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**Renewing Our Commitment to  
Liberal Education**

**Report of the  
Council on Liberal Education  
University of Minnesota-Twin Cities**

**Approved by the Twin Cities Assembly  
April, 2008**

1

## List of Council Members

- |    |  |    |  |
|----|--|----|--|
| 2  | Leslie Schiff (Chair)                        | 42 | Elaine Tyler May                               |
| 3  | <i>Department of Microbiology</i>            | 43 | <i>Department of American Studies</i>          |
| 4  |  | 44 |  |
| 5  | Randal J. Barnes                             | 45 | Robert McMaster                                |
| 6  | <i>Department of Civil Engineering</i>       | 46 | <i>Department of Geography</i>                 |
| 7  |  | 47 |  |
| 8  | Gordon Duke                                  | 48 | Louis Mendoza                                  |
| 9  | <i>Department of Accounting</i>              | 49 | <i>Department of Chicano Studies</i>           |
| 10 |  | 50 |  |
| 11 | Kirsten Fischer                              | 51 | Willard Miller                                 |
| 12 | <i>Department of History</i>                 | 52 | <i>School of Mathematics</i>                   |
| 13 |  | 53 |  |
| 14 | Stephen Gudeman                              | 54 | Sandra Peterson                                |
| 15 | <i>Department of Anthropology</i>            | 55 | <i>Department of Philosophy</i>                |
| 16 |  | 56 |  |
| 17 | Emily Hoover                                 | 57 | Christina Robert, Graduate Student             |
| 18 | <i>Department of Horticultural Science</i>   | 58 | <i>Department of Family Social Sciences</i>    |
| 19 |  | 59 |  |
| 20 | Katheryn Hope, Undergraduate                 | 60 | Kevin Smith                                    |
| 21 | <i>Institute of Technology</i>               | 61 | <i>Department of Agronomy &amp; Plant</i>      |
| 22 |  | 62 | <i>Genetics</i>                                |
| 23 | Walt Jacobs                                  | 63 |  |
| 24 | <i>Department of Post Secondary Teaching</i> | 64 | Arlene Teraoka                                 |
| 25 | <i>&amp; Learning</i>                        | 65 | <i>Department of German,</i>                   |
| 26 |  | 66 | <i>Scandinavian, &amp; Dutch and Associate</i> |
| 27 | James Kakalios                               | 67 | <i>Dean, CLA</i>                               |
| 28 | <i>Department of Physics and Astronomy</i>   | 68 |  |
| 29 |  | 69 | Susan Wick                                     |
| 30 | Sally Gregory Kohlstedt                      | 70 | <i>Department of Plant Biology</i>             |
| 31 | <i>Departments of History of Science/</i>    | 71 |  |
| 32 | <i>Geology &amp; Geophysics</i>              | 72 |  |
| 33 |  | 73 | <u>Staff</u>                                   |
| 34 | Rebecca Krug                                 | 74 | Linda Ellinger                                 |
| 35 | <i>Department of English Language &amp;</i>  | 75 | Laurel Carroll                                 |
| 36 | <i>Literature</i>                            | 76 | Leslie Zenk                                    |
| 37 |  | 77 | <i>Office of the Executive VP and</i>          |
| 38 | Sally Lieberman                              | 78 | <i>Provost</i>                                 |
| 39 | <i>University Honors Program</i>             |    |  |
| 40 |  |    |  |
| 41 |  |    |  |

## 1 PROLOGUE

2 In its final report of May 6, 1991, the Twin Cities Campus Task Force on Liberal  
3 Education described a challenge issued by University President Nils Hasselmo that the  
4 University of Minnesota provide "a special kind of undergraduate education' grounded in  
5 the research and artistic activities of the faculty and given social purpose by the  
6 University's land-grant, service mission." The Task Force understood its task as one of  
7 renewing the University's commitment to liberal education. Sixteen years later, we are  
8 asked to rethink that challenge and to renew that commitment.

9  
10 The essential attitudes and qualities of the mind, the fundamental skills and  
11 competencies, the understanding of different modes of intellectual inquiry described  
12 eloquently by the Task Force in 1991 are still very much at the heart of our work. The  
13 vision of liberal education remains strong and compelling; its value and importance have  
14 not diminished over the years. **Our challenge today is to realize that vision in ways so**  
15 **vibrant and powerful that it transforms the lives of our students and the future of**  
16 **our communities, our society, our state, and our world.**

17  
18 Our efforts to define the values and goals of liberal education and to instill in students  
19 those fundamental competencies and qualities of mind have focused, rightfully so, on the  
20 undergraduate curriculum. For the sake of administrative and conceptual clarity, the  
21 "special kind of undergraduate education" that is a liberal education will be formulated at  
22 one level as a list of course requirements. At their best those requirements become the  
23 framework for an educational experience of growth and discovery through which  
24 students become knowledgeable, thoughtful, ethical, and engaged public citizens. Too  
25 often, however, the requirements have been explained and experienced as a list of courses  
26 to be completed in the most expeditious and undemanding way possible, so that students  
27 can concentrate on the courses of their major degree programs.

28  
29 Although liberal education will take its clearest form in the undergraduate curriculum, we  
30 will not succeed in the endeavor of liberal education unless its values are infused  
31 throughout the life of our university. It is not enough to offer courses that fulfill a list of  
32 requirements, however brilliant that list, our courses, and our faculty might be. Rather,  
33 the meaning and values of liberal education ideally shape, on a daily basis, our  
34 conversations, our interactions, our cultures of teaching, learning, and working. We --  
35 staff, faculty, and students alike -- must understand, model, and live the values of ethical  
36 reasoning, social and cultural diversity, and global perspectives; we must understand, and  
37 show that we understand and appreciate, the different ways in which knowledge, truth,  
38 and beauty are pursued, created, or discovered. As a university, we are defined at our  
39 best by liberal education. It helps make us a community; it enables the lives we lead as  
40 teachers, learners, and citizens; it defines the world of learning, engagement, and public  
41 service that we invite and educate our students to join.

42  
43 On Commencement Day our students pass under this inscription, carved in stone, on the  
44 entrance to Northrop Auditorium: "The University of Minnesota, founded in the faith  
45 that men are ennobled by understanding, dedicated to the advancement of learning and

1 the search for truth, devoted to the instruction of youth and the welfare of the state." The  
2 words, which we take to embrace men and women, speak to the heart of our University  
3 and to the heart of liberal education. We seek the full realization of the values of liberal  
4 education in the life and spirit of the University of Minnesota.

5  
6 **THE CLE REVIEW PROCESS**  
7

8 In fall, 2006, the Council on Liberal Education was charged by Vice Provost Craig Swan  
9 with undertaking a "systematic review" of the University's liberal education  
10 requirements. In response to this charge, the Council met every two weeks throughout  
11 the 2006-07 academic year, and issued a preliminary report in October, 2007. As part of  
12 its deliberations, the Council reviewed and discussed a variety of resources including  
13 Derek Bok's *Our Underachieving Colleges*, liberal education/general education models  
14 at other research universities, essays about the goals of liberal education, and feedback  
15 from faculty, staff, and students about what is wrong and right with the current liberal  
16 education requirements. We focused especially on understanding the 1991 University of  
17 Minnesota report on liberal education, "A Liberal Education Agenda for the 1990s and  
18 Beyond" (known as the Howe committee report for the name of its chairman, history  
19 professor John Howe). We find that this report, which established the current liberal  
20 education requirements, still speaks eloquently to the value of liberal education and to the  
21 constraints and opportunities available for liberal education at a major research university  
22 such as ours. The Howe Committee report can be viewed at  
23 <http://www1.umn.edu/usenate/cle/cletaskforce.html>  
24

25 We drew several broad conclusions from our reading and discussions, and from the  
26 feedback we received from the University community, both initially and in response to  
27 our preliminary report issued October 2007:  
28

29 **There is strong support at the University of Minnesota for the goals and values of**  
30 **liberal education.** Council members heard from faculty, staff, and students who are  
31 passionate about liberal education and who think that it is an important component of any  
32 degree. We heard that liberal education makes better engineers, better medical students,  
33 better citizens. We also heard lots of advice—often contradictory—about how to  
34 strengthen liberal education at Minnesota.  
35

36 **Intelligent and reasonable people can and do disagree about how to achieve the**  
37 **educational goals to which we aspire.** We looked closely at Harvard's very public  
38 process, through a number of years and four different sets of recommendations for  
39 revising its famous "core." If an institution as small and relatively homogeneous as  
40 Harvard College struggles with how to achieve these goals, we should not be surprised  
41 that for Minnesota, the task is even more complex and challenging.  
42

43 **Despite disagreement about specifics, there was a pervasive sense that our standards**  
44 **need to be raised, our implementation process needs to be strengthened, and our**  
45 **communications about liberal education need to be more thoughtful and engaging.**

1 We undertook our review in the context of an active national discussion about liberal  
2 education, as well as a changing University of Minnesota landscape.

### 5 **THE NATIONAL CONTEXT**

7 A series of national reports and some well-publicized university curricular reviews have  
8 put liberal education in the spotlight nationally. The single most influential organization  
9 addressing this issue has been the American Association of Colleges and Universities  
10 (AAC&U) (<http://www.aacu.org/index.cfm>). In their 2002 report *Greater Expectations:  
11 A New Vision for Learning as a Nation Goes to College*, AAC&U called for “a new  
12 vision that will promote the kind of learning students need to meet emerging challenges  
13 in the workplace, in a diverse democracy, and in an interconnected world.” Following up  
14 on the recommendations of their 2002 report, AAC&U in 2005 launched a major  
15 advocacy campaign called Liberal Education and America’s Promise (LEAP), “a ten-year  
16 campaign to champion the value of a liberal education—for individual students and for a  
17 nation dependent on economic creativity and democratic vitality.” The LEAP campaign  
18 has in turn spawned conferences, reports, and a variety of pilot projects, including a  
19 statewide initiative in Wisconsin.

21 Perhaps in part as a result of the AAC&U activities, a number of major research  
22 universities conducted thorough reviews of their liberal education over the past six years,  
23 and most of their reports were available to review online. The Council looked at a  
24 number of reports and curricula, including University of North Carolina’s 2003 report  
25 *Making Connections: A Proposal to Revise the General Education Curriculum*, and the  
26 University of California’s 2007 report *General Education in the 21<sup>st</sup> Century*. And we  
27 followed the Harvard journey, from its 2004 *Report on the Harvard College Curricular  
28 Review* through a series of faculty essays commissioned in response to that report, to their  
29 November 2005 report, October 2006 preliminary report, and the final report in January,  
30 2007. Much of the Harvard discussion revolved around values: what values should be  
31 represented in the curriculum and how should they be explored? What in fact should *all*  
32 students be required to study? This is the basic question that any institution must address  
33 in considering its liberal education requirements.

### 36 **THE MINNESOTA CONTEXT**

38 Prior to the Howe report of 1991, the Twin Cities campus had managed its liberal  
39 education requirements via a set of general principles and goals that were implemented  
40 differently in the different colleges. Students moving from one college to another could  
41 find that they had not met the liberal education requirements in their new college. In  
42 addition, there was no campus-wide oversight body for liberal education, and no clear  
43 campus-wide articulation of the standards and criteria for approving a course to meet a  
44 liberal education requirement. The result was that students on the Twin Cities campus  
45 had very disparate experiences of liberal education.

