

## **ENVIRONMENTAL STUDIES ASSESSMENT REPORT – 2011**

Submitted by Dan Hornbach, Chair – May 2011

The Environmental Studies Department developed its Departmental Assessment Plan during the 2008-2009 academic year. This plan was provided to the Provost and Institutional Research department in April 2009. Based on this plan there are 4 tasks in the assessment plan that are to be undertaken each year:

1. Transcript analysis of graduates,
2. A senior survey,
3. An assessment of graduates performance relative to the learning objectives set out by the department, and
4. Discussion of #1-3 above and planning to improve the education of our students.

We have attached separate summaries of the transcript analysis, senior survey and outcomes assessment conducted during 2011. Since this was the third year of the implementation of our assessment plan we are starting to develop a longitudinal database which should help us in our assessment process. The department discussed the transcript analysis at a meeting on April 6, 2011 and the senior survey and outcomes rubrics (task #3) on May 2, 2011.

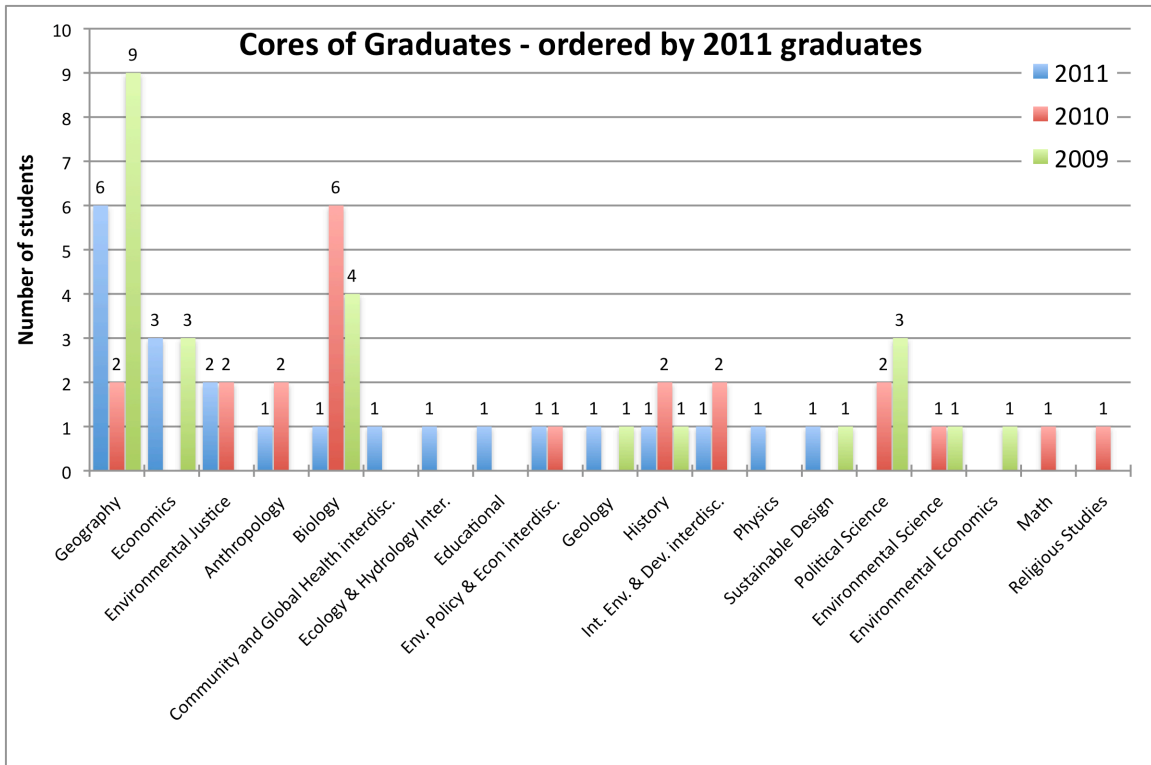
Based on these discussions we:

1. Invited Amy Damon and Sarah West to discuss the ways in which the Economics curriculum could better integrate with the ES curriculum. We changed our social science ES requirement such that Principles of Economics, when taught by either Amy or Sarah would meet our requirement.
2. Decided to insure that at least one lab in the two courses that meet the introductory Environment Science requirement (ENVI 133 or ENVI 140) be specifically designed to allow students to develop a hypothesis and test it.
3. Will review the study away programs our students attend so we can do a better job in advising and exposing students to international environmental issues.
4. Will continue to use the same assessment instruments for at least two more years so we can have comparable data for our longitudinal study. We will then review these instruments.
5. We will review our department's learning outcome goals in advance of the next department review.

We believe that these activities will allow us to continue to improve upon our strong departmental programs.

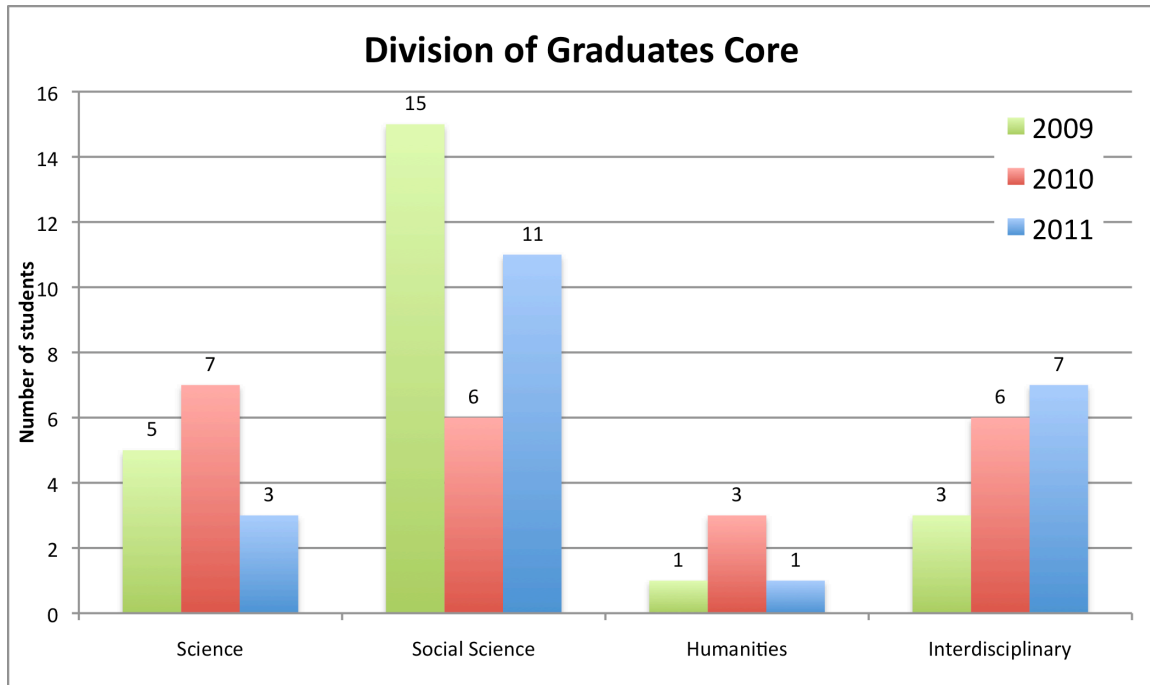
# APPENDIX I. TRANSCRIPT SUMMARY FOR 2011 ENVIRONMENTAL STUDIES GRADUATES

As part of the Environmental Studies Department annual assessment program, we undertook an analysis of the transcripts of the twenty-two 2011 ES graduates. For each student the Registrar's office provided a list of all courses taken by the individual. Dan Hornbach, Chair of ES, analyzed these data and the results (below) were discussed by the ES Department on April 6, 2011. A summary of the analysis and discussion is presented below.



**Figure 1. Number of students choosing various cores in ES.**

Figure 1 shows the distribution of cores chosen by the 2011 graduates. Our major requires that student choose a core in order to gain depth in some area within Environmental Studies. The most popular core this year was once again Geography. Biology was the most popular core last year (9) with only 2 Geography cores. In 2009 there were 9 Geography cores and 4 Biology cores. We will have to follow these numbers over longer periods of time to see if this variation is normal, or if we will settle into some type of pattern.



