New Course Request

Indiana University

South Bend Campus

Check Appropriate Boxes: Undergraduate credit [x] Graduate credit [ ] Professional credit [ ]

1. School/Division: College of Liberal Arts & Sciences
2. Academic Subject Code: BIOL
3. Course Number: N390 (must be cleared with University Enrollment Services)
4. Instructor: Biology Faculty
5. Course Title: The Natural World
   Recommended Abbreviation (Optional) ____________________________ (Limited to 32 Characters including spaces)

6. First time this course is to be offered (Semester/Year): Fall 2007
7. Credit Hours: Fixed at 3.0 or Variable from ______ to ______
8. Is this course to be graded S-F (only)? Yes [x] No [ ]
9. Is variable title approval being requested? Yes [x] No [ ]

10. Course description (not to exceed 50 words) for Bulletin publication:
    ______________________________________________________________________
    P: One college level biology course. Explores an important scientific or technological issue in modern society. Applies scientific methods and interdisciplinary perspectives in an examination of the subject. Investigates the broader implications and ethical dimensions of scientific research and technological advancement.
    ______________________________________________________________________

11. Lecture Contact Hours: Fixed at ______ or Variable from 2 to 3
12. Non-Lecture Contact Hours: Fixed at ______ or Variable from 0 to 2
13. Estimated enrollment: ______ of which ______ percent are expected to be graduate students.
14. Frequency of scheduling: once per year
15. Will this course be required for majors? No
17. Are the necessary reading materials currently available in the appropriate library? Yes
18. If this course overlaps with existing courses, please explain with which courses it overlaps and whether this overlap is necessary, desirable, or unimportant.
19. A copy of every new course proposal must be submitted to departments, schools, or divisions in which there may be overlap of the new course with existing courses or areas of strong concern, with instructions that they send comments directly to the originating Curriculum Committee. Please append a list of departments, schools, or divisions thus consulted.

Submitted by:

Department Chairman/Division Director

Date 9/8/06

Approved by:

Chancellor/Vice-President

Date 10/13/06

Dean of Graduate School (when required)

University Enrollment Services

After School/Division approval, forward the last copy (without attachments) to University Enrollment Services for initial processing, and the remaining four copies and attachments to the Campus Chancellor or Vice-President.

UPS 724

University Enrollment Services Final—White; Chancellor/Vice-President—Blue; School/Division—Yellow;
Department/Division—Pink; University Enrollment Services Advance—White
Natural World - Environmental Biology (N390)
Tentative Syllabus

Instructor: Deborah Marr, Ph.D.
Northside 132D
520-5564, dmarr@iusb.edu

Course Description:
Natural World - Environmental Biology is a 3-credit course that focuses on the interactions of humans with other elements of the biosphere with emphasis on population, community, and ecosystem levels of ecology. Credit is not allowed toward a biology major.

Prerequisites
Minimum prerequisites include one semester of University-level Biology (such as L100, L101, L102 or equivalent). Background in algebra, exponents, and logarithms will be helpful, although we will review the concepts needed to understand specific problems. Please talk with me if you are not sure whether you have met these requirements.

Introduction to the course:
Some of the most perennial challenges humans face are environmental issues - how should we use resources, how do our actions affect other species, and how do our actions affect the long-term availability of resources. Not surprisingly, environmental issues cross many disciplines including all fields of science, humanities, arts, business, and politics. In this course we will study environmental issues from primarily a biological perspective, but we will use readings from a variety of sources including book chapters, science journals, government reports, and newspaper articles to consider connections between biology and other disciplines.

Three themes that stem from basic principles of ecology are central to all environmental issues. These themes are:
(1) the movement of energy and matter in ecosystems (ecosystem ecology),
(2) factors that affect the growth and decline of populations (population ecology and community ecology), and
(3) the role of history and resource needs of individuals in the distribution and abundance of species (population and ecosystem ecology).

We will study these ecological principles in the context of case studies that concern land use, use of resources, methods of agriculture, and biodiversity. We will also cover some techniques used in studying human impact on the environment and you will have some hands-on practice working with these techniques.

Text and Readings:
One book is required and is available in the bookstore.

