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Wisconsin Indianhead Technical College

10806122 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.
Instructional Level	Associate Degree
Total Credits	3.00
Total Hours	48.00

Types of Instruction

Instruction Type	Credits/Hours
Classroom Presentation (Lecture/Demonstration/Discussion)	3/48

Course History

Revised By	Erin Winesburg (15237468)
Last Approval Date	1/14/2014

Target Population

Fulfills AAS science or math requirement.

Course Competencies

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

Status Active

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. Define the terms concept, testable, principle, law, and model
- 1.b. List ways concepts may be acquired
- 1.c. Explain what an issue is and how issues come into existence
- 1.d. Differentiate between factual scientific information and scientific misconceptions
- 1.e. Describe science concepts in politics
- 1.f. Describe science concepts in economics
- 1.g. Describe science concepts in spirituality
- 1.h. Describe science concepts in the environment
- 1.i. Identify ways in which science influences your life

2. Explain science concepts common to all branches of science

Status Active

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 discrete
- 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 discrete
- 2.c. Interpret numerical and statistical information
- 2.d. Define process
- 2.e. Define a system
- 2.f. Explain positive and negative feedback.
- 2.g. List the different branches of science
- 2.h. Summarize the similarities between the branches of science
- 2.i. Summarize the differences between the branches of science
- 2.j. Differentiate between fact and opinion

3. Summarize critical historical and philosophical concepts of natural science

Status Active

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

4. Determine the relationship between technological improvement and environmental stress *Status Active*

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 various waste disposal processes
- 4.b. Identify beneficial effects of technological improvement
- 4.c. Identify new moral/ethical questions due to technological advances
- 4.d. Examine effects of environmental regulations
- 4.e. Determine political agenda driving an environmental group
- 4.f. Advocate a reasonable balanced environmental policy
- 4.g. Identify how technology and/or technological applications impact the environment

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

Status Active

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 economic indicators
- 5.b. Explain economic ranking of world regions
- 5.c. Explain population growth of world regions
- 5.d. Identify measurement of environmental indicators
- 5.e. Explain technological advancements in world regions
- 5.f. Analyze environmental laws of world regions
- 5.g. Relate economics, population growth, and the environment to each other

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

Status Active

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

Status Active

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. List common life science issues
- 7.b. Define life science
- 7.c. Define concepts and vocabulary related to life science issues
- 7.d. Investigate issues that relate to life science
- 7.e. Identify positive consequences of discovery and developments related to life science issues
- 7.f. Identify negative consequences of discovery and developments related to life science issues
- 7.g. Analyze various positions on life science issues

8. Analyze current earth science issues affecting the environment

Status Active

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. List common earth science issues
- 8.b. Define earth science
- 8.c. Define concepts and vocabulary related to earth science issues
- 8.d. Investigate issues that relate to earth science
- 8.e. Identify positive consequences of discovery and developments related to earth science issues
- 8.f. Identify negative consequences of discovery and developments related to earth science issues
- 8.g. Analyze various positions on selected earth science issues

9. Analyze current physical science issues affecting society

Status Active

Assessment Strategies

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

Criteria

Your performance will be successful when:

- 9.1. you 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. Recognize common physical science issues
- 9.b. Define physical science
- 9.c. Define concepts and vocabulary related to physical science issues
- 9.d. Investigate issues that relate to physical science
- 9.e. Identify positive consequences of discovery and developments related to physical science issues
- 9.f. Identify negative consequences of discovery and developments related to physical science issues
- 9.g. Analyze various positions on selected physical science issues

10. Analyze current space/astronomical issues

Status Active

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. Recognize common space/astronomical issues
- 10.b. Define space/astronomical science
- 10.c. Define concepts and vocabulary related to space/astronomical science issues
- 10.d. Investigate issues that relate to space/astronomical science
- 10.e. Identify positive consequences of discovery and developments related to space/astronomical science issues
- 10.f. Identify negative consequences of discovery and developments related to space/astronomical science issues
- 10.g. Analyze various positions on selected space/astronomical science issues

Course Learning Plans and Performance Assessment Tasks

Type	Title	Source	Status
LP	Impact of Science on My Life Paper	Course	Active
LP	Common Science Concepts Presentation	Course	Active
LP	Historical and Philosophical Concept Presentation	Course	Active
LP	Technological Improvement and Environmental Stress	Course	Active
LP	Progress, Growth, and Stewardship Presentation	Course	Active
LP	Societal Technological Conflicts Presentation	Course	Active
LP	Life Science Issue Presentation	Course	Active
LP	Earth Science Presentation	Course	Active
LP	Physical Science Issue Presentation	Course	Active
LP	Space/Astronomical Issue Presentation	Course	Active
LP	Artifact Position Paper	Course	Active
LP	Scientific Information Assessed and Utilized	Course	Active
LP	Common Concepts of Science	Course	Active
LP	Historical and Philosophical Concepts	Course	Active
LP	Technological Improvement and Environmental Stress	Course	Active
LP	Economic Progress, Population Growth, and Environmental Stewardship	Course	Active
LP	Societal and Technological Conflicts and Course of Action	Course	Active
LP	Life Science Issues	Course	Active
LP	Earth Science Issue	Course	Active
LP	Physical Science Issue	Course	Active
LP	Space/Astronomical Science Issue	Course	Active