Renewing Our Commitment to
Liberal Education

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

Approved by the Twin Cities Assembly
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PROLOGUE

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

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

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

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

On Commencement Day our students pass under this inscription, carved in stone, on the entrance to Northrop Auditorium: "The University of Minnesota, founded in the faith that men are ennobled by understanding, dedicated to the advancement of learning and
the search for truth, devoted to the instruction of youth and the welfare of the state.” The words, which we take to embrace men and women, speak to the heart of our University and to the heart of liberal education. We seek the full realization of the values of liberal education in the life and spirit of the University of Minnesota.

THE CLE REVIEW PROCESS

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

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

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

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

Despite disagreement about specifics, there was a pervasive sense that our standards need to be raised, our implementation process needs to be strengthened, and our communications about liberal education need to be more thoughtful and engaging.
We undertook our review in the context of an active national discussion about liberal education, as well as a changing University of Minnesota landscape.

THE NATIONAL CONTEXT

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

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

THE MINNESOTA CONTEXT

Prior to the Howe report of 1991, the Twin Cities campus had managed its liberal education requirements via a set of general principles and goals that were implemented differently in the different colleges. Students moving from one college to another could find that they had not met the liberal education requirements in their new college. In addition, there was no campus-wide oversight body for liberal education, and no clear campus-wide articulation of the standards and criteria for approving a course to meet a liberal education requirement. The result was that students on the Twin Cities campus had very disparate experiences of liberal education.
The Howe committee report was wide-ranging and included recommendations on advising, on the major, and on freshman seminars (“new student colloquia”), as well as on liberal education. But it is best remembered for three important contributions. First, it assured that there would be a common vision and set of requirements for liberal education for all students on the campus. Second, it established a campus-wide oversight body (the Council on Liberal Education) to review and approve courses to be included in the liberal education component of the curriculum. And third, it articulated a vision of liberal education that included not only the more traditional breadth or distribution requirements (the “Diversified Core”), but also a set of requirements (“Designated Themes”) that were identified as bringing together “new modes of academic inquiry and issues of compelling social importance,” those ideas of critical relevance to society.

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

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

At the time of receiving a bachelor’s degree, students:
- Can identify, define, and solve problems
- Can locate and critically evaluate information
- Have mastered a body of knowledge and a mode of inquiry
- Understand diverse philosophies and cultures within and across societies
- Can communicate effectively
Understand the role of creativity, innovation, discovery, and expression across disciplines

Have acquired skills for effective citizenship and life-long learning.

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

The second major development is strategic positioning and the task forces related to undergraduate education. We are three years into a process that has examined every component of our mission and how it is implemented. With its goal of making the University one of the top three public research institutions in the world, the strategic positioning initiative exhorts us to “Recruit, educate, challenge, and graduate outstanding students who become highly motivated lifelong learners, leaders, and global citizens.”

There were a number of strategic positioning task forces whose work related to undergraduate education; the one most immediately relevant to our liberal education review was the Task Force on Writing. Among other recommendations, they called for a Writing-Enriched Curriculum (WEC) requiring a transformative review of writing in each major, with the goal of ensuring that writing and writing instruction are integrated in ways that are meaningful to discipline-specific instruction and goals. Supported by a generous grant from the Bush Foundation, that review process is now in a pilot phase, and as with Student Learning Outcomes, this review has substantial implications for the liberal education requirements. The Vice Provost and Dean of Undergraduate Education has made a commitment to ensuring that these three curricular efforts (LE, SLO, and WEC) are interconnected wherever possible.

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

What we learned from students

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

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

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

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

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

What we learned from faculty and staff

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

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

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

The most common issue I have seen with LE courses is that they become too content-focused to the exclusion of broader skill-sets and perspectives that are meant to permeate the outcomes.
Liberal education is still, unfortunately, a set of courses and requirements to be
gotten through, that simply has no enduring meaning to many students, and no
demonstrable meaning to the world outside the U.

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

Articulate the coherence and objectives of the general education curriculum in
the context of the totality of the student’s undergraduate career—including post-
graduation goals such as employment and graduate and professional school
attendance.

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

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

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

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

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

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

In general, the SCEP discussions are very positive, but there is a consistent thread of
concern about the size of the Core and about whether the institution has drifted away
from the intent of the Howe committee.
Over the years since semester conversion (1999), the Council on Liberal Education has kept a record of large and small questions, issues, or concerns related to its decisions about which courses would be approved for LE credit. Some of these issues have also been addressed in the annual report that CLE has provided to the Senate Committee on Educational Policy (SCEP) or in other discussions that the chair of CLE had with SCEP. Here is a sampling of the important issues that were raised:

- Not all courses can or should meet the LE requirements. Courses are being pushed to meet the LE requirements for enrollment or programmatic purposes. There has been a substantial increase in the number of courses in parts of the Diversified Core, which was originally defined as a limited number of courses. What is the “right size” for the Core?

- Many students want, or need, to take courses that meet more than one LE requirement. Is such “double-dipping” a good thing? Some advisers and programs are concerned that this drives course design and that there are too many such courses; others want more. Double- and triple-dipping (with WI) is essential for some majors because of the high number of credits required for those majors. As we enforce our standards for higher quality and greater rigor, can courses reasonably meet these multiple expectations?

- Some programs require or expect students to do the majority of LEs in the major—is this desirable or not?

- Can a 1xxx level course teaching an introduction to a discipline also devote a substantial component of the material to a theme? In some cases, a theme may be a natural fit, for others the theme is an added (and sometimes forced) component.

- Should any of the Themes be dropped or new ones added? Are they still appropriate for today’s students? Should the whole idea of Themes be revisited?

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

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

What we learned from data

When the new liberal education curriculum went into effect in 1994, there were 273 approved courses in the Diversified Core and 252 courses in the Designated Themes. In 1999, the university converted from quarters to semesters and in theory (though not in
practice) there should have been a reduction of 1/3 in the total number of courses offered. But in a count done in fall, 2006 (after the CLE recertification review), we found that there were 638 courses approved for the Diversified Core and 798 for the Designated Themes, an increase of over 135% in Core and 160% in Themes. Details are included in the tables in Appendix 2.

The most dramatic increases in courses were in Historical Perspectives, Social Sciences, and Arts and Humanities. The number of approved science courses (Physical and Biological Sciences with Lab) actually decreased slightly. All of the Themes increased substantially, with the biggest increases coming in Citizenship and Public Ethics (from 34 to 177) and Cultural Diversity (from 53 to 222). Because so many courses meet the liberal education requirements, most students are actually completing more liberal education courses than they are required to take. Almost 60% of courses in the Core also carry a Theme designation; courses meeting the Social Science Core were the most likely to have a Theme, with almost 80% of these courses approved for double-dipping. In addition, there were 75 courses that were approved to meet two Themes; the biggest single combination was Environment with Citizenship and Public Ethics (23 courses).

**FINDING A FRAMEWORK**

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

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

The Council’s discussions ranged over three major areas:

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

**Conceptual approach.** Many small liberal arts colleges offer special integrative courses that are required for all students. In some cases this is one set of courses; in others, students can choose from a small number. But among these institutions a common thread is the belief that introductory courses in majors are not appropriate to meet the broad, general requirements of liberal education. Students need to be exposed explicitly and specifically to courses that are designed to help them integrate ways of knowing or concepts from various fields into a coherent whole. This integrative approach generally works well for small, homogeneous colleges that admit mostly freshman students. The
largest institution we identified that has taken this approach in its liberal education requirements is Michigan State, which has created three Centers for Integrative Studies (Arts and Humanities, General Sciences, and Social Sciences), each of which offers courses that “integrate multiple ways of knowing into an enhanced appreciation of our humanity, creativity, knowledge, and responsibilities for ourselves and our world.” The MSU program is still in its early stages, so they do not yet have a long track record. The sense of the Council is that Minnesota should encourage the development of new integrative courses but not limit our liberal education requirements to such courses, in part because our current budget model does not provide incentives for this type of cross-disciplinary course development. We continue to support the inclusion of “introduction to the discipline” courses within liberal education, although we are asking for a much stronger articulation of how and why these courses meet liberal education expectations. We also support and encourage the development of rigorous and compelling alternative courses for non-majors.

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

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

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

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

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

- We must have a campus-wide commitment to liberal education, assuring that important conversations about liberal education happen in advising sessions, in classrooms, and in faculty meetings. Creating effective liberal education must be everyone’s responsibility.

- We must clearly articulate and uphold the standards that courses have to meet to be approved for liberal education credit.

- We must transform our communication with students about what we expect of them as they move through their liberal education courses. Every piece of communication—from admissions to OneStop, from course syllabi to final exams and course evaluations, should be designed to help students understand what liberal education is, why a particular course meets a liberal education requirement, and what this means for them as students and as citizens. We must make explicit what is now implicit.

- We must strengthen our implementation of these courses by finding effective ways to assess outcomes and then holding colleges and departments accountable.

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

WRITING AS A CRITICAL COMPONENT OF A LIBERAL EDUCATION

We share the Howe committee’s certainty that writing is of bedrock importance to a good liberal education. We expect that students in all disciplines will use writing to clarify
their thinking, to analyze problems, to develop and express their ideas, to summarize data, and for myriad other purposes central to liberal education. In all liberal education courses, writing must be recognized as fundamental to disciplinary and interdisciplinary learning. One of the Student Learning Outcomes is the expectation that students “can communicate effectively.” We advocate that writing in forms appropriate to each discipline be incorporated into every liberal education course. This does not mean that every course needs to be “writing-intensive,” but it does mean that liberal education courses should use writing in a wide variety of ways, from short essays to written comments/questions at the end of a lecture to opinion pieces to summaries of reading. Writing is an important tool for learning, and especially for the kind of learning envisioned in liberal education.

