Overview: The intent for this course development grant was to begin the infusion of environmental sustainability into the lives of South Carolinians, utilizing two courses incorporating GAP (Global Action Plan) principles. The two courses were the Honors Colloquium series (Honors 397) and the Environmental Science course (Env 201). Each course was to include modules encompassing computer laboratory simulations of pollution, global warming, home energy conservation and ecological footprint calculations and was to use the GAP (Global Action Plan) Ecoteam program and text "Household Ecoteam Workbook’. The intent, course description and syllabi of the two courses were to be similar.

Unfortunately, the Honors Course was cancelled at the last minute due to a scheduling error (it was listed in the course schedule as "World Wars" not environmental science). The one remaining course was developed and taught in the Spring of 2002. Eight students were enrolled, a lower number than hoped for, and we are addressing this problem by cross-listing the ENV 201 course with a BIOL listing (the course counts towards the completion of a biology major, but many students were unaware of this, and neglected to look in the course catalog for listings in ENV, a relatively new listing with just this one course). The course will be offered every other Spring semester, and will be taught again in the Spring of 2004. The lecture and lab syllabi are attached, and have been forwarded to the starfish / second nature website. The computer software purchased for the lab was quite useful (EME hand-on-science Focus on the Environment Series labpack, and home Energy Conservation labpack). The only problem with the course was the use of the "Ecoteam" workbook as a lab manual. In fact, I would advise against trying to do the Ecoteam program with a group of college kids. The goal of the GAP (Global Action Plan) ecoteam program is to allow households to discover alternative practices and equipment which would reduce household ecological footprint by lowering energy and water bills and by decreasing the amount of pollution produced and toxic materials used. It is a good program, but the workbook program really requires, and makes the most sense, when used as a part of a concerted effort to make a home more environmentally friendly. With college students, most of who live in the dorm, or at their parents, and who had little extra money to do the suggestions in the workbook (like purchasing 10 compact fluorescent light bulbs, installing low flush toilets and low flow showerheads). The info the students got will be helpful in a few years, after they graduate and move into their own homes, but it didn't make the good, immediately visible points (lower bills) I was looking for.

Attachments: Syllabi for Lecture and Laboratory ENV 201 / 201L
This world is indeed a living being endowed with a soul and intelligence....
a single entity containing all other living entities, which by their nature are related.” — Plato, 4th century B.C.

ATTENDANCE: Attendance is required. Students who have Five (5) or more unexcused absences will be either dropped with a “NC”, or their grades lowered accordingly (2 points for every Late or Absence after the initial 4). Consistent tardiness is not tolerated, nor is tardiness to exams.

TEXT: Annual Editions: Environment 01/02 - McGraw Hill
Household Ecoteam Workbook - Gershon / Gilman (lab book)
http://www.gristmagazine.com
http://ALPHA1.FMARION.EDU/~Lisapike/courses.html

TESTS: There will be 3 major exams which will count 20% each of the course grade. The Journal counts an additional 20%. The final 20% of your grade will be based on your laboratory performance (participation and homework assignments). Critical thinking and use of technology are emphasized.

JOURNAL: The journal will be include approximately 1-2 pages of writing (single spaced, 8.5” x 11”) for each Annual Editions article and Video listed in the syllabus. In your journal, describe the environmental problem discussed in the article or video and give your opinion of it: is it based on fact or opinion, is it biased, does it seem to draw logical conclusions, is the author qualified, what do you think the author wants his readers to think or do? Journals will be collected every 3 weeks.

GRADING: Grades will be based on exams, research paper and lab.
4 = 90 - 100% 3+ = 86 - 89% 3 = 80 - 85%
2+ = 76 - 79% 2 = 70 - 75% 1+ = 65 - 69%
1 = 60 - 65% NC = below 60%

DROPPING: February 6 is the last day to withdraw from a course without penalty (W). Midterm is Feb. 27. Spring Break is Mar 2-10. Classes end April 22. The Final Exam is Thurs. April 25, 8:30 am.

LAB: There are NO MAKEUP LABS. Missing a lab results in a grade of zero for that lab. Labs are graded based on participation in the Household Ecoteam Project and homework assignments. Some labs will be held off-campus.