**Figure 2. Number of ES students choosing cores in different divisions.**

Of the 2011 graduates 15 were in disciplinary cores and 7 in interdisciplinary cores (Figure 2). This follows the trend of more students choosing interdisciplinary cores (7, 6 and 3 in 2011, 2010 and 2009, respectively). Of the 15 graduates with disciplinary cores, 3 were in the sciences (down from 7 last year), 11 were in the social sciences (up from 6 last year) and only 1 was in the humanities (compared to 3 last year). We had expected more students to take advantage of these interdisciplinary core options since we had finally put specific requirements on our website. Overall we had 14 different cores declared by our majors compared with 11 cores last year (Figure 1). Thus it appears we are seeing a continued diversification of student interests in the ES major. With the decline in the number of Biology cores we had less of a “balance” between science and social science students. Again we will have to monitor this variability. If we were to have a long-term imbalance between these divisions, we would have to investigate the underlying cause. Similar to the past two years we are still low in the number of humanities students. We made a request that the former position held by Karen Warren in the Philosophy Dept be filled with another environmental philosopher. Unfortunately, Philosophy was not allowed to refill her position. Also the History Dept. had visiting faculty member, Ellen Arnold who taught environmental history courses and has left to take a tenure-track job elsewhere. The History Dept. is now replacing this position with a tenure-track person, but without a specialty in the environment. We continue to work closely with the English Department that is working to expand its offerings in environmental literature/writing. The fact that they are no longer offering a section of our required Environmental Classics course may further hinder our ability to attract more ES majors with cores in the humanities. We hope that in the future more departments in the Humanities Division will hire individuals with expertise in the environment.

Figure 3 shows the range of classes taken by the 2010 graduates. The most common courses taken by ES majors include our required Environmental Classics (ENVI280) and American Environmental History (ENVI 234) courses. Also many students took Environmental Policy and Politics (ENVI 215) and ENVI 133 (Environmental Science) as one of their two required introductory courses. We have recently changed the major requirements based on our assessment efforts over the past two years and we expect an increased number of students taking both ENVI 215 and ENVI 133 or ENVI 140.

Eight-two percent (82%) of our students studied away during their time at Macalester up from 55% in 2010 and 67% in 2009. This large number of student studying away results in a number of “SA” courses. We are reviewing the pattern of study-away among our students to see if we can strengthen our recommendations for the best programs.

About 36% of our 2011 graduates took Intro to Economics (ECON 119) down from nearly half in 2002 and 2010. This downward trend was of some concern, thus the department met with Sarah West and Amy Damon of the Economics department on April 6, 2011. Both are affiliated faculty in the ES Department. Based on our conversation we decided to provide “incentives” for all students to take ECON 119 – we will now allow this course to meet one of our ES Social Science distribution courses if the course is taught by either Prof. Damon or West. In addition we added ECON 119 as a requirement for the Political Science and International Environment and Development cores and as a elective course for the Climate Science and Policy core.

We continue to have about a third of our students take the Applied Calculus course (MATH 135). In 2011, 36% of our students took GIS, up from 27% in 2010 but still below the 73% in 2009. In 2009 only 42% of our students had taken a statistics course (Math 153/155) and that increased to 64% in 2010 and remained close to that at 60% in 2011.

Sixty-three percent (63%) of our 2011 graduates took either Ethics (PHIL 115) or Environmental Ethics (ENVI229). This is the highest level in the 3 years we’ve been conducting transcript analyses. Only 27% of our students took an ethics course (PHIL 125 or 229) in 2010 compared with about 50% in 2009. We had been concerned about the low number taking an ethics course last year, but it appears last year may have been an anomaly. We again hope that Philosophy will consider hiring an Environmental Philosopher since this person could provide upper level courses that would support our students with interests in Environmental Justice.

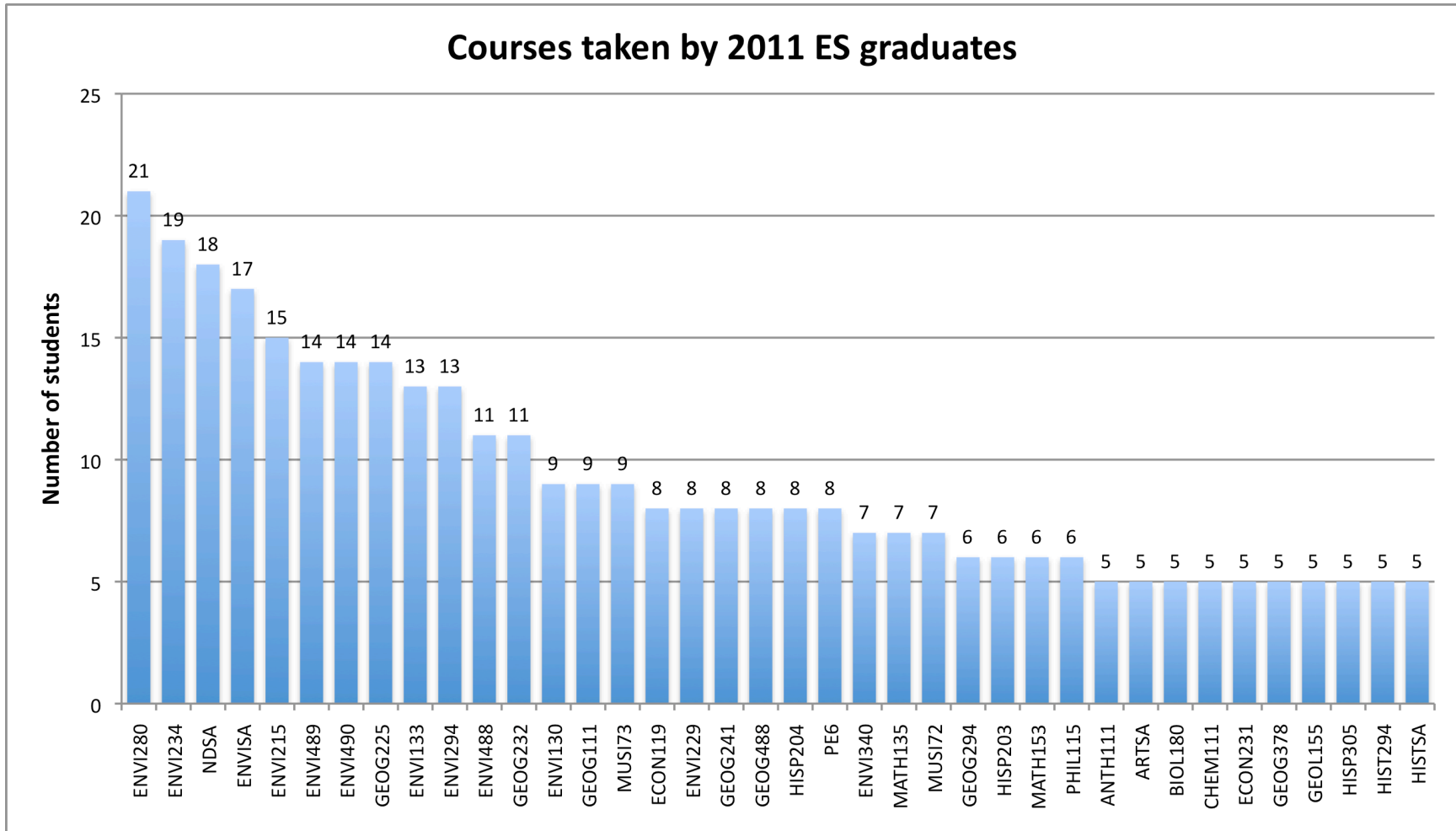
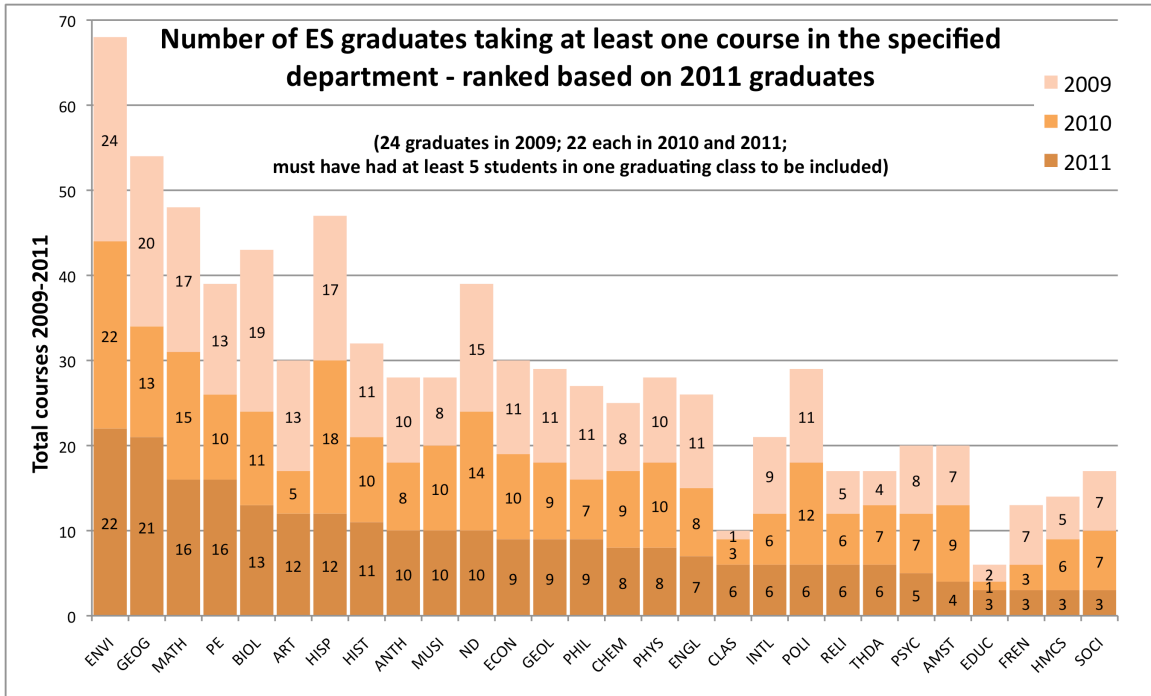


Figure 3. Number of course enrollments. NDSA - Non-divisional Study Away. Course titles are given in Table 1.

