Question 6: Should there be a set of basic courses required of all DEES students? (For example: Advanced General Geology, plus a new course on climatic and oceanographic principles with a similar format).

1) No, I don't think so.

2) yes, definitely. i think it's part of being a student at lamont
to try and open up to other disciplines, even though ultimately
we'll 'master' only one (more or less!)
--advanced general geology is a very useful
course for non-geology majors.
a general climate course could be useful.
also a general environmental sciences course, something
about pollution, measurement techniques...

3) In addition to my answer above, I think an Advanced General Geology and an, e.g., Advanced Ocean and Atmosphere course would be good for everyone to take in the first year.

4) Yes, I think requiring a basic set of courses would accomplish two sets of goals.
1) Give students a wider and uniform base of knowledge, this is especially important in our first years as we decide what to research.
2) Core classes would foster a greater sense of community between the students, especially in different disciplines, and hence throughout Lamont.
If one goal for future training is to foster interdisciplinary work. This is how to jump start that effort!
Perhaps the students could be required to take two of three core classes so that if they were already knowledgeable in one they would not need to waste their time.

5) yes, but it should be a pre-requisite for admission.

6) YES wrt Oceanography/climate - I know nothing! (but I heard there was a glaciation recently....). Perhaps with at least some mention of the GEOLOGICAL record too...
But only if folks haven't had either in their previous schools (so, as at present, someone coming in with an MS in Geology wouldn't take AGG, but would take Climate and Oceanog. if they hadn't had it).
How about a "Philosophy/Methodology/History of Science (and perhaps e.g.

letting us know what's happening in other fields eg physics (e.g. cosmology, CERN (? - big chamber with subatomic particles), stiff like that)- or is this assumed to be taken care of as undergrads – but "cutting-edge" e.g. like we are supposed to know for orals that the Earth has a crust mantle and core type of thing) class - even if only 1 credit, seminar-style once every two weeks. (Okay, so I got clobbered on philosophy and history of geology in my orals!)

7) Maybe.

8) --No, that would spread students too thin-- but making the introductory courses (designating one course in each area) accessible to folks with other majors would be helpful; this may be done already, I don't know-- I haven't tried to take courses outside of my concentration yet.

9) I suggest to have 1 general Earth science course.

10) No answer.

11) No, I don't think so. I think the range of backgrounds of incoming students is extremely diverse. And I suspect that with the growth of interest in societal applications for Earth Science research, this diversity will expand rather than contract. I, for example, came in with essentially no background in physical sciences. My friend Sean, who came in with me, had a masters' degree in Geology, including a couple of hundred pages of geological research, under his belt. On what basis would one say that we should be taking the same "core" courses.
Although the current focus of research at LDEO and GISS is climatology, I don't think this will always be true; nor would it be appropriate to push the entire student body into that arena. It seems to me that the focus should be on quality of education, in the context of a very diverse range of interests, rather than on a fixed core curriculum.

12) Yes, but a small set

13) maybe, hard to say. required courses can be good. wouldn't want to overload the course requirements. we seem to have to take a good number of courses.

14) Yes.
Advanced General Geo

Intro. oceans/atmosphere or Climate - yesterday and today.
Some field course (but not necessarily mapping Devonian/Silurian limestone having undergone compression). Eg. climate people could look at a greater variety of sed. rocks, others might benefit from studying ophiolites, volcanoes.
Hopefully this would be enough - then one has time to specialize too.

15) The students at Lamont are diverse. Physical oceanographers don't even pretend to be geologists. I think each major discipline should have a set of required courses, and a minimum required grade for each course.

16) I think we already have the basics covered by the deficiency-fulfilling requirements. However, like I said, Wally's Climate Change class really puts things into perspective, so maybe that should be required of those students not in the climate disciplines. While, maybe something like Advanced General Geology should be required of all the non-geology students. That might help facilitate more understanding between the climate and geology divisions.

17) Only if they equally reflect the topics covered by the students.
While advance general geology is important so is a fluid dynamics course or a basic biology/ecology course and chemistry course.