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

REVITALIZING THE CORE

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

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

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

…acquaintance with different ways of knowing, that is to say, with different kinds of questions that are asked, theories that are employed, and data that are used in different intellectual domains….In sum, programs of educational breadth should introduce students to the diverse ways of knowing that have characterized human societies and civilizations and that characterize our world today; explain the
factual content, methods, and theories of specific disciplines and arts across the
spectrum of the university; reveal the ways in which knowledge is culturally and
intellectually constructed and changes, over time; and demonstrate that ‘knowing’
is an active, ongoing process.

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

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

Why these seven? The explanations are included in part in the descriptions of each of the
areas below, but briefly, over a period of more than a year of deliberation, we decided on
these seven through a two-stage process. There was strong agreement, to begin with, that
four significant and important approaches to knowledge could be said to reside in the
areas of mathematics, natural sciences, social sciences, and arts and humanities. These
are the four Core areas originally proposed by Howe, and they are represented in virtually
all of the liberal education/general education requirements we looked at from peer
institutions. It is clear, however, that the traditional division of knowledge and ways of
knowing into these four broad categories is becoming increasingly blurry. For this reason
we do not advocate an approach based on identifying departments or disciplines with one
broad category or another. In anthropology, for example, there are faculty members
using methodologies traditionally associated with biological sciences, with social
sciences, and with humanities/cultural studies. By identifying core areas, we do not
intend to create rigid demarcations, but we do want to assure that students encounter a
variety of ways of analyzing information and thinking about questions and problems. To that end the four traditional categories represented here are as functional as any other structure in assuring some breadth of experience for students.

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

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

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

¹ Andrew W. Murray, “Reinventing General Education,” Essays on General Education in Harvard College, 2004,
be at the mercy of anyone who has a point of view and a few facts to support it. An understanding how historical knowledge is made, and the ability to evaluate historical claims, is crucial to our students’ ability to analyze information they encounter every day.

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

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

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

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

- They explicitly help students understand what liberal education is, how the content and the substance of this course enhance a liberal education, and what this means for them as students and as citizens.
- They employ teaching and learning strategies that engage students with doing the work of the field, not just reading about it.
- They include small group experiences (such as discussion sections or labs) and use writing as appropriate to the discipline to help students learn and reflect on their learning.
- They do not (except in rare and clearly justified cases) have prerequisites beyond the University’s entrance requirements.
They are offered on a regular schedule.
They are taught by regular faculty (except under extraordinary circumstances).
The Howe committee envisioned “a limited number of courses developed *specifically to serve these objectives*” [emphasis added]. The Council welcomes the creation of separate, new courses specifically to meet liberal education objectives, and especially to meet them in creative, interdisciplinary ways. The Council will be pleased to work with colleges who want to propose a unique approach to Core courses.

**Requirements in the Core**

**Arts and Humanities**

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

**CLE Guidelines for Arts Courses**

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

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

- Students create their own artistic efforts.
- Students reflect on their artistic efforts in writing or in discussion that develops awareness of the considerations that guide artistic practice and response.
- Students become aware of why and how artists select their content, media, and method.
- Students develop an understanding of the arts in relation to communities in and for which art is created.
- Students examine how the historical dimensions of time, place and culture inform artistic practice.
CLE Guidelines for Humanistic Studies Courses

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

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

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

Biological Sciences

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

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

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

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

- The course provides experimental evidence for how current knowledge in biology was obtained.
- The course explores examples of unanswered questions in biology.
- Students integrate mathematical thinking into analysis and interpretation of data.
- The course includes at least two hours of laboratory per week, in which students have first-hand experience in producing and handling data, using tools of the discipline (i.e., thinking and working like a biologist).
- The course includes laboratory experiences in which students do hands-on testing of principles presented in the lecture portion of the course; some laboratory sessions may include computer simulations of experiments or observations that otherwise cannot readily be addressed during a semester (e.g. evolution of a population over thousands of years).
- The course provides laboratory experiments that allow students to confront interpretation of mistakes and unexpected results.
A lab experience in the Biological Sciences Core requires students to do one or more of the following:

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

**Historical Perspectives**

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

**CLE Guidelines for Historical Perspective**

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

First, Historical Perspectives courses examine the human past, studying the beliefs, practices, and relationships that shaped human experience over time. Historical Perspectives courses must be primarily about people and their changing experiences in particular contexts, whether the sources examined in a course are hieroglyphic political tracts in ancient Egypt, oil paintings depicting gentility in Renaissance Italy, court records from nineteenth-century Brazil, or the artifacts of popular culture that create and perpetuate memories of the 1989 Tiananmen Square protests in China. An Historical Perspectives course in art history, for example, may draw heavily on art as its source...
base, but the analytical focus of the course is not so much on the art itself (its aesthetic
and technical qualities) as on the human makers and consumers of the art or on the
historically specific meanings people attributed to it. Change over time is a fundamental
category of analysis in Historical Perspectives courses, and attention to the specific and
distinctive historical context is crucial.

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

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

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

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

**Literature**

Courses that meet the Literature Core requirement will introduce students to the
challenges and joys of the close study of literature. Literature uses language in creative
and powerful ways to entertain and engage, instruct and inspire, and shock or sadden us.
In so doing it enlarges our understanding of the human experience, transforms our
thinking and our lives, and helps us to imagine new possibilities for our society and the
world. Penetrating analysis of literature teaches the power of literature to express the
breadth and complexity of human lives past and present, near and far. Careful study of
literature can enrich students’ individual and professional lives and make them more
understanding and reflective members of their multiple communities.
Courses that meet the Literature Core requirement focus on the ways in which the written word articulates and explores human experience. Courses that meet this requirement may be offered in any world language that has a strong body of written literature. Like other courses in the arts and humanities, literature classes analyze creative works, but their special emphasis is on the relationship between language and meaning in literary texts: we may find more complex meanings when we examine the author, the readers, the social or historical context, as well as the written text itself. Because informed readers of literature appreciate the aesthetic qualities of good writing, courses about literature teach students to work with language as both a vehicle through which ideas and images are expressed and as the material from which aesthetic works are composed. A poem is, for example, a text that communicates ideas as well as an aesthetic object that is composed of words (just as a painting conveys ideas and emotions but is made up of paint and brush strokes).

**CLE Guidelines for Literature Courses**

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

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

**Mathematical Thinking**

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

The first aspect is mathematics as a body of knowledge. It is concerned with such issues as enumeration and computation, quantifying change, geometrical figures, shape, and symmetry. It deals with these topics via precise, unambiguous symbolic language. Students need some facility in communication with these symbols to appreciate the power of its manner of expression. Students should understand some of the esthetically beautiful ideas and their history that have implications so powerful that science and technology would be impossible without this underpinning—selected from topics such as number theory, geometric analysis, calculus, probability and statistics, combinatorics,
and symbolic logic, among others. Students should appreciate that mathematical results are established by logical proofs or algorithms with rigorous methods for testing whether something in a symbolic language is an acceptable proof.

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

**CLE Guidelines for Mathematical Thinking Courses**

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

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

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

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

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

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

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

CLE Guidelines for Physical Sciences

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

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

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

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

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

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

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

CLE Guidelines for Social Sciences Courses

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

- The course demonstrates how social scientists describe and analyze human experiences and behavior.
- Students manipulate social science data (primary or secondary) using one or more of the primary quantitative or qualitative methods for collecting and/or analyzing these data.
- The course identifies key disciplinary resources and evaluates their quality.
The course explores the interrelationships among individuals, institutions, structures, events and/or ideas. Students examine the roles that individuals play in their cultural, social, economic, and/or political worlds. The course promotes multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these. Students work collaboratively and individually to construct new knowledge.

RETHINKING THE THEMES

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

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

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

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

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

With their emphasis on compelling contemporary issues, the Themes identified below offer opportunities for students to consider timely and engaging questions in all of their complexity; to reflect on ethical implications; to discuss and to debate; to formulate opinions; to have their opinions respectfully challenged and to respectfully challenge the opinions of others; and to connect what they are learning to their own lives and to the world around them. Courses in these areas offer students a sustained opportunity to engage in difficult debates around moral, legal, and ethical issues that require critical inquiry from a variety of perspectives and the cultivation of independent thinking. Theme courses, like Core courses, will contribute to the first two Student Learning Outcomes (identify, define, and solve problems; locate and critically evaluate information), and they may also address the final SLO, requiring that students by the time they graduate “have acquired skills for effective citizenship and life-long learning.” These courses will
also strongly support a number of the Student Developmental Outcomes, such as “tolerance for ambiguity” and “appreciation of differences.” Because Theme courses deal with issues that may require a higher level of knowledge or specialization, they may have prerequisites (in contrast with Core courses, where prerequisites are discouraged).

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

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

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

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

**Theme Requirements**

**Civic Life and Ethics**

Education in civic life and ethics will help students as they continually shape their identities and character in the context of civic life and public engagement. Civic life and
public engagement is not simply political activity; it inevitably encompasses the everyday actions that individuals take in their personal, professional, and public lives. Ethics involves acquisition of insight into experiences that help us to make decisions about what is good or bad, right or wrong, just or unjust – and to recognize the ambiguity inherent in many public problems.