Other required readings will be placed on reserve in the Schurz Library. Some articles will be available over the web. I consider all of the reading assignments to be an integral part of this course and we will be discussing many of the reading assignments in class. Your participation is important. You are expected to be in class, and to be prepared to discuss these readings.
Assignments and Exams:
Your grade will be based on the following components: in-class exams, discussions and critiques of readings, a community project, one Environmental Issue paper, and in-class assignments. Indiana University's policies regarding cheating and plagiarism applies to all work in this course (see Code of Student Rights, Responsibilities, and Conduct).

Exams:
There will be three exams and a cumulative final covering lecture and discussion material. The first three exams are worth 100 pts each and the final exam is worth 150 points. Missing an exam will result in a zero grade for that exam, unless you have made arrangements with me prior to the exam. Make-up exams will only be given under strongly extenuating circumstances, such as a serious illness that is properly documented by a physician. If you are unable to take an exam for such a reason, contact me immediately, BEFORE the exam, or as soon as you are physically able.

Discussions and critiques of reading:
Participation in discussion is encouraged during our lecture meetings, and it is required during discussions. Each discussion is worth 10-15 pts (5-10 pts for preparation and 5 pts for participation).

Your preparation grade will be based on assigned questions or a brief outline of three major points made in the article and questions for discussion. The preparation assignment will be due at the beginning of discussion.

Participation will be based on your attendance and contribution to the discussion. Discussion is worth a total of 75 pts of your grade. A description of discussion guidelines for expectations and grading rubric will be provided in a separate handout.

Environmental Issue Summary/Critique:
Your assignment is to research and write a 4-5 page (double-spaced) paper on an Environmental Issue of your choice. Your paper needs to (1) explain at least two sides to this issue, (2) explain the basic biological principles that relate to this topic, and (3) discuss a possible solution or application of this topic.

The purpose of this assignment is to give you an opportunity to investigate in more depth an Environmental Issue that fascinates you. This paper is not a summary that simply lists what is known. I am looking for evidence that you have gone beyond what you have researched and provided an original contribution. The paper is worth 100 pts and will be due the first week of April. More details regarding paper format will be provided in a separate handout.

In-class Assignments:
There will be several in-class assignments covering topics such as role of microbes in soil nutrient cycling, water sampling techniques, and tree identification. These assignments will consist of either answering questions or taking a quiz and will be worth a total of 30 pts.

Community Project:
You are required to participate in one event that relates to the Ecology or an Environmental issue in the local region. More details on this assignment will be discussed in class. This assignment is worth 40 pts. Your grade will be based on a written summary of the event (some background on the event, what you did, what you learned).
SUMMARY OF ASSIGNMENTS FOR N390

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
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<tbody>
<tr>
<td>3 Exams (100 pts each)</td>
<td>300 pts</td>
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<tr>
<td>Final Exam</td>
<td>150 pts</td>
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<tr>
<td>Environmental Issue paper</td>
<td>80 pts</td>
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<tr>
<td>Discussions</td>
<td>75 pts</td>
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<tr>
<td>In class assignments</td>
<td>30 pts</td>
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<tr>
<td>Community project</td>
<td>40 pts</td>
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<tr>
<td>Total</td>
<td>675 points</td>
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Grades will be assigned based on your percentage of the total possible points. The grading scale is A= 90-100%; B = 80-89%; C = 68-79%; D = 55-67%; F < 55%. Plus and minus grades will be assigned.

Keep in Mind – You are responsible for the work you do (or do not do) in this course. If you miss class, it is your responsibility to obtain handouts, assignments, and catch up on missed material. The course schedule is the best forecast of the semester. However, circumstances that arise during the semester may result in changes. Changes will be announced in lecture. You are responsible for knowing the information in the syllabus and schedule, and for noting any changes announced in class.

DISABILITIES NOTE:
If you have a disability and need assistance, special arrangements can be made to accommodate most needs. Contact Eric Wagenfeld, Director of Disabled Student Services (Administration Building, room 149, telephone number 520-4832), as soon as possible to work out the details. Once Mr. Wagenfeld has provided you with a letter attesting to your needs for modification, bring the letter to me.

