

## In the name of God

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#### Textbook:

- Energy Systems Engineering, F.M. Vanek, L.D Albright, and LARGUS Angenent
- Energy Conversion, Edited by D.Y. Goswami and F. Kreith
- Energy Conversion and Management Principles and Applications by Petrecca, Giovanni
- Renewable Energy Conversion, Transmission and Storage by Bent Sørensen
- Relevant Research Papers

Week	Contents
1	Introduction (Motivations for studying future energy systems (e.g. pollution, climate change, energy security). Principles from engineering economics and systems engineering.
2	Thermal Power Plant
3	Nuclear Power Plant (light water nuclear power plant)
4	Nuclear Power Plant (heavy water nuclear power plant)
5	Nuclear Power Plant (gas cooled nuclear power plant)
6	Solar Energy (Solar-thermal energy)
7	Solar Energy (Photovoltaic technology)
8	Wind Energy (Horizontal axis wind turbine)
9	Wind Energy (Vertical axis wind turbine)
10	Geothermal Energy
11	Ocean Energy (Wave energy)
12	Ocean Energy (Tidal energy)
13	Thermoelectric conversion
14	Fuel Cells
15	Fuel Cells (Direct methanol fuel cells)
16	Overview of Climate Control, CO <sub>2</sub> Sequestration and Energy Sustainability