1. Goals	Energy systems to generate power and heat are widely investigated by understanding basic principles of thermodynamics, fluid mechanics, heat transfer etc. Performance enhancement is treated by system design change and optimization after modeling the system components and their integration. At the same time, optimal operation stategy will be studied. Diverse optimization methods will be dealt with.						
2. Texts and References							
3. Evaluation	Attendance	Assignment	Mid-term	Final	Class Partcipation	Others	Total
	0%	10%	40%	40%	0%	10%	100%
	Remark						
4. Lecture Plan	Week	Lecture Contents					
	1st Week	Introduction, Description of energy systems					
	2st Week	Basic system design, Cost estimation					
	3st Week	Basic modeling of energy systems					
	4st Week	Component design (1)					
	5st Week	Component design (2)					
	6st Week	Steady state simulation					
	7st Week	Optimization of system performance (Lagrange method)					
	8st Week	Optimization of system performance (Search method), Mid term examination					
	9st Week	Optimization of system performance (Dynamic programming)					
	10st Week	Optimization of system performance (Geometric programming)					
	11st Week	Optimization of system performance (Linear programming)					
	12st Week	Dynamic modeling of energy systems					
	13st Week	Unsteady state simulation, Control of energy systems					
	14st Week	Presentation of term projects					
	15st Week	Final wrap-up, Final examination					
5. Guideline for Students							
6. Penalty for Plagiarism	N						