RELIGIOUS ACCOMMODATION:
If you will require academic accommodations for a religious observance, please provide me with a written request to consider a reasonable modification for that observance by the end of the second week of the course. Contact me after class, during my office hours, or by individual appointment to discuss the issue. If after discussion we reach no consensus, either party or both should seek the advise of the Dean, and if no consensus is reached, then the advice of the Vice Chancellor of Academic Affairs (“VCAA”). Either the instructor or the student may appeal the VCAA’s decision to the Office of Affirmative Action within ten business days of the determination.
# Sample Schedule for Natural World - Environmental Biology (N390)

<table>
<thead>
<tr>
<th>Dates</th>
<th>Lecture Topics</th>
<th>Reading Assignment</th>
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<tbody>
<tr>
<td>Jan 9</td>
<td>Introduction to Ecology and Environmental Science</td>
<td>Ch. 1</td>
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<td></td>
<td><strong>Community and Ecosystem Concepts</strong></td>
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<td>11</td>
<td>Scientific Method, Principles of Matter, Energy</td>
<td>Ch. 1, 2</td>
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<td>16</td>
<td>Martin Luther King Holiday</td>
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<td>18</td>
<td><strong>Ideas of Nature and Humans</strong></td>
<td>Reading on Reserve</td>
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<tr>
<td>23</td>
<td>Food webs and Tundra ecosystems</td>
<td>Ch. 2</td>
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<tr>
<td>25</td>
<td>Biomes</td>
<td>Ch. 5, pp. 95-107</td>
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<tr>
<td>30</td>
<td>Ecosystems and Disturbance</td>
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<tr>
<td>Feb. 1</td>
<td><strong>Arctic Wildlife Refuge (Presentation of Arguments)</strong></td>
<td>Reading on Reserve, research</td>
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<tr>
<td>6</td>
<td>EXAM 1</td>
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<td>8</td>
<td>Community Project Planning Day</td>
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<td></td>
<td>(Dr. Marr at NSF panel)</td>
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<tr>
<td>13</td>
<td>Population and Community Ecology</td>
<td>Ch. 3</td>
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<td>15</td>
<td>Species ranges and physiological limits</td>
<td>Ch. 3,4</td>
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<tr>
<td>20</td>
<td>Population Ecology</td>
<td>Ch. 3</td>
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<td>22</td>
<td>**Invasive Species</td>
<td>Reading on Reserve</td>
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<td>Feb. 25-March 5</td>
<td>Spring Break</td>
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<td>March 6</td>
<td>Agriculture and Soils</td>
<td>Ch. 7</td>
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<td>8</td>
<td>History of Agriculture</td>
<td>Ch. 7</td>
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<tr>
<td>13</td>
<td>Soil Ecology</td>
<td>Ch. 7</td>
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<tr>
<td>15</td>
<td>Soil Ecology lab</td>
<td>Ch. 7</td>
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<tr>
<td>20</td>
<td>Sustainable Agriculture</td>
<td>Ch. 7</td>
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<tr>
<td>22</td>
<td>EXAM 2</td>
<td>Reading on Reserve</td>
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<tr>
<td>27</td>
<td>Forests</td>
<td>Ch. 6</td>
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<tr>
<td>29</td>
<td>Deforestation</td>
<td>Ch. 6</td>
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<tr>
<td>April 3</td>
<td>**Fire Ecology</td>
<td>Reading on Reserve</td>
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<td>5</td>
<td>Tree lab</td>
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<tr>
<td>10</td>
<td>Water - Rivers, Wetlands, Watersheds</td>
<td>Ch. 10</td>
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<tr>
<td>12</td>
<td>Nonpoint and point sources of pollution</td>
<td>Ch. 10</td>
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<tr>
<td>17</td>
<td>Water lab</td>
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<td>19</td>
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<tr>
<td>24</td>
<td>Global climate change</td>
<td>Ch. 9</td>
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<tr>
<td>26</td>
<td>**Global climate change</td>
<td>Reading on Reserve</td>
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<tr>
<td>May 3</td>
<td>FINAL EXAM - Northside 125</td>
<td>Wednesday, 4:00 - 6:00 pm</td>
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Chapters and page numbers refer to the Textbook
Additional reading assignments will be put on reserve in the library
**Indicates class discussion assignment**
Sample Discussion Assignment

Drilling in the Arctic National Wildlife Refuge (ANWR) Discussion

Drilling in ANWR is one of the most polarized issues in United States environment and energy politics. Not surprisingly, the issue is complex and requires background in many areas to understand the details of arguments for and against drilling in the Arctic Wildlife Refuge. For example, a few areas of expertise that are central to the ANWR debate include oil-drilling technology, geology, chemistry, climate change, tundra ecology, ecotoxicology of oil, animal behavior, culture of native people, and energy policy. The purpose of this discussion is to pull together information from many of these areas and reach a deeper understanding of the benefits and costs of drilling for oil in ANWR.