Table 1. Course titles.

<b>Number</b>	<b>Title</b>	<b>Number</b>	<b>Title</b>
ANTH111	Cultural Anthropology	GEOG225	Intro to Geog Info Systems
ARTSA	Art Study Away	GEOG232	People and the Environment
BIOL180	Ecology	GEOG241	Urban Geography
CHEM111	General Chem I	GEOG294	5-Urban, 1-Hazards
ECON119	Principles of Econ	GEOG378	Research Methods in Geog
ECON231	Environmental Economics/Policy	GEOG488	Comp Environment/Develop.
ENVI130	Science of Renewable Energy	GEOL155	History/Evolution of Earth
ENVI133	Environmental Science	HISP203	Intermediate Spanish I
ENVI215	Environmental Politics/Policy	HISP204	Intermediate Spanish II
ENVI229	Environmental Ethics	HISP305	Oral and Written Expression
ENVI234	American Environmental History	HIST294	6 different history courses
ENVI280	Environmental Classics	HISTSA	History study away
ENVI294	10-Psych. Sustainability, 1 each Poetry, 100 Words, Media	MATH135	Data Analysis and Statistics
ENVI340	US Urban Environmental Hist	MATH153	Intro to Statistical Modeling
ENVI488	Senior Seminar	MUSI72	African Music Ensemble
ENVI489	Environmental Leadership Pract	MUSI73	African Music Ensemble
ENVI490	Envi St Leadership Seminar	NDSA	Non-divisional study away
ENVISA	Envi. Stud. Study Away	PE6	Yoga I
GEOG111	Human Geography of Global Issu	PHIL115	Ethics

ES students take courses in a wide variety of departments. Almost half of our students took courses in 10 departments (Figure 4). Unsurprisingly all of our majors took at least one ENVI course! Even though only 6 of our graduates were Geography cores, almost all of the graduates took at least one course in Geography, reinforcing the close ties between ES and Geography.



**Figure 4. Number of courses taken per department.**

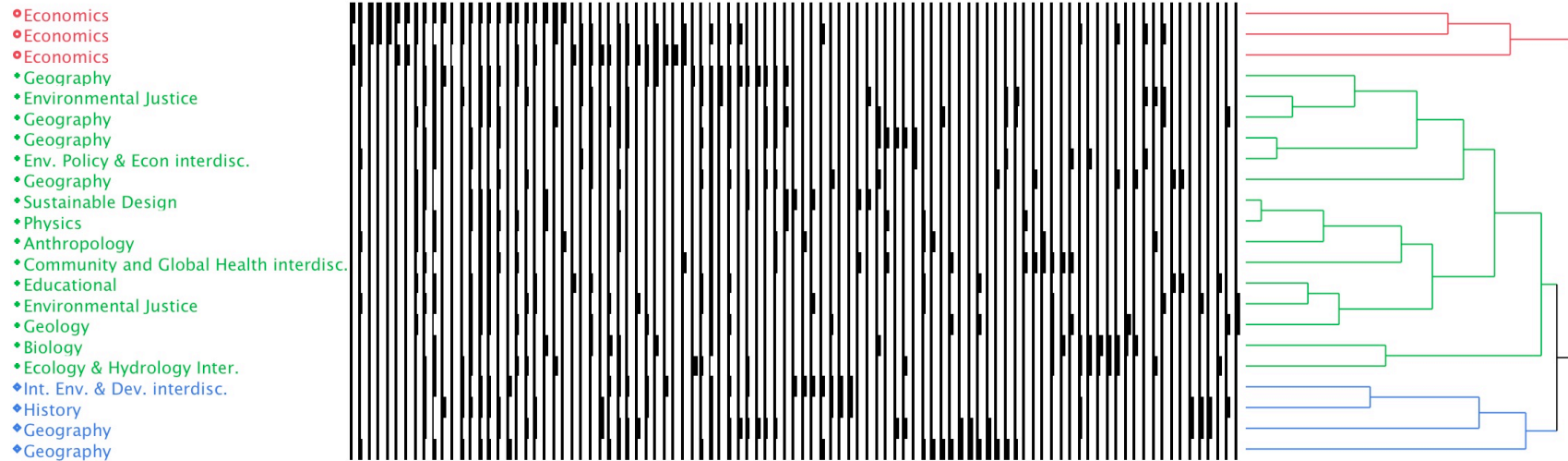
Students generally take Music and Art to meet distribution requirements or by participating in ensembles. Many students take Spanish (HISP) as their required language, although many take additional courses to prepare them for study away. Also a large number of students are physically active (PE courses). We already have close interactions with faculty in Geography, Biology, Economics, English, Geology, History, and Political Science. We have been developing closer ties with the Mathematics Dept. and as mentioned above we had hoped that Philosophy would be searching for a new environmental philosopher with the movement of Karen Warren to the College’s MSFEO program. We are also somewhat surprised that fewer graduates in 2011 took courses from the Political Science Department. Fifteen of the 22 graduates did take Environmental Policy and Politics and in the future all majors will be required to take this course in the future. Thus all graduates in the future will have exposure to a Political Science course.

Since we have such a diverse major, we decided to look for patterns in the way students take courses at the College. We used cluster analysis to examine trends in how students with various cores take classes (Fig. 5). The first thing to notice (looking at the “tree” on the right) is that there are two major clusters –one that contains the Economics cores and another that contains all other cores. This demonstrates that Economics cores take a quite different set of courses than other ES majors (mainly more Economics courses). The other main cluster is divided into a number of sub-clusters. There was no specific correspondence between the clusters and the specific cores chosen by our graduates. This indicates that our majors find a number of curricular pathways to meet their specific educational goals, while at the same time meeting the requirements for the ES major. In a discussion of these data we had an interactive graph where we could examine the specific courses taken and which students took those courses.

In our discussion of the distribution of courses taken by our students we concluded that there’s so much overlap (or so little distinction) among most of our majors we shouldn’t be too concerned about the cohesion question. In other words, even though we have graduates with 14 different cores, there don’t seem to be separate ‘tracks’ course-wise, except for the Economics cores. This presumably means that they are taking many courses together, even if they’re taking them to fulfill different sets of requirements.



Course distribution of various cores with language and PE courses removed.



**Figure 5. Cluster analysis of courses taken by 2010 ES graduates.**

How to read this graph: Cores are found on the left. In the center, each column represents an individual course. Course numbers can be found in Table 2. The thick bar indicates that an individual student took the course. For example the black bar on the far left represents ECON113 while the black bar on the right refers to ENVI 120. On the right, the cluster “tree” shows how students are clustered together based on shared courses.

Table 2. The list of courses from Figure 5.

Right --->Left					
BIOL165	BIOL363	PHYS111	ENVI180	GEOG488	MATH155
BIOL394	CHEM111	ENVI215	GEOG242	ENVI489	BIOL194
BIOL342	CHEM112	ENVI335	INTL280	ENVI490	ENVI237
BIOL117	ENVI280	AMST294	RELI234	EDUCSA	PHYS622
BIOL180	ENVI488	MATH153	GEOL150	SOCI194	BIOL205
ENVI294	HIST194	SOCI110	ENVI624	PHIL136	GEOG232
GEOG111	ENVI194	PHIL125	ENVI232	ANTH111	ECON231
GEOG225	AMST194	PSYC100	ENGL120	ANTHSA	GEOG250
MATH135	MATH194	ENVI644	ENVISA	ANTH394	ENVI368
BIOL270	ENVI236	ENVI612	RELI294	POLI141	ENVI614
GEOL101	MATH137	ENVI133	ECON119	ENVI234	ENVI477

# Summary of Responses to 2011 ES Graduates Survey

## Introduction

The senior survey was distributed to all seniors via e-mail in April 2011. Students were asked to complete the survey using the Google Survey tool. We had an 86% return rate compared with 100% in 2010 and 67% in 2009. We discussed these surveys on May 2, 2011.

## Results

The survey results are presented at the end of this document. In addition to providing the 2011 student responses to the questionnaire, we provide will discuss these results relative to results in 2010 and 2009. Figure 1 shows the ways in which student responses to the questionnaire have changed over time.

