Executive Summary of Biocore Review Report 2001

The committee concluded that it is necessary to preserve Biocore, or something very like it. A campus with such a high concentration of biologists should provide an accelerated biology course sequence to meet the needs of the high caliber students it attracts. The four-semester Biocore sequence, which emphasizes the process of how knowledge is gained, poises students to distinguish themselves as critical and creative thinkers, whether they subsequently enter medical school or get hooked on discovery and pursue careers in research. The integrated sequence of four courses plus labs, which reinforces concepts by returning to them in successive semesters, cultures a cohort of students to the point that as juniors they can understand and appreciate cutting edge biology. The UW has a responsibility to provide such a challenging track to our most talented and ambitious students, to give them the opportunity to stretch their capabilities.

The committee found Biocore to be in a strong state. Enrollment is steady, student evaluations are very positive, the faculty involved is enthusiastic and dedicated, and the mix of students with whom the committee met was terrific proof of the product. Though not without exception, faculty and staff involved in the Bot/Zoo 151-152 sequence, which may be viewed as an alternative to Biocore, were anxious to see Biocore continue and prosper. They see Biocore filling a niche different from that of 151-152. The two course sequences experience many of the same difficulties, such as recruiting teaching faculty, so the subsuming of one by the other would not solve the problems.

The major concern focused on by the committee was whether Biocore can remain strong and viable after the retirement of key personnel, namely Ann Burgess, Millard Susman, and Wayne Becker. The committee recognized that much of Biocore's success was a result of the devotion and efforts of these individuals, but the consensus was that a careful selection of replacements, a strengthening of the Biocore administrative structure, and adjustments in the reward structure for undergraduate teaching would keep the program out of jeopardy.

The problem most likely to thwart a new director is the recruiting of faculty to teach the four courses. The persistence of Ann Burgess, who has a combination of experience and instinct that is perhaps unique, is responsible for the presently full stable of faculty. It would be unwise to assume that her replacement would be as successful if given the same deck of cards.

The committee considers the following issues to be most important and makes the following recommendations.

1A) A person to replace Ann Burgess should be hired and, in the interests of continuity, the search should begin without delay. A Ph.D.-level academic staff person with teaching and research experience in a biological field would be ideal. The duties of this person would include managing the day-to-day operations of the four courses and contribute to teaching. The appointment should be 100% for 12 months; the duties and workload justify it.

B) The Dean of L&S should appoint a faculty member who is broadly recognized for quality contributions to teaching and research to be Faculty Director of Biocore. The Faculty Director would be the primary advocate for the program across campus. The chief duties of the Faculty Director would be recruitment of teaching staff, maintenance of high standards, curriculum oversight, educating the campus about the merits and needs of Biocore, and ensuring that Biocore integrates well with other facets of biology education on campus. This person will appoint and chair a steering committee of 5 to 7 people to be drawn from L&S, CALS, and the Medical School. Regular meetings of such a committee, which could also include student representatives, would help the Faculty Director be aware of issues and developments in various units across campus that could advantage Biocore. The committee recommend that the Bio Deans collectively take responsibility for compensating the Faculty Director for his or her efforts.

2) The MAMA system used by the Medical School to distribute credit for teaching does not, in any obvious way, reward departments more for contributing to Biocore than to one of the department's undergraduate courses. If any special treatment for Biocore is built into the MAMA allocation system, it is not obvious enough to induce a department to help staff Biocore. This does not seem consistent with the

role Biocore plays in the Med Scholars program, in the preparation of pre-med students, and in the preparation of undergraduate and graduate research assistants. Without special treatment within the reward system, it would be reasonable for a department to de-prioritize non-departmental needs such as Biocore. Thus, the committee recommends that teaching in Biocore be given higher value in the MAMA system. The committee also recommends that the Medical School administration better inform departments about the MAMA system because incentives are only as effective as they are understood. The Biocore Faculty Director and the steering committee could assist this information transfer.

The Biocore program also serves CALS in important ways. For example, many Biocore students are Biochemistry majors and bring their excellent preparation to the classroom for their remaining course work, and to the research labs of individual investigators. Yet, a CALS professor teaching outside of the department in a program such as Biocore may not have his or her efforts recognized by the department. And the College does not sufficiently reward departments when their faculty members contribute to such programs. The committee urges the Dean of CALS to create an effective incentive for departments to encourage faculty participation in Biocore. As argued above, intercollege programs require special treatment in the rewards-allocation mechanism if the departments are to shift resources to them.

