

## A. Rationale

An important outcome of the study of *ecology* should be an ability to utilize ecological principles to become better stewards of the *oikos* or “household” of Earth with regard to local and global environmental issues based upon a Scriptural environmental stewardship or “creation care” ethic.

## B. Purpose

Successful completion of this assignment will demonstrate your growing ability to:

1. Acquire Pertinent Information: Draw upon published sources and then resource persons (local residents and/or officials) to obtain information concerning an issue that has ecological, economic, political, and stewardship implications. Identify major ecological concepts and principles as foundation to analyze the issue (see #2.).
2. Analysis and Communication: Analyze the issue with respect to pertinent ecological and stewardship principles. Orally communicate your recommendations in the form of ecological and stewardship solutions supported by your data and appropriate visual media.
3. Interpersonal Skills: Develop a growing sensitivity to others by contributing faithfully as a member of your cooperative learning group in each phase of the study; and exercise respect and tactfulness while conversing with resource persons about potentially sensitive issues.

## C. Selecting a Topic:

1. First, individually review the list of *Oikos* Projects (Part E.), and decide which you would most prefer based upon your personal background and interests. Rank your “top three choices” in order of preference. Turn in a page with your Name and Lab Section, followed by your Rank of preferred topics (1, 2, and 3) and Topic # / topic (e.g. #4/Biofuels).
2. I will form Cooperative Groups of three or four based upon your *individual choices* with consideration also given to *gender*. If you are part of a “collaborative group” that forms during topic selection, effort will be made to preserve the group if it meets criteria above.

## D. Oikos Project Completion Dates:

1. Topic Selection – Due on January 24
2. Proposed Approach as follows: [20 Points, Due on February 28 (earlier if group agrees)]
  - a. Reference List – two or more pertinent references (periodic journal or agency reports). (See Part F.)
  - b. Group Assessment – a paragraph stating your current understanding of the key concepts and principles that must be considered – ecological, economic, political, and scriptural (ethical). Note: This Report should be graded and approved before contacting resource persons so you are informed and sensitive to the issues.
  - c. Questions from your reading on the issue; or, requests for guidance on how to proceed.
3. Outline of Oral Report – sufficient detail to present (20 Points:) the general flow and content of your oral presentation. (See B.) Due on April 13
4. Oikos Report to Ecology Class – See Syllabus dates; specific date to be assigned (60 Points) Report should be 15 min in length; see G. for more details.

E. *Oikos* Topics from Which to Choose:

1. Managing Urban Landscapes for the Well-being of Humans and Other Creatures – CU Campus
2. Alternative Agriculture – Benefits/Drawbacks of Community Supported Agriculture?
3. Natural Areas Preservation – *e.g.* Cedarville Falls/Mound Park
4. Restoration Ecology – Prairie Restoration Site/Prairie Grass Path Habitat Buffering
5. Stream and Riparian Wetland Conservation – *e.g.* Massies Creek Plan
6. Biofuels – Bioethanol and Biodiesel Production – Consultation with Industry/Farmer
7. Biofuels – Redirection of Food/Cooking Wastes – Pioneer Food Service
8. Climate Change and Carbon Sequestration – What Can Greene County Land Use Contribute?
9. Christian Campus Material Resource Management/Recycling – Justifying a Recycling Coordinator
10. Christian Campus Land for Creation Care – Cedar Lake and Creek Project
11. Christian Campus Construction for Creation Care – Biblical Worldview Center; LEED
12. Ecological Answers for an Invasive Animal Species – (*e.g.* Emerald Ash Borer, Asian Beetles)
13. Ecological Answers for Invasive Plant Species – (*e.g.* Garlic Mustard) – Spring Participation
14. Impact of Wastewater Discharge – (*e.g.* endocrine disruptors, antibiotics) – Cedarville Plant
15. Combining Ecological Approaches with Mission Efforts – (*e.g.* Care of Creation, Inc.)
16. Harnessing Molecular Signaling Among Organisms to Replace Chemical Pesticides
17. Battling Malaria While Avoiding Negative Ecological Effects
18. Ecological Impacts of Careless International Trade Policies upon Less Developed Countries

F. Information Sources:

1. Lecture and Laboratory will help to develop a general conceptual and experiential base. Consult your textbook to gain a theoretical base and working knowledge of general concepts and relationships related to your topic. From this, you can also gain “key words” for searches.
2. At appropriate times, I will provide helpful information and resource persons.
3. Periodical articles are located by key words for your topic; use Electronic Databases, etc.
4. Technical Reports are available from local jurisdictional agencies; I will provide contact(s) (See 2.)
5. Resource Persons are your best link to the current information and its application locally. However, you must be ready as a group before consulting individuals. See Part D.2.
6. Service-Learning – You may wish to volunteer an afternoon to work with your resource person or in some way provide service in return; or to simply visit an area representative of your topic and become experientially attuned to the area.

G. Communication to Ecology Class – possible options, not for “razzle-dazzle” but as means to your end:

1. Field Imaging and Interviews – digital camera and/or VCR camera (Library AV Services).
2. Presentation – overhead projection, PowerPoint slides, video imaging, *etc.* as appropriate support
3. Content of presentation – see Part B, 1. and 2. for emphasis of the *Oikos* assignment. A rubric will be provided to highlight specific quality aspects you should address for your presentation.

H. Quality Factors:

1. Avoid procrastination so as to allow unhurried pace and opportunity to become familiar with your topic, connect it to concepts encountered in class/laboratory, and develop a more mature understanding of the considerations involved.
2. Recognize the potential interdisciplinary nature of your topic, different viewpoints and priorities that might be encountered within your group as well as among resource persons, and the need to develop a viewpoint that is consistent with your maturing biblical environmental ethic.
3. Pray for wisdom, insight, and opportunities to engage others in conversation about the topic in a manner that is balanced with sound ecological understanding, biblical and ethical insights, and a tender heart as taught in I Peter 3:15.
4. Believe that your sincere efforts can make a difference not only toward the “creation” but toward others as they observe your concern for what God has made and is coming again to reconcile.