**EAS 375**

**Spring 2012**

**Lecture questions - Science**

**1. How would define the term “science”?**

Pursuit of knowledge.

Organize observable information into testable and predictive explanations of the relationship between causes and effects of phenomena.

**2. List five traits that characterize a scientist.**

Curiosity

Imagination and creativity

dedication

passion for knowledge

intellectual honesty

open to new ideas

healthy dose of skepticism

**3. What are the four basic questions scientists ask when they are attempting to explain a phenomenon?**

What, where, when and how.

**4. What is the scientific method?**

Collection of facts(data), classification of data, formulation of a hypothesis, testing of the hypothesis, recognition of a theory

**5. Why is the classification of data so important in the scientific method?**

It determines everything in the scientific process that follows,

A number of important scientific discoveries have been made when a new classification schemes emerge.

**6. What is meant by “multiple working hypotheses”?**

Initially, may have more than one acceptable explanations, but additional data and experimentation will lead to elimination of incorrect explanations.

**7. Discuss the reasons why becoming emotionally involved in a scientific discussion can lead to ethical dilemma.**

Emotional involvement may affect objectivity. (intimidation, ignoring others or dismissing ideas.)

**8. How had the role of the media altered how scientists operate? Include both the positive and negative aspects.**

Positive: educate the public, positive publicity for institutions, show how low tax dollars are used

Negative: manipulate media to support a point of view, disparage ideas that differ, influence journal reviewers.

**9. Discuss the reasons why scientists use words like “suggests,” “may,” “could,” “might,” or other equally fuzzy adjectives to describe their work.**

Cover their ass, promote an idea without solid evidence.

**10. What are good and negative aspects of the media in science?**

Positive: educate the public, positive publicity for institutions, show how low tax dollars are used

Negative: manipulate media to support a point of view, disparage ideas that differ, influence journal reviewers.

**11. What are proponents of a particular hypothesis they trying to accomplish by using word consensus?**

To use “mainstream” to support their idea.

**12. What is the problem of using “linked” to support a point of view?**

Because “linked” is just a convenient term used to imply linked equals causation. It was frequently used to justify sparse evidence