18) Yes. I think advanced general geology should be required, but the class should be structured with that in mind. Attempting to teach both undergraduates that may concentrate in geology and graduate students that are intending to study other fields is too broad a mission for one class. The required graduate course should continue to emphasize the basics of geology while adding a focus on the aspects of geology that are more relevant to students in other fields. For example, past climate cyclicity revealed in sediments is an ideal link.
At least one other required class should be added to the curriculum that concentrates on the climate system. Although a broad field, I feel that the following topics would need to be touched on: ocean circulation, atmospheric dynamics, the global carbon cycle (including the terrestrial component), climate variability, paleoclimatology, and atmosphere-biosphere interactions.

19) Yes. Please try and get Tony Del Genio or Bill Rossow to teach this class.

20) ADVANCED GENERAL GEOLOGY SHOULD NOT NOT NOT BE REQUIRED OF EVERYONE. IT IS DESIGNED TO BE AN INTRODUCTORY GEOLOGY COURSE FOR THOSE WHO HAVE NO PRIOR DEGREE IN GEOLOGY OR GEOLOGY COURSE WORK. TO REQUIRE THAT OF SOMEONE LIKE ME WITH A MASTER'S OR BACHELOR'S DEGREE IN GEOLOGY WOULD BE A BORING WASTE OF TIME. IF THERE WERE A THREE COURSE FORMAT, THE "GEOLOGY" COURSE WOULD HAVE TO BE MUCH MORE SOPHISTICATED, OR NOT REQUIRED OF ENTERING GEOLOGY MAJORS.

I HAVE AN IDEA FOR A UNIFYING ONE SEMESTER EARTH SYSTEMS COURSE REQUIRED OF EVERYONE. THE COURSE DESCRIPTION IS ATTACHED. I ALSO SENT A COPY OF THE COURSE, NOT MY SURVEY ANSWERS TO NICK C-B AND PAUL RICHARDS.

21) The current system of having 'geology deficiency' dealt with by AGG is good, and a new course to relieve 'climate deficiency' would make sense. Anything beyond this is unnecessary.

22) I would suggest a set of exams required of all DEES students, on the major earth sciences subdisciplines (geology, geophysics, atmosphere, oceanography, evolution (?)), something along the lines of a GRE subject test. If a student feels he needs to take a course in order to pass such a test, one should be offered by the department.
I think such a test should include the basics of the basics of each and every field, on a concept level (not too many details). Everyone, even if he's a geologist, should know what El Nino is, what drives the ocean circulation, what's the deal with the green house gases, how does a tornado form and develop etc. Others should
know what plate tectonics is, what a mineral and a rock are, how a fault looks like and what it tells us about the earth and its history.
I think that people here can form a list of the most important and basic topics that every DEES graduate student should know.

23) My feeling is the curriculum could be slimmed down and better focused, so allied groups of courses and divisions between groups are clearer. Requirements are not that great an idea, as they are no substitute for a good advisor.

24) No. Each student has a different background. Someone with a background in geology would probably not need to take AGG. Someone with a background in oceanography/atm. science might not need to take an intro course in ocean/atm. and should not be forced to.

25) No answer.

26) No answer.

27) That would be fine. But the system as stands is egregious. Everyone is required to take geology, no one atmospheric sci. or oceanography, or geochem. Everyone should have to take everything or there should be no basic requirements.

28) Yes--people who study climatic/oceanographic processes have to take AGG, so why isn't there a basic class in climatic/oceanographic disciplines for those of us who study solid-earth processes?

29) Yes! Every student graduating from this EARTH SCIENCE institution should have a very broad grasp in the earth sciences. However, this doesn't mean that non-geologists coming in should have to sit through mindless hours of mineral identification. (Hey, I'm not taking the class b/c I came in with a BS in geology, but I feel for those kids sitting through the torture of AGG which to my somewhat trained ear sounds useless for them.) Non-geo people should get a STRONG and broad overview in the whole system of earth sciences and likewise for geo people. They should know about atmospherics and oceanography. And everybody should have to take some schooling in the basics of ecology. But mineral identification is asinine for a non-geologist and the fact that non-geo people have to take that while geo people can remaining blissfully ignorant of the workings of 75% of the earth's surface only indicates the arrogance of entrenched geo-minded program administrators. In any case, everybody here should have a grasp of how the earth AS A SYSTEM works. An oceanographer should know the basics of plate tectonics, a stratigrapher should know the basics of ocean and atmospheric circulation.

30) No. Everyone seems to be at different stages.

31) Yes. As I said above in the first question, I think having 3 or so survey courses would be great for the reasons stated above.
It would be nice if there were 3 survey courses that all students were required to take. I survey courses offering two important things. First, it provides new students a time to bond with their peers in an academic setting. Later in their graduate careers, students would be better able to tap their resources and expertises of their fellow graduate students. Second, survey courses provide a unique opportunity to be exposed to a wide variety of subjects from leading experts in the respective fields. Lamont always touts its breadth, yet I feel like it is

incredibly difficult to tap into this wonderful, broad base of knowledge. Also being exposed to what is available at Lamont may shift one's interests and spark interdisciplinary projects. If we don't know what other people are working on then how can we make connections with our own work? Finally, being exposed to other fields at an introductory level, in my opinion, would greatly improve colloquium. Colloquium brings in researchers to talk about current projects. When these lectures fall outside of our area of expertise, it is often difficult to follow what the speaker is talking about.
The second course I thoroughly enjoyed was Advance geochemistry/isotopes. This is an example of a course that is more focused. It is not valuable for everyone at Lamont to take it, but it is an important course nonetheless. This brings up the point that while I am strongly in favor of revamping courses and offering 3 or so more general courses, we must be careful not to do away with too many.

32) You just read my thoughts. A course on climatic and oceanographic principles should be required to take. But that of course requires that such a class is offered...

33) Even though it is very painful to take core curriculum classes outside of your major it is a good idea to to be able to have some idea of what is happening beyond your research area.

34) I think the first 1-2 yrs. should be fairly well planned out with some room for electives. I think the first semester for all incoming students should be a field course encompassing one semester that would take the whole class to sea for a month, maybe out west for a geology field methods type course for a month, including GPR etc...., a month at Biosphere, and a month spent introducing people to modeling, remote sensing, logging , data processing methods. This would give the entire class exposure to the breadth of Lamont-research, the inter-relatedness of various disciplines, satisfy all field requirements, build class comradery, and provide the hands on experience that many of the younger students coming directly from undergraduate programs lack.
I think the second semester could follow up within each group at Lamont offering a more in depth seminar/methods/ how -to- do research type course that gets people ready to start their master's projects by that first summer. Other courses could be taken as well.
The second year should contain a core course that combines Doug Martinson's statistical analysis course, with Spiegelman's modeling course, and prepares students to be able at a minimum to do basic data analysis, modeling, with maybe some additional emphasis on remote sensing/GIS

etc.... almost a necessity for any field.
At end of 2nd year or 2.5 years, a M.S. thesis should be done as at any other university and students evaluated at that point for continuing onto a Ph.D. That way, a terminal masters would be a useful degree to walk away with from Lamont and not be considered a token degree or a booby prize. Possibly, orals and M.S. should be combined more closely together as oral/written comps.

35) All or nothing. I and some others have mild objections to AGG, but at bottom I think it's a good idea. And yeah, there should be a basic course in Atmos/Ocean/Climate. Maybe throw in ecology/biology.

36) DEES students should understand how the earth works. They should also understand how to measure earth processes. This requires studying both climatic and solid earth processes, human influences on these processes, if applicable and how the three allow us to understand the earth better.

37) AFTER MUCH SOUL SEARCHING I THINK A VERY SHORT LIST (4) OF REQUIRED COURSES IS A GOOD IDEA. FOUR BASIC COURSES IN GEOLOGY, GEOPHYSICS, OCEANOGRAPHY, CLIMATE/ATMOSPHERIC SCIENCE. THE EMPHASIS WOULD HAVE TO BE ON BREADTH AND QUALITATIVE UNDERSTANDING. ABSOLUTELY MUST BE WELL TAUGHT OR ELSE THEY WOULD BE WORTHLESS. THE EARTH'S ENVIRONMENTAL SYSTEMS SERIES WOULD BE A GOOD FOUNDATION - STANDARDIZED CURRICULUM (WEB-BASED) AND TEAM TEACHING WOULD HELP THE COURSE BE EFFICIENT. THIS MIGHT ALSO ADDRESS THE "ALL PROFS TEACH ONE COURSE" COLUMBIA MANDATE.

38) Yes.

39) No answer.

40) A: I think that it is a very good idea to make some basic course requirement for all DEES students. They can be introductory courses for each of the main branches of earth sciences: Geology and Geochemistry, Geophysics, Oceanography and Climate. I hope that by doing so when we go to the colloquium on a subject of a different field, we can at least follow what the speaker talk about.

41) Uh, this would seriously inhibit my program since we have so few courses to take anyway.

42) No answer

43) No.

44) No answer

45) No answer

46) No answer

47) No--this should depend on discipline. I can't see a seismologist being REQUIRED to take a climate course. I think you get more than enough climate exposure at colloquium (especially this semester). Lamont (as I understand it) was not set up as a climate research institution, and therefore I cannot see them requiring all students regardless of discipline to take a course on climate. Scripps (which requires all students to take a course in oceanography) has a requirement that makes more sense to me because it was established as an Institute for oceanography.
For Lamont to require a climate course suggests that climate will become a huge focus, maybe at the expense of other disciplines.

48) No answer

49) perhaps (see comments at beginning). Data analysis is one. But that's a tools course. Perhaps climate cycles course, if DEES expects graduates to be well-schooled in the bigger picture: carbon cycle (Wally's), hydrologic cycle, energy cycles, one GOOD course covering all these? ie. it would cover more than Wally's carbon cycle course but obviously in less depth. the idea is efficiency. maybe too broad. would need good vision to develop. But seriously, every DEES graduate should know everything covered in the undergrad Climate System course in greater depth
I noticed that there is a course entitled "Climatic Change" and so should find out more about this before I continue.
counterargument: at the grad school level, should students be striving for this breadth, when they are supposed to be come experts in one narrow field? they need to focus on being competitive with their peers in their particular disciplines.

50) I think that's a good idea, even though we all tend to specialize, I think everyone should have a basic understanding of the earth, atmosphere and, oceans

51) Since students rarely make much progress on their dissertation projects in their first year, I think it would be an ideal time to have them take 2-3 core classes each term that would introduce them to the fundamentals of the basic fields of research that LDEO is currently involved in (e.g., geology, geophysics, atmosphere and ocean science, geochemistry, climate change & environmental science). The broad range of subjects covered this first year would put everyone on a level playing field, particularly with respect to the range of knowledge expected for orals. More importantly, though, students would have a solid background in fundamentals that would prove useful for future careers in teaching (particularly of undergrads) and other professions (e.g., writing, public policy) that require flexibility rather than specialized knowledge of a particular field. Students with master's degrees should be allowed to skip any core courses in which they already have a strong background.
Going through a number of core classes together could also be beneficial to students' experiences of Lamont in general, because the shared classroom experience could foster a sense of camaraderie and reduce the sense of isolation that some students end up feeling (especially students at GISS or AMNH).
Beyond that, if there is enough demand for more specialized courses in particular disciplines, these should certainly continue be taught (presumably DEES already knows which courses tend to attract a critical mass). Otherwise, I think it would be highly beneficial for individual students, or small groups of students (2-4 people), to engage in independent studies on topics that are most useful to them, rather than signing up for classes that are tangential to their aims simply to acquire the minimum number of points required by the department.

52) Yes. 1 geology course + 1 ocean/atmos course

53) No answer

54) Yes, I think that’s a good idea, though some people will come in already having fulfilled some equivalent to these requirements and shouldn’t be forced to waste time taking them again.