In class on Jan. 23 you will be assigned one topic to research in more depth. You are responsible for putting together a list of specific points that highlight the pros and cons of your specific issue. Put together the strongest argument you can for both pros and cons (or knowns and unknowns) for your specific topic. Include a list of 4 references that you used to put together this information. It is okay to use websites.

DUE AT THE BEGINNING OF CLASS ON FEB. 1 (10 PTS)
- State your specific topic and summarize the major pros and cons (or knowns and unknowns).
- Cite all references you used in researching this topic (minimum 4 references). Rank these references from most useful to least useful (include brief reason why useful or not). Suggestions for references are provided below. You are free to use references other than what is listed below.

In class on Feb. 1 - you will have time to coordinate with people who researched the same topic as you. Together you will coordinate your information and present your position to the class.

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Topics (You will be assigned to focus on ONE of these topics)
It is okay to focus on a subset of issues within each topic.

1. Effect of oil drilling on wildlife
   - What types of wildlife are at greatest risk? least risk?
   - What are the known impacts? Unknown impacts?

2. Technology of drilling and Energy benefits of drilling
   - Assess impact of developing ANWR and drilling for oil
   - Pay attention to water and climate issues
   - How much oil is available?
   - How much will this contribute to energy needs of United States?
   - How does ANWR fit into the United States Energy policy

3. How will drilling in ANWR affect people?
   - Native people (Inuit and Gwichin)
   - Alaskans
   - People in other states or countries (e.g. Venezuela)

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Suggested places to look for additional information

Effect of oil drilling on wildlife
  a) Cooper, Mary H (January 17, 1992) Oil Spills: increasing U.S. dependence on oil imports heightens risks to environment. Congressional Quarterly Researcher.
Review article of impact of oil spills on wildlife (strong on history of oil exploration and how impacts have changed as technology of oil marketing has changed).

Where to find: Library webpage, choose Reference and Research; Under "To look for Reference Sources" - choose CQ Researcher. Click on CQ REsearch on web page, then type in title of article in the search box. This should pull up article.


Review article on short-term and long-term (12 years) effects of oil spills on wildlife in Prince William Sound, Alaska. Presents research on how some of the effects of oil spills were not predicted when Exxon Valdez oil spill occurred in 1989. This article is more technical in language. PDF file available on Oncourse.

Technology of drilling and Energy benefits of drilling

a) Pelley, Janet (June 1 2001) Will drilling for oil disrupt the Arctic National Wildlife Refuge? Environmental Science and Technology v 35 p. 240A-247A

This article is written from the perspective of technological impacts of drilling (more of an industry perspective). Good explanations of how the land would be developed and how drilling technology would impact land. There is also some information on types of wildlife at risk from drilling. Available in Schurz library.


Explanation of how changes in climate are affecting length of oil drilling season.
Where to find: Library webpage, choose Reference and Research, Under "To look for Articles" - choose Lexis-Nexis Academic. Type in title of article and should be able to pull up article.

How will drilling in ANWR affect Native people


Provides some information on perspectives of native Alaskan groups. Available from EBSCO Host.

Websites that provide a series of articles on many issues with ANWR. Pay attention to the organization that is posting the articles. Some good information, but pay attention to distinguishing between well-supported arguments, weak arguments, and 'spin' of information.

Pro-Drilling website (National Defense Council)
http://www.anwr.org/

Anti-Drilling website (Defenders of wildlife)
http://www.savearcticrefuge.org/leammore.html

Website organized by Norman Chance, Professor at University of Connecticut
Provides links to both pro and con sites and some historical background on the issue.
http://arcticcircle.uconn.edu/ANWR/anwrdebateindex.html

Ecological Society of America position paper (short statement made by Ecological Society that was presented to U.S. Congress on drilling in ANWR)
http://www.esa.org/bao/esaPositions/Statements/ArcticNationalWildlifeRefuge.php
Sample Guidelines for the Environmental Issue Essay
N390

Assignment:

Your assignment is to research and write a 5-6 page (12 point font, 1.5 line spaced) essay on an Environmental Issue of your choice. Your paper needs to (1) explain at least two sides to this issue, (2) explain the basic biological principles that relate to this topic, and (3) discuss a possible solution or application of this topic.