1 The Howe committee report was wide-ranging and included recommendations on  
2 advising, on the major, and on freshman seminars (“new student colloquia”), as well as  
3 on liberal education. But it is best remembered for three important contributions. First, it  
4 assured that there would be a common vision and set of requirements for liberal  
5 education for all students on the campus. Second, it established a campus-wide oversight  
6 body (the Council on Liberal Education) to review and approve courses to be included in  
7 the liberal education component of the curriculum. And third, it articulated a vision of  
8 liberal education that included not only the more traditional breadth or distribution  
9 requirements (the “Diversified Core”), but also a set of requirements (“Designated  
10 Themes”) that were identified as bringing together “new modes of academic inquiry and  
11 issues of compelling social importance,” those ideas of critical relevance to society.  
12

13 The recommendations of the Howe report were broad and deep; the requirements it  
14 articulated in 1991 required three years for implementation, and went into effect for  
15 students entering the University on fall, 1994. Those requirements have continued in  
16 place since that time. When the University converted to semesters in 1999, the  
17 requirements were modified to fit the structure of semesters, but no substantive changes  
18 were made in the basic framework of the requirements. However, from 2002-2004, the  
19 Council on Liberal Education undertook the important task of reviewing and recertifying  
20 all courses that had previously been approved for LE credit. That review raised a number  
21 of questions that have helped frame some of the discussions during the past year’s review  
22 process.  
23

24 Two further developments at the University of Minnesota are important components of  
25 the context in which we undertook this review of liberal education requirements. First, in  
26 May, 2003, the Twin Cities Learning Assessment Council adopted a “Statement of  
27 Foundations for Learning Assessment.” This statement reflected a growing interest in  
28 learning outcomes assessment that was fueled both by individual faculty commitment and  
29 by a national move to incorporate learning outcomes into university accrediting  
30 requirements. To ensure that there would be ongoing commitment to the development of  
31 learning outcomes, the Provost appointed a Council for Enhancing Student Learning  
32 (CESL) which held a series of conferences and workshops and which proposed a  
33 common set of undergraduate Student Learning Outcomes (SLOs) for all University of  
34 Minnesota students. The outcomes approved by the University Senate in spring 2007 are  
35 intended to help departments and curriculum committees identify how both individual  
36 courses and entire curricula develop the kind of well-educated graduates we expect for  
37 the University of Minnesota. The SLOs are very closely connected to the goals of liberal  
38 education as we have outlined them here. The outcomes are stated as follows:  
39

40 ***At the time of receiving a bachelor’s degree, students:***

- 41 ○ *Can identify, define, and solve problems*
- 42 ○ *Can locate and critically evaluate information*
- 43 ○ *Have mastered a body of knowledge and a mode of inquiry*
- 44 ○ *Understand diverse philosophies and cultures within and across societies*
- 45 ○ *Can communicate effectively*

- 1           ○ *Understand the role of creativity, innovation, discovery, and expression*
- 2            *across disciplines*
- 3           ○ *Have acquired skills for effective citizenship and life-long learning.*

4

5 These learning outcomes are complemented by a set of Student Developmental Outcomes  
6 that guide students toward experiences that will help develop the following  
7 characteristics: responsibility and accountability, independence and interdependence,  
8 goal orientation, self-awareness, resilience, appreciation of differences, and tolerance of  
9 ambiguity. Both the Student Learning Outcomes and the Student Developmental  
10 Outcomes are a product of the whole educational experience; some of them will come  
11 primarily through the major (mastery of a body of knowledge, for example) but others  
12 may come from liberal education or from all of the other experiences and interactions that  
13 students have throughout their college years. As departments and colleges explore how  
14 these outcomes are expressed in their curricula, they need to think both about the majors  
15 that they teach and about the liberal education courses that they are responsible for. We  
16 have suggested in our recommendations several places where we see a strong linkage  
17 between the SLOs and the LE requirements.

18

19 The second major development is strategic positioning and the task forces related to  
20 undergraduate education. We are three years into a process that has examined every  
21 component of our mission and how it is implemented. With its goal of making the  
22 University one of the top three public research institutions in the world, the strategic  
23 positioning initiative exhorts us to “Recruit, educate, challenge, and graduate outstanding  
24 students who become highly motivated lifelong learners, leaders, and global citizens.”  
25 There were a number of strategic positioning task forces whose work related to  
26 undergraduate education; the one most immediately relevant to our liberal education  
27 review was the Task Force on Writing. Among other recommendations, they called for a  
28 Writing-Enriched Curriculum (WEC) requiring a transformative review of writing in  
29 each major, with the goal of ensuring that writing and writing instruction are integrated in  
30 ways that are meaningful to discipline-specific instruction and goals. Supported by a  
31 generous grant from the Bush Foundation, that review process is now in a pilot phase,  
32 and as with Student Learning Outcomes, this review has substantial implications for the  
33 liberal education requirements. The Vice Provost and Dean of Undergraduate Education  
34 has made a commitment to ensuring that these three curricular efforts (LE, SLO, and  
35 WEC) are interconnected wherever possible.

36

37 We take seriously the Strategic Positioning call for excellence, with a dynamic focus on  
38 learning, leadership, and citizenship, and we want to assure that our future liberal  
39 education requirements provide the best framework possible for the transformative  
40 education of our undergraduate students.

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1 **LISTENING TO THE UNIVERSITY COMMUNITY**

2  
3 What we learned from students

4  
5 Since no formal assessment mechanism for the current LE requirements was ever  
6 approved, we used three methods for getting feedback about student perceptions of the  
7 LE requirements. First, we reviewed data from the survey of graduating seniors, done  
8 each year since 2001. Second, we commissioned a formal focus group study asking  
9 students about their understanding of and experience with their LE requirements. And  
10 third, we asked each member of the Council to have a discussion about liberal education  
11 with a group of students, either in a class they were currently teaching or in an informal  
12 setting.

13  
14 The senior survey includes a subset of questions related to “life skills” and “general  
15 knowledge,” for which we have data both from a 1989 (pre-CLE) survey and from later  
16 (post-CLE) surveys. Many of the “general knowledge” questions on the post-1999  
17 surveys were specifically designed to address the CLE requirements (and therefore are  
18 not represented in the 1989 survey). Because we don’t have pre-1999 measures for these  
19 questions, they are only moderately useful as a tool for answering a question such as “are  
20 we doing better now than we were before?” However, they can still be helpful in  
21 thinking about whether we are meeting our stated goals in our liberal education  
22 requirements. Data from these surveys is included in Appendix 2.

23  
24 Beyond this somewhat limited data in the senior survey, we wanted to hear directly from  
25 students about their experiences with, and perceptions of, liberal education. Working  
26 with Professor Richard Krueger (College of Education and Human Development), we  
27 designed and implemented a focus group study. Professor Krueger and his associate  
28 Mary Anne Casey met with four groups of students (a total of 30 undergraduates) for in-  
29 depth discussions of liberal education. The focus groups dealt with issues ranging from  
30 messages students get about liberal education and their perception of why we have such  
31 requirements, to how they choose courses and how effective they thought the courses  
32 were. A copy of the final report is included as Appendix 3.

33  
34 Several observations and recommendations from this report helped shape our discussions.  
35 It is important to note that students support liberal education requirements and think that  
36 liberal education is an important part of a university education: “Students consistently  
37 gave three reasons [for the LE requirements]: to create well-rounded graduates, to help  
38 students appreciate diversity, and to give students who have not decided on a major the  
39 chance to explore.” Despite students’ somewhat grudging affirmation, however, it was  
40 also clear that we do an inadequate job of explaining to students why liberal education  
41 courses are important and what the outcomes are supposed to be. We are not explicit  
42 about the value of LE courses, either in our general communications or in the context of  
43 each individual course. As the conclusion of the report notes, “Many students view the  
44 [liberal education requirements] as a burden, not an opportunity.” It was clear that we  
45 could do much more to capitalize on the generally positive sense students expressed of  
46 the importance of liberal education; we need to help them understand what these courses

1 are trying to accomplish. And to do that, we need to be clear about these goals and  
2 embrace and articulate them broadly and passionately.

3  
4 Finally, members of the Council discussed liberal education with their students in classes,  
5 labs, and advising sessions. While these discussions were not structured, they produced  
6 results that mirrored the more structured focus groups. In general, across the board,  
7 students thought that LE courses were valuable. There was real disagreement on whether  
8 students should be able to fulfill most LEs within the major or whether they should be  
9 “forced” to go outside their major and perhaps outside their comfort zones. Students see  
10 the purpose of LEs as helping them to be “well-rounded” (the same language used by  
11 students in the focus groups). Some students said that they were encouraged to “just get  
12 the LEs out of the way” and also that the value was “poorly articulated.” “The message  
13 is to just get through it or to pick classes that are fun or easy.”

14  
15 What we learned from faculty and staff

16  
17 Early in fall 2006 the committee sent a series of letters to key university community  
18 members soliciting their input. Letters went to deans, to members of the Council of  
19 Undergraduate Deans, to directors of college student services/advising units, to  
20 departmental directors of undergraduate studies, and to those members of the Howe  
21 committee who were still at the University. The request (see Appendix 1) included  
22 several specific questions but also asked for any open-ended comments respondents  
23 wanted to make about liberal education.

24  
25 We received 34 responses including representation from all of the above groups. A  
26 handful of responses were variations on “all students should be required to take a course  
27 in [my discipline],” but most were thoughtful and wide-ranging. There were some  
28 common themes but also a good bit of advice that was conflicting and contradictory:  
29 some said make it simpler and others warned not to oversimplify; some wanted to limit  
30 the number of courses, and others said expand choices. Some advocated having more LE  
31 courses within their major and other said to prohibit students from completing LE within  
32 the major. **But there was substantial agreement on two points. The current LE  
33 structure is workable and seems to meet a variety of needs and goals; and the  
34 implementation of our structure has become ragged and less coherent than it should  
35 be.** Here are some typical comments:

36  
37 *The flexibility in the fulfillment of the liberal education requirements is certainly*  
38 *appreciated by students, and the general topics appropriate. . . . [But] Narrowing*  
39 *fulfillment options, paying attention to rigor and quality of the course content*  
40 *meeting LE requirements would ultimately serve our students better . . . .*

41  
42 *The most common issue I have seen with LE courses is that they become too*  
43 *content-focused to the exclusion of broader skill-sets and perspectives that are*  
44 *meant to permeate the outcomes.*

1           *Liberal education is still, unfortunately, a set of courses and requirements to be*  
2           *gotten through, that simply has no enduring meaning to many students, and no*  
3           *demonstrable meaning to the world outside the U.*

4  
5           *Students currently perceive LE as a list of requirements to check off, not*  
6           *something that is important to their education. A central CLE focus should be on*  
7           *communicating the importance of the LE experience to students [and faculty].*

8  
9           *Articulate the coherence and objectives of the general education curriculum in*  
10          *the context of the totality of the student's undergraduate career—including post-*  
11          *graduation goals such as employment and graduate and professional school*  
12          *attendance.*

13  
14          The responses sent to the Council also included some larger concepts and new ideas that  
15          the Council discussed.

16  
17          In addition to the letters soliciting input, three members of the Council met with members  
18          of the Academic Advising Network. Our discussion with advisers included a range of  
19          perspectives, but again there was support for providing better, clearer, more consistent  
20          and deeper understanding of liberal education: “The system needs to be transparent to  
21          students.” Advisers said that students were goal-oriented and career-focused, so don’t  
22          always understand how liberal education requirements fit in. Advisers can play an  
23          important role in helping students understand the meaning and value of liberal education  
24          as a part of their degree.

25  
26          We also reviewed twelve years’ worth of reports from CLE to SCEP to determine if there  
27          was a pattern of issues or concerns that had been raised. Here are some notes from the  
28          minutes:

29  
30                 [November 16, 1995, the first year review of CLE] *Faculty and departments*  
31                 *need to “buy in” if the liberal education curriculum is to succeed. Students in*  
32                 *departments with tightly structured curricula have particular difficulty finding*  
33                 *time to satisfy requirements.*

34  
35                 [February 28, 2001] *The establishment of themes did work, but there is a problem*  
36                 *of “credit creep.” . . . The establishment of “cores” has generally worked well,*  
37                 *but perhaps there are a few too many. . . . The intent was not to simply take an*  
38                 *introductory course and tweak it.*

39  
40                 [February 26, 2003] *There were not supposed to be a huge number of [core]*  
41                 *courses, but the number in the core has proliferated.*

42  
43          In general, the SCEP discussions are very positive, but there is a consistent thread of  
44          concern about the size of the Core and about whether the institution has drifted away  
45          from the intent of the Howe committee.

46

1 Over the years since semester conversion (1999), the Council on Liberal Education has  
2 kept a record of large and small questions, issues, or concerns related to its decisions  
3 about which courses would be approved for LE credit. Some of these issues have also  
4 been addressed in the annual report that CLE has provided to the Senate Committee on  
5 Educational Policy (SCEP) or in other discussions that the chair of CLE had with SCEP.  
6 Here is a sampling of the important issues that were raised:

- 7
- 8 • Not all courses can or should meet the LE requirements. Courses are being pushed  
9 to meet the LE requirements for enrollment or programmatic purposes. There has  
10 been a substantial increase in the number of courses in parts of the Diversified  
11 Core, which was originally defined as a limited number of courses. What is the  
12 “right size” for the Core?  
13
- 14 • Many students want, or need, to take courses that meet more than one LE  
15 requirements. Is such “double-dipping” a good thing? Some advisers and  
16 programs are concerned that this drives course design and that there are too many  
17 such courses; others want more. Double- and triple-dipping (with WI) is essential  
18 for some majors because of the high number of credits required for those majors.  
19 As we enforce our standards for higher quality and greater rigor, can courses  
20 reasonably meet these multiple expectations?  
21
- 22 • Some programs require or expect students to do the majority of LEs in the  
23 major—is this desirable or not?  
24
- 25 • Can a 1xxx level course teaching an introduction to a discipline also devote a  
26 substantial component of the material to a theme? In some cases, a theme may be  
27 a natural fit, for others the theme is an added (and sometimes forced) component.  
28
- 29 • Should any of the Themes be dropped or new ones added? Are they still  
30 appropriate for today’s students? Should the whole idea of Themes be revisited?  
31

32 Again, all of these questions were taken up by the Council during its deliberations.  
33

34 Finally, after we submitted the preliminary report of this committee on October 2007, we  
35 solicited feedback through a web site and through four open forums held in various  
36 locations on campus. The Council then met four times to review all the comments and  
37 make a final determination on its recommendations. On the whole, the feedback on the  
38 preliminary report was positive, and many excellent specific suggestions have been  
39 adopted and included in this final report. A list of the major changes made is included in  
40 Appendix 1.