3) Although Biocore is relevant to the teaching mission of many colleges and schools, its needs are typically not considered when the activities of new faculty hires are determined. A mechanism for making known the staffing needs of Biocore to departments that are hiring faculty members should be put in place by the Faculty Director and Steering Committee. A case should be made to those departments that the degree and quality of interaction between experienced and dedicated teachers during a semester of Biocore creates a superb mentoring opportunity for a new member of the faculty. A message should be sent down through departments that a five-week stint of teaching in Biocore, along with a letter of evaluation from a respected teaching peer, can distinguish an assistant professor's tenure packet. The Faculty Director should inform the Biological Sciences' Tenure Committee of the intensive and interactive nature of Biocore teaching to help dispel any notion that the effort would not be appreciated and recognized. Finally, the committee urges the individual Biological Science Deans to consider the staffing needs of Biocore when hirings are made in their school or college. The committee is not advocating that Deans attach specific teaching assignments to offered positions, but it would be in the interests of the school or college for the Dean to query whether a given position could be used to strengthen a non-departmental program such as Biocore.

A source of teaching talent that may be presently underutilized is the pool of Ph.D.'s in clinical departments within the medical and veterinary schools. New faculty members without a full, or fully-defined teaching mission may find the Biocore program attractive when it is explained. If recruiting efforts created a sufficiently large Biocore faculty, regularly scheduled years off from teaching could be arranged. Such 'sabbaticals' could be an incentive to faculty who are not required to teach, and who may be leery of over-committing to the program.

4) Action on the above recommendations will secure the Biocore program, but the changing landscape of biology education on this campus may require the Faculty Director and the Steering Committee to implement adjustments to the curriculum and course structure from time to time. For example, growth and development of the relatively new Biology major may provide opportunities and challenges for Biocore. Good communication between all groups concerned with biology education is necessary if this campus is to maintain the means to deliver an advanced treatment of biology to those undergrads who want and deserve the extra challenge.

In summary, the committee came to the conclusion that Biocore is the sort of program that distinguishes excellent universities from good universities. The challenges Biocore faces now are solvable because faculty and students value the program - there is a large amount of goodwill for its success on campus. A strengthening and broadening of its administration, better telegraphing of the program's contributions and needs to departments that may have faculty able to help, and changes in the reward system for undergraduate teaching are realistic changes that could solve the problems that presently nag Biocore.

Report of the Biocore Program Review Committee

Edgar Spalding, Botany (Committee Chair)
Seth Blair, Zoology
Michael Culbertson, Genetics
Thomas German, Entomology
Peter Lipton, Physiology
Kenneth Sytsma, Botany
Lillian Tong, Center for Biology Education

Purpose and Process

In June 2001, Dean Phillip R. Certain of the College of Letters and Science convened the above committee to conduct a review of the Biology Core Curriculum Program (Biocore) on behalf of the College and the Deans of Biology programs across the UW-Madison campus. The imminent retirement of the Biocore Director and two key faculty members raised concern that the program, which relies heavily on volunteerism, could be at a crossroads. The review began on July 17 when Dean Certain asked the committee to learn about the program in detail and return an honest assessment of its viability. In particular, the committee was to determine if inconstancy in the roster of instructors, a by-product of volunteerism, was a threat to the program. If so, the committee was to determine what, if anything, could be done to improve the situation. The committee was given the freedom to consider all options, including a recommendation to cancel the program if no solutions could be found. During the next day and a half, the committee met with the Director of Biocore, past and present Biocore faculty, staff, and Biocore students. The committee also toured Biocore facilities, met with representatives of the L&S and CALS Honors programs, and with faculty and staff involved in other aspects of biology education on campus. Written comments were received from some additional interested parties. Dr. Elaine Klein (L&S Administration) ably assisted the committee on these days, but was not present when the committee met again during the afternoon of August 1 to discuss the first draft of the report. More details about the input side of the review are contained in the Appendix on page 6.