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

CLE Guidelines for Civic Life and Ethics Courses

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

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

Diversity and Social Justice in the United States

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

Courses fulfilling the Diversity and Social Justice in the United States Theme requirement may emphasize very different content and be taught from a variety of disciplinary or interdisciplinary perspectives. They promote historical and contemporary understanding of how social differences (such as race, ethnicity, class, gender, religion, sexual orientation, and disability) have shaped social, political, and cross-cultural relationships within the United States. More specifically, courses fulfilling this Theme will critically investigate issues of power and privilege, instead of merely promoting a
surface-level “celebration” of diversity. The objective of this requirement is to ensure that students’ educational experience and knowledge-base of the United States is inclusive of group and social differences. Through this type of educational experience, our students will be better able to live and work effectively in a society that continually grows more diverse and inclusive.

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

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

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

**The Environment**

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

**CLE Guidelines for the Environment Courses**

Environmental issues are complex. Finding solutions to these environmental issues will have students vigorously debating the myriad of solutions; weighing the costs with the benefits and tradeoffs among alternative policies and practices; exploring the roles of science and technology; learning to become involved, informed, and constructive citizens after graduation. Issues such as sustainability and the ethics of intergenerational equity
must be weighed against meeting current needs and wants. The pursuit of solutions to environmental issues is a highly synthetic and interdisciplinary endeavor. Therefore, courses that fulfill this Theme need to connect students, in explicit ways, to solving problems. A broad array of disciplines, from physical and biological sciences, to the social sciences and humanities need to be integrated into the proposed solutions, which must be based on science, but which will be implemented and sustained only if they are consistent with the ethics and values of society.

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

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

Global Perspectives

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

CLE Guidelines for Global Perspectives Courses

Courses in many disciplines and interdisciplinary areas may be suitable for the Global Perspectives Theme, and efforts should be made to assure that all world regions are represented among courses meeting this requirement. Courses focusing on non-Western cultures and regions are especially encouraged. Topics addressed in a Global Perspectives Theme course might include (but are not limited to) contemporary popular culture; nationalism; globalization; human rights; comparative politics, economics, or cultures; historical studies; different modes of material and political life; regional, ethnic, or religious conflict; artistic and literary responses to colonialism or the colonial legacy, and the role of governments, corporations, or international organizations. Through
concentrated study of a particular country, culture, or region, through in-depth focus on a particular global issue with reference to two or more parts of the world, or through the study of global affairs by a comparative method, students may cultivate a broader and more thoughtful perspective; increase their global awareness; and learn the importance of the particularities of place, time, and culture to understanding our world.

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

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

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

**Technology and Society**

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

**CLE Guidelines for Technology and Society Courses**

Technology and Society Theme courses consider the impact of technology on society as well as how society has shaped, used, and responded to new technology. New technologies often meet with resistance and stir debate because of the potential for dramatic change that is both intended and unintended. In some cases, lack of understanding of the science behind a new technology may create misconceptions or fear of the unknown. Some new technologies, such as stem cell research or genetic engineering, may raise ethical or religious issues. Other technologies, such as the internet or global positioning systems raise issues of individual privacy. The rapid pace of technological advancement requires thoughtful and meaningful consideration so that the
use of technology reflects the shared needs and values of society. Technology and Society Theme courses should introduce students to a broad range of perspectives on the adoption and use of certain technologies.

Courses that fulfill the Technology and Society Theme requirement will come from a wide range of colleges and units across the university. The emphasis on both the underlying science and the societal context may require current courses that are primarily science and/or engineering oriented to enhance social science aspects of the course. Likewise, courses that focus primarily on the societal context of technology will need to address the underlying science and engineering. Examples of current courses at the university that may fulfill this requirement with appropriate modification include:

- CFAN 1501 Biotechnology, People, and the Environment
- JOUR 3552 - Internet and Global Society
- GEOG 3561 - Principles of Geographic Information Science
- DHA 5342 Residential Technology
- EDPA 5308 Emerging Issues and School Technology
- Comm 1102 Introduction to Communication
- HSci 4321 History of Computing
- IofT 1311 Engineering Basics

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

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

REVISITING WRITING INTENSIVE COURSE GUIDELINES

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

The two pieces of the current requirement that require further explanation and greater clarity are the requirement for revision and resubmission and the requirement for “writing instruction.” The requirement for revision and resubmission is for all students, not just for those whose work is below average, and requires that comments be made by the
instructor of record. Peer response can also be used to great effect between drafts, but the 
Council notes that peer response cannot replace instructor response. Because writing is a 
continuously developed ability, rather than a set of skills that can be mastered, the intent 
of revision is to help students understand that all writing, no matter how good, can be 
made stronger and clearer. We want to help students understand that there are almost 
always better, clearer ways to say what they want to say, and that revision is a natural and 
organic part of writing.

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

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

IMPLEMENTATION ISSUES

Combining Cores and Themes

Some students attending the University of Minnesota-Twin Cities will complete one 
course in each of the seven Core areas and one course in each of the five Theme areas, 
for a total of twelve courses. But the curriculum offered will make it possible for 
students to meet the requirement with fewer courses, because some courses may meet 
both a Core and a Theme requirement (“double-dipping”). In response to a widely 
perceived need to hold these courses to equally high standards for both the Core and 
Theme component, the Council has strengthened its standards in two important ways. 
First, when combined with a Core, the Theme must truly be imbedded as a crucial
component of how the Core is taught; it will not be sufficient for Themes to be addressed
in a perfunctory or minimal way as part of the Core. The course syllabus needs to
document explicitly, both in the stated course objectives and the course activities such as
the readings and lecture topics, how the Theme functions as an integral part of the course.
The Theme needs to be interwoven throughout the course material.

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

Size of the Core

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

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

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

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

**Timeline**

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

**Creating Coherence**

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

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

Similarly, advising conversations about liberal education must go beyond check-off lists to encourage real and meaningful discussions of what courses to choose and why. We know that many advisers, both professional and faculty, are eager to have these discussions; colleges need to provide opportunities and developmental support to assure
that these conversations can and do happen in ways that provide greater coherence for students.

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

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

Finally, we encourage the development of a concept we called “liberal education minors”: a cluster of courses, centered around a topic, that as a totality meet most or all of the liberal education requirements, and that have a conscious, explicit focus on helping students to integrate knowledge across the disciplines. With a minimum of new courses (perhaps one per minor), we can build on existing courses and disciplines to help students achieve coherence. One can imagine, for example, a minor with all its topics centered on water: from hydrology and environmental concerns to literature and music, from international issues about water rights to symbolic meanings of water. Or a minor focused on religion in the modern world could encompass social sciences, literature, historical perspective, arts, and themes such as global perspectives, civic life and ethics, and cultural diversity. Some existing minors, such as the two that are focused on sustainability, could be refocused to more explicitly integrate liberal education requirements including science, international issues, philosophy, ethics, and history. A list of currently approved interdisciplinary minors is included in Appendix 2. The creation and approval of interdisciplinary, cross-college liberal education minors would allow students to have a more clearly structured way to understand and make sense of their liberal education experience. To support these efforts, we encourage the development of mechanisms to allow freer exchanges across colleges, as the current budget structure is widely perceived as an impediment to such exchanges.
We would also like to offer the opportunity on a pilot basis for students admitted to the University Honors Program for fall, 2010 to propose their own unique approach to \textit{individualizing their liberal education}. We envision that student proposals might include two components:

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

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

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

\textbf{ASSESSMENT OF LIBERAL EDUCATION}

The University is increasingly accountable, through accreditation and other processes, for demonstrating that our students are learning what we say they are learning. We are being asked, in increasingly public ways, to demonstrate how we know that we are educating our students. Providing such evidence is perhaps easiest in the context of the major, where students often have to do a senior paper or project, or where curricula are built on students’ successful mastery of increasingly complex knowledge and skills. It is much more difficult, however, to propose appropriate ways to measure the effects of our liberal education. How do we know that we are achieving even a part of the lofty goals we have espoused in this and earlier documents?
We propose three strategies to address the issue of assessment of liberal education. The first is to include in our end-of-course evaluations (Student Evaluations of Teaching, or SET) one or more questions that ask students to address explicitly the extent to which they understood the liberal education focus of each course that is approved to meet one or more liberal education requirements. This strategy will not answer the question of whether we achieved our educational goals, but it will at least conclusively answer the question of whether students perceived that someone was trying to help them understand how/why this particular course was important to their broader education and their future lives.

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

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

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

EPILOGUE

The world has changed since the 1980s, the era in which the 1991 Howe committee
report was based. We have experienced an information explosion through technological
resources that twenty years ago were unimaginable to most of us. Our world seems more
dangerous and more fragile after 9/11 and also more interconnected. Within the
academy, our disciplinary silos are breaking down and we are engaging with more
diverse perspectives on knowledge and scholarship. In the midst of all this change and
complexity, a strong liberal education has never been more important. It is not enough to
prepare our students for the present, and we cannot predict the future. But what we can
do, and do very well, is to offer them an education that provides a framework for
learning, a capacity for analysis, the ability to ask and respond to difficult questions, and
the habits of mind that will make them thoughtful, engaged, and productive citizens.
Appendix 1: Charge Letter, Readings, Consultation

1A  CHARGE LETTER:

TO (List names from roster)
From: Craig Swan, Vice Provost and Dean of Undergraduate Education

Thank you for agreeing to serve on the Council on Liberal Education. As you know, for the 2006-07 academic year we will undertake a systematic review of liberal education requirements for the Twin Cities campus. We have not had such a review since the report of the Howe Committee in 1991.