#### 41 What we learned from data

42  
43  
44 When the new liberal education curriculum went into effect in 1994, there were 273  
45 approved courses in the Diversified Core and 252 courses in the Designated Themes. In  
46 1999, the university converted from quarters to semesters and in theory (though not in

1 practice) there should have been a reduction of 1/3 in the total number of courses offered.  
2 But in a count done in fall, 2006 (after the CLE recertification review), we found that  
3 there were 638 courses approved for the Diversified Core and 798 for the Designated  
4 Themes, an increase of over 135% in Core and 160% in Themes. Details are included in  
5 the tables in Appendix 2.

6  
7 The most dramatic increases in courses were in Historical Perspectives, Social Sciences,  
8 and Arts and Humanities. The number of approved science courses (Physical and  
9 Biological Sciences with Lab) actually decreased slightly. All of the Themes increased  
10 substantially, with the biggest increases coming in Citizenship and Public Ethics (from 34  
11 to 177) and Cultural Diversity (from 53 to 222). Because so many courses meet the  
12 liberal education requirements, most students are actually completing more liberal  
13 education courses than they are required to take.

14  
15 Almost 60% of courses in the Core also carry a Theme designation; courses meeting the  
16 Social Science Core were the most likely to have a Theme, with almost 80% of these  
17 courses approved for double-dipping. In addition, there were 75 courses that were  
18 approved to meet two Themes; the biggest single combination was Environment with  
19 Citizenship and Public Ethics (23 courses).

## 20 21 22 **FINDING A FRAMEWORK**

23  
24 *The transformational experience of attending the university . . . goes beyond preparation*  
25 *for a career to include preparation to be a competent individual within society as a*  
26 *whole.*

27 Michael J. Houston, Professor and Associate Dean, Carlson School of Management

28  
29 The Council's discussions ranged over three major areas:

- 30 • Conceptual approach: Should we require special integrative courses or use regular  
31 courses that are already in the curriculum? Should LE courses be focused on broad  
32 outcomes or on specific subject matter content?
- 33 • Structure: Should we have a distribution list or some sort of matrix? Complex or  
34 simple? "One of each" or "take x courses from y subject areas"?
- 35 • Relationship to major: Integrated with the major or separate from the major? What  
36 percentage of the degree? Concentrated in the first two years or spread through four  
37 years?

38  
39 *Conceptual approach.* Many small liberal arts colleges offer special integrative courses  
40 that are required for all students. In some cases this is one set of courses; in others,  
41 students can choose from a small number. But among these institutions a common thread  
42 is the belief that introductory courses in majors are not appropriate to meet the broad,  
43 general requirements of liberal education. Students need to be exposed explicitly and  
44 specifically to courses that are designed to help them integrate ways of knowing or  
45 concepts from various fields into a coherent whole. This integrative approach generally  
46 works well for small, homogeneous colleges that admit mostly freshman students. The

1 largest institution we identified that has taken this approach in its liberal education  
2 requirements is Michigan State, which has created three Centers for Integrative Studies  
3 (Arts and Humanities, General Sciences, and Social Sciences), each of which offers  
4 courses that “integrate multiple ways of knowing into an enhanced appreciation of our  
5 humanity, creativity, knowledge, and responsibilities for ourselves and our world.” The  
6 MSU program is still in its early stages, so they do not yet have a long track record. The  
7 sense of the Council is that Minnesota should encourage the development of new  
8 integrative courses but not limit our liberal education requirements to such courses, in  
9 part because our current budget model does not provide incentives for this type of cross-  
10 disciplinary course development. We continue to support the inclusion of “introduction  
11 to the discipline” courses within liberal education, although we are asking for a much  
12 stronger articulation of how and why these courses meet liberal education expectations.  
13 We also support and encourage the development of rigorous and compelling alternative  
14 courses for non-majors.

15  
16 *Distribution list or matrix approach.* Some institutions have a simple list of  
17 requirements (“take one course in each of the following areas”) or a “choice” option  
18 (“take at least eight courses from at least six of the following ten areas”). These  
19 approaches are very attractive for their simplicity and flexibility. They are easy to explain  
20 to students and easy for a curriculum committee to evaluate. However, there are  
21 limitations inherent in this apparent simplicity. Allowing choice allows students to avoid  
22 one or more subjects, usually based either on a sense that they don’t like something or  
23 that they aren’t good at it. The Council (and some of the students we talked with) felt  
24 that getting students out of their comfort zone was an important byproduct of liberal  
25 education requirements, so after discussion, we voted not to support a “choice” approach.  
26 Nor did we ultimately support the simpler “distribution list” approach of “take one course  
27 in each area.” Given the complexity of the world in which we live, and the limitations  
28 imposed by our broad range of majors, we returned again and again to the need for  
29 something beyond a “one of each” approach. The Council therefore opted to continue the  
30 use of a matrix approach, with a set of “Core” courses and a set of Themes that can stand  
31 alone or that can be incorporated into the Cores. This structure allows a richer and more  
32 nuanced approach to liberal education.

33  
34 *Liberal education as a component of a four-year degree.* The Council strongly reaffirms  
35 the Howe committee recommendation that, as much as possible, students complete their  
36 liberal education work outside the major. One important goal of liberal education is to  
37 foster breadth. Students should be encouraged by their advisors and instructors to choose  
38 liberal education courses that complement their interests but stretch them in new  
39 directions. We also support and advocate advising interactions that help students  
40 distribute at least some part of their liberal education across the full four years of the  
41 degree.

42  
43

## 1 RECOMMENDATIONS

2  
3 *Because we cannot predict the future we need to equip our students with a foundation*  
4 *from which they can adapt and evolve as the world changes. . . .Liberal education*  
5 *courses and experiences will challenge students' belief systems about the world and help*  
6 *them to develop different ways of thinking.*

7 Deborah E. Powell, M.D., Dean of the Medical School

8  
9 We issue our report as a call to revitalize our commitment to liberal education, with four  
10 main goals:

- 11  
12 • **We must have a campus-wide commitment to liberal education, assuring that**  
13 **important conversations about liberal education happen in advising sessions, in**  
14 **classrooms, and in faculty meetings. Creating effective liberal education must be**  
15 **everyone's responsibility.**
- 16  
17 • **We must clearly articulate and uphold the standards that courses have to meet**  
18 **to be approved for liberal education credit.**
- 19  
20 • **We must transform our communication with students about what we expect of**  
21 **them as they move through their liberal education courses. Every piece of**  
22 **communication—from admissions to OneStop, from course syllabi to final**  
23 **exams and course evaluations, should be designed to help students understand**  
24 **what liberal education is, why a particular course meets a liberal education**  
25 **requirement, and what this means for them as students and as citizens. We must**  
26 **make explicit what is now implicit.**
- 27  
28 • **We must strengthen our implementation of these courses by finding effective**  
29 **ways to assess outcomes and then holding colleges and departments accountable.**  
30

31 We found no compelling evidence that the design of our current LE requirements is  
32 fundamentally flawed or out of line with what other institutions are doing. For this  
33 reason, the changes we recommend focus on strengthening the existing framework for  
34 our liberal education requirements. Our recommendations have reduced the core  
35 requirements by one, added a theme of special current importance, sharpened and  
36 clarified the goals for the Core and Theme courses, and stated the criteria for the  
37 requirements in such a way that the Council on Liberal Education will have more clearly  
38 articulated and defined standards against which to judge courses proposed for the liberal  
39 education requirements. These sharpened definitions should also offer clarity to those  
40 who are proposing courses.

## 41 42 43 WRITING AS A CRITICAL COMPONENT OF A LIBERAL EDUCATION

44  
45 We share the Howe committee's certainty that writing is of bedrock importance to a good  
46 liberal education. We expect that students in all disciplines will use writing to clarify

1 their thinking, to analyze problems, to develop and express their ideas, to summarize  
2 data, and for myriad other purposes central to liberal education. In all liberal education  
3 courses, writing must be recognized as fundamental to disciplinary and interdisciplinary  
4 learning. One of the Student Learning Outcomes is the expectation that students “can  
5 communicate effectively.” We advocate that writing in forms appropriate to each  
6 discipline be incorporated into every liberal education course. This does not mean that  
7 every course needs to be “writing-intensive,” but it does mean that liberal education  
8 courses should use writing in a wide variety of ways, from short essays to written  
9 comments/questions at the end of a lecture to opinion pieces to summaries of reading.  
10 Writing is an important tool for learning, and especially for the kind of learning  
11 envisioned in liberal education.

12  
13 Because of the recommendations of the Strategic Positioning Task Force on Writing and  
14 the recent appointment of a Campus Writing Board, along with the Bush grant to support  
15 the development of a Writing Enriched Curriculum (WEC), the Council determined that  
16 it would not reconsider writing as part of its liberal education recommendations. We  
17 have, however, made some limited recommendations (below) to strengthen and clarify  
18 the current Writing Intensive (WI) requirements established by the Howe committee. It  
19 is our understanding that through the WEC process, writing instruction will evolve over  
20 the next five to ten years and eventually will replace the WI rubric, with responsibility for  
21 oversight of writing passing from CLE to the Campus Writing Board. In the short term,  
22 however, WI courses will continue and will be approved under the revised guidelines  
23 outlined below. As part of the WEC initiative, the Vice Provost and Dean of  
24 Undergraduate Education has appointed a Campus Writing Board whose responsibilities  
25 will include not only reviewing new writing-enriched curricula but also reviewing new  
26 courses that are proposed for WI designation as well as recertifying existing courses. The  
27 Council will work with the Campus Writing Board to define the future relationship  
28 between these two bodies and to ensure clear communications and meaningful  
29 conversations during the transition period.

## 30 31 32 **REVITALIZING THE CORE**

33  
34 *The major value of a liberal education is that it provides depth and perspective, enabling*  
35 *an individual to see and evaluate many sides of issues and problems.*

36 Robin Wright, Professor and Associate Dean, College of Biological Sciences

37  
38 In its proposal for what it called the “Diversified Core,” the Howe committee proposed  
39 courses that required “familiarity with the basic factual information that discipline-based  
40 and interdisciplinary fields of knowledge rely on,” but that also required:

41  
42 ...acquaintance with different ways of knowing, that is to say, with different kinds  
43 of questions that are asked, theories that are employed, and data that are used in  
44 different intellectual domains....In sum, programs of educational breadth should  
45 introduce students to the diverse ways of knowing that have characterized human  
46 societies and civilizations and that characterize our world today; explain the

1 factual content, methods, and theories of specific disciplines and arts across the  
2 spectrum of the university; reveal the ways in which knowledge is culturally and  
3 intellectually constructed and changes, over time; and demonstrate that ‘knowing’  
4 is an active, ongoing process.

5  
6 What the Howe committee could not have envisioned in 1991 is the explosion of easily  
7 accessible information (and misinformation) available to all of us via the internet.  
8 Students’ interpretive and evaluative skills have not kept pace with this information  
9 explosion. They can google “facts” and information, but if they don’t understand how  
10 knowledge is created and how information is interpreted, then how can they assess what  
11 they google? Students skim the surface of the “basic factual information” mentioned by  
12 Howe, and many of the courses now approved for the “Diversified Core” do the same.  
13 What we are looking for here is a paradigm shift for the Core, away from “what” and  
14 toward “how and why.” The “what” questions are essentially retrospective in nature; the  
15 “how and why” questions are prospective and help students to prepare for the future. We  
16 also want students to understand the complexity of information, the extent to which  
17 knowledge may be socially constructed, and the role of diversity in perspective in relation  
18 to disciplinary and interdisciplinary ways of knowing.

