Environmental Science
BIO 220 - 11B 20062 (3 credits) Internet-based
Fall 2006

Instructor: Professor Greg Koehler
Address: Ivy Tech State College – Region 2
220 Dean Johnson Blvd, South Bend, IN 46601
E-mail: gkoehler@ivytech.edu (USE EMAIL!)
Phone: 574-289-7001 (NOT a good way to reach me)
Office Hours: not applicable
Delivery: Internet lectures/explorations, discussions, quizzes and final exam
Computer Type: IBM with Microsoft Office
Prerequisites: ENG 025, 032 and MAT 044 and basic computer skills
Text Book: “Explorations in Environmental Science”, Koehler (See explanation below)
Course Site: Blackboard via Campus Connect (http://cc.ivytech.edu/cp/home/loginf)
Supplements: None
Materials: Access to a very reliable Internet service provider (either your own at home or one that you can use at a library or college campus; Internet Browser (like Internet Explorer) and some kind of word processor (like MS Word or WordPerfect)

COURSE WORK AND STUDENT RESPONSIBILITY
This syllabus explains how to successfully complete the expectations of the course. The work that you will submit as a contribution toward your final grade includes:

  Discussions
  Quizzes
  Final Exam

It is very important that you read this syllabus so that you will know how to access these assessments, when to submit them and what my expectations are.
NOTE: there is a heavy and complete responsibility on the part of the student to follow the course instructions faithfully week by week, including intensive reading, effective study habits, quiz-taking and discussion. The “book” used for this course is actually a CD-ROM. It is unique and perhaps new to you in that it encompasses the book, the lectures and workbook all in one package.

Students must have sufficient computer literacy to access Blackboard and Internet sites, use a CD-ROM and download additional software if needed. This course is designed to allow a student to study Environmental Science wherever there is a Pentium computer and the Internet. Obtaining a passing grade is entirely up to the individual – but the course is designed to be within the capabilities of any student who has the minimum prerequisite requirements to take the course.
Time commitment: It will vary depending on your learning style. A good estimate would be about one hour per day of reading, discussion participation and quiz taking.

**COURSE DESCRIPTION:** Survey of the basic concepts of ecology, natural resources and ecosystems, relationships between humans and their natural environment, and the magnitude and scope of global environmental problems.

**MAJOR COURSE LEARNING OBJECTIVES:** Upon successful completion of this course the student will be expected to:
1. Understand environmental problems and their causes.
2. Provide examples of the history of resource use and conservation.
3. Understand the types and concepts of matter and energy in ecosystems.
4. Describe ecosystems and how they work and interact.
5. Understand population dynamics.
6. Describe the concepts of global warming and ozone loss.
7. Understand energy efficiency, renewable and non-renewable energy.
8. Understand the chemistry of air and air pollution.
9. Understand the chemistry of water and water pollution.
10. Compare world food resources and alternatives.
11. Compare and contrast environmental worldviews.
12. Compare and contrast environmental ethics and sustainability.

**COURSE CONTENT:** Topical areas of study include --
- Environmental problems
- Energy types and concepts
- Environmental history
- Chemistry of air
- Matter and energy principles
- Chemistry of water
- Ecosystems
- Food resources
- Population
- Environmental worldviews
- Greenhouse effect
- Environmental ethics
- Ozone layer
- Environmental sustainability

**IVY TECH STATE COLLEGE VIRTUAL LIBRARY**
For students on- and off-campus, the Virtual Library offers full text journals, books, and other resources essential for completing course assignments. Go to Campus Connect and choose the Library link.

**ADA STATEMENT**
If you need an accommodation because of a documented disability, you are required to register with Disability Support Services at the beginning of each semester. If you will require assistance during an emergency evacuation, notify your instructor immediately. Look for evacuation procedures posted in your classrooms. In South Bend, call Cathy Cassady, (574) 289-7001, ext 5340. Her office is in 1213 (in the Learning Lab) on the South Bend campus. Similar contacts reside at other Ivy Tech campuses.

