

**ACADEMIC COUNCIL
UNIVERSITY OF NOTRE DAME
MEETING OF NOVEMBER 26, 2002**

Members Present: Rev. Edward Malloy, C.S.C., Nathan Hatch, John Affleck-Graves, Rev. John Jenkins, C.S.C., Carol Ann Mooney, Jeffrey Kantor, Rev. Mark Poorman, C.S.C., Frank Incropera, Eileen Kolman, Joseph Marino, Mark Roche, Carolyn Woo, Michael Lykoudis, Jennifer Younger, John Robinson, Jay Brandenberger, Thomas Merluzzi, Albert Miller, James Ryan, Dennis Jacobs, Patricia Maurice, Thomas Noble, Joan Aldous, Brian Krostenko, Cornelius Delaney, Vittorio Hosle, Mitchell Wayne, Steven Buechler, Panos Antsaklis, Mihir Sen, Robert Bretz, Thomas Frecka, Jay Tidmarsh, Dino Marcantonio, J. Douglas Archer, Kenneth DeBoer, Ava Preacher, Anthony Hagale, Megan McCabe, Bradley Buser, Stephanie Arnett

Members Absent: Pit-Mann Wong, John Welle, Mary Rose D'Angelo, Sean Thornton

Members Excused: Rev. Timothy Scully, C.S.C., Patricia O'Hara, Patricia Blanchette, Teresa Ghilarducci, Umesh Garg

Observers Present: Mary Hendriksen, Dennis K. Moore, Lt. Col. David Moskinski, Harold Pace, Daniel Saracino, Thomas Laughner

Guests Present: Jay Brockman, David Lodge, Thomas Noble, Ann Tenbrunsel, Catherine Zuckert

Fr. Malloy called the meeting to order at 3:05 p.m. Prof. Mooney offered a prayer.

1. Minutes of the Meetings of September 17, 2002, and October 7, 2002. Prof. Roche asked whether the minutes of September 17 were correct in attributing to Prof. Hatch a statement that with a faculty/student ratio of 14.9/1, Notre Dame has the same faculty/student ratio as Yale (page 6). He pointed out that in the latest *U.S. News and World Report* rankings, Notre Dame's ratio is listed as 12 to1; Yale's as 7 to1.

Prof. Hatch said that by the data he was using, the two universities *do* have the same faculty/student ratio.

Prof. Affleck-Graves explained that the value of the faculty/student ratio can vary according to the way each institution counts its faculty.

Prof. Roche asked why the University would not use its numbers to best advantage in reporting data to *U.S. News*.

Prof. Hatch said that different agencies ask institutions to report faculty in different ways. There are different categories of faculty. Teaching-and-research faculty belong to one category, but there are other regular faculty categories as well and every university has different definitions for those faculty. The ratios he used at the September meeting were based only on teaching-and-research faculty. Nevertheless, Prof. Hatch said, the question of how Notre Dame counts its faculty for *U.S. News and World Report's* rankings is important and should be taken up.

For the minutes of October 7, Prof. Mooney noted that the "member" who asked about the effect of changes in the University's new benefits package on graduate students or postdoctoral research associates (page 8) has now been identified as Prof. Jacobs.

With no further corrections or clarifications, the minutes of the meetings of September 17, 2002, and October 7, 2002, were approved unanimously.

2. Proposal to Rescind the Resolution on Course Scheduling Passed in April 2002. In an effort to distribute courses at the University more evenly over the class week, members of the Academic Council voted at the meeting of April 30, 2002, to shift all Monday/Wednesday classes – both 50-minute classes and 75-minute classes – to Wednesday/Friday, as well as to shift all Friday tutorials to Monday. Prof. Kolman, chair of the Undergraduate Studies Committee, said faculty members throughout the University have pointed out many unintended consequences of the vote. Thus, a subcommittee chaired by Prof. Preacher has reviewed the April 30 action and is bringing forth a proposal to rescind the April vote.

Prof. Preacher said that a sentence added to the motion at the April 30 meeting that "all classes now being taught on Friday only, or as a Friday tutorial, be changed to Monday" was added to the proposal without the knowledge of Undergraduate Studies Committee members or an opportunity for discussion. Furthermore, as passed, the motion did not solve the problem the committee set out to solve, which is the inefficient use of classroom space. Rather, it simply shifted Friday's problem to Monday. Considering that, along with comments by the University community of numerous difficulties the shift would cause – for example, its effects on tutorials, physical education rotations, travel for athletic teams, and the scheduling of graduate courses and programs – the committee is now asking the Council to rescind its vote.

Prof. Roche said that the second and third paragraphs of the April 30 motion – calling for a standing committee to review classroom scheduling issues and for the Registrar to compile data indicating how the University as a whole as well as each college, school, and department has performed in scheduling – could, in principle, be

retained. If the Council does choose to rescind its April 30 action, he would like to see the Undergraduate Studies Committee develop some alternative scenarios to handle the current scheduling problem. In this endeavor, the data on classroom scheduling called for in the original motion could be helpful.

Prof. Preacher affirmed that the Undergraduate Studies Committee plans to study the classroom scheduling issue and then return to the Council by the end of this academic year with an altered proposal that will, in fact, solve the problem it needs to solve.

Prof. Hatch said it is very important that Dr. Pace have a faculty committee to examine the whole range of issues related to classroom scheduling. He intends to appoint such a committee if the Council does not form one. He will wait to do so, though, in light of the Undergraduate Studies Committee's intent to return with a formal proposal that includes language similar to the second and third paragraphs of the April 30 proposal.

Prof. Preacher said that the committee is not unhappy with the second and third parts of the April 30 proposal. Members feel, however, that it will make for a better proposal all around if they include all actions related to the issue in one complete package.

A motion was made and seconded to rescind the action regarding course scheduling made at the April 30, 2002, meeting. Fr. Malloy called for a vote, which was unanimous in favor of rescinding the action.

3. Curriculum Review Committee: Presentation and Discussion of Current Draft Proposals. As part of the University's strategic planning process, Prof. Nathan Hatch, Provost, convened a Curriculum Review Committee in the Fall of 2001. He named its members as: Fr. John Jenkins, C.S.C., chair; Profs. Jay Brockman, Eileen Kolman, David Lodge, Thomas Noble, Ann Tenbrunsel, and Catherine Zuckert; and as the Committee's student member, the Academic Commissioner for Student Government - Melissa Rauch (for 2001-2002) and James Ryan (for 2002-2003).

Fr. Jenkins briefly sketched the Curriculum Review Committee's process to date. After several initial meetings, committee members met with many groups on campus, including the Provost's Advisory Committee, the deans, the Provost Office Group, and various college councils. [The draft curricular proposals are found at *Attachment A*]. After listening to suggestions and concerns about the curriculum from these groups, committee members met to focus their ideas. They chose to concentrate on three main areas: (1) the enhancement of general education in math, science, and technology; (2) the enhancement of education in ethics; and (3) the exploration of the possibility of a standing curriculum committee, along with the creation of explicit rationales for

University requirements and greater opportunities for undergraduate research. Next, committee members divided themselves into three subcommittees to work on the three chosen areas. In order to gain the widest and best expertise in their deliberations, they invited other faculty and students to join them. Each of the subcommittees produced a set of proposals and recommendations which, after some changes were made on the basis of discussions in the full Undergraduate Studies Committee, are presented to the full Academic Council today for members' comments and suggestions. Fr. Jenkins stressed that the purpose of this discussion in Academic Council is to gather comments and suggestions to assist the Curriculum Committee as it works toward a final draft.

Prof. Hatch thanked the members of the Curriculum Review Committee for their work on a difficult and complex task – one, he said, which the University takes up possibly once a decade. He then reemphasized the fact that the purpose of today's discussion is only to gather comments and suggestions on the current draft proposals.

Fr. Jenkins acknowledged that any discussion of the curriculum excites a great deal of interest, even passion. He said he has no doubt this is will be true of today's discussion as well. The purpose all must keep in mind throughout this and subsequent discussions is that our goal is to provide Notre Dame students with the best education possible. The University's general education requirements are what brings the whole university together as a university, for they are requirements for all undergraduates. Thus, these requirements are of interest to all faculty and students, whatever their college or department.

Fr. Jenkins said that after hearing members' comments and suggestions, the committee will work on a final draft to be sent to the Undergraduate Studies Committee. After that committee completes its work, the proposals will return to the Academic Council for further discussion and a vote. Fr. Jenkins said that during study days this semester the committee will hold a faculty forum to gather even more comments on its proposals. At some point, he hopes to hold a similar forum for students.

(a) Proposal 1: Create Incentives to Increase Faculty Engagement in General Education. Prof. Brockman introduced this proposal, in which the committee urges the Provost, deans, department chairs, and other administrators “to ensure that time, money, resources and weight in the promotion process be devoted to developing and delivering quality general education courses.” He said that first-rate, innovative courses in the general education requirements can only be offered to students when the faculty who teach them are fully engaged in the process of creating these courses and giving them their best. To a large degree, such an effort requires innovative activities – for example, exploring the links between certain disciplines and between different colleges. The University would like the most creative people on campus to create and teach these courses. The faculty have built significant careers, or are in the

process of doing so. Yet, Prof. Brockman said, to create strong general education offerings, the University is asking them to devote a significant chunk of their time to being generalists. And the process of creating excellent, innovative courses involves much more than developing a course for one semester, teaching it, and then walking away. Instead, it requires faculty to open their eyes and ears more than they would in a course directly in their speciality, as well as to anticipate that the class may not work quite as planned the first time around. They may need to solicit feedback from students and then make various adjustments.

Given the time and energy required, Prof. Brockman continued, the Committee is asking University administrators at many levels to work out a plan that guarantees an appropriate support structure for faculty who teach general education courses. Not only would this prevent faculty from viewing engagement in general education courses as putting their careers on hold, it would encourage the teaching of these courses as an opportunity to help build a career. The strategy, he said, is to get upwardly mobile faculty members involved in general education courses and then avoid a situation in which the faculty member is penalized – either by a department or by the central administration – because, at first blush, the teaching activities are not directly aligned with a department’s immediate goals.

Prof. Antsaklis asked what level courses the committee is pinpointing. Are these courses for juniors, seniors, or only first-year students?

Fr. Jenkins replied that the term “general education” requirements refers to the suite of courses that are required by the University of all students. While most general education courses are probably taken in the first year, they may be taken during any of a student’s four years at Notre Dame.

Prof. Kolman added that currently there are prescriptions for the general education courses first-year students take. Most of first-year students’ courses *do* satisfy general education requirements. There are many requirements, however, that are fulfilled by students later. For instance, the second philosophy requirement is always fulfilled after the first year. And, as will be discussed later, the committee is calling for greater flexibility in the year in which students can fulfill their math and science requirements.

Prof. Incropera said that he was very supportive of the Review Committee’s proposal and thinks it is a step in the right direction. Giving administrative support to faculty who want to invest time in general education courses is very important. He noted, however, that the committee still requires students to fulfill 9 of their 12 credits in math and science during the first year [Proposal 4 III]. That strikes him as somewhat inflexible. It might be better to engage students at a higher level intellectually by

allowing them to take courses in their sophomore, junior, or senior year. Thus, he would advocate more flexibility in the year of the required course.

(b) Proposal 2: Establish a Standing Curriculum Committee. The second of the Review Committee's proposals is to establish a standing Curriculum Committee at Notre Dame. Prof. Noble explained that when committee members began their deliberations fifteen months ago, they discovered very quickly that while Notre Dame's curriculum has been reviewed and amended many times over a long span of years, it has always been done in the context of a special situation, a special committee, a special group, or a special process. Even though University-required courses constitute approximately one-third of each student's education, there has never been a body specifically charged with responsibility for these courses – that is, with thinking about the requirements, promoting them, reflecting on them, or assessing the University's "core" of general education. Thus, the Review Committee proposes that the University establish a standing Curriculum Committee with a focus on the general education requirements. Its mission would be to advocate, promote, and reflect on the University requirements, as well as to invite departments, schools, or even individuals to reflect on the rationales for general education courses. Questions the Curriculum Committee might address are: What is the University trying to accomplish with its general education courses? Why? Do the courses fit the needs, goals, and aspirations for general education? Prof. Noble added that the proposal includes a provision that the committee report to the Provost on an annual basis to provide for continuing reflection on the state of general education at Notre Dame, as well as to provide a certain measure of accountability.

Prof. Roche said that he supports the idea of a standing Curriculum Committee, as well as the idea that each college is represented on the committee even if it is not offering courses that fulfill the general education requirements. He is concerned, however, that given the committee's power to approve or not approve such courses, there may be insufficient representation from disciplines in which the requirements *are* satisfied. As the proposal is written now, of the eight-member committee only three are from the College of Arts and Letters; yet, two-thirds of general education requirements are in Arts and Letters. It might make more sense to establish membership on the committee by the size of each college's faculty or the proportion of general education credit hours each college provides. Even under those more restrictive measures, however, he would recommend that five members from Arts and Letters sit on the committee – one from the Social Sciences, one from the Arts, and three from the Humanities. Humanities courses alone satisfy about two-thirds of the general education requirements.

Prof. Roche continued that he was in favor of the procedure for the approval of courses set forth in Section III of the proposal. It is important to have a rationale for the

general education requirements. To date, that has been left largely to the discretion of individual departments. Particularly in the context of what we have learned about assessment, departments should articulate the rationale for courses and what they expect students to achieve in them. He also supports the accountability measures incorporated into the proposal. They have been lacking in the past.

Further, Prof. Roche said, he supports the market mechanism the proposal establishes – for example, that someone in Engineering could teach a course on energy that would fulfill a science requirement. It would lead to exciting, new offerings. He would like to see the political philosophers be allowed to teach courses that might satisfy the philosophy requirement. While that might mean the Philosophy Department would lose some of its general education slots, the department could, presumably, offer courses in mathematical logic that would satisfy the mathematics requirement. Thus, instead of the current monopoly, departments would be encouraged to offer courses that attract students, thereby justifying retention of their faculty lines or even growth in faculty lines.

Prof. Roche concluded his comments by saying that he did have some concern about the pace of approval of courses. He recommends some mechanism for quick approval of courses that might meet a general education requirement proposed by newly hired faculty or visiting faculty. Otherwise, there may be a shortage of offerings in one area or another.

Prof. Marino said that he understands Prof. Roche's desire to have the number of representatives on the standing Curriculum Committee correlate with the number of general education courses offered by each college. Yet, rather than dwelling on how many representatives are on the body from each college, he would favor individual colleges endorsing certain courses and certain requirements. He sees nothing in the proposal outlining some flow of recommendations from the colleges to the standing committee. It might be possible to end up with an unwieldy number of committee members arguing about subjects in which none of them are experts. He would prefer that the recommendations for courses come from the colleges and that the members of the committee function more as an oversight committee.

Prof. Jenkins asked Prof. Marino to clarify whether he thinks the colleges should provide the rationale for the courses, the names and descriptions of the courses, or both.

Prof. Marino replied that the colleges should provide both. Now, each college council approves courses and modifications to the curriculum within its college. If that mechanism is removed, there will be a large disconnect. He clarified that he does favor the creation of a University Curriculum Committee.

Prof. Buechler said there are many good ideas in the proposal, particularly the establishment of rationales for the courses colleges select to fulfill general education requirements and the subsequent review by the proposed Curriculum Committee of course syllabi. He would, however, propose an alternative for Section II ID of the proposal – approval of courses taught by faculty outside a “designated” department [defined in Section III C as the department or college “which traditionally offer[s] courses which fulfill a university requirement”]. He suggests cross listing, which is the procedure used now. Cross listing would ensure that the departments and colleges involved have given their approval to a course, with the Curriculum Committee giving a final endorsement. As the proposal is written, he is concerned that the committee might make the final determination of whether a course should count for a general education requirement when the department that is charged with fulfilling it says the course is not actually at the appropriate level.

Prof. Woo said that while she supports the idea of a committee to oversee University requirements, the difficulty is pinpointing what *exactly* the committee should do. For example, in Section I of Proposal 2, it is said that the committee will “oversee” the instruction that goes on in general education classes. There can, however, be vastly different levels of oversight. She wonders what exactly is intended in this case. Section I of Proposal 2 also states that the proposed Curriculum Committee will “take up other curricular and educational issues which are relevant to undergraduates across the university.” Again, that statement is very broad. It sounds as if the committee would be authorized to take up *everything* related to the undergraduate experience.

As for Section III of the second proposal, “Procedures for approval of courses that fulfill university requirements,” Prof. Woo said she is concerned about how the oversight role of the proposed committee will be linked to actual implementation. While the Curriculum Committee would be charged with “promoting the creation of interdisciplinary, multidisciplinary, and linked courses,” what is the engine that would implement that charge? Further, Prof. Woo said, as Prof. Buechler has noted, the proposal fails to specify when the committee could overrule a department. While there may be some occasion for overruling a department, it is not clear from the proposal when and how readily that mechanism should be invoked.

Fr. Jenkins responded that the language in Section I of the second proposal is intended only to summarize what is delineated in more detail in Sections III and IV. Does Prof. Woo think the role of the proposed Curriculum Committee is unclear in those later paragraphs as well?

Prof. Woo responded that the summary in Section I is much broader than the procedures outlined in Section III.

Prof. Robinson suggested that the committee amend Proposal 2 to indicate that rather than giving the Curriculum Committee total authority over the approval of courses that fulfill a University requirement, the committee's responsibilities should include "working with" the department in which "a requirement is traditionally housed" to approve courses. Such language could be inserted in Sections I and IIIB of Proposal 2. As such, the proposal would not say what to do in case of a disagreement between the committee and a department, but it would incorporate the idea that the committee's task is to collaborate rather than monitor or police.