19  
20 **In that context, then, we propose that students take one course in each of the**  
21 **following seven areas: Arts and Humanities, Biological Sciences, Historical**  
22 **Perspectives, Literature, Mathematical Thinking, Physical Sciences, and Social**  
23 **Sciences.** There is no doubt that one course in each of these areas is inadequate to assure  
24 true breadth; the Core is not about “coverage” but rather about introducing students to a  
25 range of “ways of knowing.” The areas selected represent the Council’s best thinking  
26 about skills and knowledge that students need if they are to be informed and productive  
27 employees and citizens in an environment where they are bombarded with information  
28 that requires assessment, analysis, and synthesis. While a case could be made for other  
29 requirements or skills, we compromised on this list because we felt it represented  
30 significant breadth without expanding the number of courses students are required to  
31 complete.

32  
33 Why these seven? The explanations are included in part in the descriptions of each of the  
34 areas below, but briefly, over a period of more than a year of deliberation, we decided on  
35 these seven through a two-stage process. There was strong agreement, to begin with, that  
36 four significant and important approaches to knowledge could be said to reside in the  
37 areas of mathematics, natural sciences, social sciences, and arts and humanities. These  
38 are the four Core areas originally proposed by Howe, and they are represented in virtually  
39 all of the liberal education/general education requirements we looked at from peer  
40 institutions. It is clear, however, that the traditional division of knowledge and ways of  
41 knowing into these four broad categories is becoming increasingly blurry. For this reason  
42 we do not advocate an approach based on identifying departments or disciplines with one  
43 broad category or another. In anthropology, for example, there are faculty members  
44 using methodologies traditionally associated with biological sciences, with social  
45 sciences, and with humanities/cultural studies. By identifying core areas, we do not  
46 intend to create rigid demarcations, but we do want to assure that students encounter a

1 variety of ways of analyzing information and thinking about questions and problems. To  
2 that end the four traditional categories represented here are as functional as any other  
3 structure in assuring some breadth of experience for students.  
4

5 If it was clear from the start that those four broad areas would somehow be represented in  
6 the core, it was less clear how we might address the question of sub-requirements within  
7 each, and the second stage of these discussions focused on whether and how the four  
8 large categories might be subdivided. For example, should work be required in **both** arts  
9 and humanities, in **both** physical and biological sciences, in specific branches of social  
10 sciences (such as economics), and so on. While good cases could be made for an array of  
11 other options in an institution as diverse and with as many perspectives and strengths as  
12 this one, the Council elected to limit the “subrequirements” to three by splitting the  
13 physical and biological sciences, creating two separate requirements, and breaking out  
14 both historical perspectives and literature as a separate requirements. Each of these  
15 decisions is discussed below.  
16

17 The Council is requiring work in both the **physical and the biological sciences**, with  
18 laboratory work in each, because we became convinced of the importance of helping  
19 students understand how scientists create knowledge by developing and testing  
20 hypotheses, and how the study of living organisms differs fundamentally from the study  
21 of non-living matter. Disciplines within the natural sciences (physical and biological  
22 sciences) and some social sciences advance knowledge by using variations of the  
23 scientific method. While they thus share some common methodology, the contextual  
24 framework and ways of approaching questions within these disciplines is often radically  
25 different. Bodies such as the National Academies and various federal agencies  
26 acknowledge the distinctive ways of thinking within the physical and biological sciences,  
27 and emphasize the need for citizens to have a basic grasp of how both affect humans and  
28 the world around us. We are immersed in information about, and choices related to, the  
29 physical and biological sciences. From global warming to stem cell debates, from the age  
30 of the earth to the health impacts of obesity, we encounter people with passionate (and  
31 often poorly-informed) perspectives on every issue. Among the general public, even  
32 those with a college education, there is an increasing sense that science is “both  
33 intellectually inaccessible and intrinsically dangerous.”<sup>1</sup> The Council thinks it is critical  
34 that U of M graduates be able to bring both knowledge and critical thinking skills to bear  
35 as they face these challenges. An education that includes both physical and biological  
36 sciences will help to build this foundation.  
37

38 Similarly, learning about history and how scholars create **historical knowledge** about the  
39 human past is essential to helping students sort out the claims of competing historical  
40 data and methods. Courses with an historical perspective will teach students about the  
41 historical sources and analytical approaches that are used to create narratives and  
42 explanations about the past, allowing students to make more informed judgments about  
43 the histories that shape our understanding of the past, present, and future. Students who  
44 can adequately and independently evaluate how historical knowledge is produced will not

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<sup>1</sup> Andrew W. Murray, “Reinventing General Education,” Essays on General Education in Harvard College, 2004,

1 be at the mercy of anyone who has a point of view and a few facts to support it. An  
2 understanding how historical knowledge is made, and the ability to evaluate historical  
3 claims, is crucial to our students' ability to analyze information they encounter every day.  
4

5 Finally, Council members from many different disciplines felt that a serious focus on  
6 written texts and specifically on **literature** would provide students with knowledge and  
7 skills that are important in many other areas of their lives. We are privileging literary  
8 studies specifically over other forms of cultural endeavor such as film or visual arts  
9 because of its emphasis on the written word. While reading is critical to every discipline,  
10 in no other field is the focus so uniquely on words and their meaning. Given the alarming  
11 data about the decline in reading that has been the focus of numerous recent articles, the  
12 committee wanted to ensure that all U of M students would have close analysis of written  
13 texts and a serious study of literature as part of their Core experience.  
14

15 Because the Core is the central focus of the university's liberal education requirements,  
16 there are some unique expectations and requirements that will be employed in assessing  
17 whether courses will be included in the Core. Under these revised requirements, courses  
18 that meet the Council's standards for approval in the Core will have to address the  
19 different ways of thinking through which various disciplines arrive at and justify their  
20 distinctive results. We must help students understand how *this* course (for example, in  
21 economics) can also teach them how we construct the social sciences more broadly, and  
22 how social scientists ask questions and analyze information, with a specific eye towards  
23 helping students gain an understanding of a variety of principles and processes important  
24 for their lives as engaged citizens. In other words, in this example, it will not be  
25 sufficient for a course in the Core just to teach economics; the course must also situate  
26 economics in the realm of social sciences *and* help students understand why it matters for  
27 them to study economics specifically as an example of the social sciences in general.  
28

29 We expect that Core courses, as they explicitly address "ways of knowing," will also  
30 contribute to at least two of the Student Learning Outcomes approved by the University  
31 Senate ("*identify, define, and solve problems; locate and critically evaluate*  
32 *information*"), acknowledging that there are multiple ways of knowing and that  
33 knowledge may be socially constructed.  
34

35 To summarize, then, all courses in the Core must meet the following requirements:  
36

- 37 • They explicitly help students understand what liberal education is, how the content  
38 and the substance of this course enhance a liberal education, and what this means for  
39 them as students and as citizens.
- 40 • They employ teaching and learning strategies that engage students with **doing** the  
41 work of the field, not just reading about it.
- 42 • They include small group experiences (such as discussion sections or labs) and use  
43 writing as appropriate to the discipline to help students learn and reflect on their  
44 learning.
- 45 • They do not (except in rare and clearly justified cases) have prerequisites beyond the  
46 University's entrance requirements.

- 1 • They are offered on a regular schedule.
- 2 • They are taught by regular faculty (except under extraordinary circumstances).

3  
4 The Howe committee envisioned “a limited number of courses developed *specifically to*  
5 *serve these objectives*” [emphasis added]. The Council welcomes the creation of separate,  
6 new courses specifically to meet liberal education objectives, and especially to meet them  
7 in creative, interdisciplinary ways. The Council will be pleased to work with colleges  
8 who want to propose a unique approach to Core courses.  
9

## 10 **Requirements in the Core**

### 11 **Arts and Humanities**

12  
13  
14  
15 Courses that meet the Arts and Humanities Core requirement fall into two broad  
16 groupings of disciplines: first, the arts; and second, humanistic studies. Students must  
17 choose work in one of these areas to fulfill this requirement.  
18

#### 19 ***CLE Guidelines for Arts Courses***

20 Study in the arts broadens the understanding of how we think. Arts courses that meet the  
21 Arts and Humanities Core requirement provide the opportunity to explore and engage  
22 with the concepts and processes of historical and contemporary practice in the arts. Such  
23 courses may be courses of artistic practice in, for example, creative writing, visual arts,  
24 music, theatre, dance, film, design and collaborative arts. These courses will promote the  
25 open exploration of creative media in new ways as well as supporting traditional practice.  
26 These courses will explore the ways in which art derives its value from various histories  
27 and perspectives, means and methods. Among the specific traits fostered in such courses  
28 are thoughtful analysis, flexibility, experimentation and ingenuity in problem solving and  
29 making use of complex concepts. These courses are designed to initiate a lasting  
30 connection to the arts for students as creators, viewers, or participants.  
31

32 To satisfy the Arts and Humanities Core requirement in Arts a course must meet these  
33 criteria:

- 34 • Students create their own artistic efforts.
- 35 • Students reflect on their artistic efforts in writing or in discussion that develops  
36 awareness of the considerations that guide artistic practice and response.
- 37 • Students become aware of why and how artists select their content, media, and  
38 method.
- 39 • Students develop an understanding of the arts in relation to communities in and  
40 for which art is created.
- 41 • Students examine how the historical dimensions of time, place and culture inform  
42 artistic practice.  
43  
44

1 ***CLE Guidelines for Humanistic Studies Courses***

2 The second group, Humanistic Studies, includes such disciplines as art history, classics,  
3 cultural studies, design history, film and media studies, philosophy, and religious studies.  
4 These courses could come from a great variety of departments. Courses that focus on the  
5 humanities introduce students to theories and methods for critically analyzing and  
6 interpreting the arts, culture, or religious and philosophical traditions of distinct human  
7 societies across the globe and in various historical eras. Courses in this group examine  
8 works that invite or compel critical thought. Reflection on such works helps students to  
9 develop an appreciation for the humanities, and also to become more thoughtful and  
10 perceptive actors in their cultural worlds.

11  
12 To satisfy the Arts and Humanities Core requirement in Humanistic Studies a course  
13 must meet these criteria:

- 14 • Students engage in detailed analysis of and reflection on some humanistic  
15 literature or creative product – for example, a philosophical essay, a religious  
16 treatise, a work of cultural commentary, or a documentary film.
  - 17 • Students develop their understanding of the works or cultural practices they  
18 consider. Where appropriate (for example, in considering a philosophical work)  
19 they engage in critical evaluation of the work.
  - 20 • Students examine how the work under consideration arose out of its cultural or  
21 historical context.
  - 22 • The course explores the role that the work plays in the larger society of which it is  
23 a part.
- 24  
25

26 **Biological Sciences**

27  
28 There has been a veritable explosion in the amount of biological information in the past  
29 few decades, and perhaps more so than in any other discipline, the body of knowledge we  
30 claim as foundational to the field has changed radically in that period of time. We are  
31 barraged daily by reminders of how we are biological organisms living and interacting  
32 with a world full of other biological organisms, our lives profoundly affecting each other.  
33 Graduates of the University of Minnesota need to have a measure of biological literacy  
34 that will allow them to analyze new biological information as it becomes available, put it  
35 into the framework of previous knowledge, and appreciate how it affects the earth's  
36 organisms. Because biology is not static, the important element of biological literacy lies  
37 not in students memorizing lists of facts about various topics in the many areas that  
38 constitute biology, but in seeing for themselves how biology is done and reaching an  
39 appreciation of the creative spark that drives discovery in biology. This requires  
40 providing students with opportunities to formulate and test hypotheses, interpret  
41 experimentally obtained data, and draw conclusions from the data that may challenge  
42 their preconceptions.

43  
44  
45

1 ***CLE Guidelines for Biological Sciences Courses***

2 Elements of the biological sciences can be found in numerous colleges and departments  
3 at the University of Minnesota. Courses that meet the Biological Sciences Core  
4 requirement might be broad survey courses or they might focus more specifically on a  
5 particular type of organism, topic, or process of living organisms. Courses that emphasize  
6 the relevance of biology by addressing contemporary issues (e.g., stem cell research,  
7 genome projects, HIV/AIDS, obesity, exercise, evolution of disease microbes, sustainable  
8 agriculture, human effects on global warming, conservation biology, behavioral biology,  
9 or organisms useful to humans) and use modern technologies for analysis are likely to  
10 attract the most interest from non-majors. Courses that meet the Biological Sciences  
11 Core requirement must present the evidence for our current knowledge (i.e., how did we  
12 learn what we know), guide students through the process of acquiring knowledge using  
13 the tools of the discipline, present the limitations of current research, convey the message  
14 that questions of the future may require new ways of gathering information, and  
15 emphasize that new knowledge may require substantial revision of our current thinking.  
16 Courses that guide students through an understanding of examples from the primary  
17 research literature in biological sciences are encouraged. The aim is not to simply  
18 capture a snapshot of what we currently know in a given field, but to guide students to  
19 develop skills that will enable them to undertake analysis of information pertaining to  
20 biological sciences.