The committee appreciated Biocore's hospitality, candor, and willingness to help by providing materials and statistics. Ann Burgess, the Director of Biocore, is due special thanks for accommodating all of the committee's various requests.

The Program

Overview – Biocore is an honors program that is devoted entirely to undergraduate teaching and learning. It is a four-semester sequence that sophomores enter and finish in time to complete the requirements of one of several majors in the biological sciences. Admission into the program is competitive and the material is taught at an advanced pace. Biocore may be distinguished from other introductory biology course sequences on campus by its two-year structure, its pace, its emphasis on the processes of learning and discovery, and the amount of student-instructor contact.

History – Biocore was originally conceived in 1967 as a cross-college curriculum reform effort, an alternative to existing two-semester treatments of introductory biology. Its founders envisioned a unified core sequence of courses that would serve as the principal biology course sequence and the foundation training for all the biological science majors on campus. During a time when especially motivated, ambitious students were agitating for more accelerated learning opportunities, Biocore instead evolved into an Honors course sequence. Bot/Zoo 151-152 (Introductory Biology) is the mainstream introductory biology sequence, and Bot 130-Zoo 101 is yet another alternative.

Curriculum Structure – The seven Biocore courses (four lectures, three labs) are taken in sequence over four semesters. The components are highly integrated and the sequence culminates in a capstone experience that synthesizes the concepts learned and applies them through studies of the primary research literature.

301 Evolution, Ecology & Genetics (3 cr) 302 Evolution, Ecology & Genetics Lab (2 cr)	303 – Cellular Biology (3 cr) 304 – Cellular Biology Lab (2 cr)
323 Organismal Biology (3 cr) 324 Organismal Biology Lab (2 cr)	333 Biological Interactions (3 cr)

The courses are team-taught by faculty drawn from across campus. Typically, three faculty members participate in each course. Each professor teaches roughly 5 weeks of lectures, attends other lectures in the course, and often participates in lab sections. Each course is overseen by one of the participating faculty, the course chair.

While this curriculum structure is stable, the program is small and nimble enough that changes in the content of both lab and lecture can be made as necessary. In fact, Biocore has a tradition of innovation and change that no doubt contributed to it recently being honored with a Chancellor's Award for Departmental Excellence in Teaching.

The committee heard many positive things about the Biocore curriculum from staff, students, and even outsiders. But it also heard criticisms. 1) The sequence goes beyond the introductory level, but does not delve into key areas to the depth that existing full semester, upper-level treatments of certain topics can reach. For example, only a third of Biocore 301 is dedicated to genetics and while elements of genetics are integrated elsewhere in the sequence, it is difficult to imagine the treatment is equivalent to the full semester of genetics delivered in Gentics 466. The same can be said about the ecology component not being equal to Bot/Zoo 460 (General Ecology). This generates some awkwardness because Biocore students ultimately declare a biology-related major and these majors may use 466 and 460 as requirements. These majors must wrestle with the question of whether it is reasonable and fair for Biocore 301/302 to take the place of 466 and 460 or if Biocore students should be required to take these courses despite the redundancy. Because Biocore is neither introductory nor upper-level, its curriculum does not always neatly mesh with the curricula of all the relevant majors. A brief perusing of the undergraduate catalog shows significant variability in how different majors handle this situation. 2) The order in which topics are taught in the sequence was not universally seen as ideal. Individuals who formerly taught in Biocore expressed to the committee their dissatisfaction with some structural aspects of the curriculum and cited these issues as a reason why they stopped contributing to the program.

Learning – A select group of 160 students enter the sequence each year and move through the series of courses as a cohort. The amount of time the students spend together in lectures, labs, and discussion results in a tight peer community that practices group problem solving. The cohort learns in a qualitatively different fashion, with more student-faculty contact, than is possible in a two-semester sequence. The four-semester structure of Biocore permits a reiterative, integrative approach that is not possible in an alternative sequence such as Biology 151/152. In addition to the structural features that distinguish Biocore, the course material is presented at a pace and degree of sophistication that quickly rises above the typical introductory level. Not all students meet the challenge and there is an attrition of roughly 20 students per semester. Some students leave the program after two semesters because the major they have declared does not require the full sequence. Many Biocore students are aiming for medical school, though many get hooked on discovery and pursue graduate studies. The nine students the committee met were stellar ambassadors of the program. The way they spoke about their

experiences with the program revealed a high level of preparation and familiarity with biology. They comported themselves most impressively. Such students may be expected to distinguish themselves, and therefore the university, in their subsequent careers. The individuals that met with the committee were not selected but instead responded to an email that was sent to all current, recently finished, or dropped-out students. Of the nine students that came to the meeting, each was performing research on campus for the summer on topics that ranged from ecological to biochemical.

