Q1: Are you satisfied with the current DEES course offerings in each of the subdivisions? (For example: number of courses, overlap of material, class size)

1 There are no courses offered in my major. The last time Biological Oceanography was taught was three years ago and itis unlikely it will be taught again in the near future.

2 In general, I've found the course offerings to be pretty good. Class size, number of courses and material has been fine. There is, on the surface, a fair amount of overlap in the course coverage. However, the focus of each of the teachers is quite different, and so I wouldn't say that the overlap has been a problem. The main complaint I've got w.r.t. course offerings is that little advantage is taken of offerings in related departments. Courses that Lamont students could benefit from include differential equations in the applied math dep't., planetary gfd, SIPA courses on international environmental issues, etc. As it is today, these courses get around by word of mouth, and few students take them, because everyone feels overworked. I would actively encourage students by advertising the relevant ones, and making some of them optional parts of the DEES curriculum.

3 The number and breadth of courses in environmental science is too small considering the number of students in this area. On the other hand, the number of courses in geophysics seems disproportionately large, but I have no first hand appreciation for the material covered in that field.

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7 There are a LOT of courses to take, which is good on the one hand, because we can study a wide variety of subjects and the class sizes aren't huge. But, on the other hand, it's bad because there are TOO MANY classes and the class sizes are small--less varied research interests are represented by the students in the classes. I'm sure I'll have many more points than I will need by the time I'm done, but also that I will have sat through classes which repeated material I already knew. I'm trying not to take classes that I know/assume will have overlapping material (i.e. John Mutter's marine seismology & Denny's geophysical methods courses). I think the problem might lie in the fact that the research interests of the students (& faculty) are very broad, but the overlap between people's interests are small. Perhaps general classes which cover a wide variety of topics within a field would be better, then supplement with infrequent specific courses and/or seminars.

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9 I am not so satisfied. One concern is about class size. I have already taken three courses in Geophysics subdivision in which only two students enrolled. They were really awkward experiences. The other concern is that: The distribution of courses between fall term and spring term is not very even. For example, three courses in Geophysics subdivision given every the other year are offered in the same Fall term: Teotonophysics I, Advanced Seismology and Data Analysis. The temporal sequences of them can be changed.

10

11 NO. THE GEOPHYSICS CURRICULUM HAS BECOME BLOATED. AS THE STUDENT BODY HAS DIVERSIFIED AND THE NUMBER OF GEOPHYSICS STUDENT HAS DECREASED, THE NUMBER OF GEOPHYSICS COURSES IS TOO LARGE. THIS HAS

TWO EFFECTS: A SMALL NUMBER OF STUDENTS IS SPREAD OVER TOO MANY CLASSES AND THE QUALITY OF TEACHING HAS DIMINISHED (THERE IS LESS MOTIVATION WHEN TEACHING TO A CLASS OF TWO)

12 Thus far, I am satisfied with the classes, but I am only taking 3 for full credit and auditing one. I am disappointed however, with class size. One class has only two students, one of us speaks English fluently and can (needs to?) ask questions regularly. We are both the advisees of the professor, but thankfully, that seems just fine. I would prefer more interaction with more students in this class. The seminar I am auditing has a total of 4 participants: professor, two students taking the class for credit and myself. Again, I think we are fortunate that the discussions have been lively, but they would be enriched by a larger class size (maybe more than 7?).

13 NO- because the courses seem to be taught at random with little thought towards what exactly are we teaching our students.. What body of basicunderstanding is Lamont trying to impart to it students ???? I can't answer that after being here for six years. In fact, it gets less clear as I've watched the classes behind me. Education is given such short shrift in comparison to research expectations. I think the research effort is suffering by not having some common base we can all agree on and communicate through.

14 No. I would have taken several classes that were initially offered but have not been taught in years due to lack of student interest. Lex and Taro's class just needs to be taught, for example.

15 no. Too few classes offered, the wrong people teaching them. (More explanation to follow.)

16 Lamont is spread a bit thin--with so many disciplines and interests, there are not enough students to fill higher level classes. Consequently, there have not always been courses of particular relevance to my field of study. I am also not thrilled with the organization of some of the professors (for their classes).

17 No -- class size fine, but not many in ecology, say. It'd be nice to have one person who knew something about soils. I don't study rocks, but seems to be preponderance of petrology/geophys classes. Maybe there are that many more students in those areas. Maybe that's b/c that's what the profs here know and teach.

18 No, I have often felt that there are too few course offerings and that many of those courses overlap. Class size is always on the small size but this is a benefit (and unavoidable given the department's size). Also, I think we need to encourage students to take classes in other departments. This does happen, but better advertising/announcements are needed.

19 I feel that there are courses available covering that topics that need to study. Although the level of some of the course are lower then they should be and some of them are not well thought out and organized by the instructors (Please see below)

20 In my subdivision, Oceans/Climate, I think the existing course offerings provide good coverage of a wide range of topics but problems exist in the way individual courses are taught. Class size becomes a problem when it exceeds ~10. Courses like Doug Martinson's QMDA which attract large enrollments should be offered every year instead of every two years, and be

assigned more than one TA.

21 I THINK SOME SUBDIVISIONS ARE NOT COMPLETE. THERE IS NO METAMORPHIC PETROLOGY, AND SILICIC IGNEOUS PETROLOGY IS USUALLY NOT INCLUDED IN THE PETROLOGY SUBDIVISION. IN TERRESTRIAL GEOLOGY, I ALWAYS THOUGHT THERE SHOULD BE A PERMANENT COURSE IN SEQUENCE STRATIGRAPHY, BUT THERE WASN'T EVEN ONE AS A SPECIAL SEMINAR DURING THE LAST 6 YEARS. THERE IS ALSO NO COURSE IN INVERTEBRATE PALEONTOLOGY, WHICH I THINK IS NECESSARY FOR COMPLETE COVERAGE OF CARBONATE SEDIMENTARY FACIES. THERMAL HISTORY OF THE EARTH, INCLUDING ASPECTS OF HEAT FLOW, HAS NOT BEEN TAUGHT SINCE MARCUS LANGSETH DIED, AND THAT MAY BE A HOLE IN THE CURRICULUM.

22 I have not taken a course in 3 years but my general imrpession was that there needs to be more emphasis on the basics. While looks like the "geology" courses (geophysical theory, chemical geology etc.) are good basic courses they need to be reoriented to reflect the distribution of students at lamont. An example might be that geophysical theory should be less focused on the inner earth and more on ocean/atm

23 No, some geophysical classes could be combined (e.g. Gravity, Isostasy, Geodesy with Principles of Geophysics). I think there is a need for a Atmospheric/Oceanography class that is similar to Advanced General Geology. Class size for the Data Analysis class is to large. Should offer it every year. In general, I think to many classes are offered only every other year. So if you are not able to take the class you have to wait two years. Very important classes (like Structural Geology is for me) are canceled because of the lack of students (2-3). This should not happen, since some of these classes are really essential for the research one is doing or for orals preparation.

24 Class size is good. There is a bit overlap for basic courses. I think there are enough classes in my discipline, though I didn't do my first 2 years of classes here.

25 yes.

26 I understand that Lamont was once a geological observatory, and think there are a lot of good geology course offerings. I think more courses could be offered in other divisions. My major area is one of those divisions.

27 1st semester, not much experience, but seems ok

28 Yes

29 basically, yes

30 -- the atmospheric sciences subdivision lacks a descriptive course, like intro to physical oceanography.

31 No, but then aren't overly general course offerings a *feature* of EES departments? After all the paucity of a specialized, and hence quasi disciplinary, curriculum is what you expect from a

truly multi-field department such as ours. Indeed one might argue that the *goal* of EES to engender a broad, and consequently shallow, sense of the "earth as a system" in its students. I believe this is the case. And frankly if I wanted lots of specialized courses I would have attended an atmospheric science department. Sometimes though I admit to being distressed by the cursory treatment of fundamental earth science by the DEES curriculum. For example I'm quite sure that few have ever grasped a working knowledge of baroclinic instability or radiative transfer from the courses offered by our department. This despite the central import of these processes to the "earth system." But maybe this isn't a such problem. After all how much can one learn from these classes anyway? And then too how important is this knowledge in sparking the talents of a budding PhD? Not much I think in either case. It's been my experience that students often complain that they "don't remember much" subject matter shortly after completing a class. And it seems that the "harder" specialized courses enhance this phenomenon. On the other hand, students in more general classes often do retain primary concepts and a vague sense for the more detailed aspects of the topic. More importantly these classes allow students to integrate new ideas into their ever changing scientific viewpoint. This idea motivated my decision to attend a program boosting a more multi-discipline curriculum rather than one with a more channeled scheme. Then again I have little faith in the power of the classroom to imbue a student with sufficient command of any subject matter worthy of granting a professional certificate--a PhD. Indeed it's from our research, our self-education under an advisor, that we acquire a professional competence of a subject. Form this point of view any class, especially the diffuse sort sponsored by DEES, is at worse contradictory to our professional progress and at best an intellectual crutch fostering the myth that there are such creatures as inter-disciplinary experts. Reluctantly perhaps, we all eventually realize that grants and positions are *not* handed out to those who know a little bit about everything. And at some point or another we all specialize--become a "Disciple of X" so that we can begin to feed and grow at the edges of the science-military-industrial complex. In the end I think we go to graduate school for the same reasons anyone attends a professional school: to make connections and practice a trade in a somewhat sheltered environment. Courses are a pleasant and valuable distraction allowing us to meet each other, play with some new ideas, and to introduce ourselves to potential advisors, and if we're lucky, future colleagues and competitors.

32 There's no paleo in practise tho' McKenna offers mammals every 3 years or so at the AMNH. Basically for paleo classes we have to go to CERC (or, in my case, I am taking a class at Yale this semesetr b/c no-one at the AMNH is willing to teach vert paleo).

33 I did not have any problems with course offerings in upper level or subdivision classes. It could be just that I didn't take classes which tended to have overlapping material.

34 There are not enough courses in hydrogeology. well, there aren't any. Chemical oceanography is covered a lot.. no problem there. there could be more courses in current environmental geochemistry issues (not just global warming, etc..).

35 No. The tectonophysics courses are too specialized according to the professors' pet topics, and do not try to provide a foundational understanding of basic concepts; rather, students are expected to somehow know these beforehand or pick them up on their own. The marine seismology course must have a laboratory component so that students can learn the basics of seismic data processing, interpretation, and inversion methods. The marine geology course

should include more than just journal articles.

36 Not enough offerings in the each subdivision. Too many courses which try to teach to people with diverse backgrounds and interests. Two examples: Remote sensing - 1/2 the people in the class were geology/geophysics but we spent most of our time talking about vegetation indexes and surface water temperature. While I acknowledge these subjects are important, those of us who are interested in the solid earth would have benefited MUCH more from a 1 semester class designed for geologists, with a minimal introduction to these other topics. Non-Linear Dynamic in the Earth Sciences- The class gave a good introduction to non-linear dynamics, but had little emphasis on the Earth Sciences. Those examples which did pertain to the earth sciences, were usually centered around climate studies. Again, a would prefer a class designed for geology/geophysics, covering the material in a manner similar to Turcotte's fractals & non-linear dynamics book. Undoubted those reading this are thinking "we don't have enough students to support 2 remote sensing classes or 2 non-linear dynamics classes with different emphasis." In reply, I would charge that if you continue to increase the breath of research here at Lamont (which seems to be a priority) then you must increase the number of students in ALL disciplines to ensure the continued success of the graduate program. Students must be able to interact with other students doing related research (as well as those in non-related disciplines).