21  
22 Because interpretation of biological data relies so intimately on quantitative skills,  
23 courses in this Core area also need to demonstrate integration of mathematical thinking,  
24 such as interpretation of graphs and figures, to a level suitable for an introductory, non-  
25 major course. Presenting the human side of the endeavor of discovery, including the  
26 quirks, foibles, rivalries, dead-ends and once misinterpreted data should be considered in  
27 order to help students understand that the people who advance the natural sciences are not  
28 so different from themselves, and that science is still able to advance in spite of the  
29 imperfect nature of the researchers and their tools for analysis.

30  
31 To satisfy the Biological Sciences Core requirement, a course must meet these criteria:

- 32 • The course provides experimental evidence for how current knowledge in biology  
33 was obtained.
  - 34 • The course explores examples of unanswered questions in biology.
  - 35 • Students integrate mathematical thinking into analysis and interpretation of data.
  - 36 • The course includes at least two hours of laboratory per week, in which students  
37 have first-hand experience in producing and handling data, using tools of the  
38 discipline (i.e., thinking and working like a biologist).
  - 39 • The course includes laboratory experiences in which students do hands-on testing  
40 of principles presented in the lecture portion of the course; some laboratory  
41 sessions may include computer simulations of experiments or observations that  
42 otherwise cannot readily be addressed during a semester (e.g. evolution of a  
43 population over thousands of years).
  - 44 • The course provides laboratory experiments that allow students to confront  
45 interpretation of mistakes and unexpected results.
- 46

1 A lab experience in the Biological Sciences Core requires students to do one or more of  
2 the following:

- 3 • perform hands-on experiments, measurements, or analyses that test basic  
4 concepts or hypotheses about living organisms;
- 5 • analyze, interpret, and draw conclusions from data;
- 6 • examine the relationship between structure and function of biological  
7 specimens;
- 8 • explore biological systems to understand how individual organisms interact  
9 with each other and the environment;
- 10 • use mathematical models to describe or predict responses and behaviors in  
11 living systems.

### 14 **Historical Perspectives**

15  
16 Courses in the Historical Perspectives core investigate how historical knowledge is  
17 produced from artifacts (primary sources) that have remained from the past. By  
18 discerning between ‘the past’ as that which happened and ‘historical knowledge’ as what  
19 we know about the past, these courses self-consciously examine the methods and sources  
20 people (and not just professional historians) use to produce historical knowledge. A  
21 central question in any Historical Perspectives course concerns both the value and the  
22 limitations of certain sources, be they written, oral, visual, or material. The incomplete  
23 and partial nature of the sources, and the distinctive perspective any given individual  
24 brings to them, leads inevitably to multiple and conflicting interpretations of the past.  
25 And yet not all historical analyses and arguments are equally persuasive; there are  
26 (changing) rules about what constitutes reliable and trustworthy history. Historical  
27 Perspectives courses equip students with a deep understanding of particular approaches to  
28 the past and teach them to think critically and in an informed manner about their own and  
29 others’ assumptions and assertions about the human past.

#### 31 ***CLE Guidelines for Historical Perspective***

32 Each course admitted to the Historical Perspectives core must have a three-part mission,  
33 one related to content, namely past human experience in specific contexts, another to  
34 questions of methodology and how historical knowledge is produced, and a third that  
35 involves students in analyzing and interpreting primary sources. Not all history or  
36 historically informed courses meet the criteria for Historical Perspectives, and courses  
37 that meet the requirement may come from a wide variety of disciplines.

38  
39 First, Historical Perspectives courses examine the human past, studying the beliefs,  
40 practices, and relationships that shaped human experience over time. Historical  
41 Perspectives courses must be primarily about *people* and their changing experiences in  
42 particular contexts, whether the sources examined in a course are hieroglyphic political  
43 tracts in ancient Egypt, oil paintings depicting gentility in Renaissance Italy, court  
44 records from nineteenth-century Brazil, or the artifacts of popular culture that create and  
45 perpetuate memories of the 1989 Tiananmen Square protests in China. An Historical  
46 Perspectives course in art history, for example, may draw heavily on art as its source

1 base, but the analytical focus of the course is not so much on the art itself (its aesthetic  
2 and technical qualities) as on the human makers and consumers of the art or on the  
3 historically specific meanings people attributed to it. Change over time is a fundamental  
4 category of analysis in Historical Perspectives courses, and attention to the specific and  
5 distinctive historical context is crucial.

6  
7 Second, an explicit and significant focus of any Historical Perspectives course must be on  
8 the methods and conceptual frameworks with which scholars interpret primary sources.  
9 Students will learn about and critically assess methods and concepts employed in  
10 producing historical knowledge.

11  
12 Third, students must themselves work with primary sources, i.e. materials produced in the  
13 time period under investigation, whether written, oral, visual, or material, and either in  
14 the original language or in translation. Students will learn how to analyze primary  
15 sources and do the interpretive work that makes meaning out of historical material.  
16 Students will also evaluate the uses and the limitations of those sources. Historical  
17 Perspectives courses should consider how the questions we ask and the sources available  
18 to us shape our knowledge of the past and our understanding of its significance.

19  
20 To satisfy the Historical Perspectives Core requirement, a course must meet these  
21 criteria:

- 22 • The course examines the human past, studying the beliefs, practices, and  
23 relationships that shaped human experience over time.
- 24 • The course focuses on change over time, giving attention to specific historical  
25 contexts.
- 26 • The course introduces and critically assesses methods and concepts employed in  
27 producing historical knowledge.
- 28 • Students work with primary sources, learning how to do the interpretive work that  
29 makes meaning out of historical material.
- 30 • Students evaluate the uses and the limitations of certain primary sources.
- 31 • The course considers how the questions we ask and the sources available to us  
32 shape our knowledge of the past and our understanding of its significance.

### 33 34 35 **Literature**

36  
37 Courses that meet the Literature Core requirement will introduce students to the  
38 challenges and joys of the close study of literature. Literature uses language in creative  
39 and powerful ways to entertain and engage, instruct and inspire, and shock or sadden us.  
40 In so doing it enlarges our understanding of the human experience, transforms our  
41 thinking and our lives, and helps us to imagine new possibilities for our society and the  
42 world. Penetrating analysis of literature teaches the power of literature to express the  
43 breadth and complexity of human lives past and present, near and far. Careful study of  
44 literature can enrich students' individual and professional lives and make them more  
45 understanding and reflective members of their multiple communities.

46

1 Courses that meet the Literature Core requirement focus on the ways in which the written  
2 word articulates and explores human experience. Courses that meet this requirement may  
3 be offered in any world language that has a strong body of written literature. Like other  
4 courses in the arts and humanities, literature classes analyze creative works, but their  
5 special emphasis is on the relationship between language and meaning in literary texts:  
6 we may find more complex meanings when we examine the author, the readers, the social  
7 or historical context, as well as the written text itself. Because informed readers of  
8 literature appreciate the aesthetic qualities of good writing, courses about literature teach  
9 students to work with language as both a vehicle through which ideas and images are  
10 expressed and as the material from which aesthetic works are composed. A poem is, for  
11 example, a text that communicates ideas as well as an aesthetic object that is composed of  
12 words (just as a painting conveys ideas and emotions but is made up of paint and brush  
13 strokes).

#### 14 ***CLE Guidelines for Literature Courses***

15 To satisfy the Literature Core requirement, a course must meet these criteria:

- 16 • The course focuses on analysis of written works of literature (fiction, creative  
17 nonfiction, poetry, and other kinds), and specifically addresses issues of language  
18 and meaning in the works studied.
- 19 • Students study the formal dimensions of literature: they study how the author's  
20 choices – such as the choice of genre, style, character presentation, vocabulary,  
21 meter or the use of symbolism – have created the work's effect of powerfully  
22 evoking the reader's response.
- 23 • The course examines the social and historical contexts of the literary works as  
24 well as their content.

#### 25 **Mathematical Thinking**

26  
27  
28 Mathematics has a dual nature: It is a science and way of thinking, with its own language  
29 designed for logical discourse, and it also provides unique approaches to describing and  
30 understanding reality. Much of modern life rests on intellectual and scientific  
31 developments that are directed by mathematical equations and algorithms: space flight,  
32 computers, the Internet, weather modeling, security codes, and a host of others. To  
33 function as effective and responsible citizens, students need some understanding of the  
34 analytic processes that underlie these developments. Students should have some  
35 familiarity with two primary aspects of mathematical thinking.

36  
37  
38 The first aspect is mathematics as a body of knowledge. It is concerned with such issues  
39 as enumeration and computation, quantifying change, geometrical figures, shape, and  
40 symmetry. It deals with these topics via precise, unambiguous symbolic language.  
41 Students need some facility in communication with these symbols to appreciate the  
42 power of its manner of expression. Students should understand some of the esthetically  
43 beautiful ideas and their history that have implications so powerful that science and  
44 technology would be impossible without this underpinning—selected from topics such as  
45 number theory, geometric analysis, calculus, probability and statistics, combinatorics,  
46

1 and symbolic logic, among others. Students should appreciate that mathematical results  
2 are established by logical proofs or algorithms with rigorous methods for testing whether  
3 something in a symbolic language is an acceptable proof.

4  
5 The second aspect of mathematical thinking is its broad applicability, its “unreasonable  
6 effectiveness” in the physical, biological and engineering sciences, as well in many of the  
7 social sciences and psychology. The essential concept is “mathematical modeling.”  
8 Using mathematical ideas many problems that arise in the everyday world can be  
9 abstracted and expressed as mathematical problems. The solutions, often obtained via  
10 scientific computation, are then applied to the original problem, and their conformance to  
11 reality checked. It is amazing that the same mathematical ideas are applicable in so many  
12 different disciplines. These elegant solutions to applied problems are necessary for a  
13 deeper understanding of the forces that continuously transform our world.

14  
15 ***CLE Guidelines for Mathematical Thinking Courses***

16 There should be a variety of courses on mathematical thinking if the diverse needs of our  
17 students are to be met, and faculty from a variety of disciplines should participate.  
18 Responsibility for introducing students to mathematical thinking rests mainly with the  
19 courses in this part of the Core, but courses in the physical, biological, applied, and some  
20 of the social sciences will also properly address these issues. While courses should have  
21 applied dimensions, all should focus on the manipulation of mathematical or logical  
22 symbols. An appropriate course helps students develop mathematical literacy, using the  
23 special symbols of mathematics or logic (not prose only), and indicates how these  
24 concepts could be applied to analyze applied problems.

25  
26 In the face of the pervasive influence of mathematical ideas and methods in modern life,  
27 the problems of math anxiety and innumeracy continue to afflict American society at all  
28 educational levels. Accordingly, we urge the continued development of a different  
29 approach for those students for whom the traditional calculus route is inappropriate or not  
30 required for subsequent course work. Special courses dealing with “Great Ideas in  
31 Mathematics and its Applications” could be substantially more effective in providing  
32 these students with an understanding of diverse mathematical ways of thinking.

33  
34 Acceptable options are: 1) courses dealing with “great ideas in mathematics and its  
35 applications,” 2) calculus or other traditional courses in the mathematical sciences, 3)  
36 formal logic or applied courses that emphasize mathematical modes of thinking that go  
37 beyond rote computational skills. Courses on specific applications of mathematics, such  
38 as statistical methods, to a particular field are fine if there is emphasis on underlying  
39 mathematical ideas, rather than just recipes for the particular application.

40  
41 To satisfy the Mathematical Thinking Core requirement a course must meet these criteria:

- 42 ● The course exhibits the dual nature of mathematics both as a body of knowledge and  
43 as a powerful tool for applications.  
44 ● Students manipulate mathematical or logical symbols.  
45 ● The math prerequisites and mathematics used in the course must be at least at levels  
46 that meet the standards for admission to the University.

## 1 **Physical Sciences**

2  
3 Studies of the physical sciences, from the interstellar to the sub-atomic, provide insights  
4 into the nature of matter and energy. Physics, chemistry, geology, astronomy and other  
5 related disciplines that explore the dynamics of our world, and indeed the universe, are  
6 fundamental to our daily lives. An appreciation of the ways of knowing employed in the  
7 physical sciences is important for making decisions concerning future investments and  
8 public policy regarding such pressing topics as global climate change, alternative energy  
9 sources, space exploration, resource management and nanotechnology.

10  
11 The physical science core requirement is intended to acquaint students with the theory  
12 and practices of some aspects of this broad area of inquiry. Courses that satisfy the  
13 physical sciences core requirement will expose students to key basic concepts and results  
14 regarding the natural laws, processes and properties of matter, as they pertain to a  
15 particular discipline, and will expose students to the processes of producing such  
16 knowledge, albeit on a basic level. Courses fulfilling this requirement may be part of the  
17 fundamental coursework taken by majors in the physical sciences, or they may be  
18 designed for students who have a limited exposure to a particular field and desire a  
19 general introduction to key concepts and results of a given discipline.