Because this is a large group and no single calendar will work for everyone, we have set a schedule for the fall meetings of the Council.

Meetings will be on Tuesday afternoons from 3-5 PM, on the following dates:
- October 24  Room 300 Morrill
- November 7  Room 300 Morrill
- November 21, Room 510 Morrill (note: 510 is not accessible space; let me know if this is a problem)
- December 5  Room 300 Morrill
- December 19  Room 510 Morrill

If you already know that you will have to miss more than two of these meetings, please let me know as soon as possible. I recognize that this will be a substantial commitment of time for committee members, but this is an important task requiring strong and clear faculty direction. We have assembled a stellar group of faculty for this task, and I am pleased to announce that Leslie Schiff from Microbiology has agreed to serve as chair.

I am asking the Council to spend much of the fall semester studying the larger framing issues related to liberal education. By the end of the fall semester/beginning of the spring semester, I expect that the Council will be in a position to compare our current structure of requirements against the framework developed in the fall. Much of the rest of the spring semester will then be used to review current practices and to develop specific recommendations, where appropriate, for change. I am also asking the Council, by the end of the spring semester, to make recommendations on developing plan to assess the outcomes of liberal education requirements.

In the context of our overall strategic positioning initiatives, it is important that we think broadly and creatively about how we hope to prepare our students for the second decade of the 21st century. In “Advancing the Public Good,” the committee led by Provost Thomas Sullivan called for a five action strategies, one of which is to “recruit, nurture, challenge and educate outstanding students who are bright, curious, and highly motivated.” The report goes on to say that “we provide an education that is transformative for students and faculty, and that prepares students to make a difference in the lives of people. . . . Our graduates, whatever their course of studies, will be equipped
to lead and to promote democratic values and the search for wisdom and understanding in our multiracial, multicultural society.”

Because our students are participating in so many highly differentiated and specialized majors, our liberal education requirements are the only single place where we can address the questions of shared knowledge, experience, and values. Our liberal education requirements should ensure that all of our undergraduate students, regardless of major, are broadly educated to be thoughtful, effective, and well-informed participants in their personal, work, and civic lives. The Howe committee said that our students ought to have “a liberal education appropriate for our times and suited to their diverse educational needs.” Historically, the goals and requirements of liberal education in American universities have changed frequently and sometimes dramatically to reflect changing times, and we must ask ourselves what this goal means for tomorrow's students. We undertake a review of this critical component of our curriculum in the context of our overall effort to become one of the top three research universities, and our task is to create a framework for a distinctive and effective liberal education that will prepare our students for a future we cannot begin to predict.

We do not undertake this review in a vacuum. There is an extensive body of literature on liberal education and on liberal education reforms, and a selection of this material will be provided to the Council at the organizational meeting. Council members will be asked to suggest other materials that may be pertinent to the task. Many similar reviews undertaken by our peer institutions have also been fairly public processes, and there is substantial information on the web that documents both successful and problematic reviews/reforms at various peer institutions. These reviews reflect individual institutional cultures, but all are driven by fundamental questions about what universities want all students to know or be able to do when they graduate, and what values or experiences they are expected to share.

In addition to general discussions of liberal education and specific institutional case studies, we will also provide the Council with data about how our students experience their liberal education. The data will be derived from two sources. First, we have for the last five years conducted a survey of graduating seniors in which we ask students to tell us how much (or how little) they feel they have learned in each of the areas covered by our current liberal education requirements. Second, we have commissioned a set of focus groups to be held this fall to ask students about their experiences in liberal education courses and their overall views of liberal education requirements.

Over the past several years, past Councils have identified some specific issues or concerns related to our current requirements, policies, and practices. A list of these issues will be shared with the Council as it moves into the second semester’s implementation phase. Some of the items are more general issues relating to how large the Core should be or what the goals or particular requirements should be; others are small questions about wording of requirements.

Any recommendations on revised liberal education requirements must be accompanied by an assessment plan to allow us to determine whether our liberal education requirements
requirements are achieving their desired goals. As part of this effort, we need to integrate the work that the Council for Enhanced Student Learning has done on student outcomes. Most of these outcomes are directly related to liberal education—how can we incorporate them in the CLE review process, and how can we evaluate/assess them?

Recommendations from the Council will be submitted to the Senate Committee on Educational Policy (SCEP) at the end of spring semester 2007, and will be taken up by SCEP and the University Senate in the following fall. Recommendations should include the goals for liberal education, the outcomes expected from the University’s liberal education plan, and specific language for each requirement. The recommendations should also include a clear process and timeline for developing an assessment plan, though the assessment plan itself does not need to be in place.

I anticipate that for the coming academic year the workload of the Council will be largely focused on the task of reviewing liberal education goals and formulating recommendations, rather than on reviewing course proposals. I have discussed with the undergraduate college associate deans the idea of a “soft” moratorium on review of new courses, and they have agreed in principle, though details are yet to be worked out. I anticipate that there would be some cases, particularly in the “new” colleges, where the Council will want to make exceptions to the moratorium. However, colleges have agreed that it is critical to allow the Council ample time for thoughtful consideration of all of the complex issues before them.

I plan to participate in the Council deliberations in an *ex officio* capacity, and I very much look forward to working with all of you on this review.
1B LIST OF MATERIALS PROVIDED TO THE COUNCIL

Council on Liberal Education 2006-07
Review of Liberal Education Requirements
Notebook of Background Materials

Contents:

Committee Charge

Tab 1: Conceptualizing Liberal Education
[Purpose: to provide context. First, define liberal education and provide some history. Then survey main proposals being discussed right now. What is being debated? What is controversial? What is the AAUC report about?]


American Association of Colleges and Universities (AACU) Liberal Education Project:
AACU Statement on Liberal Education (1998)
Greater Expectations: The Commitment to Quality as a Nation Goes to College (Executive Overview and Chapter 3) (2002)

Responses to the AACU’s recommendations
“Liberal Education on the Ropes,” by Stanley Katz (Chronicle, April 1, 2005)

“Colleges Fail to Teach Civic Literacy,” John Gravois, Chronicle of Higher Education, Sept. 27, 2006

Tab 2: Liberal Education Requirements and Reforms at Peer Institutions
[Purpose: to provide information on both requirements and reports on decisions to change at peer institutions, large top-ranked state schools like Michigan, Wisconsin, Berkeley, as well as some other universities undertaking reform]

Comparison Chart: General Education Requirements – Big Ten and Other Institutions

Liberal Education (or equivalent) Requirements:
University of Michigan—Ann Arbor (LSA)
University of California--Berkeley
University of North Carolina (requirements and excerpt from 2003 report:}

Undergraduate Degree Requirements at Selected COFHE Schools (from the Duke Curriculum 2000 Report, 1999) (COFHE=Consortium on Financing Higher Education—these are all private schools)

AAC&U “Promising Models” for General Education
- Michigan State
- Fairleigh Dickinson University
- Portland State University—with a summary of a report:
- University of California--Los Angeles
- University of Southern California

Tab 3: Harvard Core Curriculum: A Case Study
[purpose: an in-depth look at the very public core curriculum revision process undertaken by the country’s most visible institution]

“Introduction to the Core Curriculum.” A discussion of the requirements in the current Harvard core, put in place after a 1978 review.

Excerpt from the April, 2004 “Report on the Harvard College Curricular Review.” This was an extensive review of many pieces of the curriculum; the section on General Education is included here.

Commentary (response to the 2004 report)

Selected essays from Harvard faculty in response to the 2004 report:
  Peter Bol, “Another Generation of General Education”
  Julie Buckler, “Toward a New Model of General Education at Harvard”
  Peter Galison, “If Wishes Were Horses: A Thoroughly Impractical Proposal or Two”
  Stanley Hoffman, “Reflections on General Education at Harvard”
  Richard Thomas, “General Education and the Fostering of Free Citizens”
  Helen Vendler, “On a Harvard Education for the Future”
  George Whitesides, “Undergraduate Education at Harvard”
  E.O. Wilson, “On General Education at Harvard”

Excerpt from the “Report of the Committee on General Education,” (November, 2005), which built on the work of the 2004 report.
Commentary (response to 2005 report)

News article:


**Tab 4: Assessment of General Education**
[Purpose: how to assess liberal education learning—recommendations and examples. Probably too many samples from other universities right now, could include fewer in more depth?]


*Liberal Education Outcomes: A Preliminary Report on Student Achievement in College*
AACU (2005)

*Assessment Toolkit* (Center of Inquiry in the Liberal Arts at Wabash College)

*Assessing Student Learning Outcomes in Integrative Studies*, Michigan State University

California State University, Los Angeles, *Assessment Plan for General Education* (2001)

Portland State University, “Assessment at University Studies” (sample learning rubric attached)

Minnesota State University at Mankato, “Introduction to GE Assessment”

*The Art and Science of Assessing General Education Outcomes*, AACU Publication, on order

**Tab 5: University of Minnesota**

Current UMN-Twin Cities Liberal Education Requirements

*A Liberal Education Agenda for the 1990s and Beyond* (Report of the Twin Cities Campus
Task Force on Liberal Education, 1991)

Senior Survey data—by campus and by college (to be added later)
1C WORKPLAN FOR FIRST SEMESTER

Council on Liberal Education  Fall, 2006 meetings and tasks
Meetings are 3-5 PM on Tuesdays

**October 24**
Introductions
Review of task and process
  1. Fall--the big picture
  2. Spring--the specifics of our requirements
Introduction to materials
  Derek Bok, *Our Underachieving Colleges*
  Resource Notebook
  Gathering input from others—plans and suggestions
Liberal Education at Minnesota—a brief history and overview
Discussion:
  Terminology: “liberal education” vs. “general education”
  Components of an undergraduate degree: general education, the major, free electives
  Small group brainstorming: Why do we have a liberal education or general education requirement?
  Liberal education and values: what values does the University of Minnesota hold in common as an academic community, irrespective of disciplinary base?