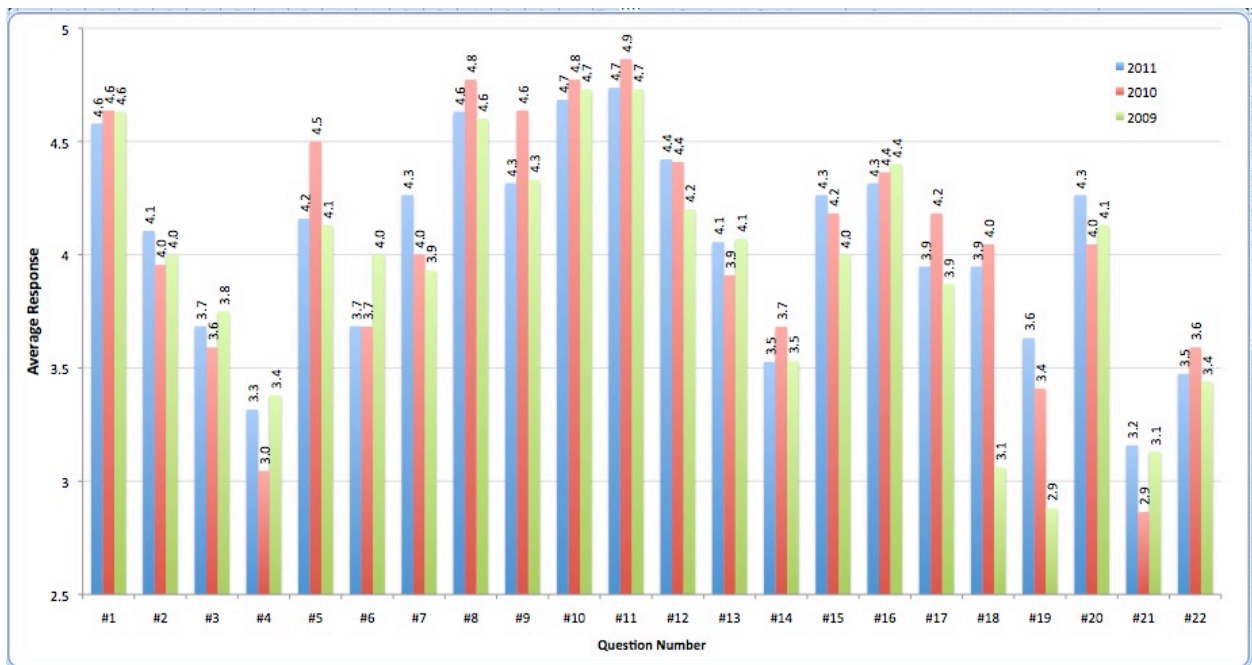


Figure 1 - Average student response to questions on the senior survey

More than half of the questions (15) in 2011 had essentially the same average ranking as 2010 (within 0.2 units on a 5.0 scale), 5 had higher ratings and 2 had lower ratings. Questions #5 (How confident are you that you could describe issues of social justice related to these issues [environmental issues facing the world]?) and #9 (How confident are you that you could evaluate the quality of the information [about environmental issues] you have gathered?).

Last year we had pointed out 3 areas of concern based on the quantitative portion of the survey based on scores that were at or below an average ranking of 3.5:

1. The lack of confidence that they could describe the major international policies related to the major environmental issues (Question #4). The ratings from 2011

- remain low, reinforcing our need to improve our attention to international environmental issues. We continue to discuss this issue in the department.
2. The lack of confidence that they could design an empirical study that tests or explores a basic scientific question important to environmental problem solving (Question #14). For this area 2010 students were more confident than 2009 students, but returned to lower levels in 2011. We had fewer science cores in 2011 compared to 2010. This area is something we continue to work on. We are looking at changing some ES labs that would allow students to design an experiment and make them more specific to hypothesis testing.
  3. In 2009 students didn't feel as if they were exposed to career advice from either academics or practitioners of Environmental Studies (Questions #21 and 22). The 2010 students felt less exposed to advice from academics while they felt more exposed to advice from practitioners. In 2011 this trend reversed: More students felt better exposure to academic advice and less to practitioners. Since these students began in the major, Dr. Phadke has developed a speaker series in the ES Seminar associated with the Practicum course. She has been bringing "practitioners" to the class and will bring more academics to the course next year. In addition, not all of our students take the Practicum course and its associated Seminar course, instead taking an Internship. We have now changed our requirements so that all students must take the Seminar course regardless of whether they take the Practicum course or an Internship. This should help to assure that all of our majors are exposed to career advice from both practitioners and academics.
  4. In 2010 we noted that in Question #18 and 19 we asked students whether they were satisfied with the breadth and depth of their major. Most students were satisfied with the breadth of their program but they were less satisfied with the depth. Question 19 (the depth question) had showed that students' satisfaction with the depth of their experience had increased. It is still low, and we hope that our revised curricular requirements (which this class was not yet required to meet) will allow us to continue our progress in the area of "depth." Also as a department we will do more to try to explain the importance of interdisciplinarity and how that provides a different type of "depth" than specialization does.

When asked about which additional courses should be required for the major (Question #23), the answers were relatively scattered as in 2009 and 2010. As in 2009, the most common responses were Environmental Justice and Economics.

When asked which course they wished they had taken while an ES major (Question #24), again the answers were scattered. If there was any "consensus" it might be that students should take more economics. We have discussed making Intro Economics more "environmental friendly." As mentioned elsewhere in this report, we've discussed this with Profs. Amy Damon and Sarah West of the Economics Department and will count their sections of Principles as counting towards the social science distribution course in ES.

When asked what course(s) do you think are missing from our curriculum that you would like to see offered in the future (Question #25), again the answers were varied. As in the past, students' interest in more courses dealing with Environmental Justice continues to be strong.

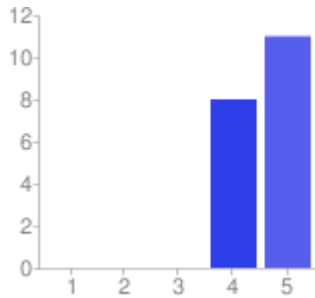
When asked what courses should be dropped from the curriculum (Question #26) there were a range of answers but no overwhelming consensus. As we indicated last year there were some students that felt Environmental Classics could be dropped. Prof. Manning has revamped the course, and we are doing our best to encourage students to take this earlier in their ES career. Course evaluations from this year were significantly better and thus future seniors are less likely to suggest that this course be dropped.

Finally, when asked if they had additional comments (Question #27) a number of students shared their thoughts. While we don't see any common thread among these comments, we consider them all important. We have seen comments in the past citing a lack of community in the department. We try, through EnviroThursdays, to provide an opportunity for students and faculty to gather outside of classes. We have also organized some lunches, but student participation has been low. We believe that part of the issue with building a community is that ES is a diverse major. Since our students have many different interests it is difficult to find activities that engage a large portion of the student body.

We also realized through our discussions that we need to do a better job explaining the logic of the ES curricular structure to our majors. We have now developed materials for the website and handouts that provide a rationale for *why* we have the curricular structure we have. We believe this may better help students understand the goals for the major and how our requirements help students meet those goals.

19 responses

1. How confident are you that you could list the major environmental issues facing the world today?

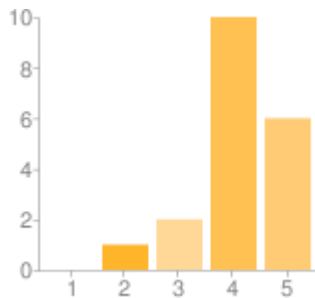


Not at All

Very

1 - Not at All	0	0%
2	0	0%
3	0	0%
4	8	42%
5 - Very	11	58%

2. How confident are you that you could describe the history of how these issues arose?

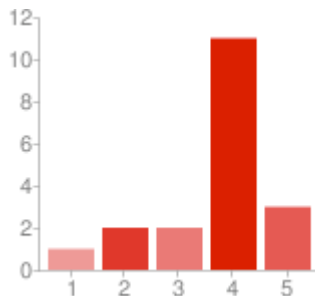


Not at All

Very

1 - Not at All	0	0%
2	1	5%
3	2	11%
4	10	53%
5 - Very	6	32%

3. How confident are you that you could describe the major U.S. policies related to these issues?

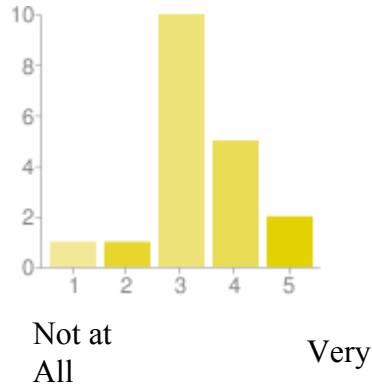


Not at All

Very

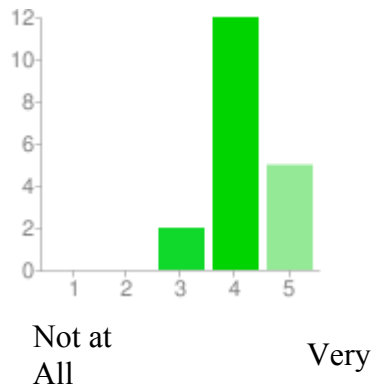
1 - Not at All	1	5%
2	2	11%
3	2	11%
4	11	58%
5 - Very	3	16%

4. How confident are you that you could describe the major international policies related to these issues?



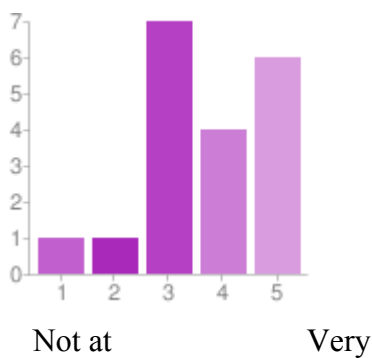
1 - Not at All	1	5%
2	1	5%
3	10	53%
4	5	26%
5 - Very	2	11%

5. How confident are you that you could describe issues of social justice related to these issues?



1 - Not at All	0	0%
2	0	0%
3	2	11%
4	12	63%
5 - Very	5	26%

6. How confident are you that you could describe the current state of scientific evidence and major areas of scientific dispute regarding major environmental issues?

