

MAE 124/ESYS 103 Discussion: Week 10

Review for Final Exam

Format:

100 points

50 points short answer (like today's quiz)

choice of 2 (of 4 total) 25 point essays

Sample questions:

Short answer:

What is causing anthropogenic warming? [5 points]

What might you say? What would constitute a good answer?

[Be substantive. A 5 point answer implies a minimum of one solid, factual sentence. A 10 point answer is probably seeking two facts.]

How do hybrid vehicles reduce the environmental impact of personal transportation compared with gasoline and diesel powered vehicles? [10 points]

Describe one possible environmental concern associated with residential water usage, and explain how it is being addressed. [10 points]

Essays:

Biggest challenges: Answer all parts of question. Say something substantive. (We appreciate clear prose and good spelling (which earn you points) as well as editorial comments, jokes, etc., which don't necessarily advance your grade.) Articulate your comments clearly so that we understand what you mean and which sub-parts of a question you are addressing. [And this is a skill that will serve you for life ....]

In the midterm, question 2 asked you to “evaluate the costs and benefits of converting the US economy from 50% coal powered electricity and 20% nuclear powered electricity to 70% nuclear powered electricity.” And it continued “In your discussion, consider the advantages and disadvantages of coal and nuclear power with regard to natural resource issues, environmental concerns, and policy.” Grading looked for cost/benefit discussion plus specific comments on (a) natural resource issues, (b) environmental concerns, and (c) policy. I had specific issues on my list, but anything sensible was fine, provided that I could tell what you were addressing.

Sample 1 (2004)

You work for a domestic pharmaceutical company that has recently been taken over by a

foreign competitor that has a well-established corporate image as a “green”, environmentally friendly organization. Your first task after the takeover is to lead a team conducting a life cycle assessment comparing the environmental impact of one of your domestic factories and the original “home” factory overseas of your new corporate bosses. Discuss both how you might go about this assessment, and also the major areas of differing environmental impact that you might expect to find.

Sample 2 (2004)

Discuss the following statement from CNN:

As electricity rates soared for many Americans, the focus has turned to alternative power sources---wind energy among them. Supported by environmentalists and included in President Bush's energy plan, wind power is proving to be a viable option.

Your answer should consider the environmental and economic costs associated with the various renewable and non-renewable energy sources that are, or could be, used in the United States for electricity generation.

Brainstorm a possible answer: