

Amended October 1, 2007

The third meeting of the Committee of Six for the academic year 2007-2008 was called to order by President Marx in his office at 3:00 P.M. on Monday, September 17, 2007. Present were Professors Frank, S. George, Jagannathan, O'Hara, Servos, and Sinos, Dean Call, President Marx, and Assistant Dean Tobin, Recorder. The minutes of September 3 were approved.

The Committee turned briefly to a personnel matter. Under "Announcements from the Dean," Dean Call informed the members that he had had a productive discussion with the Committee on Priorities and Resources (CPR) about their role in the upcoming campus-wide academic facilities study. He also asked the CPR to consider specifics about the means needed to implement the recommendations of the Committee on Academic Priorities (CAP), in order to inform planning for the capital campaign.

Dean Call next reported that he had consulted with Peter Shea, the College's Treasurer, about the question raised at the last meeting of the Committee about whether Amherst has a policy regarding corporate sponsorship of events on campus. Mr. Shea said that, to his knowledge, Amherst has never accepted payment in exchange for allowing a company to serve as a sponsor of a College event. While noting that Amherst departments and programs at times may accept donated food, drink, or the like for an event and that they may acknowledge these sorts of things in a program, he said that this practice does not seem to be the question at hand. A true corporate sponsorship transaction, he informed the Dean, would require a contract and, therefore, would need to be reviewed by the Office of the Treasurer, as are all contracts entered into at the College. If a sponsorship proposal came forward, the Treasurer said that it would undoubtedly come before the senior members of the administration for consideration. In short, there is no written policy because, on a pragmatic level, one has not been needed.

Discussion turned to the 2006-2007 Summary of the Quantitative Skills Working Group (appended), which was sent to the Committee by Professor Ratner, on behalf of the working group. Some members noted the disturbingly high number of students who are not taking any math, science, or lab courses. The Committee agreed that the summary should be shared with the Faculty as a whole by appending it to the Committee's minutes, and that it should be referred to the Committee on Educational Policy (CEP) for review and comment. The Dean next reviewed with the members and President Marx possible dates for additional Committee meetings.

Returning to the topic of how best to consider the future of Film Studies and New Media at the College, Professor Frank said that some colleagues have shared with her the view that, since the CEP has endorsed the creation of a Committee on Film and New Media that would be charged, in part, with proposing a Film Studies major, the Committee of Six should consult with the CEP before deciding that such a committee should not be formed. She has been told that, in the past, committees have been constituted to consider new majors without the endorsement of the Committee of Six. Professor Jagannathan wondered whether the CEP, in the past, has established committees for this purpose. Professor O'Hara noted that the CEP has created structures for exploring ideas, offering the example of the working groups that were formed to explore ideas generated by the report of the Special Committee on the Amherst Education (SCAE). Professor Servos noted that standing committees are created by vote of the Faculty,

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and ad hoc committees are formed by the President, with advice from the Committee of Six. The members agreed that any committee that might be formed to explore a Film Studies major should be an ad hoc committee. Professor Sinos said, she would worry if a committee were constituted by the Committee of Six or the President for the purpose of proposing a major.

Professor Frank said that it is her understanding that any committee that would be formed would have a broader purpose than just proposing a Film Studies major. Professor Servos responded that, if that is the intention, the committee should have colleagues who represent the Faculty as a whole, in addition to colleagues who are advocating for a new major. If the intent is to shape a proposal for a Film Studies major, then interested faculty may wish to develop plans by coming together outside the framework of standing or ad hoc faculty committees, which might include colleagues who are uncertain if they would support a major.

President Marx asked why it has been so challenging for previous committees to build consensus and put forward a proposal for a Film Studies major. Professor Frank responded that the answer to that question is complex and multi-faceted. From her conversations with various interested parties, she speculated that the fact that the field of New Media is very new, and that different faculty constituencies have had diverging interests, has made it difficult to move forward with a unified argument. Adding to the complexity of the situation is the need to consider any Amherst Film Studies major in relation to the new Five College Film Studies major. Professor Frank said that the CEP appears to be interested in the major at this point, and that what seems to be needed is a structure that will get discussion going. Professor Jagannathan said that forming a committee to develop a proposal for a new major is not unprecedented, since the Committee of Six had appointed a committee to explore the development of a major in Women's and Gender Studies. President Marx commented that it appears that what is needed is for the various interested constituencies to come together and agree on a proposal to be vetted by the CEP, the Committee of Six, and the Faculty as a whole.