Fr. Jenkins said that Section III of the second proposal is intended to clarify the role of the committee that is more broadly outlined in Section I. He agreed, however, that Prof. Robinson's suggestion would be a useful clarification of the intended role of departments in the approval process. What specifically, he asked, do the words "working with" entail? In its current draft, the proposal asks departments to submit a brief rationale and course syllabi to the Curriculum Committee. Does he contemplate something more?

Prof. Robinson replied that the concern is that the proposal is explicitly bypassing existing departmental and college structures, especially departmental structures. That is a major change and one that might meet some resistance. Thus, if the committee builds into its proposal ways to acknowledge the existence and relevance of departments to the work of the Curriculum Committee, it might be perceived as less revolutionary. How that would be realized in practice – for example, when there is disagreement between the committee and a department – he is not sure.

Fr. Jenkins responded that while he does not disagree with Prof. Robinson's comments, he wants to clarify that it is the *departments* that first generate the rationale for courses proposed to meet the general education requirements. The committee's role is then to approve or disapprove the submitted rationales. In instance when a faculty member outside a designated department or college proposes that a course fulfill a particular University requirement, the committee must consult with the chair of the designated department or an appropriate associate dean of the relevant college regarding both whether the course fulfills the rationale for the University requirement and whether the faculty member has the competence to teach the course (Proposal 2 III D).

Prof. Incropera said that as he understands the proposal, new courses first percolate up through the departments and colleges that traditionally have been responsible for them. The Curriculum Committee might decide that certain courses do not meet the general education requirements and send them back with the reasons why they do not. If, ultimately, a course cannot be modified to meet the University requirements, the department can still *offer* it.

Fr. Jenkins agreed with his interpretation.

Prof. Merluzzi asked whether members of the Curriculum Review Committee believe that the constituencies that support the required general education courses are not communicating well with each other so that the function of the Curriculum Committee is to better coordinate their communication.

Fr. Jenkins said that the concern of Curriculum Committee members is that there is *no* rationale for the University's general education courses. Now, it is required only that students take a course in the Philosophy Department, the Theology Department, etc. The point of the proposal is that departments must *articulate* – in a general way – what they hope students will learn through the general education courses they offer.

Prof. Antsaklis commented that what is considered “general education” today may not be considered so in 15 or 20 years. Because it is in interdisciplinary courses where much of the growth in courses at the University will occur, he wonders how the proposal will encourage their creation and whether they will in fact meet general education requirements.

Prof. Brockman responded that part of the rationale behind the proposal was to have a body that would advocate for the creation of interdisciplinary courses. Apart from the issue of whether barriers to the creation of such courses exist, there are no resources available now to a faculty member or a group of faculty members who are thinking about putting together a course that might satisfy a general education requirement. The proposed Curriculum Committee could provide those resources and help expedite the approval and implementation process for innovative courses.

Prof. Brockman continued that there are practical implications to the proposal as well. Students in programs with few opportunities for electives – engineering, for example, or those with double majors – often cannot find room in their schedules for classes other than general education requirements. Having the opportunity to take a multidisciplinary course and, at the same time, fulfill a general education requirement would be most attractive to these students.

Prof. Delaney said he wants to make sure that an impression is not created that there is no rationale for the current general education courses. Approximately one-fifth or one-sixth of the courses offered in any given semester in the Philosophy and Theology Departments fulfill the general education requirement for these subject areas. That means, however, that many courses do *not* fulfill those requirements. Thus, if a student takes a course offered by the Philosophy Department on mathematical logic, it does not fulfill the philosophy requirement – nor does a course on Kant or Aristotle or a course on the philosophy of science. The assumption is that the Philosophy

Department is in the best position to know *why* certain courses meet the general education philosophy requirement and others do not. Theology has done the same thing. The first and second theology requirements have been built into specific courses.

Prof. Delaney continued that what makes him a bit nervous in the draft proposal is the ability of the Curriculum Committee to trump the departments. The Philosophy Department has already provided the rationale for its courses. It has partitioned them numerically so that 100- and 200-level courses fulfill the general education requirements, but 300- and 400-level courses do not. While the idea of the Curriculum committee seems perfectly reasonable, trumping the departments seems a bit odd. Furthermore, if most of the courses in the Philosophy Department itself do *not* satisfy the philosophy requirement, it would seem unusual for courses outside of the department to satisfy it. Thus, when courses are taught by faculty outside a designated department or college, he would advocate establishment of minimal guidelines – for example, a presumption in favor of having a Ph.D. in the area or a certain number of publications in the area. Then, he would feel a bit more comfortable about the Committee overriding a department.

Prof. Preacher said she is concerned about language that would require the Curriculum Committee to approve *each* course that fulfills a University requirement. Her immediate concern is the implications for transfer students. Now, Notre Dame allows courses at other universities to fulfill the general education requirements. Also, what might the proposal do to the study-abroad curricula? Will the committee have the same oversight of those courses? Their content is often not finalized until shortly before registration. If the proposal means that students could not use these courses for requirements but only as electives, that would be a major change.

Prof. Affleck-Graves spoke in favor of the proposal, saying that it would help guide the conversation if members clarified whether the point of the general education requirements is to have students or whether it is to be exposed to particular sets of ideas and ways of thinking. If it is the latter, then it becomes clear that the proper course of action is to move out of departments and more into the idea that ways of thinking can be covered by many different courses. For example, the rationale for the mathematics requirement might be to have students acquire a sense of ease with or understanding of mathematics. That could be fulfilled by courses outside of traditional mathematics courses – for example, statistics, psychometrics, econometrics, stochastic calculus – all taught by a number of different yet competent faculty.

Also, Prof. Affleck-Graves commented, in a community of scholars there must be a certain amount of trust. We need to trust the proposed committee to make the appropriate judgments. He does not believe that its members would be casual about

decisions and let courses through even though they do not meet requirements. After all, the committee's task would be to make sure that courses proposed for general education requirements fulfill a certain substantive motive.

(c) Proposal 3: Create an Undergraduate Degree with Honors. Mr. Ryan introduced the third proposal: Creating an undergraduate degree with honors – as distinct from the awarding of traditional Latin honors, which are based on students' grade point averages. He said the proposal stems from the desire of the Curriculum Committee members both to improve faculty/student interaction and to reward talented seniors who undertake a significant research project and do it well. Such projects are extremely valuable to students, as they serve as a capstone experience. Under the proposal, each department would specify the requirements for earning a degree "with honors" in its particular major. In all cases, the requirements would include "significant research which is of high quality." The Curriculum Committee would approve each department's proposed honors standards so as to ensure consistency across the University. The achievement of an honors degree would be noted on students' diplomas and transcripts.

Fr. Jenkins noted that this sort of degree is awarded at other universities.

Fr. Malloy said that currently, Notre Dame students who graduate with Latin honors are said to have graduated "with honors." How would this new kind of honor be distinguished?

Prof. Roche answered that Latin honors relates only to grade point. With the addition of the possibility of receiving an undergraduate degree "with honors," a student could graduate from Notre Dame with only Latin honors – e.g., "magna cum laude" – or, for those who complete a capstone project with distinction, only honors – e.g., "with honors in psychology" – or with both Latin and departmental honors – e.g., "magna cum laude with honors in psychology." Actually, Prof. Roche pointed out, students in Notre Dame's Honors Program can achieve both types of honors now. Honors students can graduate, for example, "summa cum laude with honors in the Arts and Sciences Honors Program."

Fr. Malloy said his only concern is the word "honors." It is a term that seems watered down or imprecise to him. Those present at the graduation ceremony or who later read a transcript might not understand the full implications of the word. While he has no suggestions for a better one, it sounds a bit like one more star on a grade-school paper.

Prof. Delaney noted that at Stanford what Notre Dame calls "Latin honors" are acknowledged by the words "with distinction." Thus, a student who graduates with a 3.8

GPA graduates “with distinction.” Students who also complete an honors track in a department receive a notation on their diplomas such as “graduates with distinction with honors in Physics.” Given Fr. Malloy’s concern about the nature of the word “honors,” perhaps the word “distinction” could be adopted at Notre Dame instead. Thus, here, on successful completion of a research track, a student could graduate “summa cum laude with distinction in _____.” Also, Prof. Delaney said, at Stanford each department holds a ceremony to recognize those who do graduate with departmental honors – whatever the student’s grade point average. It is left to the university to honor those with high grade point averages.

Prof. Woo said that she likes the idea of having a research track for undergraduates; however, she shares the concern that the honors designation could become, figuratively, just another credentialing star. A separate concern is that she would prefer that departments offer the research track option to more than the top five percent of the class. While she believes there should be some entry requirements for the research track, it should be available for students in the top 20, top 15, or top 10 percent of the class who say that they would like to explore what research in an academic career may be like.

Prof. Merluzzi said that he thinks it is important for the proposed Curriculum Committee to oversee the awarding of honors throughout the University. Honors students in his department work very hard. Their research projects culminate in manuscripts very much like what faculty members produce for submission for publication. These students are distinguished from their peers in that respect. Students in other departments might do research in a lab and at the end of the day go home with no further responsibility for the project. Honors students should do something well above that. Thus, it is important that the proposed Curriculum Committee discover and oversee the standards for each department.

Prof. Preacher pointed out that there is a difference between a degree with honors – Latin honors – and a *major* with honors – which is what the committee is proposing. Now, Latin honors are noted on students’ diplomas, while honors in departments are noted on students’ transcripts. There would be less confusion if the committee referred to its research-track proposal as “a major with honors.”

Fr. Jenkins said the motivation behind the proposal is to signal to students that the University cares about more than their GPA. The point is to indicate to them that undertaking a major project with a faculty member and doing research appropriate to an undergraduate deserves recognition.

Prof. Roche said that in the exit survey the University conducts, Notre Dame tends to score low vis-a-vis its peers in the number of undergraduates who are involved

in some kind of capstone research project. Awarding this kind of degree would provide an incentive to students and a window onto an experience that seems to be underdeveloped at Notre Dame.

Prof. Robinson said that, again, this proposal allows rather starkly for the possibility of conflict between the proposed University Curriculum Committee and departments. As the proposal is written, the Curriculum Committee approves the standards for each department for the awarding of a degree with honors. While perhaps the committee's role is merely to rubber stamp departments' standards, theoretically, it could trump the departments' judgments of what constitutes good research by a senior. It would seem a bit odd for a committee composed mostly of non-psychologists to be able to overrule the Psychology Department on its determination of that standard. Perhaps this goes back to the trust Prof. Affleck-Graves mentioned that should prevail in any academic community; nevertheless, the Curriculum Committee should probably build some tie-breakers into the system for situations when disagreement occurs.

Fr. Jenkins responded that first, the point of giving the proposed Curriculum Committee oversight of departments' honors standards is to ensure continuity across departments. Merely working in a lab should probably not be sufficient to earn an undergraduate degree with honors. Second, there are other models in the University for giving the judgments of non-specialists some deference. For awarding of tenure and promotion, cases come through a committee of faculty from various departments who evaluate research, teaching, and service in a field that is not their own. The point is to have a body that will provide some oversight – not absolute, for the departments have primary input – of whether certain standards are appropriate and whether they have been met. The same model can be used for the proposed Curriculum Committee.

Prof. Woo said she believes that *every* student in *every* major should undertake a capstone research experience. In fact, she recalls seeing such a proposal in earlier Curriculum Committee discussions. This is different than what the Review Committee is advocating, which is a *research track* in every major. She supports that idea as well, for Notre Dame graduates tend not to go to graduate school except to the professional schools – law, business, and medicine. In fact, the percentage of Notre Dame students who undertake graduate school in other fields is very low relative to the University's peers. If students had an earlier exposure to academic research, the percentage might rise.

Prof. Incropera cautioned against assuming that all capstone projects have a research component. It involves the design and development of an artifact. He said that in engineering all students have a required capstone project, but it is disconnected from research. He is more in favor of the notion of a research track, where students so

inclined can begin as early as the first or second year to become involved at some level in the research process.

(d) Proposal 4: Improve the Mathematical and Scientific Literacy of Our Non-Technical Students. Prof. Lodge introduced the fourth proposal – improving the mathematical and scientific literacy of Notre Dame’s “non-technical students”; that is, students who do not have specific science and math requirements for their major. This subset of the University’s students generally numbers from 200 to 300, but it is never more than 500.

Currently, Prof. Lodge said, non-technical students are required to take two courses in mathematics and two in science. To fulfill these requirements, they have the following options: For science requirements, there are 14 courses available in 20 sections. Enrollment in the courses varies between 25 and 250 students. More than half – 64% – of the enrollments for non-technical students are in biology. The class size of three biology courses are over 100; three others are over 200. The average size is 92. The Mathematics Department offers fewer courses to non-technical students, but the sections in its offerings are smaller. The average class size in mathematics courses is 47 students.

Prof. Lodge said that it has been a challenge for both the College of Science and the Mathematics Department just to have these courses. Members of the Curriculum Review Committee have a strong sense that there is a need for improvement in the number of courses, the variety of the offerings, and the quality of the courses in terms of meeting the interests of students. They believe that mathematics for Arts and Letters students should be designed to enhance problem solving, critical thinking, rational decision making, and appreciation of mathematics. Science, both natural and applied, for Arts and Letters and Business students should be designed to enhance understanding of the physical and biological universe and its application to human needs.

Prof. Lodge continued that his Curriculum Review Committee subcommittee has devised several proposals to help solve the problems members have identified. One is contained in Proposal 4, Section II: Develop Courses that Integrate Sciences, Mathematics and the Humanities. This section contains many of the ideas introduced by Prof. Brockman today in conjunction with the first of the Curriculum Committee’s proposals: the need to offer incentives for the creation of general education courses that are more creative – particularly interdisciplinary courses. Other suggestions set forth in that section are linked courses, team-taught courses, credit-bearing lecture series, integrated capstone experiences, and one-credit topical courses.

Prof. Lodge said that it is the Curriculum Committee’s belief that students have

a great interest in seeing connections between disciplines. Yet, given the current structure in the departments and colleges, it is often quite difficult for faculty to develop courses that do not narrowly meet the needs of the department's offerings for its majors. Thus, the committee is urging that the University offer incentives, or at least make it possible for faculty to join together – even across colleges and departments – to create courses that are interdisciplinary in nature and that promote not only a research agenda but a *teaching* agenda – even for the University's students in non-technical majors. Prof. Lodge concluded by drawing attention to what he said may be an understatement – the last sentence of Section II: "Development of these courses will require new resources."

Prof. Marino said that Section II of Proposal 4 incorporates all the things that he and others are concerned about in terms of oversight. Who is deciding what "science" is? Who is deciding what "mathematics" is? It is clear, he said, that the College of Science and the council in that college believe that the science requirement should remain as it is. While Section II is a compilation of what the committee believes, it is not what the College of Science wants.

Prof. Incropera asked Prof. Marino if he is opposed to expanding the science requirements beyond the natural sciences to include the applied sciences.

Prof. Marino said he was not; however, the examples given in the last paragraph of Proposal 4, Section II for multidisciplinary courses – sustainable development, ethical issues in the environment, or genetics and ethics – are not all very compelling to him in terms of how they were described. There already is a requirement for ethics. These courses do not constitute science courses.

Prof. Jacobs said that the difficulty with the proposal is that it provides very specific recommendations on how mathematics and science requirements are to be met but fails to set forth an accompanying rationale. Yet, the whole premise of the proposed Curriculum Committee – and it is a good one – is that we start the educational process by articulating what it is we want our students to achieve. Philosophers, theologians, scientists, mathematicians – all would probably agree that whatever the area, the point is to expose students to a *way of thought*. Scientists view the world from a certain perspective – they make observations, develop models and hypotheses, and then test those with experiments. Conveying the scientific way of thought to students is not possible through all types of courses. Thus, while a course such as "Ethics and the Environment" may be a very valuable course, it may not meet the rationale for a general education science course. Without having the rationale of the science requirement in front of us, it is difficult to measure and evaluate how well particular types of courses meet it.

Prof. Jacobs continued that the same criticism applies to the committee's treatment of the mathematics requirement. First, we need to examine what it is we want our students to achieve in terms of mathematical literacy, etc. Then we must ask whether that level can be met with a single course in mathematics or whether it requires two. It is difficult to make that assessment without knowing the rationale for the mathematics requirement.

Prof. Incropera commented that the rationale articulated by Prof. Jacobs is a very good one – if you happen to be a science or an engineering major. The discussion here, though, centers on courses that would be offered to students in the Colleges of Arts and Letters and Business. An equally valid rationale for these students would be *context*. That is, to try to explain basic scientific principles in the context of things that have meaning in their lives – whether that is public policy, ethics, social justice, or economics. That is where he sees some compelling needs being met by the proposed integration of science, mathematics, and the humanities. Perhaps students who have very low levels of interest in mathematics and science gain a better understanding of the role of science and technology in their lives by courses that are relevant to their concerns. As a result of these courses, they may make personal decisions or be able to provide leadership on decisions made by organizations of which they are a part later on in their lives. Thus, a different rationale for science and mathematics courses exists for students in non-technical fields.

Prof. Incropera said he could use his own experience as an example. As both an undergraduate and a graduate student, he took probably a dozen mathematics courses. With all due respect to the outstanding mathematicians at M.I.T. and Stanford who taught him, he gained more from the applied mathematics courses taught by engineers – for they were actually using mathematics in applications that were of interest to him. The point is that *context* is extremely important. He would not undervalue it.

Prof. Merluzzi said that he, too, believes it is important to recognize teaching science as teaching a way of thought. In the College of Arts and Letters, the Department of Psychology has its foundation in science and uses scientific methodology. Thus, the notion that science does not exist in Arts and Letters is somewhat of a mistake. Psychologists consider themselves very much aligned with the scientific tradition.