**GENERAL EDUCATION OUTCOMES**
Ivy Tech State College is committed to graduating students who have the appropriate technical and general education skills. General Education skills are assessed in selected courses through an authentic assessment project to evaluate curriculum effectiveness.
# Course Schedule

<table>
<thead>
<tr>
<th>Weeks:</th>
<th>Guided Exploration</th>
<th>Assessments (The time for due dates is midnight of that date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 &amp; 2</td>
<td>Introduction</td>
<td><strong>Discussion 1 (Intro)</strong> – one submission by Sept 4</td>
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<tr>
<td></td>
<td></td>
<td><strong>Send instructor an email</strong> - due Sept 4</td>
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<td></td>
<td></td>
<td><strong>Quiz 1 – Intro</strong> Submitted by Sept 4</td>
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<tr>
<td>3</td>
<td>Science Basics</td>
<td><strong>Quiz 2 – Science</strong> Submitted by Sept 11</td>
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<tr>
<td>4</td>
<td>Resources</td>
<td><strong>Discussion 2</strong>: Original by Sept 14; Reply by Sept 18</td>
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<tr>
<td>5 &amp; 6</td>
<td>Energy</td>
<td><strong>Discussion 3</strong>: Original by Sept 21; Reply by Sept 25</td>
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<tr>
<td></td>
<td></td>
<td><strong>Quiz 3 – R &amp; E</strong> Submitted by Oct 2</td>
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<tr>
<td>7</td>
<td>Ecosystems</td>
<td><strong>Discussion 4</strong>: Original by Oct 5; Reply by Oct 9</td>
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<td></td>
<td></td>
<td><strong>Quiz 4 – Ecosystem</strong> Submitted by Oct 9</td>
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<tr>
<td>8 &amp; 9</td>
<td>Populations – Human and Non-human</td>
<td><strong>Discussion 5</strong>: Original by Oct 12; Reply by Oct 16</td>
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<td></td>
<td></td>
<td><strong>Quiz 5 – Populations</strong> Submitted by Oct 23</td>
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<tr>
<td>10</td>
<td>Toxicology and Risk</td>
<td><strong>Quiz 6 – Toxics</strong> Submitted by Oct 30</td>
</tr>
<tr>
<td>11 &amp; 12</td>
<td>Water Resources and Pollution</td>
<td><strong>Discussion 6</strong>: Original by Nov 2; Reply by Nov 6</td>
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<td></td>
<td></td>
<td><strong>Quiz 6 – Water</strong> Submitted by Nov 13</td>
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<tr>
<td>13</td>
<td>Air Pollution</td>
<td><strong>Discussion 7</strong>: Original by Nov 16; Reply by Nov 20</td>
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<td></td>
<td>Thanksgiving Break</td>
<td></td>
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<tr>
<td>14 &amp; 15</td>
<td>Climate Change and Ozone Loss</td>
<td><strong>Quiz 7 – Air</strong> Submitted by Dec 4</td>
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<tr>
<td>16</td>
<td></td>
<td><strong>Final Exam – no late work accepted</strong> Submitted by midnight Dec 14</td>
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The course “textbook” is called “Explorations in Environmental Science”. This is offered as a CD (version 4.1a) which can purchase from the Ivy Tech Bookstore. It is also offered ONLINE (sign up by clicking here). First of all, you may purchase EITHER the CD or the ONLINE version. They are essentially the same.

However... The content revolves around web pages on the Internet. As you know from surfing the Internet, web page addresses and content change over time. Therefore, if you use the CD version you will encounter some broken links (web pages that no longer have the web address they had when the CD was produced. I have tried to identify those broken links and make note of those as we go. I probably won’t get them all. The ONLINE version is designed to be more fluid and changes as the web pages change. So, the idea with the ONLINE version is that there will be much fewer broken links (and hopefully less frustration).

So, I leave it up to you.