Niche – Biocore serves select students who desire a more challenging and prestigious biology curriculum. They need not be enrolled in an honors program, though many are. Biocore serves an important role in L&S by providing 16 Honors credits. A student interested in biology would have difficulty obtaining the required number of Honors credits if it were not for Biocore. The same is not as true for CALS students, due to differences in the CALS and L&S Honors programs.

The Medical Scholars program is populated by a large number of Biocore students, and the majority of UW students admitted to medical school here are Biocore alumni. Students interested in medical school have the impression, which may have a basis in fact, that success in Biocore increases the probability of admission into medical school. This and the competitive nature of admission into Biocore probably explains why the preponderance of students in Biocore have at least contemplated attending medical school. Thus, Biocore fills an important niche in the mission of the Medical School.

The emphasis in the Biocore curriculum on the process of how knowledge is gained prepares students well for research and the research activities of many faculty members in all colleges and schools on campus have benefited from the contributions of Biocore-trained students. Thus, Biocore trains undergraduate talent that helps fill a niche in the research enterprise of this university.

The alternative introductory biology sequence, Bot/Zoo 151-152, teaches at a pace and level commensurate with the diverse backgrounds of its clientele. Biocore fills a separate niche by providing an accelerated track to students who may not be fully challenged and stimulated by 151-152. Also, The two course sequences experience many of the same difficulties, such as recruiting teachers, so the subsuming of one by the other would not solve the problems.

Resources - The program is resource-intensive. Typically, three professors participate in each 15-week course. Significant efforts are made to integrate their separate contributions and smooth over their junctions, which means a professor does more than simply deliver a block of lectures. For example, professors are expected to attend each other's lectures, to participate in weekly meetings and discussion sections, and to help set and grade the exams. It is not considered an easy teaching assignment.

The four full-time academic staff positions in Biocore are Ann Burgess, the director, a lab coordinator, a technician/preparatory person, and an administrative assistant. TA's run the labs and the discussion sections, and do much of the grading. The amount of 'resources' consumed per student taught, when dollars and person-hours are considered, is undoubtedly higher than an alternative sequence such as Biology 151/152. This point was argued by some as a reason to consider phasing Biocore out. The committee weighed whether Biocore was a program the university could not afford versus one it could not afford to loose. Two lines of reasoning persuaded the committee that the latter was more accurate. 1) The university has a responsibility or obligation to provide our best students with especially challenging learning experiences. 2) The university has an interest in providing the best preparation possible for those students willing to put extra effort in their preparation for subsequent endeavors because when they succeed, the university succeeds.

Governance – Biocore is not affiliated with a department. It is governed by an intercollege steering committee consisting of 9 faculty, 3 academic staff, 1 teaching assistant, and 2 undergraduates. A subset of the faculty constitutes an executive committee that meets occasionally with the director, as do the course chairs, to discuss ongoing issues and integration of the sequence. The committee reviewing

Biocore felt that the steering committee could be used to better advantage, as described in the recommendations section below.

Funding - At its inception CALS and the Medical School may have contributed financially to Biocore through an informal arrangement but presently and for some time Biocore has been funded entirely by L&S. Because other colleges and schools benefit from Biocore's activities, it is reasonable to expect the financial burden to be spread. Some suggestions follow.

Challenges

Convinced that Biocore or a program like it is necessary, the committee focused on its two present challenges:

(1) The current director and key faculty members are retiring.
(2) More stability in the cadre of teachers is necessary.

Recommendations

1A) A person to replace Ann Burgess should be hired and, in the interests of continuity, the search should begin without delay. A Ph.D.-level academic staff person with teaching and research experience in a biological field would be ideal. The duties of this person would include managing the day-to-day operations of the four courses and contribute to teaching. The appointment should be 100% for 12 months; the duties and workload justify it.

