

Rutgers, The State University
Department of Electrical and Computer Engineering
14:332:402 (Index No. 49206)
and
16:332:585 (Index No. 50884)
Sustainable Energy: Choosing Among Options

- Instructor: Dr. S.R. McAfee
Time: MW 6:40-8:00PM
Location: SEC-205
Phone: 732-445-5247
Office Hours: By Appointment
smcafee@rci.rutgers.edu

- **Prerequisite:** None beyond senior level standing in any SOE Department

- **Textbook and Materials:**
 - Jefferson W. Tester, Elisabeth M. Drake, Michael J. Driscoll, Michael W. Golay and William A. Peters: Sustainable Energy: Choosing Among Options, 2nd ed., MIT Press, Cambridge, Massachusetts, 2012 ISBN 978-0-262-01747-3
 - Power Point presentations developed by Dr. P. Panayotatos (from 1st ed of Sustainable Energy)

This course is designed for the student interested in an overview of the technological methods for obtaining energy from non-renewable and renewable energy sources. The course will be divided into three (3) components:

1. Energy Analysis Toolbox (Tester: Chapters 1-7)
2. Non-renewable (Fossil) energy sources (Tester: Chapter 8)
Primarily Coal, Natural Gas, and Petroleum
3. Renewable Energy Sources (Tester: Chapters 9, 10-15)
 - Biomass (Chapter 10)
 - Geothermal (Chapter 11)
 - Hydropower (Chapter 12)
 - Nuclear (Chapter 9)
 - Ocean Waves, Tides, Thermal Energy Conversion (Chapter 14)
 - Solar (Chapter 13)
 - Wind Energy (Chapter 15)

Course Evaluation:

	Undergraduate	Graduate
Quiz	5%	5%
HW, Projects	15%	15%
Two (2) Exams	50%	50%
Final	30%	30%

Note: You will be required to attend two (2) Energy Cafe seminars, where you must sign-in to show you attended. If your schedule does not accommodate attending these seminars, then you may attend any two (2) energy seminars, which will likely be posted on Sakai. However, you must provide a brief synopsis of the seminar attended (within a week of attending the seminar) to the instructor.