

Three Rivers Community/Technical College
SYLLABUS: Fall 2006

Courses : **CRN:** 30381 BIO* K180 **SEC:** M03 - Prin of Env Science &
 CRN: 30398 ENV* K101 **SEC:** M03 - Environmental Studies
 (cross register; 3 credit hours)
 Thursday evenings: 6:30 PM – 9:30 PM

Location: Room 210, Mohegan Campus, Mahan Drive, Norwich, CT 06360

Required Text: Environmental Science, ninth Ed., R.T. Wright,
 Prentice Hall, Inc., ISBN 0-13-147541-X

Instructor: Daryl M. Simmons 715-2065 (work) daryl.m.simmons@pfizer.com

Office Hours: By appointment. Call the instructor for extra help if needed.

Special Notice: If you have a visible or hidden disability, or a physical condition that may require classroom or test taking modifications, please see me as soon as possible. If you have not registered with the learning specialist at (860) 823-2985 or seen the Counselor at the Student Services Development Center, you must do so early in the semester. This syllabus may be revised at the instructor's discretion at any time.

I. Course Description:

BIO K180 (*from the 2006-2007 catalog*): This is a basic course in environmental studies that introduces ecological principles and a global perspective on environmental problems such as deforestation, droughts, floods, soil erosion, overpopulation, food shortages and pollutants. Some field work will be included. This course is equivalent to ENV* K101 Environmental Studies.

ENV K101 (*from the 2006-2007 catalog*): This is a course that describes the study of the biological and physical aspects of the environment and environment-related issues, including procedures for lessening or controlling environmental pollution and related damage. Some field work will be included. This course is equivalent to BIO* K180 Environmental Science.

II. General Course Objectives:

- A. Students are expected to learn the basic scientific principles of life, the cyclic nature of the environment, and the interrelationships between humans and ecosystems.
- B. Students will understand the importance of sustainability and stewardship, and environmental ethics and responsibility.
- C. Students will learn to recognize issues that are of environmental importance and be able to make informed opinions with regard to those issues.
- D. Students will discuss environmental responsibility, ethical behavior toward the environment, and sustainable use of the natural resources.
- E. Students will understand the global nature of ecosystems, human impact, and the effects of populations of species across the world's ecosystems.

- F. Students will learn the current environmental events in the news along with public policy, economics, and societal issues.
- G. Students will discuss mechanisms of environmental management, conservation, and preservation, and use those principles with published cases.

III. Class Attendance Policy:

Students are expected to attend class regularly and to be on time in accordance with the college attendance policy. *If a class is missed due to circumstances beyond your control, notify the instructor to make arrangements for obtaining lecture notes either by email or at the next class. You are responsible for obtaining and learning the material.*

Students with 4 consecutive or 6 non-consecutive absences will receive an "F" grade in this course. An explanation of the cause of all absences should be given to your instructor.

IV. Grade Evaluation:

Your course grade is based on an accumulation of up to a total of 400 points by the end of the semester. There is no grade curve. (See below V. Tests and Assignments and attached Course Outline)

Perfect Attendance will earn you 10 bonus points added on to your course total. This means being on time (6:30 PM) from beginning to end (9:30 PM) and not leaving early. There are no exceptions for bonus points.

The table below shows the corresponding letter grade for the accumulated points and the equivalent percentages that the final course letter grade is based on.

Letter Grade	Total Accumulated Points (Possible Total of 400 Points)		Approximated Percentages for each Letter Grade	
	A	400	373	100%
A-	372	361	92.999999999...%	90%
B+	360	349	89.999999999...%	87%
B	348	333	86.999999999...%	83%
B-	332	321	82.999999999...%	80%
C+	320	309	79.999999999...%	77%
C	308	293	76.999999999...%	73%
C-	292	281	72.999999999...%	70%
D+	280	261	69.999999999...%	65%
D	260	241	64.999999999...%	60%
F	240	0	59.999999999...%	0%