B) The Dean of L&S should appoint a faculty member who is broadly recognized for quality contributions to teaching and research to be Faculty Director of Biocore. The Faculty Director would be the primary advocate for the program across campus. The chief duties of the Faculty Director would be recruitment of teaching staff, maintenance of high standards, curriculum oversight, educating the campus about the merits and needs of Biocore, and ensuring that Biocore integrates well with other facets of biology education on campus. This person will appoint and chair a steering committee of 5 to 7 people to be drawn from L&S, CALS, and the Medical School. Regular meetings of such a committee, which could also include student representatives, would help the Faculty Director be aware of issues and developments in various units across campus that could advantage Biocore. The committee recommend that the Bio Deans collectively take responsibility for compensating the Faculty Director for his or her efforts.

2) The MAMA system used by the Medical School to distribute credit for teaching does not, in any obvious way, reward departments more for contributing to Biocore than to one of the department's undergraduate courses. If any special treatment for Biocore is built into the MAMA allocation system, it is not obvious enough to induce a department to help staff Biocore. This does not seem consistent with the role Biocore plays in the Med Scholars program, in the preparation of pre-med students, and in the preparation of undergraduate and graduate research assistants. Without special treatment within the reward system, it would be reasonable for a department to de-prioritize non-departmental needs such as Biocore. Thus, the committee recommends that teaching in Biocore be given higher value in the MAMA system. The committee also recommends that the Medical School administration better inform departments about the MAMA system because incentives are only as effective as they are understood. The Biocore Faculty Director and the steering committee could assist this information transfer.

The Biocore program also serves CALS in important ways. For example, many Biocore students are Biochemistry majors and bring their excellent preparation to the classroom for their remaining course work, and to the research labs of individual investigators. Yet, a CALS professor teaching outside of the department in a program such as Biocore may not have his or her efforts recognized by the department. And the College does not sufficiently reward departments when their faculty members contribute to such programs. The committee urges the Dean of CALS to create an effective incentive for departments to encourage faculty participation in Biocore. As argued above, intercollege programs require special treatment in the rewards-allocation mechanism if the departments are to shift resources to them.

3) Although Biocore is relevant to the teaching mission of many colleges and schools, its needs are typically not considered when the activities of new faculty hires are determined. A mechanism for making known the staffing needs of Biocore to departments that are hiring faculty members should be put in place by the Faculty Director and Steering Committee. A case should be made to those departments that the degree and quality of interaction between experienced and dedicated teachers during a semester of Biocore creates a superb mentoring opportunity for a new member of the faculty. A message should be sent down through departments that a five-week stint of teaching in Biocore, along with a letter of evaluation from a respected teaching peer, can distinguish an assistant professor's tenure packet. The Faculty Director should inform the Biological Sciences' Tenure Committee of the intensive and interactive nature of Biocore teaching to help dispel any notion that the effort would not be appreciated and recognized. Finally, the committee urges the individual Biological Science Deans to consider the staffing needs of Biocore when hirings are made in their school or college. The committee is not advocating that Deans attach specific teaching assignments to offered positions, but it would be in the interests of the school or college for the Dean to query whether a given position could be used to strengthen a non-departmental program such as Biocore.

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4) Action on the above recommendations will secure the Biocore program, but the changing landscape of biology education on this campus may require the Faculty Director and the Steering Committee to implement adjustments to the curriculum and course structure from time to time. For example, growth and development of the relatively new Biology major may provide opportunities and challenges for Biocore. Good communication between all groups concerned with biology education is necessary if this campus is to maintain the means to deliver an advanced treatment of biology to those undergrads who want and deserve the extra challenge.

In summary, the committee came to the conclusion that Biocore is the sort of program that distinguishes excellent universities from good universities. The challenges Biocore faces now are solvable because faculty and students value the program - there is a large amount of goodwill for its success on campus. A strengthening and broadening of its administration, better telegraphing of the program's contributions and needs to departments that may have faculty able to help, and changes in the reward system for undergraduate teaching are realistic changes that could solve the problems that presently nag Biocore.