Continuing the conversation, Professor Jagannathan asked what the mechanism might be to bring the various stakeholders together. He suggested that the Dean could provide funding and set a deadline by which a proposal should be developed. Professor Servos reiterated that the Environmental Studies Committee could serve as model for how to move a proposal for a Film Studies major forward. The group's work has been supported through grants, for which its members applied for renewal each year, from the President's Initiative Fund for Interdisciplinary Curricular Projects (PIF). Applying for the renewal funding has kept the process moving forward, he noted. The initial set of circumstances surrounding the development of a proposal for an Environmental Studies major resembled those that are now threatening forward action on Film Studies, Professor Servos said. A willing and encouraging administration and the emergence of a faculty point person (Professor Dizard) overcame the initial fragmentation of the faculty who were interested in a new major in this field, he noted. Professor Servos said that the community-building and information-gathering phase of the Environmental Studies effort has lasted about three years. Professor Sinos agreed that the best model would be for a group of interested colleagues—perhaps those who were members of the Dean's Advisory Committee on Film and New Media that brought a proposal to the CEP—to come together and apply for

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funding from the Dean, since proposals for new projects are no longer being accepted for funding through the PIF. Another model, Professor Jagannathan noted, might be to appoint a committee, along the lines of the one created to develop a proposal for a major in Women's and Gender Studies, that would include both advocates of a Film Studies major and colleagues who are neutral in their views about this idea. This committee would explore whether or not it would be desirable to have a major in Film Studies, rather than simply developing a proposal for one.

The Committee decided that the Dean should ask the CEP for advice about which of the above models should be adopted. Professor O'Hara asked the Dean to inquire whether the CEP had one of these models in mind when it endorsed the idea of creating a committee. The Dean agreed to consult with the CEP and report back to the Committee.

At 4:10 P.M., Rick Griffiths, Associate Dean of the Faculty, joined the meeting on behalf of the Reaccreditation Steering Committee to discuss with the members the first draft of the College's self-study report, the final version of which will be submitted to the Commission on Institutions of Higher Education (CIHE) of the New England Association of Schools and Colleges (NEASC) in January. Professor Servos complimented Dean Griffiths on the narrative flow and beautiful writing in the document, and the other members also expressed praise for this effort. Dean Griffiths noted that many administrative units of the College had contributed to the self-study report and that writing and editing were a team effort.

The members next asked a series of questions about several sections of the document, focusing on issues revolving around tone, rationale, and the compilation of data. Dean Griffiths thanked them for their input and for raising pertinent issues. He agreed to incorporate the Committee's feedback into the next draft of the self-study report. In response to questions raised about the increasing emphasis on assessment by accrediting and governmental agencies, particularly in the area of student learning, the Committee engaged in a discussion about the place of assessment at Amherst and within higher education overall. The review of the self-study report also prompted a wide-ranging discussion of the impact of the open curriculum at Amherst. At the conclusion of that conversation, Dean Griffiths informed the members that a revised draft of the self-study report would be shared with the Faculty as a whole and said that an open meeting would be held so that the Faculty could offer its views of the document. The members thanked Dean Griffiths, and he departed at 5:00 P.M. The members then discussed briefly the Committee's practice of asking departments of tenure candidates to secure additional letters from outside reviewers when the Committee feels that additional information is needed.