Prof. Aldous said that in her research as a sociologist, the field of statistics is very important. For example, currently she is examining how much overlap there is in various immigrant groups on their math and English achievements and how that overlap is affected by particular family backgrounds. Thus, certain fields, particularly those in the social sciences, already integrate science and mathematics. Many Arts and Letters

students want nothing to do with mathematics; yet, if they are nudged into that field through the social sciences, it becomes interesting to them. This might occur with a political science major who is interested in voting behavior. Creative courses taught by good teachers will make mathematics interesting to non-technical students.

Prof. Brockman said that there was no intent on the part of Curriculum Committee members to “dumb down” science and mathematics. Instead, they are asking *more* of faculty. They are asking specialists in a given area to adopt more of a generalist viewpoint – not in order to make science and mathematics “taste better,” but to make these subjects more relevant to their own interests. That is a challenge.

Prof. Wayne said he is struck today, as he has been in various conversations over the last ten months, at how asymmetrical the discussion is. A typical science student is required to take eight courses in the College of Arts and Letters, plus a language course; yet, a typical Arts and Letters student takes two math and two science courses. While there are many discussions of the “relevance” of mathematics and science, no one ever asks the same question of Arts and Letters courses. What if they are not interesting to the science students? Why are we not asking how to make Arts and Letters courses “relevant” to science students? The conversation is always in one direction.

Prof. Brandenberger commented that he agrees the point is to educate students broadly – that is, to give them a broad view of the different ways of thinking about the world and about themselves. It is not too much to ask them to take four courses outside of their college.

Prof. Woo said that it is fair to say it is possible to have a logic course offered by the Philosophy Department, a quantitative course with context offered in any of the social sciences, or a very good applied math class offered in Engineering. The question is: Who gets to decide whether the course meets a general education requirement? Is it the University Curriculum Committee or the department that makes that judgment?

Prof. Kolman then addressed Section III of Proposal 4 dealing with restructuring the general education requirements in Mathematics and Science. She said that there are five aspects of this section to bring to members’ attention.

First, instead of counting the *number* of courses students take, the committee proposes counting *credit hours*. This would allow the creation of more innovative topical courses that could be one- or two-credit courses a student could put together in a creative way to satisfy the general education requirements.

Second, Prof. Kolman continued, current University requirements call for students to take their two math and two science courses during their first year. The committee proposes introducing more flexibility and requiring students to take 9 of the 12 required credit hours in their first year, leaving them some room to pursue another topic that may interest them.

Third, students in topical science courses do not currently have any lab experience. Committee members are hopeful that when the new Science Learning Facility is completed a good number of the topical science courses might have some lab experience connected with them.

The fourth area the proposal addresses is expansion of the term “science.” Currently, most of the general education courses that fulfill the science requirement are in the natural sciences. The committee would like to see the area of science expanded so that students could fulfill their science requirement by choosing courses *either* in the natural sciences or the applied sciences – which are generally offered in the College of Engineering.

Prof. Kolman continued that the fifth issue is the math requirement for Arts and Letters students who are not following a pre-professional track. All other students have a specific math requirement associated with their major. For example, a student who begins as a Business intent will take two semesters of calculus. Because many students begin their studies at Notre Dame in programs with a specific mathematics requirement, there is a maximum of 500 students with no specific math requirements each year, but more typically, between 200 and 300 students. For these students, the committee is proposing a one-course math requirement, with a fourth course taken either in math *or* either natural or applied science. The point is to give students flexibility in areas that match their interests and the opportunity to see things in context. In addition, there are and will be more courses offered in the science area, especially when applied science courses are available as options.

Prof. Merluzzi reiterated that psychology courses should be included in the category of “applied sciences.” While he cannot speak for Sociology, Psychology looks at itself as consistent with departments in the College of Science. Also, given the Review Committee’s intent to offer students greater flexibility, he asked why it proposes the option of three science courses and one math course but not three math courses and one science course.

Prof. Buechler agreed with previous speakers that it is not too much to ask students to take four or even five courses outside of their college. Furthermore, he favors retaining the current math requirement. It is a bad time to lower the requirement. Whenever the president or a high government official speaks of the state of education

in the United States, they speak of the poor education many receive in math and science. Anyone who has a college degree ought to have been exposed to calculus at some time. While calculus is faulted occasionally as being inappropriate for non-technical majors, it is one of crowning achievements of modern man. Of course, many students take calculus in high school. Thus, they should be offered options relevant to their future careers.

As for statistics, Prof. Buechler continued, It is unfortunate, but many popular statistics courses are taught by asking students to go to the newspaper and find articles that use statistics incorrectly. Journalists, lawyers, policy makers – these are just three professions in which statistics are important. Taking only a few courses will not enable students to achieve a high level of proficiency, but they can at least become intelligent consumers of mathematics and statistics and lay the foundation for the realization that both may be useful in helping solve some of the problems that may come across their desks in the future. The point is that we want our students to learn to ask questions.

Prof. Buechler said that while the Mathematics Department does not have all the courses in place right now to accomplish this goal, it is not standing still either. A logic class was introduced a few years ago; an introductory statistics class will begin this spring. Other courses in what may be called “decision analysis” will come on board soon.

(e) Proposal 5: Enhancing Education in Ethics. Prof. Tenbrunsel introduced the committee’s final proposal: Enhancing Education in Ethics. She said that while there was agreement among the Curriculum Committee members that ethics was an issue that deserved attention, there was disagreement among subcommittee members about how to best implement that objective – specifically, whether Notre Dame *needed* to enhance its education in ethics, whether or not it *could* enhance its education in ethics, and whether or not it made sense to do so within certain schools.

Given that disagreement, the current draft states that a distinctive and central feature of a Notre Dame education is the attention given to ethics and the development of character and that the current emphasis should be enhanced. It recommends that in conversation with the Departments of Philosophy and Theology, the University should make some standard instruction in ethics a significant and formal part of required philosophy and theology courses – specifically, that approximately 20% of each introductory course in these departments should be devoted to ethics. Further, the proposal urges the creation of an appropriate vehicle for achieving greater awareness of the initiatives taken in ethics education across the University, greater understanding of the ways in which one academic unit can assist another, the creation of synergies among units, and the fostering of an attitude of cooperation and mutual support across the University on this important issue with regard to both tracking and research.