The paper is worth 100 pts and will be due April 10.

The purpose of this assignment is to give you an opportunity to investigate in more depth an Environmental Issue that fascinates you. Your topic cannot be the same as another paper you may be writing for another course (either past or present). I am expecting that your paper will synthesize both primary and secondary literature AND provide an interpretation or evaluation of this subject. In other words, this is not a summary that simply lists what is known. You must go beyond what you have researched and provide an original contribution. Your contribution may take the form of comparing/contrasting studies, addressing a question you have formulated (using published work to explore the validity of your hypothesis), evaluating the strength of evidence for a particular idea, suggesting new directions of research that may provide new insights into an issue, or reevaluating available evidence and providing an original interpretation. Writing style should be concise. Papers will be graded with respect to content, organization, insight, clarity, and writing (grammar, spelling, and flow) – see grading criteria listed at end.

A minimum of 8 references should be properly referenced in the body of the paper, and a full citation for each reference listed in a literature cited section. You must cite at least one reference from scientific primary literature and use this reference to develop a point in your paper. Other references can be from secondary scientific literature, governmental documents, agency documents, or high quality newspaper articles such as Science articles in the New York Times. Internet sources that have the suffix .gov or .org may be okay. You cannot use Internet sources that are simply posted with no formal review process (ask me if you are not sure).

Deadline Policy:
1. You are encouraged to turn in a draft of your paper. The latest date that I will accept drafts is March 27.

2. The final version of your paper is due April 10 at the beginning of class. This will be worth 100 points. 2 points will be deducted for papers turned in after class, and 5 pts will be deducted for each day the paper is late. A class incomplete will not be given for failure to turn in a paper.

Getting Started

Choose a topic that truly interests you. Pay attention to the scope of your question; topics that are too broad become unwieldy and topics that are too narrow make it difficult to gather adequate information.

Finding a topic:
Places to look for ideas

- Cunningham and Cunningham - Environmental Science (your text)
N390 - Environmental Biology

Possible topics
1. Are American views of wilderness appropriate conservation strategies for other countries? (Evaluate impact of the India National Park system on wildlife and people)
2. Effect of urban structure on communities on emerging diseases (examples: Hanta virus, SARS, HIV, Lyme disease)
3. Invasive species
4. Forest Ecology
   The effect of road building on forest communities.
   Impact of proposed I-69 highway on Hoosier National Forest
   Forest fragmentation and population dynamics of neotropical migrant birds.
5. Wetland Ecology
6. Genetic Engineering of crops
7. Issues in Sustainable Agriculture (e.g. biological control of pest species, soil conservation)
8. Desertification (Water wars)
9. Effect of endocrine disrupters on wildlife
10. Paper Issues (sources of pulp, paper usage, impact of recycling)
11. Air quality issues
12. Energy Issues
13. Management of herbivores such as deer
14. Reintroduction of predator species such as wolves
15. Fisheries Management
16. Oceanic resources
17. Urban Ecology
18. Lake Michigan or Great Lakes Ecological issues

Once you have found a topic of interest use secondary sources such as your textbook, book chapters, and review papers (a few examples are listed below) to get a general background on the topic. Once you have developed a question or issue that you want to address, then gather research articles from the primary literature. Using the primary literature is important because this is where the 'real' data is presented. **You want to develop your own synthesis of the subject, not parrot someone else's interpretation.**

Journals with review papers
- Annual Review of Ecology and Systematics
- BioScience
- Ecology (some issues have conceptual papers and reviews of emerging issues)
- Quarterly Review in Biology
- Scientific American
- Trends in Ecology and Evolution

Some scientific journals with Primary literature in Ecology and Conservation Biology

<table>
<thead>
<tr>
<th>Journal</th>
<th>Publication</th>
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<tbody>
<tr>
<td>Animal Behavior</td>
<td>Nature</td>
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<tr>
<td>Conservation Biology</td>
<td>Oecologia</td>
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<td>Ecological Applications</td>
<td>Oikos</td>
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<td>Ecology</td>
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<td>Ecological Monographs</td>
<td>Proceedings of the National Academy of Sciences</td>
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<tr>
<td>Evolution</td>
<td>Science</td>
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Electronic databases (most efficient way to locate references)