*Before next meeting, please read:*
  Bok, Introduction and Chapters 1-3
  Materials in Tab 1 of notebook
The readings present an overview of the various historical views of liberal or general education, and current national thinking on this subject. As you read, please think about the goals YOU espouse for liberal education at the University of Minnesota. Be prepared to talk about your views at the next meeting.

**November 7**
Discussion of the readings; how do we develop a vision for liberal education at Minnesota?
  Context of strategic positioning
  Strengths of the University
  Needs of the state
  The national context: AAC&U and “Greater Expectations”
  Student outcomes from CESL and Student Affairs
What ideas and themes begin to emerge?

*Before next meeting please read:*
Materials in tabs 2 and 3 of notebook
The readings look at what other institutions are doing—what their requirements are and how they are thinking about the issues of liberal and general education.

1. What are the most interesting and/or the most problematic approaches to liberal education in these materials?
2. What can we learn from the Harvard process, which is documented in some detail?

**November 21**
What do others do? Discussion of our peer institutions’ requirements and the Harvard case study
What can we learn from others? What should we emulate? What should we avoid? How can we assure a successful process?

**Before next meeting please review:**
Summary of senior survey results (handout at meeting to insert in notebook)
Bok, chapters 4 and 5
Before the next meeting, please talk to at least five undergraduate students or recent university graduates (as a group or individually) about their experience with liberal education. In general, what worked? What didn’t? (not looking for comments on specific courses; just general observations). What do they think the liberal education requirement was intended to accomplish? Was it successful?

**December 5**
The student perspective: Results of senior surveys and focus groups
What do we know about:
--what students think about liberal education?
--how successful we are in achieving our expected outcomes?

**Before next meeting please read:**
Bok, Chapters 6, 7, and 8
Before the next meeting, please talk with your colleagues about their experience in teaching courses that meet the LE requirements. What do your colleagues think should be the outcomes of a liberal education component of the curriculum?

**December 19**
The faculty and staff perspective: reviewing the comments and input solicited from faculty, deans, advisers, and former members of the Howe Committee
Emerging thoughts/themes; summary before a 4-week break

Discussion of calendars and agendas for next semester

**Before the first meeting in January, please read:**
Bok, Chapters 9, 10, 11, and 12
Over the semester break, please write a single page (double spaced) framing your vision of the future of liberal education at the University of Minnesota. These should be
considered drafts and confidential but be prepared to share them with your fellow committee members.

**Overview of spring semester meetings:**
- **Meeting 1:** Review, summary, considering where we are and where we need to go. Review of current CLE requirements in the light of fall’s discussions. Process for writing the first section (vision/mission) of our report
- **Meeting 2:** Developing a vision, goals, outcomes for Minnesota liberal education
- **Meeting 3:** Making the vision concrete: revisiting the core/theme structure and considering the strengths and weaknesses of our current structure
- **Meeting 4:** Developing consensus around the future directions for liberal education at Minnesota; create working subgroups to develop specific expectations and criteria for review of courses
- **Meeting 5:** replaced by subgroup meetings
- **Meeting 6:** Reports from subgroups and group review and discussion. For next meeting: read materials in Tab 4 of notebook
- **Meeting 7:** How can we create a plan for assessment of liberal education outcomes?
- **Meeting 8:** Review of draft report and conclusion

Submission of “Preliminary recommendations” for comments and review.
1D LETTER SEEKING INPUT (SAMPLE):

Sent to Deans, Council of Undergraduate Deans members, Directors of Undergraduate Studies, Assistant Deans or Directors of Student Services

FROM: Leslie Schiff, Professor, Microbiology and Chair, Council on Liberal Education

SUBJECT: Liberal Education Review

I am writing to invite you to assist the Council on Liberal Education in its deliberations about future liberal education requirements for the University of Minnesota’s Twin Cities campus. We are asking key University academic leaders to share with us in writing your best thoughts about how we should approach liberal education for students who will arrive at the University in the year 2010 and beyond.

The Council is spending fall semester in a high-level discussion of the history and purposes of liberal education, the values underpinning liberal education at the University, the practices of peer institutions, and the opinions of thoughtful individuals around the world and here at the University. In the spring, the council will create a framework for envisioning the future of liberal education at the University, and will discuss and propose specific requirements and criteria for liberal education courses.

The Council will seek input from University faculty, staff and students in a variety of formats and forums. At this point, we are asking key University leaders to share with us their thoughts and insights about liberal education. We invite comments on any or all of the following questions, or on any other related topic:

- What are the key concepts, values, or philosophies that should underpin liberal education at the University of Minnesota after the year 2010? What skills or knowledge should come primarily from the liberal education component of the degree? How can we best prepare all of our students to thrive in a future we cannot predict?
- What works well in the current liberal education requirements? What doesn’t work well? What would you keep and what would you jettison? What does your ideal liberal education/general education component look like?
- What essential issues do you think the Council should consider? What essential resources should they consult?
- How can we assure that the liberal education component of the baccalaureate degree does not get squeezed out by ever-expanding majors?

The Council would like to have your comments by December 6 for discussion at its December 19 meeting. We ask that you send your comments via e-mail to Margot Iverson at iver0200@umn.edu; Margot will assemble a single document for Council review. We will include the names of all respondents unless you request anonymity.
I recognize that all of you are very busy, but there is no other single topic that is more important for how we conduct undergraduate education at the University. This is our once-in-a-generation opportunity to think creatively and constructively about how we can use our liberal education requirements to articulate our expectations for everyone who graduates with a baccalaureate degree from the University of Minnesota. Your thoughtful input will be crucial to that process.
IE. FEEDBACK ON PRELIMINARY REPORT AND SUMMARY OF SUBSEQUENT CHANGES

A preliminary draft of this report was presented to the University community on October 17, 2007. The report was posted to a portal website that allowed feedback and comments via the web. The website was available for comments from mid-October to mid-November. An e-mail notification was sent to Council of Undergraduate Deans [UMTC only], Council of Deans, Academic Advising Network, Directors of Undergraduate Studies, Department Chairs, the Minnesota Student Association, and collegiate student boards (via Council of College Boards), and two ads were placed in the Daily with information about the web site and the Open Forums.

Four Open Forums were held in early November, two on the East Bank and one each on the West Bank and St. Paul. The Council chair, Leslie Schiff, and at least two other Council members attended each forum. In addition, Professor Schiff made presentations to SCEP, FCC, and the Twin Cities Campus Assembly.

Feedback from all of these sources was compiled and was reviewed by the committee at meetings in late November and early December. Final recommendations were then made by the committee; the redrafted document was reviewed by the committee in late January and early February.

Hundreds of minor changes were made in the preliminary document; here is a list of the major changes:

- In response to numerous questions about how the committee arrived at its recommendations, nine pages of material formerly in Appendix 2 was revised and included in the body of the report (pages 4-13)
- There is a more extensive explanation of why and how the seven Cores were chosen (pages 16-18)
- There is more explanation about writing, WI, and the relationship of WI to the new Writing-Enriched Curriculum (pages 7, 14, 35)
- There is stronger linkage between the Student Learning Outcomes (SLOs) and the CLE requirements (see especially pages 6-7, 18, 29)
- The bullets in the guidelines for the Arts and Humanities Core were extensively reworked with the assistance of faculty from those areas (19-20)
- Specific criteria for labs in both Physical and Biological Sciences were added to those guidelines
- The “Diversity in the United States” Theme was revised to become “Diversity and Social Justice in the United States,” and the guidelines were strengthened to clarify the intent of that theme.
- Additional suggestions and thoughts about implementation were added to the implementation section (pages 36-39). In particular, in response to strong suggestions at two of the four Open Forums, the proposal for a pilot project allowing students to propose individualized liberal education was added.
• Language was added to express the Council’s willingness to review innovative and creative interdisciplinary proposals for Core and Theme courses that might not otherwise meet the stated criteria.
• In response to concern about the size of the Core, the Council has added a “sunset” policy for Core courses that are not offered in a three-year window (p. 36).
Appendix 2 Additional Supporting Information

FURTHER EXPLANATIONS OF CHOICES WE MADE

We also considered a requirement for studies in health and/or physical education or movement (any sort of movement-based study to include dance, physical education, sport). Given the increasing struggles of our society with health issues related to eating and exercise, a compelling argument can be made for the importance of increasing students’ knowledge of, and participation in, nutrition or health or physical recreation studies. But we are also aware that many, or perhaps even most, college students are already voluntarily involved in such activities—for fall 2007 more than 2500 students enrolled in PE activity courses and another 800 in dance; hundreds more are engaged in intramural sports or are using the rec center. We determined that the opportunity cost of adding such a requirement (by reducing requirements in some other area) was greater than we were willing to pay.

We also discussed a proposal that has come up many times for a “quantitative literacy” or “quantitative reasoning” requirement comparable in its structure to the “writing intensive” requirement. That is, in addition to taking a course to meet the math requirement, students would also be expected to take some number of courses that use math or mathematical reasoning intensively. This is something that the Council felt might be better discussed at some future date after the university has implemented uniform and increased high school preparation standards in mathematics.