37 Yes.

38 No. I came here to do research, not take courses, but I did look forward to taking some advanced courses in my area of interest, and filling in some gaps in my basic earth science knowledge. I was able to do the latter very well (too well), but I've been really disappointed with the advanced course offerings in chemical oceanography and related fields. I haven't taken any of my major/minors namesake courses. I had chem-ocean and bio-ocean before coming to Lamont, and didn't see any point to taking these intro courses again. More advanced, seminar-style courses would be good. Scheduling problems prevented me from taking paleoceanography, but this subject is easily learned from books and by osmosis.

39 I haven't looked at this year's offerings, but in general I thought the climate courses were repetitive. The highly quantitative ones such as Intro to Atmos. Science and Doug Martinson's classes are the ones which should be emphasized. They aren't.

40 number of courses are OK; overlap is not too much, and is understandable; The seminars maybe overlap the most. Class size is small because we don't have enough students as years before.

41 --Commenting only on the courses I've taken so far, I'm very satisfied with some classes (mostly in the atmospheric science category) and not satisfied with other courses (mostly in the physical oceanography category). Another specific suggestion is to offer Quantitative Methods of Data Analysis every year (there's almost 30 folks in it right now, making it difficult to ask questions and really have a dialog in the class); alternatively, assign 2 TA's. It's such a fundamentally important course to EVERY discipline at Lamont, it would be great taught more as a seminar rather than as a large lecture course.

42 I perceive a weakness in organismic/evolutionary biology and ecology. The courses I'd have

liked to have taken are rarely offered -- a big problem for someone who only has one year of DEES courses in his program.

43 The current course offerings are OK, but I think that a wider variety of seminars or the opportunity for guided independent studies would be helpful.

44

45 I think that many of the courses could be combined or should change their focus somewhat, as evidenced by the very small number of students per class (~2.4). If the classes were broadened in focus, they would (1) appeal to more students and (2) as a result of the first, result in more students enrolling in a class. Two students/class is enough for the class to be taught, but having at least four students in a class is much more beneficial to both the students as well as the professor.

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48 No for offerings. I'm not terribly worried about size or overlap.

49 Since i major in atmospheric science, my suggestions are mostly concerned with atmospheric courses. Basically, we have 6 such courses: 1. Intro to Atmospheric Sci. (Tony DelGenio); 2. Dynamics of Climate (David Rind); 3. Dynamic meteorology (David Rind); 4. Radiation process in Climate (Andrew Lacis); 5. Atmospheric radiation (Andre Lacis); 6. Atmospheric chemistry (Drew Shindell) Compared to those courses of MIT and CSU, first i will say they are not enough to cover the whole atmospheric sciences and relevant fields. It would be better to add more detailed courses like: clouds and remote sensing, Numerical methods in GCM, Hydrology, etc.

50 No. Climate Studies and Chemical Oceanog. need more advanced treatment (perhaps taught as seminars). One format I felt had great potential was to teach Paleoceanog. (Intro topics) as a class, then next term the specific "hot" issues in seminar format. The Phys. Oceanog. curriculum takes this approach, which seems (to an outside observer) to be a good system.

51 No. For instance, in one year I took Paleoceanography (Fairbanks), Carbon Cycle (Broecker), and Chemical Oceanography (Anderson). I would say that at least 1/3 of the material in these 3 courses overlapped, and could/should have been consolidated into one class. The field mapping course, while fun and interesting in its own right, seems to me to be little more than a token effort to acknowledge the ancestry of the department (pure geology), and not very useful to the vast majority of the students (myself NOT included, by the way). I feel that the course should either be expanded to address a much broader range of field geology (more than one folded Paleozoic carbonate sequence), or should be abolished all together. While expanding the course would necessitate more of a time commitment from the students (closer, if not equal, to the standard required field courses at other institutions), it at least would make the experience more broad and valuable. Finally, I found that the courses that were relevant to my research (which is pretty broad!) were often clumped in one semester, and then the next semester would have next to nothing. Some more thought needs to be put into when and with what the courses are offered. The undergraduate curriculum is also NOT GOOD. But I'll leave that to someone else to address…

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