Discussion turned to the topic of attendance and voting at Faculty Meetings, which the members agreed was a very sensitive, complex, and potentially divisive issue. The Committee was reminded that this issue arose last year because of the arrival of colleagues to fill new administrative positions, who currently reside in a kind of limbo with regard to their status at Faculty Meetings. While a conversation did ensue, members often wondered, during the course of their consideration, whether the costs of making any changes would outweigh any potential benefits. This conundrum was not resolved, despite a lengthy dialogue. The Committee discussed whether it might be beneficial to pare the list of administrators who attend the meetings with voice and vote and possible criteria for doing so, while noting that there is an

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unwritten rule that administrators who have voting privileges will not vote on matters relating to the curriculum. A range of views was expressed—from limiting voting privileges to faculty members; to reducing the number of administrative positions that carry voting privileges, while grandfathering the current occupants of those positions; to adding some new administrative positions to the list of those that carry voting privileges; to attaching the votes of administrators to their membership on faculty committees; to retaining the status quo. The matter remained unresolved at the conclusion of the conversation. It was agreed that a small number of administrative colleagues who are invited each year to Faculty Meetings as guests, with voice and without vote, should now be given a standing invitation.

The meeting adjourned at 6:15 P.M.

Respectfully submitted,

Gregory S. Call
Dean of the Faculty

Quantitative Skills Working Group 2006/7 Summary

In 2006-2007 the QSWG focused on the distribution of quantitative courses among Amherst College students. We also discussed issues pertaining to academic support in introductory quantitative courses including the benefits of intensive sections. Because of changes in mathematics and chemistry placement, and because of low enrollments in some intensive sections, we did not believe additional statistical analysis at this time would enhance our understanding of the overall benefits of intensive sections. We hope that the committee will return to this issue next year.

Enrollments of Amherst Students in Quantitative Courses

Given the long standing tradition of an open curriculum at Amherst, the choices our students make in shaping their education is a subject of ongoing discussion. For example the January 2006 report of the Committee on Academic Priorities (CAP) emphasized the pleasure afforded to our students in being able to “take charge of their education...” and the attendant responsibilities falling upon both students and faculty. But the report immediately notes an area of concern, namely the breadth of student course selection. Four areas in particular were cited as gaps in the education of some students: foreign language competence, global comprehension, exposure to the arts, and familiarity with the methods of science. The CAP encouraged the development of courses “outside the hierarchical structure of classes intended for majors” and (Item 19) recommended the creation of FTEs to support quantitative literacy (for both non-science majors and less prepared science majors). The QSWG in its Spring 2006 report described a survey of quantitative approaches taken in the humanities, arts and social sciences, revealing a wide range of individual teaching components. Because it is difficult to generalize from such idiosyncratic examples, the QSWG this year undertook a simpler but more quantitative approach, namely an examination of enrollments in math and science courses as conventionally described.

To capture a snapshot of Amherst students' course selection, we describe the distribution of courses for students in the Class of 2006 as a whole and by academic reader rating. All students who had completed at least 27 Amherst College classes (n=324) were included, with the cutoff of 27 chosen to accommodate students who had taken a single semester abroad and may have also made use of the first year withdrawal option or taken 5 College courses. (Similar results obtain when the cutoff was raised to 31 Amherst courses.) Note that Amherst College courses constituted over 97 percent of total 5 College courses taken by students who matriculated to Amherst in the fall 2002 semester.

We placed student course work into the following categories:

Mathematics: Any mathematics course in the Amherst Mathematics Department.

Natural Science: Any Amherst course, whether for majors or non-majors, in Astronomy, Biology, Chemistry, Geology, Neurobiology (i.e. 26), and Physics and a number of natural science based courses in the Psychology department (12,15,24,25,26,56,59,60,61).

Laboratory Science: Lab courses were selected from their catalog description from the six science departments listed and Psychology.

Quantitative: Any of the above courses, as well as quantitative methods courses taught in the Psychology (22) and Economics (55 and 65) departments.

Table 1 summarizes the four year course selections of the Class of 2006. While clearly many Amherst students have had a thorough grounding in natural science and quantitative thinking (37% and 55%, respectively, have had four or more courses in those categories), not all students have had such exposure. Forty-four percent of the class took no mathematics courses at Amherst, 58% took no lab science, and 19% took no natural science classes at Amherst of any sort. We will have more to say on these aspects below.