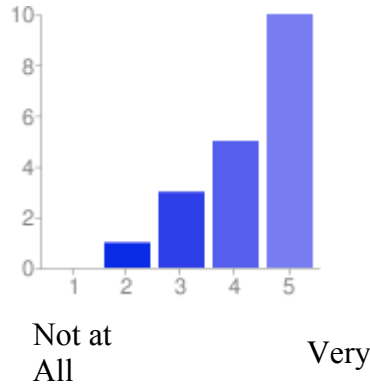


1 - Not at All	1	5%
2	1	5%
3	7	37%
4	4	21%
5 - Very	6	32%

All

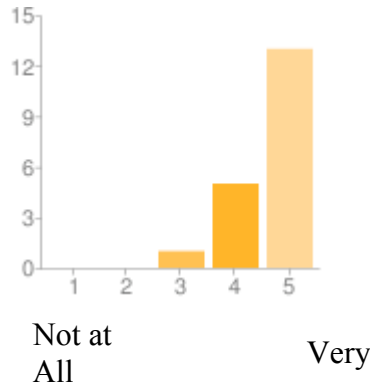
ES Dept. Comment from our discussion: Still part of group that wasn't required to take Science courses strictly environmental – will be interesting to see – Louisa has come since as well – no Citizen Science this year.

7. How confident are you that you could describe the canon of literature that defines the field of Environmental Studies?



1 - Not at All	0	0%
2	1	5%
3	3	16%
4	5	26%
5 - Very	10	53%

8. How confident are you that you could gather information about specific environmental issues?

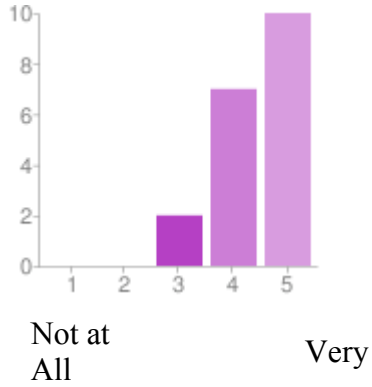


1 - Not at All	0	0%
2	0	0%
3	1	5%
4	5	26%
5 - Very	13	68%

9. How confident are you that you could evaluate the quality of the information you have gathered?

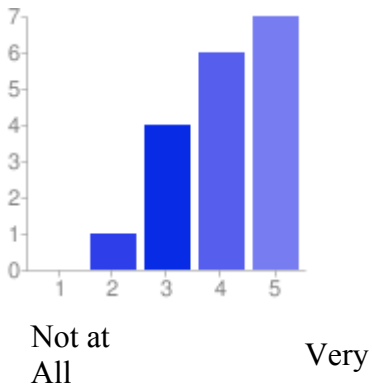






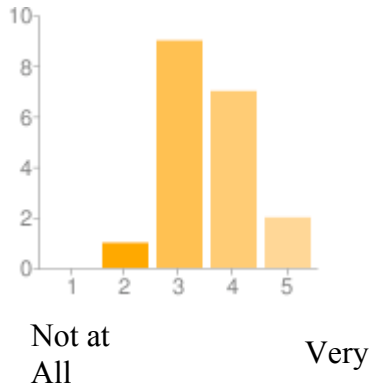
1 - Not at All	0	0%
2	0	0%
3	2	11%
4	7	37%
5 - Very	10	53%

13. How confident are you that you could develop a strategic plan to identify and implement local solutions to an environmental problem?



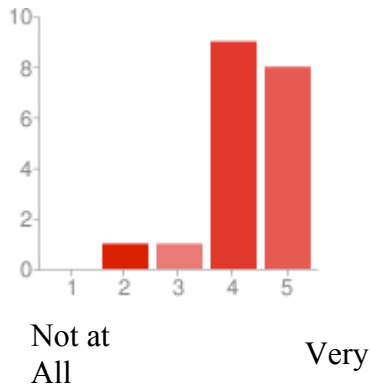
1 - Not at All	0	0%
2	1	6%
3	4	22%
4	6	33%
5 - Very	7	39%

14. How confident are you that you could design an empirical study that tests or explores a basic scientific question important to environmental problem solving?



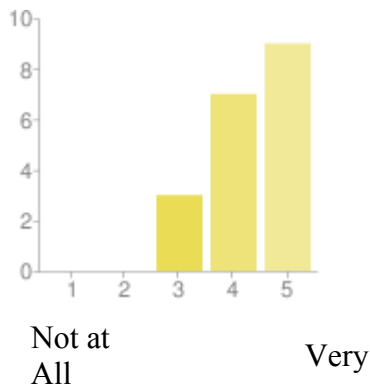
1 - Not at All	0	0%
2	1	5%
3	9	47%
4	7	37%
5 - Very	2	11%

15. How confident are you that you could deliver an effective presentation at a conference?



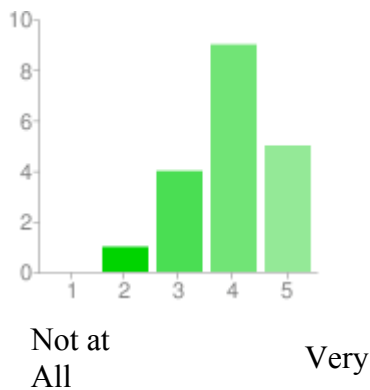
1 - Not at All	0	0%
2	1	5%
3	1	5%
4	9	47%
5 - Very	8	42%

16. How confident are you that you could work effectively in an organization, government agency, or business dealing with environmental issues?



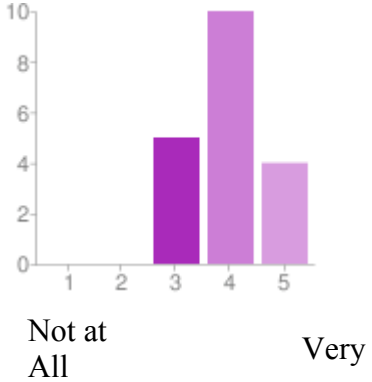
1 - Not at All	0	0%
2	0	0%
3	3	16%
4	7	37%
5 - Very	9	47%

17. How confident are you that you could make a case for your acceptance to a graduate program to advance your education?



1 - Not at All	0	0%
2	1	5%
3	4	21%
4	9	47%
5 - Very	5	26%

18. How satisfied are you with the breadth of your education in ES?



1 - Not at All	0	0%
2	0	0%
3	5	26%
4	10	53%
5 - Very	4	21%

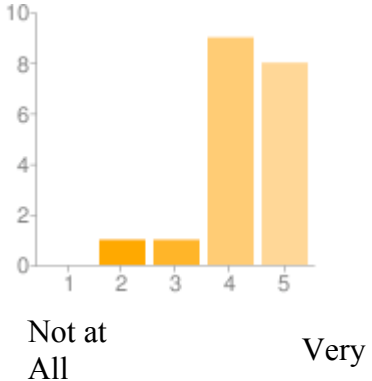
Has improved since 2009

19. How satisfied are you with the depth of your education in ES?



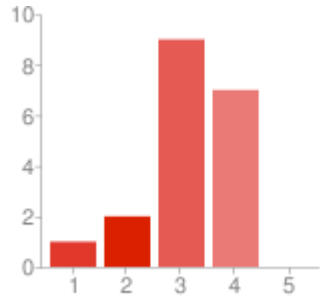
1 - Not at All	0	0%
2	0	0%
3	10	53%
4	6	32%
5 - Very	3	16%

20. How well exposed were you to the different disciplines of ES (humanities, science, social science)?



1 - Not at All	0	0%
2	1	5%
3	1	5%
4	9	47%
5 - Very	8	42%

21. How well exposed were you to careers available to people with an academic interest in ES (masters or doctorate)?



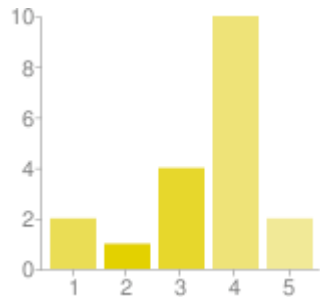
1 - Not at All	1	5%
2	2	11%
3	9	47%
4	7	37%
5 - Very	0	0%

Not at All

Very

We could do more to point students to seminars on campus that meet this need. Maybe we could do an academic career panel.