### 20 21 ***CLE Guidelines for Physical Sciences***

22 All knowledge in the physical sciences is based upon empirical data and creative, often  
23 collaborative work in producing and reflecting about it; and, thus, a proper exposure to  
24 the ways of knowing and thinking in the physical sciences requires a laboratory or  
25 fieldwork component.

26  
27 To satisfy the Physical Science Core requirement, a course must meet these criteria:

- 28 • The course imparts an understanding of physical phenomena by analyzing and  
29 describing the nature, constitution and properties of non-living matter and energy.  
30 • Students employ mathematical or quantitative analysis in the description and  
31 elucidation of natural phenomena.  
32 • The course includes a laboratory or field work component, consisting of, on average,  
33 two hours per week, which may involve direct experimentation, fieldwork, or  
34 computer simulations.  
35 • The course provides an understanding of the scientific method, by which observations  
36 lead to the formulation of hypotheses or explanations of physical phenomena that are  
37 then empirically tested by experiment or observation.

38  
39 A lab experience in the physical sciences requires students to do one or more of the  
40 following:

- 41 • perform hands-on experiments, measurements, simulations or analyses that test basic  
42 concepts or hypotheses;  
43 • quantitatively examine and test phenomena that may be described in terms of  
44 principles recognized within the discipline;  
45 • do discovery-based experiments.  
46 • manipulate data sets.

## 1 **Social Sciences**

2  
3 The social sciences comprise a broad range of topics, approaches, and methodologies  
4 from the humanistic to the mathematical. Broadly, social scientists focus on individual  
5 behavior in the context of society, and explore the many dimensions of human practices  
6 including economics, education, politics, cultures, human development, cognition, and  
7 space. Knowledge of the social sciences brings students a better understanding of  
8 themselves in relation to others; shows how individuals, institutions, events, and ideas are  
9 connected; leads students to be more thoughtful and active citizens; and enhances  
10 personal capacities and welfare. Through the social sciences students more fully  
11 comprehend the patterns and problems of their own and other societies. Social scientists  
12 work at multiple spatial and temporal scales, from the individual to the global, and from  
13 periods of days to centuries. Social scientists may use advanced computation, models,  
14 and empirical research to study markets and market-like behavior; use medical imaging  
15 to understand the human mind; deploy experimental and quasi-experimental methods to  
16 delineate the cognitive and affective processes that guide human behavior; study public  
17 spaces, the concept of “place,” and advanced mapping techniques. Social scientists also  
18 may undertake ethnographic research to interpret and compare cultures and group  
19 practices. These and other ways of knowing provide a variety of ways to understanding  
20 humans, including positivism, realism, poststructuralism, and critical theory.

21  
22 Some of the questions social scientists pursue include: How do race, class, gender, and  
23 sexuality intersect? What are the social implications of intergenerational family  
24 dynamics? How do urban systems evolve? How do the media affect human behavior?  
25 How do state and world politics relate to economies? What are the sources of  
26 revolution, resistance, and terrorism? How are human judgment and behavior shaped by  
27 the interplay between genes and environment? How do educational systems serve their  
28 societies? A required course must address questions that are central to social science and  
29 relate to current societal themes, such as race and class, environmental equity, economic  
30 development, world economies, and local cultures. Courses that fulfill the Social Science  
31 Core requirement must expose students to appropriate quantitative and/or qualitative  
32 approaches and methods for the collection and analysis of data, including textual  
33 analysis, discourse analysis, surveys, interviews, experimental and quasi-experimental  
34 methods, focus groups, ethnographic work, statistics, modeling, or spatial analysis. A  
35 variety of disciplinary, theoretical, or methodological content can be included in courses  
36 that meet the Social Science Core.

### 37 38 ***CLE Guidelines for Social Sciences Courses***

39 To satisfy the Social Science Core requirement, a course must meet these criteria:

- 40 • The course demonstrates how social scientists describe and analyze human  
41 experiences and behavior.
- 42 • Students manipulate social science data (primary or secondary) using one or more  
43 of the primary quantitative or qualitative methods for collecting and/or analyzing  
44 these data.
- 45 • The course identifies key disciplinary resources and evaluates their quality.

- 1 • The course explores the interrelationships among individuals, institutions,  
2 structures, events and/or ideas.
- 3 • Students examine the roles that individuals play in their cultural, social,  
4 economic, and/or political worlds.
- 5 • The course promotes multidisciplinary ways of thinking that can be used to  
6 synthesize and analyze local, national, and global issues, and the connections  
7 among these.
- 8 • Students work collaboratively and individually to construct new knowledge.  
9

## 10 **RETHINKING THE THEMES**

11 *Recognize that the past is not adequate prologue with regard to the future needs of our*  
12 *graduates. Liberal education is not just about the classic areas of study emblematic of a*  
13 *liberal arts education, but must include the knowledge and skills required for a lifetime of*  
14 *learning and imbue the learner with the ability to make informed personal and public*  
15 *decisions in a modern society.*

16 Vernon Cardwell, Morse-Alumni Distinguished Teaching Professor, Agronomy and Plant  
17 Genetics

18 In its report, the Howe committee proposed a set of “Designated Themes” that challenge  
19 students to consider compelling issues that are at the heart of decisions they will have to  
20 make as citizens and as human beings. We recommend a continuation of Themes to  
21 complement the intellectual foundation offered by the Core.

22 As originally conceived in the Howe Report, the Themes are clearly intended to have the  
23 common goal of cultivating in students a number of habits of mind:

- 24 • thinking ethically about important challenges facing our society and world;
- 25 • reflecting on the shared sense of responsibility required to build and maintain  
26 community;
- 27 • connecting knowledge and practice;
- 28 • fostering a stronger sense of our roles as historical agents.

29 With their emphasis on compelling contemporary issues, the Themes identified below  
30 offer opportunities for students to consider timely and engaging questions in all of their  
31 complexity; to reflect on ethical implications; to discuss and to debate; to formulate  
32 opinions; to have their opinions respectfully challenged and to respectfully challenge the  
33 opinions of others; and to connect what they are learning to their own lives and to the  
34 world around them. Courses in these areas offer students a sustained opportunity to  
35 engage in difficult debates around moral, legal, and ethical issues that require critical  
36 inquiry from a variety of perspectives and the cultivation of independent thinking. Theme  
37 courses, like Core courses, will contribute to the first two Student Learning Outcomes  
38 (identify, define, and solve problems; locate and critically evaluate information), and  
39 they may also address the final SLO, requiring that students by the time they graduate  
40 “have acquired skills for effective citizenship and life-long learning.” These courses will  
41  
42

1 also strongly support a number of the Student Developmental Outcomes, such as  
2 “tolerance for ambiguity” and “appreciation of differences.” Because Theme courses deal  
3 with issues that may require a higher level of knowledge or specialization, they may have  
4 prerequisites (in contrast with Core courses, where prerequisites are discouraged).

5 Theme courses offer fertile opportunities for interdisciplinary inquiry, problem-based  
6 learning, and community engagement and service learning. Activities such as these are  
7 important to the development of students as active and engaged citizens, and we  
8 encourage their implementation in the liberal education requirements and particularly in  
9 the Themes, which are highly amenable to structured civic engagement. By providing  
10 students with the opportunity to engage actively with the community at large and in  
11 learning activities that involve participation, we encourage them to connect their formal  
12 knowledge with the world in which they live. The Council considered including an  
13 experiential learning requirement that would have expected all students to be engaged in  
14 the community. However, we came to the conclusion that through the University’s  
15 continuing initiatives to support and enhance these opportunities, the goals of an  
16 experiential learning requirement will be substantively achieved without the necessity for  
17 a formal requirement that would only add complexity to the liberal education  
18 requirements.

19 Each of the five proposed Themes introduces students to issues that are crucial to being  
20 informed and engaged citizens; that are of special importance to the educational mission  
21 of the University; and that provide opportunities for engaged discussions. As originally  
22 conceived in the 1990 Howe Report, each of these Themes is:

23  
24 solidly grounded in the scholarly work of the faculty, draws on the perspectives of  
25 numerous disciplines, focuses on issues of lasting importance for our nation and the  
26 world, offers students opportunities to explore the connections between formal study  
27 and the obligations of responsible citizenship, and has been previously identified as of  
28 special importance in the educational mission of the University. Together they offer a  
29 new and complementary dimension of liberal learning for our time.  
30

31 In response to the Howe committee’s call to review the Themes to keep them relevant to  
32 the students’ lives, we have reworked the four existing Themes, modifying them subtly or  
33 substantially, and have added a fifth Theme, “Technology and Society.” **Students will**  
34 **complete one course that meets each of the following themes: Civic Life and Ethics,**  
35 **Diversity and Social Justice in the United States, the Environment, Global**  
36 **Perspectives, and Technology and Society.**  
37

## 38 39 **Theme Requirements**

### 40 41 **Civic Life and Ethics**

42  
43 Education in civic life and ethics will help students as they continually shape their  
44 identities and character in the context of civic life and public engagement. Civic life and

1 public engagement is not simply political activity; it inevitably encompasses the everyday  
2 actions that individuals take in their personal, professional, and public lives. Ethics  
3 involves acquisition of insight into experiences that help us to make decisions about what  
4 is good or bad, right or wrong, just or unjust – and to recognize the ambiguity inherent in  
5 many public problems.

6  
7 Courses that meet the Civic Life and Ethics Theme may emphasize very different content  
8 and may weight essential components quite differently. The Civic Life and Ethics Theme  
9 explores the social construction of ethics and the role of ethics in decisions that affect the  
10 general population in their everyday lives. It also explores how decisions are made or  
11 influenced by public engagement. Students will be best equipped to manage  
12 contemporary problems if they learn how civic and ethical principles have been  
13 historically developed, critically assessed by individuals and groups, and negotiated  
14 within specific cultural settings. It is desirable but not required of this Theme that  
15 students have opportunities to apply their knowledge and skills to contemporary  
16 problems in civic life.

### 17 ***CLE Guidelines for Civic Life and Ethics Courses***

18 To satisfy the Civic Life and Ethics Theme requirement, a course must meet these  
19 criteria:  
20

- 21 • The course presents and defines ethics and the role of ethics in civic life.
  - 22 • The course explores how the ethical principles of a society or societies have been  
23 derived and developed through group processes, and debated in various arenas.
  - 24 • The course encourages students to develop, defend, or challenge their personal  
25 values and beliefs as they relate to their lives as residents of the United States and  
26 members of a global society.
  - 27 • Students have concrete opportunities to identify and apply their knowledge of  
28 ethics, both in solving short-term problems and in creating long-term forecasts.
- 29  
30

### 31 **Diversity and Social Justice in the United States**

32  
33 Understanding the internal diversity of the United States and the complex ways in which  
34 diversity can be both an asset and a source of social tensions is integral to an informed,  
35 responsible, and ethical citizenry. Our graduates must be prepared for life in this diverse  
36 democracy and in the broader interdependent world. Liberal education supports an  
37 understanding of a diverse people and their myriad ways of being, knowing, and  
38 learning.

39  
40 Courses fulfilling the Diversity and Social Justice in the United States Theme  
41 requirement may emphasize very different content and be taught from a variety of  
42 disciplinary or interdisciplinary perspectives. They promote historical and contemporary  
43 understanding of how social differences (such as race, ethnicity, class, gender, religion,  
44 sexual orientation, and disability) have shaped social, political, and cross-cultural  
45 relationships within the United States. More specifically, courses fulfilling this Theme  
46 will critically investigate issues of power and privilege, instead of merely promoting a

1 surface-level “celebration” of diversity. The objective of this requirement is to ensure  
2 that students’ educational experience and knowledge-base of the United States is  
3 inclusive of group and social differences. Through this type of educational experience,  
4 our students will be better able to live and work effectively in a society that continually  
5 grows more diverse and inclusive.

6  
7 ***CLE Guidelines for Diversity and Social Justice in the United States Courses***

8 To satisfy the Diversity and Social Justice in the United States Theme requirement, a  
9 course must meet these criteria:

- 10 • The course explores one or more forms of diversity through the multi-layered  
11 operation of social power, prestige, and privilege.
- 12 • The course advances students’ understanding of how social difference in the U.S.  
13 has shaped social, political, economic, and cross-cultural relationships.
- 14 • Students examine the complex relationship between a particular form of diversity  
15 in the United States and its impact on historical and contemporary social  
16 dynamics, democratic practices, and institutional stratification.
- 17 • The course enhances students’ understanding of diversity as a social construct that  
18 has promoted the differential treatment of particular social groups and served as  
19 the basis for response to subsequent social inequities by these groups.
- 20 • The course engages scholarship that has emerged in response to epistemological  
21 gaps in information and perspective in traditional disciplines.