Table 1. Distribution of Students in the Class of 2006 by Numbers of Mathematics, Science, and Quantitative Courses Taken (students must have completed at least 27 Amherst College courses by the end of the Spring 2006 semester)

	Number of Courses				
	0	1	2	3	4+
All Q Courses	12.65%	13.89%	9.57%	8.95%	54.94%
Natural Science	19.14%	23.07%	13.89%	5.56%	37.35%
Lab Science	57.72%	9.26%	3.09%	2.78%	27.16%
Mathematics	43.52%	30.56%	14.81%	4.32%	6.79%

Table 2, below, parses the course work of the Class of 2006 according to the average academic reader rating (ARR) assigned to their applications at the time of admission rounded to the nearest integer. The overall distribution of course work does not vary dramatically by ARR, though there are some general trends in the data: science majors and premedical students (taking those with 4+ classes in Natural Science to be one and/or the other) tend to be ARR 1's and 2's; and Mathematics majors predominantly ARR 1's. Students with little or no course work in these areas, however, are to be found in roughly similar proportion across the ARR scale (here lumping 4, 5 and 6 as 4+).

Table 2. Distribution of Students in the Class of 2006 by Numbers of Mathematics, Science, and Quantitative Courses Taken and Academic Reader Rating (students must have completed at least 27 Amherst College courses by the end of the Spring 2006 semester)*

	Average Academic Reader Rating	Number of Courses					Students
		0	1	2	3	4+	
All Q Course							
	1	8.70	8.70	4.35	13.04	65.22	23
	2	13.13	13.75	6.25	6.88	60.00	160
	3	11.63	13.95	11.63	13.95	48.84	43
	4+	13.27	15.31	15.31	9.18	46.94	98
Natural Science							
	1	21.74	13.04	13.04	8.70	43.48	23
	2	19.38	23.13	10.63	5.63	41.25	160
	3	16.28	25.58	18.60	4.65	34.88	43
	4+	19.39	27.55	17.35	5.10	30.61	98
Lab Science							
	1	52.17	13.04	4.35	0.00	30.43	23
	2	51.88	9.38	3.75	3.75	31.25	160
	3	58.14	9.30	4.65	4.65	23.26	43
	4+	68.37	8.16	1.02	1.02	21.43	98
Mathematics							
	1	34.78	26.09	13.04	4.35	21.74	23
	2	43.75	30	11.25	7.50	7.50	160
	3	44.19	39.53	13.95	0.00	2.33	43
	4+	44.90	28.57	21.43	1.02	4.08	98

*Average academic reader rating is rounded to the nearest integer.

How might one interpret the course data presented? Members of the QSWG are disappointed that the response of so many students to Amherst's open curriculum is to avoid totally courses in quantitative areas. As noted earlier, nearly one fifth of our students take no course in natural science (19% of the Class of 2006), 44% no course in mathematics, and well over half (58%) no laboratory science; these last courses are those that allow students actually to experience the methodological approach of those disciplines. It is true that all but 13% of the class took at least one course in the Quantitative category, but that category is so broad as to lump Mathematics 11 (calculus), with experimental biology, with atmospheric chemistry. Amherst's Liberal Studies Curriculum, as detailed in the current catalog (p. 69) encourages students to undertake course work in a half dozen areas, two goals of which are to "work within the scientific method" and "employ abstract reasoning." Of course, any such description of course work is, necessarily and appropriately, somewhat ambiguous. Nevertheless we feel there is a disparity

between the educational goals we profess for our students and the classroom experiences too many of our students elect.

Another way to consider the course work of Amherst students is to compare it with that of students at other colleges and universities. We did not attempt to request course registration information from other schools; rather, we surveyed the distribution requirements of a baker's dozen of our sister institutions. We selected a group of top colleges and universities with no advance knowledge on our part of their requirements (except for Brown, whose open curriculum is well known). Table 3 encapsulates the quantitative curricular requirements of those institutions. Naturally, different schools have crafted their curricula in different ways; some require course work in life vs. physical science; some separate out mathematics; some specify lab components; and others simply combine mathematics and science (at least as far as we can tell from web-accessed catalog information). Overall requirements range from none (Brown) to five quantitative courses (Wellesley).

