



WTCS Repository

10-806-122 Natural Sciences in Society

Course Outcome Summary

Course Information

Description Focuses on the history, philosophy, common concepts and current issues of natural science which has impacted the United States and global society. Explores processes required to analyze natural science issues. Learners correlate science issues to personal and professional experiences.

Total Credits 3

Course History

Last Revision Date 8/28/2013

Pre/Corequisites

Prerequisite Each Wisconsin Technical College determines the General Education course prerequisites used by their academic institution. If prerequisites for a course are determined to be appropriate, the final Course Outcome Summary must identify the prerequisites approved for use by the individual Technical College.

Course Competencies

1. Summarize the process by which scientific information is assessed and utilized.

Assessment Strategies

- 1.1. by summarizing your initial insights about the impact of science on your life.
- 1.2. by presenting a model and a principle/law concept.

Criteria

Your performance will be successful when:

- 1.1. You choose a scientific concept and describe why it is a model.
- 1.2. You choose a scientific concept and describe why it is a principle or law.
- 1.3. You determine science concepts that have affected your political world view.
- 1.4. You determine science concepts that have affected your consumer behavior.
- 1.5. You determine science concepts that have affected your spiritual world view.
- 1.6. You determine science concepts that have affected your environmental awareness/behavior.
- 1.7. You determine science concepts that have intrigued you.
- 1.8. You determine science concepts that you have taken a moral or ethical stand on.

Learning Objectives

- 1.a. Explain the concept of scientific literacy.
- 1.b. Summarize why scientific literacy is important.
- 1.c. Define the terms; concept, testable, principle, law, and model.

- 1.d. Examine scientific classification model.
- 1.e. List ways concepts may be acquired.
- 1.f. Compare critical and uncritical thinking as it applies to science.
- 1.g. Explain what an issue is and how issues come into existence.
- 1.h. Examine ways to learn how to think critically about scientific issues.
- 1.i. Differentiate between factual scientific information and scientific misconceptions.
- 1.j. Identify ways in which science influences your life.

2. Explain science concepts common to all branches of science.

Assessment Strategies

- 2.1. make an individual presentation.
- 2.2. by participating in "to tell the truth".

Criteria

Your performance will be successful when:

- 2.1. You give an example of cause and effect.
- 2.2. You explain the difference between continuous and discreet.
- 2.3. You put into perspective numerical data.
- 2.4. You interpret statistical data.
- 2.5. You identify a process.
- 2.6. You describe a system.
- 2.7. You give examples of positive feedback.
- 2.8. You give examples of negative feedback.
- 2.9. You differentiate between fact and opinion.

Learning Objectives

- 2.a. Explain cause and effect.
- 2.b. Differentiate between continuous and discreet.
- 2.c. Interpret numerical and statistical information.
- 2.d. Define fact.
- 2.e. Describe process.
- 2.f. Describe a system.
- 2.g. Explain positive and negative feedback.

3. Summarize critical historical and philosophical concepts of natural science.

Assessment Strategies

- 3.1. by making an oral presentation on a critical natural science concept.

Criteria

Your performance will be successful when:

- 3.1. You state the scientific concept.
- 3.2. You provide historical background.
- 3.3. You explain vocabulary related to the concept.
- 3.4. You identify the person or persons responsible for the discovery of the concept.
- 3.5. You explain the circumstances that drove the discovery of the concept.
- 3.6. You categorize the impact of the concept on society.

Learning Objectives

- 3.a. Define vocabulary related to concept.
- 3.b. Analyze historical forces driving concept discovery.
- 3.c. Identify the effects on society of the concept/concepts.
- 3.d. Identify technological advances due to the concept.

4. Determine the relationship between technological improvement and environmental stress.

Assessment Strategies

- 4.1. by holding a press conference stating an environmental policy.
- 4.2. by assuming the role of the press in a press conference concerning an environmental policy.

Criteria

Your performance will be successful when:

- 4.1. You examined a waste disposal process.
- 4.2. You have identified a beneficial technological advances.
- 4.3. You have stated a new moral/ethical question that has arisen as the result of technology.
- 4.4. You have determined the results of an environmental regulation.
- 4.5. You have determined a political agenda of an environmental group.
- 4.6. You have stated your personal perspective on an environmental policy issue.

Learning Objectives

- 4.a. Examine the problem of waste disposal.
- 4.b. Identify beneficial effects of technological improvement.
- 4.c. Identify new moral/ethical questions due technological advances.
- 4.d. Examine effects of environmental regulations.
- 4.e. Determine political climate driving environmental concerns.
- 4.f. Advocate a reasonable balanced environmental policy.

5. Analyze how society weighs economic progress, population growth and environmental stewardship.

Assessment Strategies

- 5.1. perform a press release statement.

Criteria

Your performance will be successful when:

- 5.1. You state economic indicators.
- 5.2. You indicate economic ranking of world regions.
- 5.3. You state population growth of world regions.
- 5.4. You state how environmental indicators are measured.
- 5.5. You state technological advancement of world regions.
- 5.6. You compare environmental laws of world regions.

Learning Objectives

- 5.a. Identify how economic indicators are measured.
- 5.b. Categorize economic indicators of world regions.
- 5.c. Determine population growth of world regions.
- 5.d. Determine how environmental indicators are measured.
- 5.e. Determine technological levels of world regions.
- 5.f. Analyze environmental laws of world regions.

6. Articulate a responsible course of action to address societal and technological conflicts.

Assessment Strategies

- 6.1. a group presentation will be made focusing on economic, environmental and societal policies as they relate to a specific world region.