22. How well exposed were you to careers available with a professional interest in ES (NGO, government, industry or business)?



1 - Not at All	2	11%
2	1	5%
3	4	21%
4	10	53%
5 - Very	2	11%

Not at All

Very

Leadership practicum was not yet required.

Student	23. What course(s) do you think the department should require all ES majors to take and why?	24. What currently offered course(s) do you WISH you had taken while majoring in ES and why?
1	The current courses are sufficient. They seem to cover the breadth of general interdisciplinary ES issues - history, science, policy	Consumer Nation Urban Environmental History
2	I agree with the courses that are currently required (Envir classics, ELP/internship, Senior Seminar, as well as Envir Politics and Policy and Envir History). Additionally, I think there should be a requirement for one of the social science course requirements to be an economics course.	I wish I would have taken more economics. I find that issues surrounding the environment and economics are constantly butting heads. I wish I had more of a foundation in economics to understand these issues.
3	Environmental Classics (with Christine Manning): because it enlightens you about literature that came before the dooms-day global warming literature that is most popular, albeit relevant, today. Classics educated me about basic ideas and concepts that gave birth to the field itself.  Citizen Science: if not required it should be recommended more - because, especially for a beginner, it teaches you to think about environmental problems at different levels/magnitudes i.e. whom it will affect and how, etc.	car Country: because I would have liked to know more about the pre-existing urban structures that facilitates driving as the most efficient means of transportation and what the limits of shifting to alternative means of transportation were.
4		
5	Environmental History, Environmental Philosophy, Env. Classics, Envi Politics, People, Agric, and the Envi, Science of Renewable Energy	I wish I had time to take more hard science courses, like science of climate change, geology, or ecology.
6	American Environmental History-need for basic understanding of historic implications  Environmental Politics and Policy: basic need to know the major domestic and international environmental policies  Envi science: basic scientific knowledge needed  Envi classics: basic cannon of literature, jr year  Leadership practicum: good real world skills, possibly teach it in spring sophomore year so students can really use skills to develop to implement during jr and senior years. because of study abroad this breaks things up dramatically  senior seminar- project based, but needs guidance and direction as oppose to a free for all choose what you are interested in.  I think GIS should be required as well. it is a tangible skill that you can use to simplify complex data sets and to use to get a job out of college. not many people get exposed to it unless they make a point to use it.	Water and Power I have been interested in water issues for a while now but haven't had the chance to take it.
7	US environmental history- Chris is absolutely incredible and the course really taught me to think in a new way. Classics and Politics and Policy are important, too, but should really be stressed that they need to be taken early- by the end of sophomore year, or else other options should be available.	
8	None. An interdisciplinary major doesn't need required course. The only bonding ES majors do is over courses that they don't like but are required to take.	All of Chris Wells' classes. I only took American Environmental History and it was easily one of the best classes I took at Macalester. Given more time, I would take all of his classes.

Student	23. What course(s) do you think the department should require all ES majors to take and why?	24. What currently offered course(s) do you WISH you had taken while majoring in ES and why?
9		<p>ENVI 368/INTL 368: Sustainable Development and the Global Future            ENVI 365/ANTH 365: Environmental Anthropology            ENVI 343/HIST 343: Imperial Nature: The United States and the Global Environment</p> <p>These courses fit well with my interests and I appreciate that they are upper level courses, but because they were not offered regularly during my time at Mac it did not fit in my schedule to take them.</p>
10	<p>Ecology - I found this course to be extremely important in looking into a lot of the biological systems that are affected by the environment and environmental health. The labs and statistical aspects of the course were also very helpful in later coursework.</p> <p>Environmental Classics - There is never another time when you would read all of these important works in conjunction with one another. It provided a great perspective on how the field of ES came to be, and brought up a lot of past, current, and lingering issues in the field of ES.</p> <p>Internship - I had a great internship experience, and it gave me a look into what it is like to work for an environmentally focused organization</p>	<p>Environmental Economics - I hadn't taken any previous economics courses, so I wasn't able to take this course, but economics does play a large role in how policies are made regarding environmental issues, and it would have been nice to get a different perspective on the intersection of the two disciplines</p>
11	<p>American Environmental History - great class, shows the patterns of US behaviors that have lead to current environmental issues. I learned alot in this class.</p> <p>Environmental Justice - Environmentalism is often brought out into "nature" and "wilderness," but this class did a great job bringing issues back to the city and the places where people are living.</p>	<p>Urban Environmental History - the class seems great and focuses on cities, which is where I focus my studies of environmentalism. I heard wonderful things from others that took the class.</p>
12	<p>Consumer Nation - Modern day problems in a nutshell</p>	<p>The ES/Psych course always seemed to be fun but unfortunately, my core did not require me to take these courses thus I could not fit them into my schedule.</p>
13	<p>American Environmental History, Ecology (possibly instead of Environmental Science), and Envi Politics and Policy. Just really make students take those earlier rather than later, by senior year students know most of the material. If I could I would require people to take Environmental Economics but it is a pretty tough course and doesn't fit into everyone's interests.</p>	<p>I definitely wanted to take Economics of Global Food Problems but it conflicted with another course I needed to take.</p>
14		
15	<p>I think all majors should be required to take Ecology. As of now, I feel the ES major does not have enough of an emphasis on science. While I appreciate the interdisciplinary nature of the major, I feel that to understand the roots of environmental problems and to be able to solve them, a student must have a background in Ecology.</p>	<p>I wish I had taken Environmental Justice, because that is one of the areas within ES that interests me most and that I have encountered the most in my interactions with environmental issues outside of Macalester.</p>
16	<p>GIS- bc it is one of the strongest "skills" offering that ES offers (crosslisted with geography)</p>	<p>I think that although it's great that the dept is very interdisciplinary, I still think there should be another 'applied' ES course offering</p>
17	<p>The Enviro Leadership Practicum for the internship experience and reflection - although I sometimes found it frustrating at the time, I've come away pretty grateful for what it provided me.</p>	<p>I wish I could've fit in Sustainable Development and one of Chris's non-Enviro History courses, like Consumer Nation or Imperial Nature.</p>
18	<p>something with a greater scientific emphasis.</p>	<p>something wil prof. wells, something with professor davis b/c I never had them.</p>
19	<p>Statistics. Being able to explain environmental problems demands the ability to interpret and understand data. This has applications in science, politics &amp; policy, humanities, social science and more.</p>	<p>Environmental Economics and Policy. Economics is the language of politics and law, knowing more about economics would help me navigate the institutions of power to make the changes that need to be made.</p>

Student	25. What course(s) do you think are missing from our curriculum that you would like to see offered in the future and why?	26. What course(s) do you think should be dropped as required for the ES major and why?
1	Mose courses revolving around race and justice issues in the environmental movement.	Environmental Classics - the course does not seem focuses enough to be insightful. It was more of a breadth of reading that was never really discussed or addressed sufficiently
2	I don't think there are any courses missing (other then a stricter requirement for an economics course).	None
3		
4		Environmental Ethics, because I feel like the questions that you ask are already asked in a different way in many of the other classes required of ES majors.
5	I think in addition to Envi Classics there could be another literature class expanding on the environmental canon and reading more current books too. Also, I think an Environmental Education course would be beneficial. I would have liked to take Environmental Economics, but did not have to pre-req, so maybe there could be a class just for Envi majors.	I feel like all of the classes I was required to do for my major were relevant and important. I liked having the flexibility to choose between which two intro classes I would take and which other classes would fulfill the other required areas.
6	GIS GIS GIS  this should be required for the curriculum.  environmental GIS next semester will help but basic intro to GIS is very important.	
7	Something about health and the environment- public health and environmental justice go hand in hand.	
8	More environmental justice related classes. And some classes on food. The sustainable food movement is a big issue on campus and yet our ES department doesn't offer any classes on it.	The classes that professors feel forced to teach and therefore have little passion or direction like Classics, Practicum, and the Senior Seminar. These classes just fuel student frustration. The distribution requirements could be much less rigid as well. As a second semester senior I was forced to give up a class on exactly what I want to do with my ES major (envi. education) to take a natural science class because it was required. The former would have been far more useful in my future career.
9	The curriculum is missing environmental GIS. Encouraging majors to interact with GIS and introducing them to uses of GIS in environmental professions is an important step for preparing students to enter the job market.	
10	There are perhaps already too many required courses.... but as far as electives go, a forestry class would be awesome.	Environmental ethics - This course was interesting as an introduction to philosophy, but I wasn't able to really connect it with the things I was learning in other ES classes. It felt like a waste of my time, because in other ES classes, we have had discussions on the ethical implications of environmentally related decisions that were much more meaningful than the ones had in this class. It was also way too theoretical.
11	More classes on Justice and/or consumption. These topics are critical to modern environmental movements and are not covered enough in Macalester's program. Also, more classes about FOOD! There are so many students at macalester interested in food (growing it, food justice, etc), but there are very few classes that really discuss food. Also, more critical theory in all classes would be great. And classes with a very local focus would be great.	Politics and Policy - Not relevant to what many students are interested in. Perhaps the class would be better if there was a focus on LOCAL governing instead of national governing. Environmental Classics - This class is described as discussing the "canon" of literature that built the environmental movement, but the movement actually described by these texts is not reflective of how I see the environmental movement. There is far to large an emphasis on "nature," and not nearly enough focus on our everyday lives and lived experiences with our environments.
12	A very practical course, ie. Companies and environmental compliance, or something like that.	The Senior Seminar. In its current format, it has little to do with ES and does not seem relevant to future pursuits.
13		Justice is no longer related to ES.