Other possibilities briefly considered included a visual thinking requirement, an “arts performance” requirement (requiring students to “do” art and not just study it) and a theme related to the “built environment.” Again, while we heard attractive arguments for all of these alternatives, we thought that the cost of adding another requirement was too great.

ANOTHER IMPLEMENTATION IDEA

Laura Koch and Jon Binks, both in the Provost’s office, submitted a proposal which they called “Connecting Liberal Education.” It outlines a framework that supports the liberal education requirements and extends the coherence of undergraduate education. This proposed year-long program, required for all first-year students, is divided into three separate but interrelated parts: a bi-weekly lecture series, a student support seminar, and a first-year writing course and quantitative reasoning course.

The bi-weekly campus-wide lectures by faculty would focus on broadly important topics related to a liberal education Theme or Core. The faculty member(s) would be asked to probe a particular problem that engages their discipline, other disciplines, and a vexing contemporary intellectual issue critical for first-year students to grapple with. Each Theme or Core would be addressed at least once throughout the year. This lecture series would be offered to the entire University
community, but geared towards first year students. Students would be encouraged to attend the lecture, but they could also watch the lecture through streaming video or as a Podcast.

Then on alternate weeks, students would meet in small seminars (20 - 25 students) offered through the freshman admitting colleges, and taught or co-taught by faculty and student service personnel. The role of the seminar is to serve as a small learning community for the students and to discuss and reflect questions such as: What is a liberal education? What was important about that lecture? How do I know if I am on the right path this semester, this year, this lifetime? What does it mean to take intellectual risks? What does being part of a community mean?

In addition to the seminars, students would also enroll in a freshman writing course one semester and a quantitative reasoning course the other semester. Ideally, these courses could be linked to the small seminar class (same students will be in each class). In each course, students will analyze a problem related to issues presented in the lectures, either in writing or quantitatively. The quantitative reasoning course can be developed to reflect the strengths of various colleges so that students would be able to select problems or issues they are interested in delving into more deeply. Both the writing and the quantitative reasoning courses will present opportunities to discuss the problems and issues presented in the lectures more deeply, and will contribute to the development of problem-solving and communication skills.

This proposed three-part program would not only support the development of greater understanding of the University’s liberal education requirement, but would also expand freshman learning communities, better introduce students to faculty and advisors, provide an introduction to the University, and encourage students to develop a social network.

This proposal offers some attractive ideas, but the Council felt that it went well beyond the scope of its charge; if there is sufficient interest, the idea could be taken up for further discussion by other administrative or governance groups.
Currently Available Interdisciplinary Minors (for ease of reference, these are divided roughly into two groups based on whether they require math/science or not)

- Asian American Studies: includes (but does not necessarily require) courses that could meet literature, history, social sciences, humanities, cultural diversity
- Comparative US Race and Ethnicity: centered around diversity but also includes social sciences, humanities, historical perspective, literature
- Design: includes humanities/art, historical perspective and possibly also global perspective, social science, society and technology, environment
- Family Violence Prevention: includes diversity, social science, possibly historical perspective, ethics, literature, global perspectives
- Gay, Lesbian, Bi-Sexual Transgender: currently includes diversity, historical perspective, social science, could be more.
- History of Science and History of Medicine: as currently structured, include global perspective and historical perspectives; might be reconceptualized?
- International Agriculture: global perspectives, social science, could have integrated science and historical perspective, plus technology and society theme.
- New Media Studies: could easily include historical perspective, civic life and ethics, social science, humanities, technology and society, etc.
- Social Justice: long list of possible electives includes courses currently certified for three cores and three themes
- Sustainability Studies: currently includes two cores and two themes; could easily expand to include physical and biological sciences, society and technology
- Youth Studies: currently includes social science, diversity and citizenship/public ethics; could include global perspectives, historical perspectives, others.

- Climatology: currently includes courses that meet physical science and environment; could easily be extended to social sciences and biology. Modeling courses could be mathematical (not currently approved for math).
- Food Systems and the Environment: environment, global perspectives; nothing currently in the minor that has a biology or physical science designation, but Biol 1009 is a prerequisite for some of the courses and could be explicitly included in the minor, for example. A social science such as economics could also be included.
- Information Technology: includes programming courses that could meet math (?), plus courses that meet global perspectives; could be broadened to include social science, and is a natural for Technology and Society as well.
- Management: Currently includes social science, math, international perspectives; might be broadened to include historical perspectives, other themes
- Soil Science: includes physical science, environment, could easily have social science, tech and society, biological sciences.
- Sustainable Agriculture—see Sustainability Studies above; great potential for breadth
- Water Science—includes environment and physical science but could easily include biology, social science, more.
SENIOR SURVEY DATA

Senior survey questions show a slight decline in students’ perceptions of whether they “gained a broad general education about different fields of knowledge” (73% in 1989 to 68% in 2006), however, in general the responses on the “life skills” questions are encouraging. In 2006, almost 82% of students say that they made substantial gains in the ability to think analytically and logically; 75% said they gained “very much” or “quite a bit” in “recognizing assumptions, making logical inferences, and reaching conclusions.” More students agreed that they developed quantitative skills (72%) than said that they made substantial gains in writing (62%), although on both of these items the responses from 2002 to 2006 varied quite a lot and showed no pattern of increase or decrease.

On the specific items related directly to LE requirements (international perspective, environment, historical perspective, arts and literature, cultural diversity, scientific reasoning), the outcomes seemed more mixed. If we combine the top two (out of four) responses, we see that students perceive that they made only modest gains:

<table>
<thead>
<tr>
<th>Response item</th>
<th>Percent saying that they gained “very much” or “quite a bit”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing a global perspective on issues and problems</td>
<td>59%</td>
</tr>
<tr>
<td>Understanding how scientists ask questions</td>
<td>55%</td>
</tr>
<tr>
<td>Developing an understanding of U.S. cultural diversity</td>
<td>51%</td>
</tr>
<tr>
<td>Deepening your engagement with arts and literature</td>
<td>42%</td>
</tr>
<tr>
<td>Understanding complex environmental issues</td>
<td>40%</td>
</tr>
<tr>
<td>Understanding world events through history</td>
<td>40%</td>
</tr>
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</table>

COURSE DATA ON CLE OFFERINGS

The following five tables provide data on the total number of courses approved in 2006 to meet various CLE requirements.

Table 1

<table>
<thead>
<tr>
<th>CLE CORE by Level</th>
<th></th>
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<tbody>
<tr>
<td>Level</td>
<td>BioSci/Lab</td>
</tr>
<tr>
<td>1 XXX</td>
<td>12</td>
</tr>
<tr>
<td>2 XXX</td>
<td>1</td>
</tr>
<tr>
<td>3 XXX</td>
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<tr>
<td>4 XXX</td>
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</tr>
<tr>
<td>5 XXX</td>
<td>1</td>
</tr>
<tr>
<td>Grand Total</td>
<td>15</td>
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Table 2

<table>
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<th>CLE Themes by Level</th>
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<td>Level</td>
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<td>1 XXX</td>
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<td>2 XXX</td>
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<tr>
<td>3 XXX</td>
<td>92</td>
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<td>4 XXX</td>
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<td>5 XXX</td>
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</tr>
<tr>
<td>Grand Total</td>
<td>177</td>
</tr>
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</table>
Table 3

**Core Courses with Theme**

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<tr>
<th>CORE</th>
<th>Envt</th>
<th>C/PE</th>
<th>CD</th>
<th>IP</th>
<th>No Theme</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BioSci/Lab</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>PhysSci/lab</td>
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<td></td>
<td></td>
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<td>37</td>
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<td>16</td>
<td>42</td>
<td>43</td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>26</strong></td>
<td><strong>46</strong></td>
<td><strong>131</strong></td>
<td><strong>171</strong></td>
<td><strong>263</strong></td>
<td><strong>638</strong></td>
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Table 4

**Courses with Two Themes**

<table>
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<tr>
<th>Theme</th>
<th>C/PE</th>
<th>CD</th>
<th>Envt</th>
<th>IP</th>
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<tbody>
<tr>
<td>C/PE</td>
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<td></td>
<td></td>
<td></td>
<td>0</td>
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<td>CD</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Envt</td>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td>23</td>
</tr>
<tr>
<td>IP</td>
<td>11</td>
<td>7</td>
<td>14</td>
<td></td>
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<tr>
<td><strong>Grand Total</strong></td>
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<td><strong>7</strong></td>
<td><strong>14</strong></td>
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<td><strong>75</strong></td>
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Table 5  Approved CLE courses 1994 and 2006

<table>
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<th>College</th>
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<th>Grand Total</th>
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<tr>
<td></td>
<td>Phys &amp; Bio Sci w/ Lab</td>
<td>Hist &amp; Social Sciences</td>
<td>Arts &amp; Humanities</td>
<td>Math</td>
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<tr>
<td>CALA</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBS</td>
<td>4</td>
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<td></td>
<td>5</td>
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<td>CEHD</td>
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<td></td>
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<td>1</td>
<td>8</td>
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<td>63</td>
<td>81</td>
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</tr>
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<td>COAFES</td>
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<td></td>
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| College | 1994 |  |  |  |  | Grand Total |
|---------|------|------|------|------|--------------|
|         | CD   | IP   | C/PE | Envt |              |
| CALA    | 2    |      |      |      | 2            |
| CBS     | 4    |      |      |      | 5            |
| CCE     | 5    |      |      |      |              |
| CEHD    | 1    | 1    |      |      | 2            |
| CHE     | 4    | 5    | 4    |      | 13           |
| CLA     | 37   | 82   | 22   | 4    | 145          |
| CNR     | 1    | 1    |      | 20   | 22           |
| COAFES  | 5    | 9    | 4    | 10   | 28           |
| CSOM    |      | 1    |      |      | 1            |
| GC      | 4    | 1    | 2    |      | 8            |
| HHH     |      |      |      |      |              |
| IT      | 2    | 13   | 10   |      | 25           |
| Med     | 4    |      |      |      | 4            |
| Nurs    |      |      |      |      |              |
| PubH    |      |      |      |      |              |
| Grand Total | 53 | 114 | 34  | 51 | 252 |

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We conducted four focus groups with University of Minnesota students to get their perceptions of the liberal education requirements (LER). A total of 30 Twin Cities campus students participated. All were juniors or seniors. Students came from CLA, CBS, IT, and the Carlson School. Margot Inverson, administrative fellow in the Office of the Assistant Vice Provost for Undergraduate Education, managed the recruitment and logistics.