22  
23  
24 **The Environment**

25  
26 As the 21<sup>st</sup> century begins, there is probably no set of issues on which academic research,  
27 educational instruction, the demands of public policy, and the requirements of informed  
28 citizenship are more powerfully joined than those relating to the environment. Over the  
29 last half century, even with a doubling of the human population, human health and per  
30 capita income have improved dramatically in many parts of the world as supplies of food  
31 and energy increased in combination with advances in technology. This success has  
32 required a vast increase in the intensity of human use of the environment with the  
33 inadvertent, environmental impacts such as global climate change, air and water quality  
34 degradation, loss of biological diversity, and invasions by exotic species. During the  
35 coming 50 years, the human population is projected to increase by 40%, leading to  
36 further stresses on the environment. Societal policies and practices must change to  
37 minimize environmental impacts. Now more than ever all citizens need to be engaged  
38 with the science and policy surrounding the environment to minimize unintended  
39 environmental impacts from the local to global scale.

40  
41 ***CLE Guidelines for the Environment Courses***

42 Environmental issues are complex. Finding solutions to these environmental issues will  
43 have students vigorously debating the myriad of solutions; weighing the costs with the  
44 benefits and tradeoffs among alternative policies and practices; exploring the roles of  
45 science and technology; learning to become involved, informed, and constructive citizens  
46 after graduation. Issues such as sustainability and the ethics of intergenerational equity

1 must be weighed against meeting current needs and wants. The pursuit of solutions to  
2 environmental issues is a highly synthetic and interdisciplinary endeavor. Therefore,  
3 courses that fulfill this Theme need to connect students, in explicit ways, to solving  
4 problems. A broad array of disciplines, from physical and biological sciences, to the  
5 social sciences and humanities need to be integrated into the proposed solutions, which  
6 must be based on science, but which will be implemented and sustained only if they are  
7 consistent with the ethics and values of society.

8  
9 To satisfy the Environment Theme requirement, a course must meet these criteria:

- 10 • The course raises contemporary environmental issues of major significance.
- 11 • The course gives explicit attention to interrelationships between the natural  
12 environment and human society.
- 13 • The course introduces the underlying scientific principles behind the  
14 environmental issues being examined
- 15 • Students explore the limitations of technologies and the constraints of science on  
16 the public policy issues being considered.
- 17 • Students learn how to identify and evaluate credible information concerning the  
18 environment.
- 19 • Students demonstrate an understanding that solutions to environmental problems  
20 will only be sustained if they are consistent with the ethics and values of society.

## 21 22 23 **Global Perspectives**

24  
25 Undergraduates, regardless of field of study or intended career path, must develop the  
26 competence to function effectively and ethically in a complex, rapidly changing world  
27 that is increasingly interdependent yet fraught with conflicts and disparities. With a  
28 curriculum that spans the globe, study abroad programs in more than 60 countries,  
29 undergraduate instruction in more than two dozen languages, thousands of international  
30 students, scholars, and visitors on campus, and a metropolitan community that draws  
31 immigrants from around the world, the University has exceptional resources for global  
32 education. The Global Perspectives Theme assures that graduates from the University  
33 have had at least one significant academic exposure to the world beyond U.S. borders,  
34 and the opportunity to consider the implications of this knowledge for the international  
35 community and their own lives.

### 36 37 ***CLE Guidelines for Global Perspectives Courses***

38 Courses in many disciplines and interdisciplinary areas may be suitable for the Global  
39 Perspectives Theme, and efforts should be made to assure that all world regions are  
40 represented among courses meeting this requirement. Courses focusing on non-Western  
41 cultures and regions are especially encouraged. Topics addressed in a Global  
42 Perspectives Theme course might include (but are not limited to) contemporary popular  
43 culture; nationalism; globalization; human rights; comparative politics, economics, or  
44 cultures; historical studies; different modes of material and political life; regional, ethnic,  
45 or religious conflict; artistic and literary responses to colonialism or the colonial legacy,  
46 and the role of governments, corporations, or international organizations. Through

1 concentrated study of a particular country, culture, or region, through in-depth focus on a  
2 particular global issue with reference to two or more parts of the world, or through the  
3 study of global affairs by a comparative method, students may cultivate a broader and  
4 more thoughtful perspective; increase their global awareness; and learn the importance of  
5 the particularities of place, time, and culture to understanding our world.

6  
7 To satisfy the Global Perspectives Theme requirement, a course must meet these criteria:

- 8 • The course, and most or all of the material covered in the course, focuses on the  
9 contemporary world beyond the United States.
- 10 • The course either (1) focuses in depth upon a particular country, culture, or region or  
11 some aspect thereof; (2) addresses a particular issue, problem, or phenomenon with  
12 respect to two or more countries, cultures, or regions; or (3) examines global affairs  
13 through a comparative framework.
- 14 • Students discuss and reflect on the implications of issues raised by the course material  
15 for the international community, the United States, and/or for their own lives.

16  
17 The Council also recommends that *all* Learning Abroad experiences for which students  
18 earn at least three college credits should fulfill the Global Perspectives Theme  
19 requirement.

## 20 21 22 **Technology and Society**

23  
24 Advances in science and engineering produce technologies that have a profound impact  
25 on society. Informed and engaged citizens must be thoughtful rather than passive  
26 consumers of new technology. As a major research institution, the University is not  
27 merely a witness to, but is also a conspicuous participant in, the tide of technological  
28 change. Because developing innovative technologies is essential to the University's  
29 mission, it is crucial that students and faculty reflect upon the complex and compelling  
30 ethical issues raised by technological change and its effects on society. Society,  
31 explicitly or indirectly, defines the context in which new technologies are developed, the  
32 ways in which they are adopted and implemented, and the rules by which they are used.  
33 Undergraduate education at the University of Minnesota must prepare students to make  
34 sense of, evaluate, and respond to present and future technological changes that will  
35 shape their workplaces and their personal and public lives.

### 36 37 ***CLE Guidelines for Technology and Society Courses***

38 Technology and Society Theme courses consider the impact of technology on society as  
39 well as how society has shaped, used, and responded to new technology. New  
40 technologies often meet with resistance and stir debate because of the potential for  
41 dramatic change that is both intended and unintended. In some cases, lack of  
42 understanding of the science behind a new technology may create misconceptions or fear  
43 of the unknown. Some new technologies, such as stem cell research or genetic  
44 engineering, may raise ethical or religious issues. Other technologies, such as the internet  
45 or global positioning systems raise issues of individual privacy. The rapid pace of  
46 technological advancement requires thoughtful and meaningful consideration so that the

1 use of technology reflects the shared needs and values of society. Technology and  
2 Society Theme courses should introduce students to a broad range of perspectives on the  
3 adoption and use of certain technologies.

4  
5 Courses that fulfill the Technology and Society Theme requirement will come from a  
6 wide range of colleges and units across the university. The emphasis on both the  
7 underlying science and the societal context may require current courses that are primarily  
8 science and/or engineering oriented to enhance social science aspects of the course.  
9 Likewise, courses that focus primarily on the societal context of technology will need to  
10 address the underlying science and engineering. Examples of current courses at the  
11 university that may fulfill this requirement with appropriate modification include:  
12 CFAN 1501 Biotechnology, People, and the Environment; JOUR 3552 - Internet and  
13 Global Society; GEOG 3561 - Principles of Geographic Information Science; DHA 5342  
14 Residential Technology; EDPA 5308 Emerging Issues and School Technology; Comm  
15 1102 Introduction to Communication; HSci 4321 History of Computing; IofT 1311  
16 Engineering Basics.

17  
18 To satisfy the Technology and Society Theme requirement a course must meet these  
19 criteria:

- 20 • The course examines one or more technologies that have had some measurable  
21 impact on contemporary society.
- 22 • The course builds student understanding of the science and engineering behind  
23 the technology addressed.
- 24 • Students discuss the role that society has played in fostering the development of  
25 technology as well as the response to the adoption and use of technology.
- 26 • Students consider the impact of technology from multiple perspectives that  
27 include developers, users/consumers, as well as others in society affected by the  
28 technology.
- 29 • Students develop skills in evaluating conflicting views on existing or emerging  
30 technology.
- 31 • Students engage in a process of critical evaluation that provides a framework with  
32 which to evaluate new technology in the future.

### 33 34 35 **REVISITING WRITING INTENSIVE COURSE GUIDELINES**

36  
37 As noted above, we anticipate that over the next five years the University will move from  
38 Writing Intensive (WI) courses to a Writing Enriched Curriculum (WEC), as envisioned  
39 in the Strategic Positioning process. However, in the interim, we need to clarify and  
40 strengthen the current WI guidelines in response to questions and concerns that the  
41 Council has heard throughout this review process.

42  
43 The two pieces of the current requirement that require further explanation and greater  
44 clarity are the requirement for revision and resubmission and the requirement for “writing  
45 instruction.” The requirement for revision and resubmission is for all students, not just  
46 for those whose work is below average, and requires that comments be made by the

1 instructor of record. Peer response can also be used to great effect between drafts, but the  
2 Council notes that peer response cannot replace instructor response. Because writing is a  
3 continuously developed ability, rather than a set of skills that can be mastered, the intent  
4 of revision is to help students understand that all writing, no matter how good, can be  
5 made stronger and clearer. We want to help students understand that there are almost  
6 always better, clearer ways to say what they want to say, and that revision is a natural and  
7 organic part of writing.

8  
9 The second clarification regards the requirement that “writing instruction” take place in  
10 WI courses. As intended within the rubric of writing intensive courses, instruction is not  
11 limited to telling students what the margins of their papers should be or what font size  
12 they need to use. “Writing instruction” as envisioned here includes helping students  
13 understand what it means to write in your discipline—how does one approach the  
14 questions of audience, use of evidence, structure, and writing conventions? Why does  
15 writing in this field have certain expectations and conventions? What are models of good  
16 writing in this field? Why? How is writing integral to learning and discovery in this  
17 discipline? What will students learn through writing that they would not learn through  
18 other teaching and learning methods?

19  
20 A third issue that has often been mentioned in discussions of the WI requirement is not a  
21 matter of clarification but rather of making a policy decision. Many faculty who teach  
22 WI courses have asked what level of preparation they can expect from their students.  
23 Now that the University’s freshman writing requirement has been revised and  
24 strengthened, and is under a single administrative structure, we want to urge the Senate  
25 Committee on Educational Policy to consider adopting a policy that students cannot  
26 enroll in WI courses until they have passed the university’s freshman writing  
27 requirement. This will assure that all students who enroll in a WI course have been  
28 introduced to a common set of concepts and to a common core of expectations for  
29 college-level writing. It will mean that faculty teaching WI courses can at least have  
30 some expectations about the types of writing that their students have done, which will  
31 allow them to focus on the more subtle and complex issues related to writing in the  
32 discipline.

## 33 34 35 **IMPLEMENTATION ISSUES**

### 36 37 **Combining Cores and Themes**

38  
39 Some students attending the University of Minnesota-Twin Cities will complete one  
40 course in each of the seven Core areas and one course in each of the five Theme areas,  
41 for a total of twelve courses. But the curriculum offered will make it possible for  
42 students to meet the requirement with fewer courses, because some courses may meet  
43 both a Core and a Theme requirement (“double-dipping”). In response to a widely  
44 perceived need to hold these courses to equally high standards for both the Core and  
45 Theme component, the Council has strengthened its standards in two important ways.  
46 First, when combined with a Core, the Theme must truly be imbedded as a crucial

1 component of how the Core is taught; it will not be sufficient for Themes to be addressed  
2 in a perfunctory or minimal way as part of the Core. The course syllabus needs to  
3 document explicitly, both in the stated course objectives and the course activities such as  
4 the readings and lecture topics, how the Theme functions as an integral part of the course.  
5 The Theme needs to be interwoven throughout the course material.

6  
7 Second, the Council will no longer approve a course to meet two Themes; while courses  
8 may integrate materials relevant to two different Themes, the department proposing the  
9 course must choose what Theme they will address when they seek CLE approval. (The  
10 exception to this rule is that a course offered through Learning Abroad will automatically  
11 be granted credit in Global Perspectives and may also be reviewed for award of another  
12 Theme).