Criteria

Your performance will be successful when:

- 6.1. You state life science conflicts between society and technology.
- 6.2. You state earth science conflicts between society and technology.
- 6.3. You state physical science conflicts between society and technology.
- 6.4. You state space/astronomical science conflicts between society and technology.
- 6.5. You state your opinion on a reasonable environmental policy.
- 6.6. You state your opinion on a reasonable economic policy.
- 6.7. You state your opinion on a reasonable societal policy.

Learning Objectives

- 6.a. Identify life science conflicts between society and technology.
- 6.b. Identify earth science conflicts between society and technology.
- 6.c. Identify physical science conflicts between society and technology.
- 6.d. Identify space/astronomical science conflicts between society and technology.
- 6.e. Determine reasonable environmental policy.

- 6.f. Determine reasonable economic policy.
- 6.g. Determine reasonable societal policy.

7. Analyze current life science issues affecting society.

Assessment Strategies

- 7.1. by making a group presentation on a life science issue.

Criteria

Your performance will be successful when:

- 7.1. You clarify a life science issue.
- 7.2. You state questions concerning a life science issue.
- 7.3. You state assumptions concerning a life science issue.
- 7.4. You apply concepts and vocabulary related to your life science issue.
- 7.5. You describe the positives of your life science issue.
- 7.6. You describe the negative of your life science issue.
- 7.7. You state your position on life science issue.
- 7.8. You provide evidence to support your position of life science issue.
- 7.9. You explain contradictions between your position and scientific evidence.

Learning Objectives

- 7.a. Analyze impact of a life science issue.
- 7.b. Define life science.
- 7.c. Determine an issue that relates to life science.
- 7.d. Define concepts and vocabulary related to life science issue.
- 7.e. Identify positive consequences of discovery and developments related to life science issue.
- 7.f. Identify negative consequences of discovery and developments related to life science issue.
- 7.g. Advocate a position on selected life science issue.
- 7.h. Provide a rationale for position on selected life science issue.

8. Analyze current earth science issues affecting the environment.

Assessment Strategies

- 8.1. by making a group presentation on a earth science issue.

Criteria

Your performance will be successful when:

- 8.1. You clarify a earth science issue.
- 8.2. You state questions concerning a earth science issue.
- 8.3. You state assumptions concerning a earth science issue.
- 8.4. You apply concepts and vocabulary related to your earth science issue.
- 8.5. You describe the positives of your earth science issue.
- 8.6. You describe the negative of your earth science issue.
- 8.7. You state your position on earth science issue.
- 8.8. You provide evidence to support your position of earth science issue.
- 8.9. You explain contradictions between your position and scientific evidence.

Learning Objectives

- 8.a. Analyze impact of an earth science issue.
- 8.b. Define earth science.
- 8.c. Determine an issue that relates to earth science.
- 8.d. Define concepts and vocabulary related to earth science issue.
- 8.e. Identify positive consequences of discovery and developments related to earth science issue.
- 8.f. Identify negative consequences of discovery and developments related to earth science issue.
- 8.g. Advocate a position on selected earth science issue.
- 8.h. Provide a rationale for position on selected earth science issue.

9. Analyze current physical science issues affecting society.

Assessment Strategies

- 9.1. by making a group presentation on a physical science issue.

Criteria

Your performance will be successful when:

- 9.1. Clarify a physical science issue.
- 9.2. You state questions concerning a physical science issue.
- 9.3. You state assumptions concerning a physical science issue.
- 9.4. You apply concepts and vocabulary related to your physical science issue.
- 9.5. You describe the positives of your physical science issue.
- 9.6. You describe the negative of your physical science issue.
- 9.7. You state your position on physical science issue.
- 9.8. You provide evidence to support your position of physical science issue.
- 9.9. You explain contradictions between your position and scientific evidence.

Learning Objectives

- 9.a. Analyze impact of a physical science issue.
- 9.b. Define physical science.
- 9.c. Determine an issue that relates to physical science.
- 9.d. Define concepts and vocabulary related to physical science issue.
- 9.e. Identify positive consequences of discovery and developments related to physical science issue.
- 9.f. Identify negative consequences of discovery and developments related to physical science issue.
- 9.g. Advocate a position on selected physical science issue.
- 9.h. Provide a rationale for position on selected physical science issue.

10. Analyze current space/astronomical issues.

Assessment Strategies

- 10.1. by making a group presentation on a space/astronomical science issue.

Criteria

Your performance will be successful when:

- 10.1. You clarify a space/astronomical science issue.
- 10.2. You state questions concerning a space/astronomical science issue.
- 10.3. You state assumptions concerning a space/astronomical science issue.
- 10.4. You apply concepts and vocabulary related to your space/astronomical science issue.
- 10.5. You describe the positives of your space/astronomical science issue.
- 10.6. You describe the negative of your space/astronomical science issue.
- 10.7. You state your position on space/astronomical science issue.
- 10.8. You provide evidence to support your position of space/astronomical science issue.
- 10.9. You explain contradictions between your position and scientific evidence.

Learning Objectives

- 10.a. Analyze impact of a space/astronomical issue.
- 10.b. Define space/astronomical science.
- 10.c. Determine an issue that relates to space/astronomical science.
- 10.d. Define concepts and vocabulary related to space/astronomical science issue.
- 10.e. Identify positive consequences of discovery and developments related to space/astronomical science issue.
- 10.f. Identify negative consequences of discovery and developments related to space/astronomical science issue.
- 10.g. Advocate a position on selected space/astronomical science issue.
- 10.h. Provide a rationale for position on selected space/astronomical science issue.