

Advanced Chemical Materials for Energy Issues I

ENR.H501.L

ACEEES

1Q 1-0-0

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Wed. 1-2, S322

Aims of this lecture

- This course focuses on nanomaterials, and covers the fundamentals of nanomaterials and the design of effective functionality by chemical and physical combination of molecules, nanomaterials and bulk materials.
- Synthetic strategy of nanomaterials by bottom-up and top-down methods, basic theory of novel or enhanced physical properties resulted in miniaturization, and the concept of combination of materials are essential in the field of materials science to develop fine and novel functionalities.
- These approaches are not only useful for nanomaterials, but are applicable to design energy devices and other materials.
- This course introduces cyclodextrins, inclusion compounds and fine polymer particles as organic nanocomposite.

Schedule

#	Date	Content
1	Apr. 11	Introduction and Overview of nanomaterials for energy science and engineering
2	Apr. 18	Chemistry and properties of Inclusion materials
3	Apr. 25	Properties of polymer particles and polymer-inorganic nanoparticles
4	May 2	Polymer binders
5	May 9	Electrolytes
6	May 16	Separators
7	May 23	Self study for report (no class)
8	June 8	Due of report: 17:00, June 8. No class

All contents of lecture are uploaded in OCW-i.