V. Tests and Assignments:

- A. There will be 5 tests, worth 100 points each. All test dates are shown on the Course Outline. Every test must be taken on the dates scheduled in the course outline. The best 4 test scores count and the lowest test score is dropped. A missed test is a zero and will count as the dropped lowest score. If you miss two tests, a test for one of those units will be made up at the time of the final exam. A student who misses three or more tests will receive a grade of "F" for the course. *If you are having any problems with the course, please see the instructor as soon as possible.*
- B. Test questions are based on the lectures, assigned readings, and various news articles. There are some take home assignments that will be graded. The grade of the take home assignment constitutes 20% to 50% of the test grade for that section.
- C. Field Study Report is worth 50 points of Test 4: There will be a field trip on a Saturday morning to Rocky Neck State Park to conduct a Field Study. A field notebook worth 50 points will be turned in for a grade that is one half of the point value of test #4. The field study is a cooperative effort of several teams of 3 to 4 people. The teams assist each other in collecting data, and share information. The exercise objective is to learn scientific methods that are used to assess the status of an ecosystem. Students have 2 weeks to complete their notebook and turn it in.

VI. Procedures for Dropping the Course (College Withdrawal Policy)

See the College Catalog or the Registrar's office for the withdrawal policy and calendar. Any student who finds it necessary to withdraw from this course MUST complete a withdrawal form in the Registrar's Office. There is no verbal withdrawal.

Students may withdraw from the course any time during the first ten weeks of class without the instructor's signature. After that time, students MUST obtain written authorization from the instructor or their academic advisor, in order to receive a "W" grade for the course.

Students who do not withdraw, but who stop attending, will be assigned an "F" grade for this course.

VII. Special Notices

- A. For Weather-Related Closing Information, Please Call 886-0177.
- B. "Cellular phones and beepers are only allowed in class or lab if they are turned off or in silent mode. **Under no circumstances are phones to be answered in class.** When there are extenuating circumstances that requires a student to be available by phone or beeper, that student must speak to the instructor prior to class, so that together they can arrive at an agreement."
- C. Military personnel who are ordered to mobilize or whose units are activated should mention this to the instructor, their adviser, and the Registrar's Office, and bring orders or other verification.

VII. Academic and Classroom Misconduct

- A. The instructor has primary responsibility for control over classroom and/or laboratory behavior and maintenance of academic integrity, and can request temporary removal or exclusion from the classroom or laboratory, of any student engaged in conduct that violates the general rules and regulations of the institution or any student engaged in conduct deemed hazardous in the laboratory. Extended or permanent exclusion from lecture or laboratory activities or further disciplinary action can only be effected through appropriate procedures of the institution.
- B. Plagiarism, cheating on quizzes or tests, or any form of academic dishonesty is strictly prohibited. Students guilty of academic dishonesty directly or indirectly will receive a zero for the exercise or quiz or test, and will receive an "F" grade for the course in addition to other possible disciplinary sanctions which may be imposed through regular institutional procedures. Any student that believes that he or she has been erroneously accused may appeal the case through the appropriate institutional procedures if their grade was affected. (*We will work through an **HONORS CODE***).

VIII. Revisions to the Syllabus

Students are responsible for learning all of the objectives and all of the items in the course outline whether they are discussed in lecture or not. The instructor reserves the right to revise the objectives, topical outline, or academic schedule contained in this syllabus without notice. However, if revisions affect the scheduled unit tests, a 48-hour notice will be given for the new test date.

**Three Rivers Community/Technical College
Detailed Course Outline, Fall Semester, 2006**

BIO K180 Principles of Environmental Science & ENV K101 Environmental Studies

***NOTE:** This outline may be revised at the instructor's discretion at any time.*

Class	Date	Class Topics, Reading Assignments, and Test Dates
1	Aug 31	<p><i>Section 1-</i> Introduction to Environmental Science and Historical Background</p> <ul style="list-style-type: none"> I. Science and the Scientific Method II. Environmental Science III. Analysis of the Environment <p>READ – pp. 1-3, <i>Easter Island</i>, pp. 8-10, <i>Sustainability</i>, pp. 10-12, <i>Justice and Equity</i>, p. 11, <i>Ethics: What is the Stewardship Ethic?</i></p>
2	Sep 7	<p><i>Section 2</i> – Ecosystems: What they are</p> <ul style="list-style-type: none"> I. Ecosystem structure and relationships. II. Global biomes. III. Human Factor. IV. Major types of ecosystems and their characteristics: terrestrial and aquatic <p>READ – p. 28, <i>Earth Watch: Taking Stock</i> p. 50, <i>Can Ecosystems Be Restored?</i> p. 52, <i>Revisiting the Themes</i></p>
3	Sep 14	<p><i>Section 3</i>– Ecosystems: How they work</p> <ul style="list-style-type: none"> I. Matter and energy; conservation. II. Energy sources and flow, and the laws of thermodynamics. III. Cycling of matter IV. Trophic structure, food chains, and ecosystem stability. V. Nutrient cycling and essential elements VI. Habitats and niches VII. Species interactions <p>READ – p. 70, <i>Global Perspective; Light and Nutrients: the Controlling Factors in Marine Ecosystems</i> p. 79, <i>Value of Ecosystem Capital</i> p. 81, <i>Biosphere 2</i> p. 82, <i>Revisiting the Themes</i></p>