Outline Topic Annual Editions 01/02 Articles Date
(V = Videotape)
I. Introduction What is Environmental Science? 2 1/10
* V: Prophets and Loss, V: Paths of Pollution
**Sustainability / Ecological Footprint**

II. Basic Problems

1. Overpopulation * Rich Vs. Poor (Economics) 5, 6 1/15
   - * Environmental Racism
   - (4 Spikes)

2. Overconsumption Patterns and Footprint 25 1/22
   - * IPAT equation.

3. Loss of Biodiversity * Deforestation V: Burning Rivers 15, 17 1/29
   * Ecotourism: Rainforests - Proving their Worth 18, 19 2/7

4. Global Warming 23, 24 2/14
   - * Energy Sources (non-renewable) 9, 10 2/21
   - * Nuclear Power

TEST 1

- * Photovoltaics V: Race: More for Less, Clips 11, 14 2/21
- * Green Building

III. Human Impacts on the Environment

- Soil - Erosion, Strip Mining Sustainable Agriculture 20
- * Pesticides, Fertilizers V: Putting aside Pest. 27 2/28
- * Can we feed 6 billion? 10?
  - V: Race: Save the Earth Feed the Planet 7, 3/14
  - * Biotechnology / GMO's
  - * Organic Farming V: Organic Farming Clips

Pollution - Air: Acid Rain, Ozone V: IET - Air 28 3/19
- Water: Scarcity 21, 26 3/21
- * Phytoremediation, mitigation wetlands
- V: IET: Water

TEST 2

- Solid Wastes / Hazardous Wastes 25, 27 3/28
  - V: Race: Waste Not Want Not
  - V: IET Health effects of HazMats
  - * Industrial / Agricultural Wastes
  - * Recycling V: Cash for Trash 3 4/2

IV. Sustainability Politics / Economics - Incentives / Subsidies 11, 4 4/4

- V: Green Pacts and Green Backs
- * Role of Government (Regulation vs Market) 28, 13 4/11
- * Property Rights
- * Role of the Individual (Consumerism)
- V: Green Means
- V: Race: It Takes Political Decisions
- * The idea of a Local Economy Handout 4/16
- * Development and Urban Sprawl Handout

Closing the Loop

Sustainability (examples) 28 4/19

Permaculture / Ecologic Design Handout

- V: IET: Sustaining the Earth

FINAL EXAM Thrs. April 25
Tentative ENVS 201 Laboratory Schedule

Lab Book: Household Ecoteam Workbook - Gershon / Gilman

<table>
<thead>
<tr>
<th>Lab</th>
<th>Topic / Field Trip</th>
<th>Date</th>
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<tbody>
<tr>
<td>1.</td>
<td>Ecoteam Introduction / Video: World War III</td>
<td>Jan 16 *</td>
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<td>2.</td>
<td>Woods Bay State Park</td>
<td>Jan 23</td>
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<td>3.</td>
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<td>Jan 30</td>
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<td>4.</td>
<td>Air / Water Pollution Computer Lab</td>
<td>Feb 6 *</td>
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<td>5.</td>
<td>Global Warming / Ozone Computer Lab</td>
<td>Feb 13</td>
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<td>6.</td>
<td>Biodiversity Computer Lab (EcoBeaker: Corridors)</td>
<td>Feb 20</td>
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<td>7.</td>
<td>Home Energy Conservation Computer Lab</td>
<td>Feb 27 *</td>
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<td>8.</td>
<td>Dupont - Wastewater Treatment</td>
<td>March 13</td>
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<td>9.</td>
<td>Clemson Pee Dee REC (Phil Bauer, Jim Fredrick)</td>
<td>March 20</td>
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<tr>
<td>10.</td>
<td>USDA - ARS (Pat Hunt)</td>
<td>March 27 *</td>
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<td>11.</td>
<td>Trip to Ben Williamson’s Organic Farm</td>
<td>April 3</td>
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<td>12.</td>
<td>Santee Cooper Green Power / Orry Co. Landfill</td>
<td>April 10</td>
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<td></td>
<td>(This field trip may last more than the 3 hour lab)</td>
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<td>13.</td>
<td>Ecoteam Wrap-up, Planning Earth Day</td>
<td>April 17 *</td>
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<td></td>
<td>Video: Poisoning the Dream - Love Canal Tragedy</td>
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* Ecoteam Meetings in Lab:
1) Ecoteam Introduction: GAP Program and First Action: Garbage
2) Water
3) Home Energy
4) EcoWise Consumption
5) Empowering Others