

**Response to the Ad-Hoc General Education Review Committee's
preliminary science distribution draft**

March 6th, 2007

Ad Hoc General Education Review Committee,

Thank you for sharing with us a review of the draft copy of your proposal for the science area courses in the general education context.

In the sciences we delineate between theory and experiment. Theory is often working with an abstract ideal but hopefully one with enough validity to have some predictive power. The real world, where the theory is put to practice, is filled with friction, resistance, and chaos. There is also the law of inertia, limited resources, faulty equipment, etc. Perhaps this a good metaphor for Ad-Hoc committees?

We embrace your theory and its components:

1. an introduction to the methods of scientific analysis and problem-solving including quantitative analysis in understanding and interpreting data, scientific methodology, the interplay between theory and experiment and the role of scientific theories.
2. an experimental component (lab work and/or field-work) and ideally such courses will also
3. be interdisciplinary
4. include a discussion of values around the uses of science

We commend the ideas but in practice, within a context of limited growth in resources, our committee struggles to find the additional resources to staff and place these courses at this time.

Some comments on resources: We think your staffing is an underestimate. We counted 7 courses designed as N-Area perspectives for non-science majors during AY 2006-2007 :

1. Fall 2006: Introduction to Environmental Science, Science Methodology: 46 students
2. Winter Term: Mathematics and Strength, Light and Life: 23 students
3. Spring 2007: The Marine Environment, Insects and Humans, Campus Ecology: 83 students
4. Summer 2006: Introduction to Environmental Science: 8 students

for a total of 160 students. During the AY 05-06 about 215 non-science students took an N perspective (in 10 different courses!). With our recent growth, planning for 225 non-science students take an N-perspective per academic year is valid. Assuming 3 winter terms that are N perspectives (15 per class, the average during winter term) that means we would need to staff 7 or 8 courses during the academic year and all these would now require a laboratory. An additional 4 course load.

Do we have enough morning laboratories (at least 4 additional laboratories per semester) free to pull this off? Many of these non-science N-perspective courses have enrollments greater than 25, this is too many students to fit in many of our laboratories. Also, because of scarcity of research areas, many of our labs are presently also used as research space. Many of the disciplines are heading towards studio courses

where the lecture is taught in the laboratory, this will also make room availability even scarcer. If there were enough laboratories found, what logistical issues would have to be considered and surmounted in order to teach two different labs in the same space on a given day (storage would certainly be an issue)? What would be the cost associated with developing and setting up labs? How would lab development effort be coordinated?

Since we are already beyond capacity in the sciences many of these courses are taught by adjuncts as you have noted. Would they be willing to turn their courses into laboratories or would they decide to work elsewhere? For what compensation? What does it say about Eckerd College's commitment to general education if many of its general education courses are taught by adjuncts?

There are a few courses that are N perspectives for science majors that do not have a laboratory now (like Earth Science, Differential Equations), do we need to add a laboratory for those courses?

What about our computer science and mathematics majors, do we require that they take a laboratory?

Your team taught course is a wonderful idea but again some additional resource issues. Would the faculty have to be committed to the course for two or three years? This would be a five course commitment over a three year period for an individual faculty member as it is written. If three faculty members participated in this course over the three year period that would be a fifteen course commitment to general education which would mean these faculty members, and their respective disciplines, would have to reduce their other general education commitments over the same period.

Our Suggestions:

In the long term we hope we have enough faculty, space, and financial security to see some of your ideas become a reality. We would also like to see more room in our introductory courses (general chemistry, introductory marine science, biodiversity, etc.) such that non-science students would be welcome to attend those laboratory courses. To see science and non-science students side by side in the laboratory would be exhilarating.

In the short term, given the limited resources, wouldn't it be a good compromise to practice your worthy curriculum ideas in any proposed interdisciplinary, values orientated, common core course by instituting more hands-on laboratory experiences there (the scientific method is a foundational tool of the liberal arts, why not give it a proper place)? Wasn't the original idea by Bill Roess meant for use in a core course which included non-science faculty? We, in the sciences, could also begin the formal process of modifying some of our N-perspective courses to include, when possible, more hands on experiences without adding the complete course and a half, separate laboratory apparatus. We could then revisit your curriculum ideas as our faculty, space, and resources grow again.

Good Luck,

The Ad-Hoc Science Curriculum Review Committee