4	Sep 21 Test 1	<p>Test 1: Sections 1, 2, & 3;</p> <p>Section 4 – Ecosystems: How they change</p> <ol style="list-style-type: none"> I. Population Dynamics. II. Mechanisms of population equilibrium. III. Mechanisms of species adaptation. IV. Ecosystem response to disturbance <p>READ – p. 96, <i>Guest Essay; The Village Weaverbird: Marvel or Menace?</i> p. 115, <i>The Dilemma of Advocacy</i> pp. 116-117 <i>Revisiting the Themes</i></p>
5	Sep 28	<p>Sections 5 & 6 – Human Populations: Dimensions</p> <ol style="list-style-type: none"> I. Human population expansion and its cause. II. Different worlds . III. Consequences of population growth and affluence IV. Dynamics of population growth. V. Reassessing the Demographic Transition VI. Promoting Development VII. A New Direction: Social Modernization <p>READ – p. 135, <i>Ethics: The Dilemma of Immigration</i> p. 140, <i>Are We Living Longer?</i> pp. 157-159, <i>Guest Essay; Poverty Traps and Natural Resources Management</i> pp. 173-175 <i>Revisiting the Themes</i></p>
6	Oct 5 Test 2	<p>Test 2: Sections 4, 5 & 6</p> <p>Section 7 – Water, The Hydrologic Cycle</p> <ol style="list-style-type: none"> I. Water resources and conservation. II. Managing water resources. III. Stewardship, public-policy challenges, human impact. IV. Overuse, droughts, pollution, and water treatment. <p>READ – p. 192, <i>Water Purification</i> p. 203, <i>Global Perspective; The Third World Water Forum</i></p>
7	Oct 12	<p>Section 8 – Soil</p> <ol style="list-style-type: none"> I. Uses, formation, and profiles. II. Losses, erosion, and degradation. III. Conservation, uses, and management. IV. Agricultural impact. <p>READ – p. 223, <i>Ethics; Erosion by Equation</i> p. 228, <i>Global Perspective; Three-Strata Forage System for Mountainous Drylands</i> pp. 229-230, <i>Revisiting the Themes</i></p>

8	Oct 19	<p>Section 9 – Production and Distribution of Food</p> <ol style="list-style-type: none"> I. Modern and subsistence agriculture. II. Genetically modified organisms. III. Food production, distribution, and trade. IV. Hunger, malnutrition, and famine. V. Aquaculture <p>Field Study Techniques – Preparation for Saturday field trip.</p> <p>READ – p. 251, <i>Global Perspective; World Food Summit</i> p. 256, <i>Ethics; The Lifeboat Ethic of Garret Hardin</i> pp. 257-258; <i>Sound Science and Ecosystem Capital</i></p>
	Oct 21	<p>Field Trip . . . <i>Rain Date is Oct 28</i></p>
9	Oct 26	<p>Test 3: Sections 7, 8 & 9.</p> <p>Section 10 - Wild Species – Biodiversity & Protection</p> <ol style="list-style-type: none"> I. Value of wild species. II. Saving wild species. III. Biodiversity and its decline. IV. Protecting biodiversity. <p>Test 3</p> <p>READ – p. 281, <i>Global Perspective; Biodiversity: Essential or Not?</i> p. 285-286, <i>Revisiting the Themes</i></p>
10	Nov 2	<p>Section 11 - Ecosystem Capital: Goods and Services</p> <ol style="list-style-type: none"> I. Global perspective on biological systems. II. Conservation, Preservation, and Restoration. III. Biomes and ecosystems under pressure. IV. Public and Private lands in the U.S. V. Environmental resource management, sustainable use <p>READ – p. 302, <i>Earth Watch: Nature’s Corporations</i> p. 306, <i>Earth Watch: Will Aquaculture be able to fill the Gap?</i> p. 312, <i>Global Perspective: The Mangrove Man</i> p. 316 <i>Revisiting the Themes</i></p>
11	Nov 9	<p>Section 12 - Energy from Fossil Fuels</p> <ol style="list-style-type: none"> I. Energy sources and uses. II. Formation of fossil fuels. III. Exploiting fossil fuels. IV. Environmental cost of fossil fuel. V. Energy security. <p>READ – p. 323-324 p. 345, <i>Revisiting the Themes</i></p>