The focus group participants were bright. Many had taken honors courses. A number were completing double majors. Some had completed college courses while still in high school. Almost all were planning to complete their degree in four years.

This report summarizes what we heard in the focus groups. Student quotes are in italics.

**What messages do students get about liberal education requirements?**

Students said the main message they hear is to complete the liberal education requirements in their first two years or they will be behind for graduation. The emphasis is on getting these requirements done. (CBS students are an exception to this. They said they are encouraged to distribute the LER throughout their four years.)

The LER are seen as requirements, not opportunities. Students take these courses because they have to, not because they get to. The LER are not framed as valuable or beneficial to the students.

Most of these students had completed all their LE requirements.

A few people said they were “saving” a LER. They were anticipating a challenging semester in their senior year and were saving the LER to balance the workload and provide variety during a demanding semester.

*My advisor told me to take the lib eds early. Take them your freshman and sophomore years so you can decide what you want to major in your junior and senior years.*

*As a freshman I remember signing up and it was like, ‘OK, you need to get all these done as soon as possible. If you are doing them in your senior year you are way behind.’ I remember it was like, ohmigod. I have all these requirements; I better do them all right away. They made it seem like if you didn’t do them right away you weren’t going to graduate on time.*
How do students select courses to meet the LE requirements?

Students said they typically take basic introductory courses to fulfill the science and math requirements. Students take a variety of courses to fulfill the social science / humanities requirements, writing intensives, and designated themes.

Some students start looking for courses at One Stop. They use the search tool to look for courses that meet their criteria and they look at the lists of courses that meet the liberal education requirements. They select a course from that pool by weighing a combination of the factors described below. (Students don’t always use One Stop to select courses. Some seem to select courses from a more limited pool based on word-of-mouth.)

Here are factors that students said they weigh when selecting classes. They are not listed in any order of importance. Different students gave different weights to these factors at different times in their college careers.

- **Requirements.** How many requirements does a course meet?
  - Many students looked for “double-” and “triple-dippers.” This seemed particularly true for students whose majors had little room for additional courses (e.g., IT students, students with double majors).

- **Schedule.** How does the course fit my schedule? Schedule is a major factor. One student said, “Schedule trumps everything else.”
  - Students schedule major courses first. Liberal education requirements must fit around their major classes.
  - Some students select classes to fit around a work schedule.
  - Some students select classes to fit a commuting schedule.
  - Some students select classes to fit personal time preferences (e.g., not wanting early morning classes, wanting time for lunch, wanting evening courses, wanting only Tuesday / Thursday classes, wanting an even schedule across the week).
  - Students in one focus group talked about a new online program called the Schedulizer that, based on class numbers, will generate possible schedules.

- **Reputation.** What’s the reputation of the course or instructor? Students said they use a variety of sources including:
  - Word-of-mouth. Students said they frequently ask for or get advice from friends and upper-class students.
  - Online sites.
    - [www.ratemyprofessor.com](http://www.ratemyprofessor.com). Students said there are a number of similar sites, but ratemyprofessor is the most popular. We were surprised by how many students said they used this site. They believe the site provides credible information.
    - One Stop. A few students said they use One Stop to search for instructors who have received teaching awards. (Some students don’t know this option exists.)
• Workload. How much work is required? What type of work is required?
  o Students said they are looking for a balanced workload.
  o If they have several courses that will require a lot of work, they will try to balance them with courses that require less work.
  o Students tend to look for “easy” LER courses to achieve balance.
  o They said they only take a LER course with a reputation of being hard if they are really interested in the topic or professor.

• Potential grade. What impact will this course have on my GPA?
  o Some students look for LER courses that can help boost their GPA.
  o One IT student said the LER hurt his GPA because he had to take biology even though he was not interested in biology. He got a C. He said it has been hard to recover from that.

• Interest. What course looks interesting or fun?
  o Students said they select LER courses based on their interests when possible, but sometimes interest is given less weight than other factors in this list.

• Variety. Does this course provide a break from the intensity of my other courses?
  o Some students (e.g., CBS and IT) said they purposefully look for courses that are different from their major courses.

One Stop has been my friend throughout all this. I use it all the time.

I found the course search tool on One Stop to be really helpful. I would wonder what the heck fits this and it helped me find classes. I did a writing intensive through mortuary science. I would have never thought of that. So the search tool is great.

Most of it [my information] came from word-of-mouth. ‘So and so is really good.’ ‘This class is really easy.’ Especially when it came to the physical and biological sciences. I am not in that sort of major so I would typically go ask which class is easiest. Otherwise it is a lot of guesswork. I like to make sure it meets two requirements, a double-dipper. I can knock two birds out with one stone and go on with my own interests. That way you can save credits for something you actually find interesting.

I was looking at courses for astronomy for the physical science requirement. When I was choosing which professor I noticed one had an award for teaching so I picked him. I am in love with my astronomy class right now.

Most of us [dorm mates] were humanities, English, and psychology majors so we tried to get out of the heavy sciences. I think a lot of people take the most basic class you can to meet the requirements. I took Bio 1001. I took Math 1301. It is the most basic math. I just took them to get them done. Get them out of the way. I looked for the easiest. It felt like high school level. I learned it all
before but it was fun to be in a college setting and learning it again. You get to school and you hear by word-of-mouth, ‘Take Bio 1001.’ ‘Take math 1301.’ I think for people who are undecided, they just fill the first year with lib ed requirements.

IT is really technical and a lot of work. So sadly, my first couple of years I looked for liberal education requirements that were easy and not time-consuming…. Now in the last couple years I have been choosing courses that would broaden my perspective on things…. I am not looking at it in terms of hard or easy, but more towards what I can get out of it. I had a shift in views over the four years.

Professors are really important to me. Spring semester of my freshman year I used ratemyprofessor.com to schedule my classes. I based my entire schedule off other people’s comments—from the website and from my peers…. I would recommend it.

One reason I take lib eds is to give myself a break from other classes and to boost my GPA. But classes that you take because they fulfill a requirement but that you are not interested in, that is what lowers your GPA.
What role do advisors play?

Students said they listened to their advisors most when selecting classes for their first semester of freshman year. After a student’s initial registration as a freshman, advisors seem to have less influence on students’ selections of LER courses. Most students said they only go to their advisor for technical reasons (e.g., to change their APAS, to get a hold lifted, as a check that they haven’t missed something needed to graduate). Many students said their advisor doesn’t really know them or their interests, so they don’t trust their advisor to suggest courses. Advisors seem to play a monitoring role.

Some students had two advisors: a faculty member in their major and an advisor who dealt with registration issues. While the faculty advisors help students select classes in their major, students said faculty provide less help selecting LER courses because they typically aren’t familiar with courses outside their discipline.

Some students complained about the advising they received. One student said she met with a peer advisor during orientation who gave her inaccurate advice about the liberal education requirements, which caused her to take courses she did not need.

A few students said that early in their college career they thought they needed to take a separate course to directly address each LER designated theme. They did not realize that most of the theme requirements would be fulfilled by courses in their major. Students said they wished they hadn’t taken courses in their first two years to specifically address the themes because they would have more time as juniors and seniors to take courses they truly want to take. (Students in CBS and IT said their major courses do not usually fulfill the LER designated themes, so they do need to pay attention to these requirements.)

They [advisors] never helped me with classes. They don’t really help you. They print out your APAS and say, oh, looks like you need some credits in this or that, but they don’t go in-depth with you. It’s not coaching. It’s more like a checklist of what you have met and what you haven’t. It is not about where you intend to go or what you want to do.

I never ask my advisor for help with that kind of stuff. They have been helpful with other classes, but not with the lib ed.

I see the advisor as a check that I am not going completely wrong.

Professors don’t know your schedule or what your interests are. They expect you to look it up yourself and find out what is interesting to you. They tell you that you still have this requirement to be fulfilled, but they don’t help you pick classes.
Why does the University require liberal education courses?
We asked students to list the reasons they thought the University requires liberal education courses. Students consistently gave three reasons: to create well-rounded graduates, to help students appreciate diversity, and to give students who have not decided on a major a chance to explore. Many students said their LER did help them grow and explore, but some said their courses didn’t do what they were meant to do (e.g., broaden their interests, make them better citizens).

