMI, 2008.

**(토머스 프리드먼, 크드 그린, 21세기북스, 2008.)**

**LECTURE NOTE**

Lecture notes will be provided (download from homepage: http://plaza.snu.ac.kr/~peel or <http://www.snupeel.com/wp/>

**SCHEDULES**

1.Basic information, unit, & concept of energy

2.Fossil fuels & thermal energy

3.Hydropower, tidal power, and wave power

4.Fluid mechanics for energy conversion

5.Wind power

6.Solar energy

7.Biomass

8.Energy from fission

9.Energy conversion & storage

**GRADING**

Midterm Exam 30%

Final Exam 30%

Reading & Term paper 20 %

Homework/attendance 20%