12	Nov 16	<p>Test 4: Sections 10, 11 & 12</p> <p><i>Section 13 - Nuclear Power, Policies, Radon</i></p> <ul style="list-style-type: none"> I. Radiation and nuclear power. II. How nuclear power works. III. Hazards and costs of nuclear power. IV. Future of nuclear power. V. Nuclear power vs. power from fossil fuels VI. Radon in soil and water. VII. Radon mitigation <p>READ – p. 363 - 365, <i>Chernobyl</i> p. 364, <i>Ethics; Showdown in the New West</i></p>
	Nov 23	Thanksgiving Recess
13	Nov 30	<p><i>Section 14 - Renewable Energy and Resources</i></p> <ul style="list-style-type: none"> I. Solar Energy II. Wind energy III. Hydroelectric power. IV. Biofuels for energy V. Other alternative energy sources: geothermal, tidal, ocean thermal. VI. Renewable energy for transportation VII. Clean energy <p>READ – p. 386, <i>Earth Watch; Economics Payoff of Solar Energy</i> p. 387, <i>Ethics; /transfer of Energy Technology to the Developing World</i></p>
14	Dec 7	Natural Environment as Stakeholder, and a Case Study of GE Dumping PCBs in the Hudson River: legal issues, responsibility, ethics, community impact, ecosystem impact.
15	Dec 14	<p>Test 5: Sections 13, 14, Natural Environment as Stakeholder, and GE & Hudson River</p> <p>Test 5</p>

From the College Catalog

FALL 2006

Aug. 24, 2006	Orientation for New Students
Aug. 25	Professional Day Last Day for Full Tuition Refund
Aug. 28	Classes Begin / Late Registration Begins Add/Drop Period Begins First 5-Week Mods Begin First 7-Week Mods Begin
Sept. 4	Labor Day - College Closed Instructor's Signature Required to Add Classes
Sept. 10	Last Day of Add/Drop and Partial Tuition Refund
Sept 18	Constitution Day – Classes In Session
Sept 22	System Professional Day / Classes In Session
Sept 23	Last Day to Select Audit Option
Oct. 2	First 5-Week Mods End
Oct. 3	Second 5-Week Mods Begin
Oct. 9	Columbus Day Observed - Classes NOT in Session
Oct. 17	Second 7-Week Mods Begin
Oct. 18	First 7-Week Mods End
Nov. 4	Last Day to Withdraw from classes <i>without</i> Instructor's Signature Last Day to Select Pass / Fail Option Last Day to Submit Incomplete Work from Spring '06 and Summer '06 Semesters
Nov. 7	Third 5-Week Mods Begin
Nov. 11	Veteran's Day Observed - Classes in Session
Nov. 13	Second 5-Week Mods End
Nov. 15	Last day to apply for Spring (May '07 graduation) and for Summer (August '07) completers who wish to attend the May '07 ceremony
Nov. 21-22	Classes Not in Session , but Make-up/Supplemental sessions may be scheduled
Nov. 23-26	Thanksgiving Recess - College Closed
Nov. 28	Last Day to Withdraw from Classes <i>with</i> Instructor or Advisor Signature
Dec. 11	Last Day of Classes Second 7-Week Mods End
Dec. 12-20	Class/lab, makeup/supplemental sessions or final exam week
Dec. 18	Third 5-Week Mods End
Dec. 22	Final Grades Due Registrar's Office
Dec. 25	Holiday Recess - College Closed
Jan. 2, 2007	Grades available on web