Student	25. What course(s) do you think are missing from our curriculum that you would like to see offered in the future and why?	26. What course(s) do you think should be dropped as required for the ES major and why?
14	Courses that deal with practical knowledge in say agriculture, permaculture or urban gardening/planning. I feel I have vast knowledge in what environmental problems are present and the history behind them but very little understanding of how to actually do anything about them in the real world. Hands on, practical knowledge would be nice.	
15	It might be a very difficult course to offer, but some sort of class in entrepreneurship would be useful. Many who graduate with ES majors go on to do activities that are unconventional and pursue careers that don't necessarily already exist. Giving ES students skills to start up a business or something of the sort would be extremely helpful.	I feel that Environmental Classics should be an optional class. I do not feel that it really added to my knowledge or appreciation for environmental studies issues and solutions.
16	Remote sensing- but I know they are having it in the next semester	I havent taken a course within the ES dept that I absolutely loathed
17	I would like to see Environmental Justice offered more consistently - I think it's a really important course. Otherwise I think most everything I've wanted has been there.	I'm torn. I think the overall requirements are too many - it's just a huge major and I have honestly felt some resentment towards it and the department as I've tried to cram everything in to graduate while still taking the other courses on this campus that I want to take. I think there should either be fewer required specific courses or fewer courses required for the cores. I understand that you want to get students a full breadth of courses, but it really feels limiting and leads us to take more courses out of duty than interest. That's ok to a degree, but I have seen many ES majors graduate feeling pretty damn annoyed at the ES major, and I've felt that too sometimes. There's got to be a careful balance between laying out requirements for a full major and caring for the other desires and needs of students.
18		capstone at ordway could be re-structured to provide more purpose and guidance.
19	Environmental Sociology-- I think people who study environmental issues can often get wrapped up in institutional problems. We forget that we are dealing with people--society.	Not sure this is necessary.

Student	27. Do you have any additional comments you would like to share?
1	yay ES
2	
3	
4	I would have loved an orientation to the ES major once I had declared. Something that clearly laid out the options available to me to complete my major. Here are your options as a senior in terms of different senior seminars, honors theses, etc. Here are your options in terms of the internship requirement. Here is how to create your own interdisciplinary core...I think these would be helpful in having ES graduates who are more satisfied with their overall experience and have a more meaningful grasp of Environmental Studies as a field.
5	I think that the ideas behind the project-based senior seminar are well-based, but not well executed. I wanted to have a capstone class in ES that drew together all that I had previously learned and that would explore more concepts in depth, but instead I am doing a group project for the entire semester that has little to do with Environmental Studies. When choosing the topic for the senior seminar, I think it's important to take into account the background of the certain seniors who will be taking the class and how the topic can engage their strengths, instead of leaving everyone groping for project ideas that don't incorporate ES besides the fact that it revolves around a natural study area. I would have preferred to do a more relevant project for the Mac campus or nearby community, combined with interesting readings and discussions.
6	the faculty are great!
7	

Student	27. Do you have any additional comments you would like to share?
8	Students choose to be ES majors because they're extremely passionate about environmental issues. The department could do a much better job of gauging the interests of students in their first and second years and tweaking major requirements and course offering to accommodate student interests. Further, because students major in ES because of their profound interest in the subject matter, the department gets by with little bonding between students and faculty. But the ES department could thrive if it offered more activities (lunches, socials, etc) for students and faculty to engage with each other.
9	<p>There is too much overlap between Environmental History, Politics and Policy, and Classics. Each has a different approach, but they cover similar topics/events with the same amount of depth. Many classes are taught at the introductory level, so the foundational principles/events of ES are reviewed in each which makes classes seem too similar.</p> <p>Additionally, while topics classes (294) in theory provide an opportunity for students to take courses with differing subjects from the required ES courses that are often in a professor's specialty, my experience has been that they are not well planned/organized and often try to cover a broad sampling of topics related to a given subject rather than really going into depth on one. Understandably, there will be some reorganization to work through with topics courses as they usually have never been offered before, but it would be helpful if the syllabi of these classes went through a more extensive review process, or departmental constructive feedback phase to ensure the quality of course being offered.</p> <p>Also, it seems as though the department's course offerings are skewed toward introductory 100 and 200 level courses, which does not encourage majors to interact with ES material beyond completing their basic requirements. Trying to create an interdisciplinary major, it makes sense that many upper levels are housed in other departments without a direct connection with ES, but the ES department should still work to create upper level courses with a direct connection to ES like those few that are currently offered.</p> <p>Overall, given the challenges of an interdisciplinary major, I think the ES curriculum is on the right track. The overall connectedness of the department and its majors could be improved, though. Most ES majors identify/connect with their second major or minor department more because of the extracurricular activities, faculty involvement, and overall cohesiveness of the other department. Rather than trying to make majors feel more connected to each other by requiring them to take certain courses, it might be more effective to offer ES related field trips, have an ES club run by majors that organizes events, or other activities to build community.</p>
10	The ES professors are fantastic, but it often happened that I was relearning a lot of material in different classes. I know it is probably difficult, because students take classes in different orders, and it's nice to have everyone on the same page, but I think I learned about John Muir and Gifford Pinchot in at least 4 different ES classes
11	Overall, I think the environmental studies major needs to be drastically changed. I think the structure forces students to spread themselves out too much, and doesn't provide students with the flexibility to take an alternative view on environmental studies. I feel like the Environmental Studies department here is based in the ideas that shaped the 1970s/1980s environmental movement, and not the environmental movement that I see today. One of the largest strengths I see in modern Environmentalism is that it bucks the status quo and talks about real, meaningful change, and I don't see this reflected in the department.
12	Getting an ES major requires too many courses. I believe that the core courses should be decreased by 1 or 2 courses so that students can pursue other interests outside of ES.
13	I think the Environmental Classics course needs to be redesigned, it should be a TR class rather than a night class. It should allow students to recommend books that are classics rather than have students read the canon and read a book a week and promptly forget most of them.
14	<p>I was very disappointed with my senior seminar. It feels like the department is trying to find busy work for us to do. I thought it would be a time of reflection on what I learned over the last couple years and some exploration into what I might want to do in the future. Instead we got stuck trying to figure out something to do with Ordway. It is very discouraging to see nothing come from the past seminar projects (being dug out of the bottom of a professor's drawer). Feeling like you've done work that's already been done before about something you are sort of forced to do is not fun or inspiring and did not allow for personal reflection about my education and what it means for my future. Not a very good capstone course.</p> <p>In general I feel like I've taken the same class several times. A lot of the course work in several classes overlap. Maybe fewer classes with better distinctions between them would be nice.</p>
15	Overall, I've been satisfied with my Environmental Studies major and feel that it has informed every other aspect of my studies here at Macalester. I would like to reemphasize, however, that it is extremely important for students to get a background in science. While they should still be able to focus within their own area of interest for their core, it is essential that students have that background so that they are more employable after graduating from Macalester.
16	

Student	27. Do you have any additional comments you would like to share?
17	<p>I think there is a social aspect missing from the ES Department that I see a lot more in some other departments. I think that can be solved by SOME more contributions from professors and a LOT more by students. All the professors are really awesome - great teachers AND great people. I'd like to ask you each to be more intentional about being social with the students - having them over for dinner, going out for drinks, taking classes to coffee shops, or whatever else. I realize that might be a lot to ask many of you who are starting new families, but it really adds a depth to the student-professor relationship that makes Macalester special. I also realize many of you are doing some of that already, so thank you - but please think about more ways for professors to further the social sides of your relationships with students. However, to put less burden on professors, I think there needs to be more of a shared student culture in ES. Other departments have more parties, more social events, more inside jokes, etc. I think the burden for setting those up and developing those should rest on students, since they're better able to connect and commiserate with each other. But I think you all can have a role by nudging the students to start organizing those social events. I know ES dept events like lunches don't always get well-attended, so I don't mean to say Ann should do more work setting up events. What I mean is that I think you can hint and encourage students to hang out with each other more - maybe you can have assignments that require the class to work together outside of the classroom, or you can find students who you think would be good party captains and directly encourage them to set up something. Without a more social side of the ES department, students only really connect around classwork, which makes it feel much less of an experience and more like a (very long, complex, and demanding) string of classes. I'm really bummed that I still don't know some of my fellow ES seniors I'm graduating with. It's partially or maybe even mostly my fault for not setting those things up, but I don't want that to happen for future majors. It will be aided by professors showing more of their social sides but it will probably only really happen with student guidance. Consider what you can do to help make that happen!</p>
18	nope
19	

# Environmental Studies Senior Outcomes Summary - 2011

## Introduction

As part of the Environmental Studies Department annual assessment program, we used the outcomes assessment found below to measure the progress our majors made during the course of their education at Macalester. As part of our Assessment Plan development, we decided to have each student's adviser initially fill out the outcomes assessment form, and then we had all faculty in the department meet to discuss these forms.