Appendix

Annotated Schedule of Biocore Review – Summer 2001

July 17
9:00 Dean's charge to the Committee - Dean's Conference Room, South Hall
10:00 Committee meets to discuss report, develop questions
Break & walk from South Hall to Noland Hall
11:00 Meet with Ann Burgess (Biocore Director) and Millard Susman (taught in and helped administer the program since its inception) - 163 Noland Hall
11:45 Tour of Noland Hall facilities
12:30 Lunch with Biocore students (pizza and soda) - 163 Noland
1:45 Evelyn Howell and Wayne Becker (stalwart Biocore faculty members)
2:30 Lynn Allen-Hoffmann (ex-Biocore faculty member, short term) and Donata Oertel (present Biocore faculty member, long term)
3:15 Tom Sharkey (co-chair of the Biology Major; co-chair Bob Goodman submitted written notes because he was out of town.)
4:00 Jeff Hardin and Jerry Dempsey (current Biocore faculty members)

July 18
9:00 Herb Wang and Bob Ray (representing L&S and CALS Honors Programs, respectively) - 163 Noland
9:40 Michelle Harris (Biocore staff) and Jean Heitz Bot/Zoo 151-152 staff)
10:15 Bill Dove and Deric Bownds (ex Biocore faculty members, very knowledgeable about biology undergraduate education on campus)
11:00 John Harting (present Biocore faculty, success with recruiting teaching staff from the Anatomy dept.)
11:20 Millard Susman, Ann Burgess, Wayne Becker (a chance to ask remaining questions of these key Biocore personnel.)
12:30 working lunch for the committee – adjourned approx 3 pm.

In addition to these discussions, the committee considered written comments submitted by four or five additional faculty members who had experience with Biocore.

August 1
1:00-4:30 Committee met to discuss a draft of the report.
The many subsequent communications were conducted by email.

August 28
The committee chair received information about provisions for Biocore in the MAMA system from Susan Skochelak, Senior Associate Dean for Academic Affairs in the Medical School. Email discussion of this information by the committee resulted in revisions to the text.

September 5
Report submitted to Dean Certain

Biology Core Curriculum
Biocore
University of Wisconsin-Madison

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http://polyglot.lss.wisc.edu/biocore

October 2, 2001

Dean Phillip Certain
College of Letters and Science
105 South Hall
Campus

Dear Phil,
Thank you for the opportunity to respond to the report prepared by the Biocore Program Review Committee. I sent copies of the report to the Biocore Steering Committee and invited their comments; I also met with the Course Chairs Committee to discuss the report.

We thank the Review Committee for their diligent work and thoughtful report. We think they captured the essence of Biocore and we definitely share their conclusion that programs like Biocore distinguish a great university from a good university.

We would like to add the following clarifications:

1. The report asserts (page 2) that the third of a semester of genetics taught in Biocore 301 can not be considered equivalent to Genetics 466. Genetics in Biocore is not confined to Biocore 301 (Evolution, Ecology, and Genetics). It constitutes more than half of Biocore 303 (Cellular Biology), where we take up molecular genetics and genetic control mechanisms, as well as a large part of Biocore 333 (Biological Interactions), where students read papers from the biological literature on several topics that depend heavily on genetics. We acknowledge, however, that our coverage of population genetics has been quite variable over the past years, depending on the faculty involved.

   Ecology presents a different situation. We have never suggested that Biocore substitutes for Bot/Zoo 460. Students who need this course take it in addition to Biocore.

2. We did not adequately convey to the Review Committee the substantial role that our research-intensive, writing-intensive laboratory courses play in the program. Students experience science as a process as they participate in activities such as prairie restoration experiments in 302 and designing physiology experiments in 324. Communicating one's ideas in writing and exposing them to review by the scientific community are also parts of the process of science, and all of our laboratory courses include extensive instruction and feedback concerning writing. In the most recent evaluation of the entire Biocore sequence by students at the end of the fourth semester, the students' comments on the lab courses were especially and remarkably laudatory. Our laboratory courses are designed and taught by permanent academic staff; TAs assist but they do not "run the labs" as stated in the report (page 3).

3. A related issue is the committee's recommendation (1A, page 4) that the duties of the person hired as my replacement should be to manage the day-to-day operations of the four courses and contribute to teaching. At a minimum, this person needs to take charge of the Biocore 302 laboratory course. My primary responsibility these many years has been to teach the Evolution, Ecology, and Genetics Laboratory course (302) during the Fall semester and Cellular Biology Laboratory course (304) during the Spring semester. In recent years I have had help from Curt Caslavka in 302 and Michelle Harris in 304. Note that Curt Caslavka (whose main role is to manage our facilities and equipment and prepare al the materials needed for 302 and 304) is also retiring June 30, 2002.