Table 3. Quantitative Curricular Requirements at other institutions

INSTITUTION	QUANTITATIVE CURRICULAR REQUIREMENTS
Brown	None
Carleton	3 courses in mathematics and natural sciences
Columbia	2 terms in science; 1 core course in frontiers of science
Dartmouth	1 course in technology or applied science; 1 course in quantitative and deductive science; 2 courses in natural sciences (1 of technology or natural science courses must include a lab, field, or experimental component).
Harvard	1 core course in quantitative reasoning; 2 core courses in science (A and B)
Middlebury	1 course in physical and life sciences; 1 course in deductive reasoning and analytical processes
Pomona	1 course in physical and biological sciences; 1 course in mathematical reasoning
Princeton	1 course in quantitative reasoning; 2 courses in science and technology, with laboratory
Stanford	1 course in engineering and applied sciences; 1 course in mathematics; 1 course in natural sciences
Swarthmore	2 courses in natural sciences and engineering; a natural science and engineering practicum.
Wellesley	2 courses in basic skills and data analysis; 3 courses in natural and physical sciences and mathematics
Williams	3 courses in science and mathematics
Yale	2 courses in quantitative reasoning; 2 courses in natural sciences

Although the schools specify their requirements in differing ways, to a first approximation the median quantitative requirement of these diverse schools is three courses within science and mathematics (as, for example, at Carleton, Columbia, Harvard, Princeton, Stanford, Swarthmore and Williams). One can then consider the course work of Amherst's class of 2006 according to this “average” course requirement of these other schools. The majority of Amherst students in the class of 2006 did satisfy this “3 quantitative course” requirement that is applied at many other institutions, but 36% of the class did not. ($12.65 + 13.89 + 9.57 \approx 36\%$.) Several of the institutions require two classes in the natural sciences; 43% of the Amherst class took fewer. Acknowledging the imprecision with which different courses are grouped at different schools, interested readers can compare the 2006 class profile with the quantitative requirements of any of the comparison schools.

The data we have collected are, we realize, limited in any number of ways. The analysis of the Class of 2006 could be replicated with other graduating classes; we could employ a larger, or different collection of comparison schools; and we could have attempted, course by course, to deem courses in other departments more or less “quantitative” in their approach. (We did not, for example, include any first-year seminars in either the mathematical or natural science category, although such modes of learning do play a role in some of the offerings.) Courses in social psychology or economics similarly were not assessed for their quantitative component. Despite these, and no doubt other, limitations in our analysis, we feel nevertheless that the data we present do suggest that there are serious lacunae in the education of a significant fraction of Amherst students. This seems true whether judged by our members' internal sense as to what constitutes a broad liberal arts education, or by comparison to the requirements of other institutions. As the QSWG, we have confined ourselves to the distribution of mathematics and natural science classes taken by the Class of 2006. A similar analysis could be done for course work in the arts, or foreign language, or global comprehension—the other areas highlighted as problematic by the CAP report.

If there were to be consensus that a significant number of Amherst students fail to engage, during their four years here, the breadth of subject matter that the College professes to value, what might be done to improve that situation? The most straightforward solution, adopted in one form or another by almost all American institutions of higher learning, would be to impose upon our students some form of quantitative course distribution requirement or core curriculum. But this “simple” solution – some would say “simplistic” – raises a host of other issues and, at the least, runs counter to Amherst practice of recent decades. This “cure” extends well beyond our charge.

A far more modest approach, one consistent with current Amherst philosophy, would be to confront the lack of breadth in the course work of some students through improvements in the advising system. Given the subjective nature of conversations between a diverse faculty and even more diverse student population, and in the absence of course requirements, it is difficult to prescribe specific practices. One suggestion, discussed on and off in recent years in various guises, would be to create a correspondence between each Amherst course and the six educational objectives we espouse as part of the Liberal Studies Curriculum. (See Catalog p.69.) Of course some courses will be harder to categorize than others, but even so a rough mapping should be possible. The results of that mapping would then be included in each

student's transcript. Students and their advisors would know, semester by semester, which educational areas had been attended to and which not, and the discussion of an individual student's course breadth would be much better informed than at present. The QSWG recommends that the College explore the inclusion of such information on student transcripts.

The Quantitative Skills Working Group:

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