**GRADING**

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Number</th>
<th>Each worth of Final Grade</th>
<th>Total worth of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes</td>
<td>1, 2, 5, 6</td>
<td>4.5%</td>
<td>18%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>3, 4, 7, 8</td>
<td>8.5%</td>
<td>34%</td>
</tr>
<tr>
<td>Discussions</td>
<td>7</td>
<td>4%</td>
<td>28%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>1</td>
<td>20%</td>
<td>20%</td>
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</tbody>
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**SCALE:** A 90 – 100%; B 80 – 89%; C 70 – 79%; D 60 – 69%; F below 60%

**COMMUNICATION**

Please Email me with concerns or questions. I have had students successfully argue their answer on a quiz that was marked incorrect (you need to have some good reasoning). If you change email addresses throughout the course, make sure I have the updated version.

*While an immediate response is desired, I usually respond to emails within 1-3 days. Therefore, do not expect an immediate answer or action. It pays to do your work as early as possible and not let yourself be in a crunch for time. Except for certain extreme cases, it is your responsibility to submit your work prior to the due date.*

Also, please include your name in the body of your Email. Sometimes, I can’t tell who you are just by your Email address. I generally ignore emails that do not have student names within the body of text.
“Lectures”
Students will need to follow the Course Calendar above. Students are expected to check Blackboard on a regular basis and look for any changes that might occur. The term “Lectures” is definitely different than what one might be used to in a conventional classroom setting.

In Blackboard, when you click the “Lectures” button, you will see an announcement – READ it! You need to click on the tiny triangle next to the page number and that will advance you to the quiz (see below). The announcement will direct you to the appropriate section on the course CD Explorations in Environmental Science. This CD is a compilation of Guided Explorations (GE’s). It is the student’s responsibility to work through the material.

Note: the due dates are the latest one can submit a quiz. This does not prevent you from working ahead (encouraged). However, the nature of the discussions does not allow for “working ahead” (see below).

Tips for GE’s
- Thoroughly answer all questions. These are only for you - you will not turn them in.
- Use the online material provided. There are many outside links. In many cases, you don’t need to read everything on the outside links. Use the Questions to guide your reading.
- I advise against printing out everything. If you do, it will be a huge expenditure of paper – a cost that you should not incur and an action contrary to the environmental ethic this course tries to foster.
- Keep hard copies of your questions and answers. Yes you may use them as a resource for the quizzes.
- After visiting an outside link make sure you come back to the Guided Exploration – try not to go surfing at this point.
- Make Connections!! Don’t simply try to memorize facts.

Discussions (Online)
In order to fulfill the necessity for personal interaction in learning, we will have on-line discussions.

Directions for Discussing in Blackboard
Note: See an explanation of how to participate in the online discussions – “Group Discussion Board Forums” under “Important Info” in Blackboard.

Course guidelines for the Discussions:
- Due dates are firm. No points will be given for submissions after the due dates.
- In general, each discussion requires each student to submit an original “thread” AND a reply to another group member’s submission. The first discussion (introduction) is the exception – only the original thread necessary.
- Regardless, I expect a discussion of substance – no personal jabs and no political rants. Please back up your statements with evidence – from a reliable source.
- ORIGINAL THREADS: Try very hard to construct and submit your original thread before you read the other group members’ threads. Length should be comparable to a half of a regular type page (I won’t be counting words, just use common sense). It should be obvious that you spent some time researching and thinking about the issue. You do NOT always need to come off as the environmental guru. Playing devil’s advocate can make a discussion interesting.
• **REPLIES:** After you have submitted your original thread AND read the other threads, reply to at least one of them in your group. A reply to a thread should be more than agreeing with everything in an original thread, complementing the submission or simply restating everything. I want to see additional points, corrections, or constructive criticisms. Length is typically shorter than original threads, but with substance.

• You are welcome to continue discussions throughout the course.

**QUIZZES (ONLINE)**

Quizzes will assess your understanding of the material from the relevant Guided Exploration. Quiz questions will specifically address knowledge and concepts from the Guided Exploration. **In a nutshell, if you put a good effort into answering (correctly) the questions in the guided explorations, you should do well on the quizzes.**

Quizzes are not simply a rewording of exploration questions. You should understand the material well enough to apply it toward a new problem solving-type scenario.