In addition, we wish to emphasize the following points:

1. Currently, many departments recognize Biocore teaching and count it in determining a faculty member's teaching load; some do not. All should, and the Bio Deans could really help to ensure that this is the case in all departments.

2. We welcome the suggestion (page 5) that Biocore's needs be taken into account in new faculty hires. However, we do not want anyone to be assigned to Biocore without our input; we must be involved in the hiring process or in other ways able to choose the faculty who teach our courses.

3. Course chairs take on substantial additional responsibilities. In addition to teaching approximately 1/3 of the course, they help recruit faculty to participate, organize and lead the team planning meetings, select and train the teaching assistants, provide feedback and suggestions to the course faculty, oversee the exams, and interact with me and the other chairs to assure that the program is integrated. Biocore 333 currently is without a chair; so I have had to serve in that role. Biocore 303 will be without a chair when Wayne Becker retires. We request that an incentive be offered for the four chairs. For example, Evelyn Howell is the chair of Biocore 301, and CALS currently provides the salary for a one semester half-time TA for Landscape Architecture to assist with Prof. Howell's other courses.

4. The role of the Faculty Director of Biocore (recommendation 1B, page 4) is critical. This position should be coupled with incentives and honor so that it will be viewed as an award. The person chosen should be well-respected across campus and have demonstrated excellence in teaching and commitment to undergraduates. A long-term solution could be the establishment of a chaired Biocore Professorship to be awarded to the Faculty Director. (Please consider making this a priority in the current capital campaign.) However, there also needs to be a short-term solution since the Faculty Director should be appointed soon so that s/he can be involved in hiring replacements for me and Curt Caslavka.

We would be happy to discuss any of these ideas further.

Sincerely,

Ann

Ann Burgess
Director

xc: Millard Susman, Chair, Biocore Executive Committee
Edgar Spalding, Chair, Biocore Review Committee
Elaine Klein, L&S Administration

L&S

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  pcertain@ls.admin.wisc.edu

December 6, 2001

Dr. Ann Burgess, Director
Biocore Program
345 Noland Hall

Dear Ann:

The Academic Planning Council has completed its deliberations with regard to the Biocore Program Review Committee's report. They and I commend you and the Biocore faculty for creating an outstanding learning opportunity for the thousands of students who have completed the program over the last thirty-plus years. Your career-long contributions to Biocore's excellence are greatly appreciated. The testimonials from alumni for the Chancellor's Award for Department Excellence in Teaching are clear evidence for the value of an honors sequence in biology. In large measure they attest to your dedication as director of the program.

The excellence of the Biocore Program in the past is without question. As you know I have been a long-time admirer of the program. Because you, your staff, and long-term faculty have been responsible for Biocore's success, the several key retirements this year present an immediate staffing challenge. The Review Committee stressed the need to identify and appoint a faculty director of Biocore. Professor Jeff Hardin's agreement to serve in this capacity will provide the leadership the committee was seeking. The course demands faculty and staff dedication to a shared vision for the curriculum. The popularity of biological sciences among students today, the emergence of three full lectures of Biology 151-152, diminished teaching loads, and perhaps a reduced zeal for educational reform have stretched the resources of the departments that have traditionally provided Biocore instruction. You have left the course fully staffed for the next year, for which we are grateful, but this will remain a challenge for the new director.

I will immediately appoint a search committee, chaired by Professor Hardin, to conduct a national search for a Ph.D.-level academic staff person to be associate director to manage the program and contribute to the teaching.

Although the review committee's recommendations dealt mainly with staffing issues, the committee also expressed concern for how parts of the Biocore curriculum, such as genetics and ecology, mesh with some biological science majors across campus. The committee attributes this situation to the fact that Biocore is neither introductory nor upper level. Part of my charge to Professor Hardin will be to examine the curriculum. In addition, I will ask him to examine the faculty staffing needs in terms of recruitment and stability. With the goodwill of the biology faculty and the support of the other Biodeans, and myself, I believe that Biocore will continue to provide students with great challenges and rewards. The APC and I concur with the Spalding committee's conclusion that "Biocore is the sort of program that distinguishes excellent universities from good universities."

