Three Rivers Community/Technical College
SYLLABUS: Summer 2008

Courses : **CRN:** 50099 BIO* K180 **SEC:** M81 - Prin of Env Science &
CRN: 50100 ENV* K101 **SEC:** M891 - Environmental Studies
(cross register; 3 credit hours)
Monday & Wednesday evenings: 6:30 PM – 9:30 PM

Location: Room 213, Mohegan Campus, Mahan Drive, Norwich, CT 06360

Required Text: Environmental Science, 10 ed., Richard T. Wright,
Prentice Hall, Inc., ISBN 0-13-230265-9

Instructor: Daryl M. Simmons 715-2065 (work)
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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 the Learning Specialist at (860) 823-2985 or see the **Counselor at the Student Services Development Center**. You must do so early in the semester. The instructor is not permitted to provide for student disabilities until the student has seen the **Learning Specialist** and is notified in writing by them.

This syllabus may be revised at the instructor's discretion at any time.

I. Course Description:

BIO K180 (*from the credit course description webpage*): *Co-requisite: ENG K100 or higher*
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 K1100 Environmental Studies.
Transfer: UCONN- EEB 1002 ECSU- EES 304 SIU- ENGR 301I

ENV K101 (*from the credit course description webpage*): *Co-requisite: ENG* K100 or higher.*
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:

Students will learn:

A. basic scientific principles, the cyclic nature of the environment, and the interrelationships between humans and ecosystems.

B. the importance of sustainability and stewardship, and environmental ethics and responsibility.

C. to recognize issues that are of environmental importance and be able to make informed opinions with regard to those issues.

D. environmental responsibility, ethical behavior toward the environment, and sustainable use of the natural resources.

E. the global nature of ecosystems, human impact, and the effects of populations of species across the world's ecosystems.

F. the current environmental events in the news along with public policy, economics, and societal issues.

G. mechanisms of environmental management, conservation, and preservation, and use those principles with published cases.

III. Class Attendance Policy:

Attendance will be taken at each class. Students are required to attend each class 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*. Each student is 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. *(See below V. Tests and Assignments and attached Course Outline)*

There is no grade curve.

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.

Any absence for any reason disqualifies the student from 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	368	100%	92%
A-	367. 9999999999…	360	91.9999999999…%	90%
B+	359. 9999999999…	348	89. 9999999999…%	87%
B	347. 9999999999…	328	86. 9999999999…%	82%
B-	327. 9999999999…	320	81. 9999999999…%	80%
C+	319. 9999999999…	308	79. 9999999999…%	77%
C	307. 9999999999…	288	76. 9999999999…%	72%
C-	287. 9999999999…	280	71. 9999999999…%	70%

D+	279. 9999999999…	260	69. 9999999999…%	65%
D	259. 9999999999…	240	64. 9999999999…%	60%
F	239. 9999999999…	0	59. 9999999999…%	0%

V. Tests and Assignments:

A. There will be 4 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. A missed can only be made up at the time of the final exam. *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, textbook chapters, and assigned readings that include news articles. There are some take home assignments that will be graded. The grade of the take home assignment constitutes a portion of the test grade for that section.

C. Test Schedule

Test 1	Test 2	Test 3	Test 4
June 23	July 7	July 21	July 28

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, Summer Semester 2008

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 Topics and Reading Assignments
*Section **1***- Introduction to Environmental Science and Historical Background - Theories of Origin of the Universe and beginnings of life, Science and the Scientific Method, Environmental Science, Analysis of the Environment, Policy/Politics, Globalization, Ecosystem Capital ***READ** – pp. 3-5, Easter Island,* *pp. 9-13, Sustainability, Stewardship, Ethics, Justice* *pp. 21 22, Revisiting the themes*
*Section **2*** – Ecosystems: What they are - Ecosystem structure, relationships, landscapes, biomes, aquatic systems, trophic categories, food chains & webs, symbiotic relationships, competitive relationships, Terrestrial Biomes, microclimates, biotic and abiotic factors, barriers, Human Factor. ***READ** – p. 47, Earth Watch: Taking Stock* *p. 48, Can Ecosystems Be Restored?* *p. 50, Revisiting the Themes*
*Section **3*** – Ecosystems: How they work - Matter, energy, life, thermodynamics & conservation of energy, energy flow and efficiency, recycling of matter, the four spheres, chemistry in the environment, matter and nutrient cycling, carbon cycle, nitrogen cycle, phosphorus cycle ecosystem stability, habitats, niches, species interactions, photosynthesis, respiration, ecosystem sustainability. ***READ** – p. 66, Global Perspective – Light and Nutrients* *pp.74-77, Value of ecosystem capital* *p. 75, Ecosystem Stakeholders* *p. 77-79, Revisiting the themes* *p. 82, Revisiting the Themes*
*Section **4*** – Ecosystems: How they change - Population Dynamics (growth, change, potential), population equilibrium, invading species, mechanisms of species adaptation, evolution, drifting continents, succession, disturbances, recovery, resilience, ***READ** – p. 91 -92, Guest Essay; The Village Weaverbird: Marvel or Menace?* *p. 108, Earthwatch* *pp. 111-112 Revisiting the Themes*
*Sections **5 & 6*** – Human Populations: Dimensions - Human population expansion, different worlds, Consequences of population growth & affluence, dynamics of population growth, developing nations, demographic transition, promoting development, family size, status of women, progress in development goals, development aid, education. ***READ** – p. 128, Ethics: The Dilemma of Immigration* *p. 132, Earthwatch - Are We Living Longer?* *p. 139, Revisiting the Themes* *p. 149, Poverty Traps & Natural Resources Management* *p. 160, China's population policies* *p. 162, Putting it all together*
*Section **7*** – Water, The Hydrologic Cycle and Human Use - Water resources, conservation, hydrologic cycle, evaporation & purification, precipitation,