### 13 14 **Size of the Core**

15  
16 One of the most persistent questions about the Core over the past 14 years has been  
17 whether there is a “right size” for the Core. The Howe committee envisioned a limited  
18 number of courses; as the data presented above show, the number of courses approved for  
19 the Core has nearly tripled since the first year of implementation of the Howe report. The  
20 Council remains concerned about this explosion in the number of approved Core courses  
21 for two reasons. First, we think it would be preferable for departments to invest time,  
22 energy, and resources in creating one or two stellar Core courses rather than trying to  
23 have many courses approved for the Core, especially if they are doing this for reasons  
24 related to tuition revenue. There is clear evidence that at some point having a CLE  
25 designation no longer enhances enrollment in a course because so many courses have  
26 been approved. Second, there is a real administrative and opportunity cost to faculty,  
27 departments, colleges, and the Council for approving, monitoring, and maintaining a  
28 larger number of courses.

29  
30 Rather than dictate an arbitrary number of courses to be approved for the Core, the  
31 Council has defined a rigorous set of criteria for inclusion. It is our expectation that the  
32 application of these criteria will result in a smaller number of approved courses; there are  
33 many very fine courses that will not, and should not, meet the expectations for inclusion  
34 in the Core. We urge departments and colleges to consider carefully what courses to  
35 propose for the Core, and to invest in fewer courses but pay greater attention to the intent  
36 of those courses. The Council will also have a “sunset” policy for Core courses; any  
37 courses approved for the Core and not offered in a three-year window will be decertified  
38 and will no longer be listed as meeting the Core requirements..

39  
40 The Council’s goal in writing clear criteria and specifications is to provide as much  
41 transparency as possible, not only to simplify the process of review but also to help  
42 students who are taking the courses understand what the course is supposed to do, as well  
43 as to help faculty who are developing courses.

1 **Number of Credits**

2

3 We will continue the current policy that courses in the Physical and Biological Science  
4 Cores must be four credits each because of the lab requirements; courses in all other  
5 Cores and Themes must be at least three credits.

6

7 **Timeline**

8

9 It is our expectation that the new requirements will go into effect for students coming to  
10 the university in fall 2010. This allows two full years for the development of new  
11 courses for the new Theme requirement and the restructuring of courses that currently  
12 meet a CLE requirement but will not do so under the new guidelines. A plan for  
13 recertification of currently approved courses will be developed and disseminated as soon  
14 as this report is approved.

15

16 **Creating Coherence**

17

18 In addition to considering what we should require, the Council also considered how the  
19 University could create an environment that allowed students to experience more  
20 coherence in their liberal education or more connection to the broader vision of liberal  
21 education. To that end we talked about the critical role played by both instructors and  
22 advisors, about the role of the new Welcome Week experience, and about two new ideas  
23 that were developed in part in response to feedback on our Preliminary Report: the  
24 “liberal education minor” and “individualized liberal education.”

25

26 The **faculty** are crucial in communicating with students about liberal education. In every  
27 course that meets liberal education requirements, there must be explicit and cumulative  
28 opportunities for faculty to discuss with students the reason this course meets liberal  
29 education requirements, what this means for the students and for the course structure, and  
30 why learning about this area is important for students’ careers and personal lives. This  
31 cannot be a matter of chance or instructor personality—it must be solidly imbedded in the  
32 structure of the course and reflected in the syllabus. This is especially important because  
33 instructors may change over time, but the course is approved for liberal education  
34 designation based on the course syllabus. Faculty who are uncomfortable with  
35 discussions about liberal education should be given the opportunity to work on  
36 developing these skills in a supportive seminar structure, perhaps offered through the  
37 Center for Teaching and Learning workshop series. One way we propose to assure that  
38 these goals are being met is to require that evaluation forms for all courses that meet  
39 liberal education requirements include explicit questions about the extent to which  
40 students perceive the course as having met the goals of that particular liberal education  
41 requirement.

42

43 Similarly, **advising** conversations about liberal education must go beyond check-off lists  
44 to encourage real and meaningful discussions of what courses to choose and why. We  
45 know that many advisers, both professional and faculty, are eager to have these  
46 discussions; colleges need to provide opportunities and developmental support to assure

1 that these conversations can and do happen in ways that provide greater coherence for  
2 students.

3  
4 A related issue noted by the Howe committee was timing of LE registrations. They  
5 recommended that students do about a third of their LEs in their junior or senior year.  
6 This recommendation was never implemented, in part because it would have created  
7 barriers for many transfer students who complete most of their liberal education  
8 requirements before transferring. Nevertheless, the intent of this recommendation is  
9 important for advisers to take into consideration as they help students understand their  
10 options on the timing of liberal education course-taking. While liberal education courses  
11 can help undeclared students explore possible major options, we conclude that the  
12 message to “get all your LEs done in the first two years” does not help students  
13 understand the purpose of liberal education and in fact mitigates against a positive  
14 student experience. Students told us very powerfully that they wish they had not been  
15 told to take all of their liberal education courses in their first two years; they said they  
16 developed interests that they would have liked to explore in more depth in their later  
17 years, if only they had “saved” an LE or two for this time. For this reason, we support  
18 and advocate advising interactions that help students distribute at least some part of their  
19 liberal education across the full four years of the degree.

20  
21 We encourage the incorporation into **Welcome Week** of an interesting and meaningful  
22 introduction to the concept of liberal education and the University’s liberal education  
23 requirements. There has never been enough time in the summer orientation experience to  
24 have such discussions, but Welcome Week affords an exciting opportunity to have  
25 creative interactions with students about why liberal education is an important component  
26 of their studies. We advocate active faculty involvement in these discussions.

27  
28 Finally, we encourage the development of a concept we called “**liberal education**  
29 **minors**”: a cluster of courses, centered around a topic, that as a totality meet most or all  
30 of the liberal education requirements, and that have a conscious, explicit focus on helping  
31 students to integrate knowledge across the disciplines. With a minimum of new courses  
32 (perhaps one per minor), we can build on existing courses and disciplines to help students  
33 achieve coherence. One can imagine, for example, a minor with all its topics centered on  
34 water: from hydrology and environmental concerns to literature and music, from  
35 international issues about water rights to symbolic meanings of water. Or a minor  
36 focused on religion in the modern world could encompass social sciences, literature,  
37 historical perspective, arts, and themes such as global perspectives, civic life and ethics,  
38 and cultural diversity. Some existing minors, such as the two that are focused on  
39 sustainability, could be refocused to more explicitly integrate liberal education  
40 requirements including science, international issues, philosophy, ethics, and history. A  
41 list of currently approved interdisciplinary minors is included in Appendix 2. The  
42 creation and approval of interdisciplinary, cross-college liberal education minors would  
43 allow students to have a more clearly structured way to understand and make sense of  
44 their liberal education experience. To support these efforts, we encourage the  
45 development of mechanisms to allow freer exchanges across colleges, as the current  
46 budget structure is widely perceived as an impediment to such exchanges.

1  
2 We would also like to offer the opportunity on a pilot basis for students admitted to the  
3 University Honors Program for fall, 2010 to propose their own unique approach to  
4 **individualizing their liberal education**. We envision that student proposals might  
5 include two components:

- 6 • A 3-5 page essay that demonstrates an understanding of the university's liberal  
7 education requirements and the philosophy and goals of liberal education, and  
8 proposes a framework for a personalized approach to meeting these same goals
- 9 • A list of specific courses and activities (with alternatives) that would be included in  
10 the student's individualized plan (these courses would not necessarily have been  
11 approved to meet the LE requirements.)

12 Students would have their individualized plan reviewed and approved by their UHP  
13 academic advisor and then by someone with cross-campus responsibility for approving  
14 such plans (to assure equity across advisors, majors, and colleges). On completion of  
15 their individualized plan, students would be required to submit a 2-3 page essay reflecting  
16 on what they learning by creating their own liberal education plan, how they think their  
17 experience compares with that of students who completed the regular university  
18 requirements, and what they would change if they were to do it over. Completing this  
19 essay could be a requirement of graduating with honors for students who choose this  
20 route.

21  
22 Operationalizing this system would require that students on individualized liberal  
23 education programs be flagged in the records system, that approved courses be entered as  
24 exceptions in APAS where necessary, and that someone have responsibility for approving  
25 plans and reviewing final papers. We recommend that advisers currently involved in  
26 individualized degree programs (ICP, PIL, BIS, IDIM) be involved with UHP staff and  
27 CLE in helping to develop guidelines and processes to make this proposal functional.  
28 After the pilot has been in place for two years, it should be carefully evaluated to  
29 determine whether to continue it, and if so, whether it should continue to be for honors  
30 students or whether there are resources available to extend it more broadly across  
31 campus.

## 32 33 34 **ASSESSMENT OF LIBERAL EDUCATION**

35  
36 The University is increasingly accountable, through accreditation and other processes, for  
37 demonstrating that our students are learning what we say they are learning. We are being  
38 asked, in increasingly public ways, to demonstrate how we know that we are educating  
39 our students. Providing such evidence is perhaps easiest in the context of the major,  
40 where students often have to do a senior paper or project, or where curricula are built on  
41 students' successful mastery of increasingly complex knowledge and skills. It is much  
42 more difficult, however, to propose appropriate ways to measure the effects of our liberal  
43 education. How do we know that we are achieving even a part of the lofty goals we have  
44 espoused in this and earlier documents?  
45

1 We propose three strategies to address the issue of assessment of liberal education. The  
2 first is to include in our end-of-course evaluations (Student Evaluations of Teaching, or  
3 SET) one or more questions that ask students to address explicitly the extent to which  
4 they understood the liberal education focus of each course that is approved to meet one or  
5 more liberal education requirements. This strategy will not answer the question of  
6 whether we achieved our educational goals, but it will at least conclusively answer the  
7 question of whether students perceived that someone was trying to help them understand  
8 how/why this particular course was important to their broader education and their future  
9 lives.

10  
11 A second strategy is intertwined with the Student Learning Outcomes (SLOs) and the  
12 campus-wide discussions about assessment that are now taking place. As the University  
13 moves forward with their implementation and with the accreditation processes related to  
14 Student Learning Outcomes, the Council on Liberal Education will work collaboratively  
15 to assure that any assessment measures used for the SLOs are also in some measure  
16 applicable to the liberal education requirements. The Vice Provost for Faculty  
17 Development, who is charged with implementing these learning outcomes, is hiring an  
18 Assessment Coordinator who will have oversight of this process. We also hope that  
19 faculty from around the campus and especially from the College of Education and  
20 Human Development who have expertise in educational assessment will be involved in  
21 these discussions.

22  
23 The third assessment strategy is the one that is least likely to give us specific information  
24 but that is most likely to meet the growing demands for external validation of our  
25 educational outcomes. As part of a project sponsored by NASULGC (the National  
26 Association of State Universities and Land Grant Colleges), President Bruininks has  
27 committed the University to be one of 79 institutions from public colleges and  
28 universities across the nation that will work to develop recommendations for a Voluntary  
29 System of Accountability (VSA) Program. One of the requirements of this program is  
30 the development of “direct learning outcome measurement of the value-added by the  
31 university to undergraduates in the areas of critical thinking, analytic reasoning and  
32 written communications ability.”

33  
34 In the context of this initiative, it is likely that the university will undertake the use of one  
35 or more externally-developed assessment instruments whose results can be compared  
36 across institutions. There are many instruments that have possible relevance to assessing  
37 general or liberal education outcomes, and no decision has been made about which  
38 instrument might be used, or when or how it might be implemented. One such  
39 instrument is the “Collegiate Learning Assessment” (CLA) developed by the Council for  
40 Aid to Education (whose President, Roger Benjamin, is a former U of M provost).  
41 Information about this assessment can be found on the website of the Council for Aid to  
42 Education. We are not advocating the use of this instrument, and in fact there are many  
43 concerns in the assessment literature about various “value added” approaches to  
44 assessment. But we do note that it seems likely that in collaboration with other  
45 NASULGC institutions, the University will be participating in or developing some form  
46 of overarching assessment of learning through the college years. We look forward to

1 learning more about this project and its relationship to the assessment of liberal education  
2 at the University of Minnesota.

3

4

5 **EPILOGUE**

6

7 The world has changed since the 1980s, the era in which the 1991 Howe committee  
8 report was based. We have experienced an information explosion through technological  
9 resources that twenty years ago were unimaginable to most of us. Our world seems more  
10 dangerous and more fragile after 9/11 and also more interconnected. Within the  
11 academy, our disciplinary silos are breaking down and we are engaging with more  
12 diverse perspectives on knowledge and scholarship. In the midst of all this change and  
13 complexity, a strong liberal education has never been more important. It is not enough to  
14 prepare our students for the present, and we cannot predict the future. But what we can  
15 do, and do very well, is to offer them an education that provides a framework for  
16 learning, a capacity for analysis, the ability to ask and respond to difficult questions, and  
17 the habits of mind that will make them thoughtful, engaged, and productive citizens.