Prof. Roche said to return to Prof. Wayne's comments, not only should Arts and Letters students find context and meaning in their mathematics and science courses, but mathematics and science students should find meaning in Arts and Letters. Thus, he supports the move to greater ethics education. He has heard from Prof. Kolman, as well as from students anecdotally, that there are an insufficient number of ethics courses included among the courses available to fulfill the second requirement in both philosophy and theology, especially given the integration of ethics into the curriculum in some of the professional schools.

Prof. Roche said that his main concern is with the recommendation that 20% of each introductory course must be devoted to ethics. The Theology faculty spent a great deal of time working through the different options for their introductory courses. They have reconfigured those courses rather dramatically, and they do *not* have much of an ethics component – if any at all. He proposes instead that at least one-third of the introductory philosophy course would introduce ethics from three different perspectives. Every student would then, having taken that first philosophy course, have some acquaintance with Aristotle, Kant, and Mill (for example), and the principles that undergird their theories. Also, the Philosophy Department should be encouraged, as the Curriculum Committee has done elsewhere in its proposal, to offer more courses at the 200 level that have some ethical component, so as to find that reciprocity in terms of context that Prof. Incropera articulated so well.

Prof. Delaney said he would estimate that at least one-quarter of most of the introductory philosophy courses consists of ethics – possibly a third – which is by far the easiest way for students to grasp philosophical issues. Probably half of the 200-level courses the department offers are in ethics. If more ethics courses are offered, they will most likely replace religion or religion and human nature courses, because probably half of the 200-level courses are only in three areas: ethics (various kinds of theoretical and applied ethics courses), philosophy of religion, and “the distinctiveness of man.”

Prof. Incropera said he would like to speak with the voice of the customer – the customer being Notre Dame students. The College of Engineering is embarking on a major initiative in which ethics will be integrated into the curriculum to try to weave it into the fabric of its course offerings. In doing that, he would very much like engineering students to have some theoretical foundation in ethics, but the college cannot afford the luxury of having engineering students take an additional ethics course after their already-required two theology and two philosophy courses. Can there be some assurance that when his students take a core philosophy or theology course that they will receive some underpinning in theoretical ethics?

Prof. Delaney answered that in any given semester, the Philosophy Department offers fifteen sections of ethics at the 200 level. That is where his engineering students will receive their introduction to theoretical ethics.

Prof. Robinson said he thinks it is a mistake to believe that learning about Kant, Aristotle, and Mill is in some significant way assisting students in making good ethical decisions. While we want Notre Dame graduates to be good people, it is naive to think they will learn that in an ethics class in which Mill's utilitarianism is shown to be better than Benton's – whether the content of ethics in the course is set at 25% or 35%.

Prof. Woo said that of all the Curriculum Committee's proposals, she found the fifth to be disappointing. It does not take the University out of the status quo. The first paragraph of Proposal 5 states in a very gentle way that despite the University's current two-course requirement, "[s]till, the ethical component of the courses as presently offered do not always provide a common, consistent foundation of knowledge on which subsequent instruction, inquiry and conversations can build. Some students leave these courses with a sound rudimentary knowledge of ethical theory and issues, while others lack such an understanding." That is a very understated way of addressing a problem that did not go away in the Curriculum Committee discussions. Repeatedly, it was articulated that there must be more attention to ethics. The response of the Curriculum Committee was to recommend that 20% of each introductory theology and philosophy course be devoted to ethics. Yet, Prof. Delaney has just said that, already, probably 25 to 30% of introductory philosophy courses concern ethics. Thus, the committee is advocating only the status quo. She still does not feel assured that students will receive the necessary foundation when they emerge from introductory courses.

Prof. Woo said she would also like to return to the issue of trust. Should the Curriculum Committee decide the content of the courses should it be handled through collaborative conversations between departments? It was a very positive experience when the College of Business approached the Mathematics Department and said it needed the math courses for business majors to address certain topics so as to lay the foundation for higher level business courses in economics and finance. The Mathematics Department responded in a wonderful way – and both departments were happy. She is concerned that if departments go too readily to a University Curriculum Committee they will bypass the type of very constructive conversations between departments and colleges that should take place. She would like to have some mechanism in place to encourage that kind of collaborative conversation.

(f) Conclusion. Prof. Kolman clarified that the committee will revise its draft proposals after today's discussion and then turn its work over in January to the Undergraduate Studies Committee. It will be the job of that committee to prepare a

final proposal for presentation to the Academic Council. She expects the finished proposal will come before the Council in the latter part of the second semester.

4. Recognition of Prof. Dennis Jacobs. Fr. Malloy congratulated Prof. Dennis Jacobs of the Chemistry Department both for his recognition as the 2002 United States Professor of the Year for research and doctoral institutions and the extraordinary presentation he made at the award ceremony. The award is sponsored by the Carnegie Foundation for the Advancement of Teaching and is directed by the Council for Advancement and Support of Education.

5. Committee Reports

(a) Graduate Studies Committee. Prof. Antsaklis reported that the committee continues its work on health insurance for graduate students. It is also discussing the role of the committee in relation to the Graduate Council.

(b) Faculty Affairs Committee. Prof. Mooney reported for Prof. Ghilarducci that committee members are working on a proposal for University holidays, salary disclosure issues, and faculty disciplinary procedures. Prof. Merluzzi added that in terms of the faculty grievance procedure, members are looking at AAUP guidelines and trying to align Notre Dame's procedures more closely with them.

(c) Undergraduate Studies Committee. Prof. Kolman said that the major work of this committee will be the proposal to revise the general education requirements.

There being no further business, Fr. Malloy adjourned the meeting at 5:05 p.m.

Respectfully submitted,

Carol Ann Mooney
Secretary