1. IUCAT - Indiana University Library Catalog
   - use to find books on a subject
   - look up journal titles to find location in library or online link

2. Research Databases
   a. EBSCO host
      - some scientific journals are available with full-text. It is best to do your searches in the scientific databases, then check EBSCO host to see if the article you want is available online.
   b. Cambridge Scientific Abstracts
      - Great source of primary literature and review articles
      - database contains articles from approximately (1980 - early 2005)
      - Note: Biological Sciences is simply a subset of the databases available in Cambridge Scientific Abstracts
   c. General Science Index
      - Contains articles from both popular (Discover, National Geographic) and general science journals (Nature, Science)
      - Good source of general background information and review articles
   d. Web of Science (choose Sciences database)
      - Great source of primary literature and review articles
      - database contains more articles from approximately (1995 - 2005)
   e. JSTOR Journal Archives (choose Botany, Ecology, and General Science categories)
      - Good source of primary and review literature in General Science, Plant Sciences, and Ecology
      - Archive contains articles from early 1900s to 2001
      - Can access full article online
   f. Ingenta (choose Biology and Life Sciences Section)
      - Great source of primary literature and review articles
      - database contains more recent articles from approximately (1980 – 2005)

Also check Government publications link from Schurz Library databases and Lexis-Nexis (historical archive of newspapers).

Going to the specific web site for a particular journal can also be a good way to find 'hot off the press' articles. Usually you can access an abstract and sometimes the whole article for older issues. Science and PNAS have particularly good web search engines.

Science [http://www.sciencemag.org](http://www.sciencemag.org)

The librarians (Rosanne Cordell and other reference librarians) are a great resource for getting advice on how to search a particular topic and use the databases most efficiently.
Organization and Format for Paper

Note: The article "Surprises and Lessons from the 1988 Yellowstone Fires" by Turner et al. (2003) is a good model for this assignment in terms of writing style and summarizing data from primary and secondary literature. This article will be available on Oncourse.

The following approach works well for most topics.

Introduction
Define the main question you are addressing and indicate why this topic is of interest, controversial, or of concern. Provide a brief outline of the organization of the paper.

Review and Synthesis
Develop the major themes of your paper. Present the arguments and supporting evidence that are central to your topic. Cite each author's work and explain his or her contributions to the field. Make a distinction between opinions and hypotheses (hypotheses that have been tested and those that need to be tested). Is there more evidence or stronger evidence for one side of the issue compared to another side of the issue? The "application" section of your paper should be developed in this section of the paper (propose possible solutions, how could you use this issue in the field of education, or critiquing the type of scientific information that is needed to better understand the issue).

***Headings are useful in structuring the body of your paper.***

Conclusion
Summarize the key points you want to emphasize to the reader. Connect your conclusions to the main thesis of your paper.

Format for literature citations

We will follow a citation format that is common to scientific papers. There are two parts to citing literature and your paper must have both. Do not use footnotes.

(1) In the body of the text an abbreviated citation is used each time you use a source other than your own idea. Only the author’s last name and year of publication is provided in the text. Do not use footnotes.

One author: (Doebley 1992) or according to Doebley (1992)...
Two authors: (Balick and Cox 1997) or Balick and Cox (1997) were the first to...
More than two authors: (Heun et al. 1997) or Heun et al. (1997) show that...
If no author, then site organization: (Department of Natural Resources 1998)

(2) At the end of your paper a complete citation for each reference cited in the text is listed in alphabetical order by author's last name.

Journals


N390 - Environmental Biology

Books or chapters in books
Darwin C (1882) The formation of vegetable mould through the action of worms. D. Appleton, New York, NY, USA.


Governmental publications

Internet sources
Author (year) Title. website address (date site accessed).
.gov and .org, sources may be okay to use as formal sources - check if you are not sure

Author (year) Title. website address (date site accessed).

Writing resources
If you do not already own a copy of Strunk and White - consider the investment. The IUSB Writing Center is also a good resource for feedback on the mechanics of writing.


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<tr>
<th>Environmental Issue Paper – Grading Guidelines</th>
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<tbody>
<tr>
<td><strong>Title</strong></td>
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<tr>
<td><strong>Introduction</strong></td>
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<td><strong>Review and Synthesis</strong></td>
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