groundwater, surface water, recharge, runoff, floods, climate change, atmospheric pollution, irrigation, overuse, droughts, pollution, and water treatment, drought, water management, water stewardship, damming, conservation, agriculture effects, municipal water.

***READ** – p. 185, Global Perspective – Water: Key to life ;and Progress in Darewadi*
p. 190, Global Perspective: The Fourth World Water Forum
p. 191, Revisiting the themes

*Section **8** –* Soil -

Soil & plants, soil texture, soil profiles, soil classes, soil & plant growth, minerals, water holding capacity, aeration, relative acidity, water uptake, soil communities, enrichment, degradation, erosion, drylands, desertification, cultivation, overcultivation, preventing erosion, deforestation, irrigation, salinization,

***READ** – p. 210, Ethics; Erosion by Equation*
p. 214, Global Perspective; Three-Strata Forage System for Mountainous Drylands
p. 216, Revisiting the Themes

*Section **9** –* Production and Distribution of Food -

Modern and subsistence agriculture, agricultural chemicals – production, use, overuse, runoff, waste. Genetically modified organisms, Green revolution, animal farming, affluence, industrial farms, increasing food production, distributing food, food trade, food security, hunger, nutrition, famine, environmental concerns, food safety, Cartagena Protocol, Aquaculture.

***READ** – p. 234, Feeding the hungry in the U.S.*
p. 236, Ethics; World food summit
pp. 242-243; Revisiting the themes

*Section **10** -* Wild Species & Biodiversity -

Biological value of wild species, Value to agriculture, forestry, aquaculture, animal husbandry, medicine, recreational value, aesthetic value, Saving wild species, managing populations, endangered species, threatened species, declining populations, returning species, maintaining biodiversity,

***READ** – p. 257, Earthwatch – Return of the Gray Wolf*
p. 266, Global perspecdtive – Biodiversity: essential or not?
p. 269, Revisiting the themes

*Section **11** -* Ecosystem Capital: Use & Restoration -

Goods & services from ecosystems, conservation, preservation, consumptive use, productive use, sustainable yield, restoration, Forests: biomes, management. Oceans: fisheries, sustainable use, whaling, desirable species, Magnusen Act, Sustainable Fisheries Act, coral reefs & bleaching, ecosystems under pressure.

***READ** – p. 289, Earth Watch: Will Aquaculture be able to fill the Gap?*
p. 295, Global Perspective: The Mangrove Man
p. 300, Revisiting the Themes

*Section **12** -* Energy from Fossil Fuels -

Energy sources and uses, Formation of fossil fuels; petroleum, coal, natural gas, Exploiting fossil fuels, environmental cost of fossil fuel, energy security, declining reserves, dependency of fossil fuels, .

***READ** – p. 326, earth watch – CHP: Industrial common sense*
p. 327, Revisiting the Themes

*Section **13** -* Nuclear Power, Policies, Radon

Radiation and nuclear power, How nuclear power works, Hazards and costs of nuclear power, Nuclear power safety, Types of nuclear power reactors, Future of nuclear power, Nuclear power vs. power from fossil fuels, Radon in soil and water, Radon mitigation,

***READ** – p. 344, ethics – Showdown in the New West*
pp. 352-353, Revisiting the themes

*Section **14*** - Renewable Energy and Resources

Solar Energy, Wind energy, Hydroelectric power, Biofuels for energy, Other alternative energy sources: geothermal, tidal, ocean thermal, Renewable energy for transportation, Clean energy

***READ** – p. 365, Earth Watch - Economics Payoff of Solar Energy*

p. 366, Ethics - transfer of Energy Technology to the Developing World

pp. 378-379, guest essay – Caring for our planet earth through the proper use of our energy resources

pp. 37-380, revisiting the themes.