## Results

Not all of the Environmental Studies graduates have advisers that are members of the ES Department. Since a number of our students are double majors (their second major often being in the area of their ES Core) they often have faculty member from that department as their adviser. Usually these advisers teach cross-listed courses in ES and are members of the ES supporting faculty. Some of these advisers felt uncomfortable providing these data (although they did provide a good deal of the data) and thus members of the department provided rankings in areas where they had the most knowledge concern a student's mastery of an outcome. For one student there was insufficient knowledge to provide a score in one area of that student's mastery.

Figure 1 shows the results of our ranking of students' mastery of outcomes based on the rubrics detailed in the outcomes assessment form.

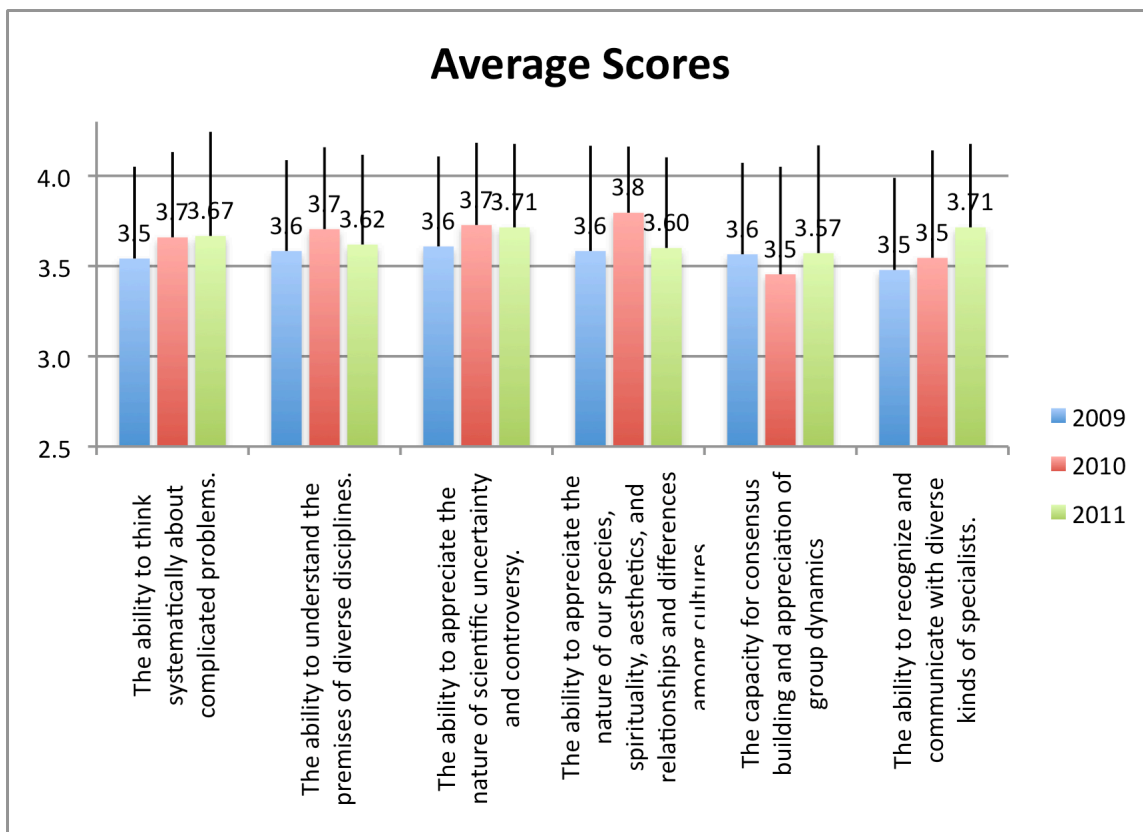


Figure 1 - Senior Outcomes Assessment – Comparing 2009, 2010 and 2011. Bars are one standard deviation.

On the whole the ES Department was quite pleased with the mastery of our graduates. We found the average mastery to be quite high in all areas. We found ourselves being somewhat conservative in rating students at the highest level of mastery, retaining that rating for the more exceptional students. For most outcomes our 2011 ratings were consistent with 2009 and 2010 ratings. As in 2009 and 2010, we had the most difficulty assessing the students' ability to master "The ability to appreciate the nature of our species, spirituality, aesthetics and relationships and differences among cultures." Chris Wells will be offering the Environmental Justice class in the future and we have committed ourselves to include more of this type of information in a wider range of classes.

This is our third year of conducting the outcomes assessment. We have committed to continuing this process for two more years and then revisiting our expected outcomes for our students.

Student Name \_\_\_\_\_

<b>Learning Objectives</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level achieved</b>
The ability to think systematically about complicated problems. (based on written work and presentations)	Treats related ideas or data as unrelated, or draws weak or simplistic connections	Begins to establish connections and perceive implications of the material	Brings together related data or ideals in productive ways, thoroughly discusses implications of material	Develops insightful connections and patterns that require intellectual creativity	
The ability to understand the premises of diverse disciplines. (based on written work and presentations)	No connections to other disciplines.	Limited or forced connections to other disciplines.	Explores connections to other disciplines.	Meaningful and effective connections to other disciplines.	
The ability to appreciate the nature of scientific uncertainty and controversy. (based on written work and presentations)	Doesn't acknowledge that there is uncertainty or controversy.	Simply reports what one side or the other says with no discussion.	Acknowledges differing points of view within the scientific community, but overlooks or misrepresents some important points of view.	Is aware of and acknowledges differing points of view within the scientific community, and uses reasoned arguments to explain why he or she has adopted a particular view.	
The ability to appreciate the nature of our species, spirituality, aesthetics, and relationships and differences among cultures (based on written work and presentations)	Does not recognize the impact of human nature, spirituality, aesthetics and cultural knowledge and is unable to formulate clearly contextual analysis.	Recognizes the impact of human nature, spirituality, aesthetics and cultural knowledge but is unable to formulate a clear contextual analysis.	Recognizes the impact of human nature, spirituality, aesthetics and cultural knowledge and explains it using contextual analysis.	Recognizes the impact of human nature, spirituality, aesthetics and cultural knowledge and explains it using contextual analysis that addresses the relationship among different contexts.	

<b>Learning Objectives</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level achieved</b>
The capacity for consensus building and appreciation of group dynamics (based on group work)	All group members have different perspectives and are not willing to listen to those of the other group members. Bickering and miscommunication frequently occur.	Some members' perspectives are heard more frequently than others. No attempt is made to draw out the opinions and viewpoints of more "silent" group members.	All members are comfortable and satisfied with the means of making project decisions. However, not all members have a voice in the way those decisions are made.	All members are comfortable and satisfied with the means of making project decisions. All group members have a voice in decisions, whether they are finally made by the consensus of the group as a whole, or a leader or subcommittee. Decisions are made rapidly and efficiently.	
The ability to recognize and communicate with diverse kinds of specialists. (based on group work)	Several of the group members demonstrate an inability to work or communicate with others of differing knowledge and abilities. The members' work reflects apathy or callousness towards the feelings of others. As a result, group cooperation breaks down.	Some of the group members have difficulty adjusting communications to accommodate persons of diverse knowledge and sensitivities. Members do little to encourage respect in others for individual differences.	Most of the group members show the ability to communicate with persons of diverse knowledge and sensitivities. Each member respects the feelings of others.	Group members demonstrate insight concerning the feelings and levels of knowledge of the other members and exhibit this insight while communicating. Each respects individual differences and sensitivities of the others.	

Some rubric language provided by David Blaney, Political Science Dept. Macalester College.

Aesthetic and spirituality rubric derived from <http://www.mdc.edu/learningoutcomes/documents/Group4Rubric.pdf>.

Scientific uncertainty and controversy rubric derived from <http://uteach.utexas.edu/ResearchMethods/CourseRubric.pdf>.

Group dynamic rubrics derived from [http://dhc.ucdavis.edu/faculty/seminarfaculty/rubrics/Group\\_Dynamics\\_Rubric.doc](http://dhc.ucdavis.edu/faculty/seminarfaculty/rubrics/Group_Dynamics_Rubric.doc)