Sincerely yours,

Phillip R. Certain
Dean

xc: Provost Peter D. Spear
Professor Edgar Spalding
Dr. Elaine Klein
L&S Academic Planning Council

Summary of Quantitative Parts of Spring 2001 and 2002 Biocore Program Evaluations by Students Completing the Fourth Semester

College	2001	2000
L&S	81%	66%
CALS	13%	31%
Engineering	3%	3%
Education	1%	0
Pharmacy	1%	0

Major (many have>1)	2001	2000
Biochemistry	30	22
Molecular Biology	11	13
Zoology	11	12
Biology	10	8
Bacteriology	5	6
Genetics	4	7
Spanish	4	
Biomedical Engineering	2	1
History of Science	2	
Med. Microbiology and Immunology	2	
Psychology	2	2
Anthropology	1	1
Business	1	
Communication Arts	1	
Computer Science	1	
Economics	1	
History	1	
Kinesiology	1	
Political Science	1	2
Animal Sciences		2
Biological Aspects of Conservation		2
Chemical Engineering		2
Music	1	1
Chemistry		1
English		1
Journalism		1
Nutritional Science		1
Physician's Assistant		1
Plant Pathology		1
Pharmacy	1	
Sociology:	1	
Bioethics		1
French		1
Philosophy		1

Future Plans	2001	2000
Medical School	40	37
Graduate School	7	7
Grad or Med School	5	6
Unsure or blank	7	10
Grad and Med School	3	
Business	1	2
Dentistry	1	
Law	1	
Peace Corps	1	
Public Health	1	
Forensics		1
Journalism		1
Research	1	1
Education		2
Vet School or Ed		1
Med School or Music	1	

Listed below are some of our goals for your learning in Biocore. Based on your own experience, please tell us how well we achieved these goals by placing a check in the appropriate area of the rating scale below.

	Not well 1	2	3	4	Very well 5	Average 2001	Average 2000
1. Acquire a foundation of biological concepts and principles	_	_	_	_	_	4.2	4.3
2. Understand how we know those concepts and principles	_	_	_	_	_	4.2	4.1
3. Learn to be skeptical, to look at evidence before believing	_	_	_	_	_	4.3	4.0
4. Know how to find information you need in the future	_	_	_	_	_	3.7	4.0
5. Be able to express your ideas clearly and logically in writing, including supporting conclusions with evidence	_	_	_	_	_	3.9	3.8
6. Be able to design an experiment to test an hypothesis or answer a question	_	_	_	_	_	4.4	4.2
7. Acquire practical skills and useful experience with biological tools and procedures	_	_	_	_	_	4.1	4.0
					Overall Average	4.1	4.1

Knowing what you know now, **would you choose to take Biocore** if you had it to do over?

	2001	2000
yes	86%	77%
not sure	4%	16%
no	9%	7%

Why or why not?
Most said it was a lot of work but they feel better prepared for what's next. Most common reason for not doing it was that the student felt his/her GPA had suffered.

Schedule for Biocore Review Committee July 17-18

Revised 7/11/01

July 17 (a.m.)

9:00	Dean's charge to the Committee	Dean's Conference Room, South Hall
10:00	Committee meets to discuss report, develop questions	
Break & walk from South Hall to Noland Hall		
11:00	Meet with Ann Burgess and Millard Susman	163 Noland Hall
11:45	Tour of Noland Hall facilities	

July 17 (p.m.)

12:30	Lunch with Biocore students (Pizza and soda)	163 Noland
1:45	Evelyn Howell and Wayne Becker	163 Noland
2:30	Lynn Allen-Hoffmann and Donata Oertel	
3:15	Tom Sharkey	
4:00	Jeff Hardin and Jerry Dempsey	

July 18 (a.m.)

9:00	Herb Wang and Bob Ray (L&S and CALS Honors Programs)	163 Noland
9:45	Michelle Harris and Jean Heitz	
10:15	Bill Dove and Deric Bownds	
11:00	John Harting	
11:20	Millard Susman, Ann Burgess, Wayne Becker	

July 18 (p.m.)

Lunch
Committee begins to draft report