

ME 417: Design of Alternative Energy Systems

Syllabus

Spring 2012

MWF 9:10-10:00 Room 106 Ernst Bessey Hall

Professor André Bénard

2425 Engineering Building

Office Hours: M 10-11:30am or make an appointment (you can also try to stop by)

Office phone: 432-1522

Email (preferred): benard@msu.edu

Note: I try to respond as quickly as possible to emails, if you do not receive a reply within 24 hours, please resend again (keep in mind that sometimes I cannot check email messages on weekends).

Course web page: www.egr.msu.edu/classes/me417/benard

In this class we will try to:

1. Provide an overview of energy systems that may replace fossil fuel systems
2. Develop modeling skill as they apply to energy systems
3. Develop design skill as they apply to energy systems
4. Develop an understanding of non-technical issues associated with alternative energy systems

Course Outline:

<u>Topics</u>	<u>Week</u>
Introduction and overview	Week 1
Sociological, political and economic aspects	Week 1
Review of basic thermodynamics and thermal sciences	Week 2
Fuel Cells and Batteries	Week 3
Fuel Cells and Batteries	Week 4
Ocean Energy	Week 5
Ocean Energy	Week 6
Wind Energy	Week 7
Wind Energy	Week 8
Spring Break	3/5-3/9
Solar Energy	Week 9
Solar Energy	Week 10
Geothermal Energy	Week 11
Nuclear Energy	Week 12
Nuclear Energy	Week 12
Biomass Energy	Week 13
Biomass Energy	Week 14
Energy Storage Systems	Week 15