**Directions for Quizzes in Blackboard**

Note: See also, the general information under “Important Info” in Blackboard

1. You can access the online quizzes on the within the Lecture Page of Blackboard.  
   - As noted above in Lectures, you will need to click on the little triangle to advance from the announcement to the quiz (and in some cases, from quiz 1 to quiz 2... )
   - Read the information and then click on the quiz name – which is a link to the actual quiz.

2. You have THREE very important CONSTRAINTS:
   - **The quiz that you submit must be YOUR individual work. By submitting the quiz, you affirm that you did not use any living resources** (that means you may use YOUR answers to the guided explorations, but you may NOT get help from anybody else – in the class, or otherwise) or any product of a previous offering of this course.
   - **You only get one chance. When you click the quiz link, the system will ask you if you’re really ready to take the quiz. If you click “OK”, you cannot leave that site and come back. You must keep that window open, and complete all questions in one sitting.**
   - **Submit before the due date. You’ll have one week beyond the due date for half credit. Beyond one week it will be a zero.**

3. Click when you have completed the quiz.
4. Come back at least on week later to view the correct answers.

**QUIZ TIPS**

- Make sure that you have a GOOD internet connection. You will have a big problem if your internet service frequently kicks you off.
- Do not click the BACK button on your browser. When finished, click the button.
- Go into the quiz prepared. If you plan on using (nonhuman) resources, have them organized and ready.
- Try not to wait until the very last minute to submit the online quizzes. In general, technological problems will NOT be an excuse for not doing the quiz.
- When submitted, go to “Grades”. Make sure that you do NOT have a padlock symbol for the assessment score. If you do, you were not successful in submitting – EMAIL ME! If there were short answer questions in the quiz, you will see an
exclamation point! until I go in and grade them. Otherwise you should see a number that represents your score.

**FINAL EXAM**
During the final week, students will complete a cumulative Final Exam. More details on this exam will be provided closer to the end of the course. This exam will be completed ONLINE. Students will not need to take a paper proctored test.

**TECHNOLOGY PROBLEMS**
Current technology allows us to do many things that we could not do with a pencil and a telephone.

*Along with the benefits come several potential problems.*

I generally accept these problems as challenges that can be solved. I expect students to maintain a similar manner of patience.

This course relies entirely on the use of a computer and the Internet. Therefore, PLEASE make every possible attempt to work on a good computer (e.g., one that doesn’t crash or lock up constantly) and use an Internet Service Provider (ISP) that you know is consistently reliable (e.g., one that doesn’t boot you off the Internet at a whim). If you have an ISP that is not reliable – either change ISP or find a college campus or a library with a computer lab. These sources quite often have very good Internet accessibility.

Case in point: While taking an online quiz, you are suddenly disconnected from the Internet. Even if you were on question 19 of 20, all you work was lost. I don’t get a score from you until you click the “Submit” button.

I can help some of the time. A better person to contact through Ivy Tech regarding technology issues is Laurie Kirkner (lkirkner@ivytech.edu). She is technical support for online courses.

**COPY AND PASTE**
In addition to the Academic Honesty Statement below, I want to be very clear about the “Copy and Paste” feature of computers.

*Please, do not be tempted!!*

Your answers on quizzes MUST be YOUR answers. Quizzes are meant to demonstrate YOUR understanding. When you simply copies a paragraph from a web site and pastes it on his or her answer, it does not show your understanding of the content. Of course there are times when you need a technical description -- there is no getting around that kind of word-for-word transcription. BUT, if you do that, you should give credit to the author -- whether it is an individual, an organization or a governmental agency.

**ACADEMIC HONESTY STATEMENT**
Cheating on papers, tests or other academic works is a violation of College rules. No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials and other academic work. This includes students who aid and abet as well as those who attempt such behavior.
COPYRIGHT LAW
Students shall adhere to the laws governing the use of copyrighted materials. They must insure that their activities comply with fair use and in no way infringe on the copyright or other proprietary rights of others and that the materials used and developed at Ivy Tech Community College contain nothing unlawful, unethical, or libelous, and do not constitute any violation of any right of privacy.

NOTE
• The schedule, grading breakdown and scale are subject to revision.
• Voluntary Drop Deadline is November 11, 2006.