I have become interested in a lot more things. I took psychology and liked it a lot and was thinking of minoring in it. I have also taken Intimate Relationships through the Family Social Science department and I loved that and was thinking of minoring in that. I have taken classes in Fisheries and Wildlife and it made me think in a completely new way. It was really an interesting class and it changed me. It was about the impact of an individual on the environment and to think about your impact. I think I am a better citizen [because of that class]. I think I have a lot more interests because of the liberal education requirements.

I’ve had a lot of good courses. The best was a freshman honor seminar. What made it the best is that there were probably 20 people in there. The first day I am looking through the book and I see the picture of the author and suddenly he walks in the room and starts teaching the class. I was like, Oh cool. Wow! He wrote the book and he is teaching the class. It was like meeting a minor celebrity. And the reason it was good is that it shocked me into college. This is the type of thing that you can do at this major university. You can have a class with 20 students with a tenured professor who has written a book…. He knew so much. I wish everyone could have that experience sometime during their university career—to have a very good professor in a very small setting.

I think that is what they are designed for, for diversity and being well-rounded, but I don’t know that it really does that. I feel I am plenty well-rounded taking the courses that I would have taken anyway. I think a lot of them were a waste of time. I can’t think of any specific class that I was like, wow, this really opened my eyes to something.

A lot of the classes I took I just took to complete all the requirements. It is not like I read through the course descriptions and was really truly interested in taking these classes. I just wanted to get the requirements met. Maybe I learned a few new things, but I don’t think it satisfied the purpose of the requirements.

A few students said liberal arts courses are required because they distinguish a four-year degree from a two-year technical degree. A few said the courses are required so the
University can produce high quality graduates and compete with other higher education institutions.

A few students said they thought the courses were required as a way to generate additional revenue for the University or to keep consistent enrollment in certain courses.

We then asked students to rate how strongly they agree with the following statements related to the liberal education requirements. This is based on only 30 responses and is not meant to reflect the population of all students.

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<td>My LE courses increased the breadth of my knowledge</td>
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<tr>
<td>I understand why the University requires LE courses</td>
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<tr>
<td>My LE courses helped me understand how people think in other fields and disciplines</td>
<td>3.7</td>
</tr>
<tr>
<td>My LE courses increased my understanding of the environment, cultural diversity, international perspectives, or citizenship and ethics</td>
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<td>My LE courses caused me to have new interests</td>
<td>3.4</td>
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<td>My LE courses prepared me to be a better citizen</td>
<td>3.2</td>
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<td>My LE courses improved the quality of my life</td>
<td>2.6</td>
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*5=Strongly agree, 4=Agree, 3=Neutral, 2= Disagree, 1=Strongly disagree

Students said instructors do not explicitly describe how people in their discipline think or explore problems, nor do they compare how that is similar to or different from the ways people in other disciplines think and explore. Students must discern this for themselves. Students said faculty sometimes dismiss other disciplines and other ways of knowing.

Some students said the LER did cause them to have new interests. Some used the LER to find a major. Some changed majors or added a minor based on LER. Others said it did not cause them to have new interests. They said they already had broad interests.

Few students could cite examples of how the LER prepared them to be better citizens.

Students said the LER did not add to quality of life. They said the courses did not bring them more food or money. Instead courses added stress and took time from other things.
General versus specific courses.

We said to students:

Many courses will meet the liberal education requirements. You can meet the LE requirement by taking a general introductory course in a discipline or a specialized course within the field. Some have said that the specialized courses might be so narrow or diluted that the student doesn’t get an understanding of the discipline. Others say that the specialized courses give the students more choices. What are your thoughts?

Some students said this isn’t an issue because there are usually prerequisites to get into the higher level, more specialized courses. Students typically have to take an introductory course before they can register for a more specialized course.

Other students said they prefer to have both options. Students like choice. One student said she took the History of the Typewriter through Journalism to fulfill the historical perspectives requirement. (We did not see a course by this name listed.) She said she wasn’t interested in history, but was interested in journalism. This course made the history requirement palatable. Another student said he wished the courses were even broader. As an IT student he said he would have been much happier taking an international perspectives course in his major, for example, on how the Chinese build bridges, but no such course is offered.

*I think it is great to give students options. If someone wants to take the History of the Typewriter, let them. If they want to take a broad class, that is fine too. I think students should be able to make those decisions for themselves. They are legal adults. As long as you say they have to take a history class, at least let them pick which history it will be. They will probably enjoy the class more and get more out of it.*

*I think we should have the option for both [general and specific courses]. I don’t see the problem. I took the History of Rock Music and a general history and they both fill the same requirement.*
Comments on writing intensives.
Students didn’t question the need for the writing intensive requirement. Students agreed that they, and other U of M students, need good writing skills.

Students wondered how courses are selected to satisfy the writing intensive requirement. They said some courses that meet the writing intensive requirement require little writing, while other courses that require much more writing don’t meet the requirement. Some said courses they took that filled the writing intensive requirement weren’t intense.

Students complained that feedback they received in the courses they took to address the writing intensive requirement didn’t help them become better writers. Some said the feedback was minimal and at a low level, like minor editing. It did not challenge them or help them move to a higher level. (These students may have been good writers already, but they wanted to be challenged to improve their writing.)

Some students speculated that overworked TAs grade these papers and that they really don’t put much effort into providing feedback.

Several students said they did learn how to write better but it was because they took the initiative to meet with their instructor to discuss what was wrong with their writing and how to improve it. They said students are not required to get face-to-face feedback or help.

While discussing writing, several students said the information on One Stop that describes the liberal education requirements is not well written. It should be rewritten to be more direct and less confusing.

I am a TA for a marketing class. I have graded a few papers and despite being sophomores and juniors and Carlson majors, people still can’t write. It is pretty bad.

The writing intensive requirement is complete bull. My writing intensive courses have not been writing intensive at all and my other courses that have been more writing intensive are not counted as that. I don’t mind, but why are they requiring this when it doesn’t mean anything? I think Intro to Theater was my writing intensive and we wrote one paper in the whole class, but we got it back and then we turned it in again. It was just ridiculous. Then my history class, the whole grade was based on three papers that were each about 10 pages, so we wrote about 30 pages. The papers were really intense. We had to do research. [But the history course didn’t count as a writing intensive course.]

I think the writing intensive courses are missing the mark. The ones who don’t need them are stuck in classes that don’t make sense and the students who truly need help aren’t getting it.
What I turn in [initially] is basically what I turn in later. They might point out a grammatical error or they might say this needs to be stronger, but there are no major revisions. When I hear writing intensive, I assume intense writing. If should be called the ‘we look at your paper once before you turn it in’ course.

Ninety percent of the writing [courses] are done by TAs. A bunch of my friends are TAs and I have watched them correct papers and [they aren’t putting much effort into it].

It is minor editing.

It is not teaching writing.
Complaints about the liberal education requirements.
The students’ biggest complaint about the LER is that some felt forced to take courses they weren’t interested in and didn’t want to take. They said this meant:

- They couldn’t take other courses that they were really interested in but that didn’t fulfill the requirements.
- They wasted time and money.
- They didn’t learn much.
- The courses didn’t have the desired impact (students didn’t become more well-rounded, etc., and in some cases actually disliked the subject more after taking the course).

_I had to take care of a Citizenship and Public Ethics course... and I couldn’t find one that I liked at all. So I took one and I knew going into it that I wouldn’t like it. I just hated it. So it made me dislike the subject even more._

_If you are not interested, you are going to have a crappy attitude._

_A lot of it is your attitude. If you go into it wanting to gain more knowledge for yourself, then you will. But if you go in, ‘Oh, I hate this class’ then you are not going to end up better._

_Sometimes it is hard to find a class that fulfills what you need. Sometimes you have to find one that fulfills the two requirements you have left and you end up in a class you don’t care about and have no interest in._

_In IT they really want to push you out in four years. That means you have to find classes that double-dip and fulfill a couple requirements. So that was what I looked for first, courses that fulfilled two requirements and then I went with the ones that sounded better. Freshman year I ended up in a class that I really did not like and did not enjoy and wish I hadn’t taken. I found out since that I had plenty of time to take all the classes I wanted and I could have spread them out. I still take lib eds for fun. I don’t need the requirements but it is a break from all the other work._

_Instead of taking a class to become more diverse or well-rounded, they take it to fulfill the requirements. They push people to get through everything quickly... I think that puts them down a path of, oh, I want to take this class because it fills a requirement, not because they actually want to learn stuff.... I think it is a good idea that they require some liberal education...but I can’t agree with the way they do it. I think they could improve it if they said, find something you want, then see if it fills a requirement. Instead of fill these requirements whether you like it or not._
People end up taking classes they don’t care about and don’t get anything out of.

I still have to take my other humanities course and none of them really interest me. [Moderator] But aren’t there hundreds of courses to choose from? [Student] There might be hundreds to choose from but it is all social science and humanities and you don’t have an interest in it. It doesn’t matter how many hundreds of classes you have to choose from, they are all getting at the same thing.

We don’t want to give the wrong impression. Not everyone was complaining about taking liberal education courses. Almost everyone said they would take liberal education courses even if they were not required.
What advice would you give to the people who make decisions about the liberal education requirements?

Advice on the LER.
- Continue to require liberal education courses. Most of the students in the focus groups believe that they should be required to take liberal education courses. They believe the courses can help them be well-rounded.

Advice on the LER structure.
- Students argued for and against the specific requirements (e.g., so many credits in various fields and themes). Some students want maximum flexibility (just require so many credits outside the major). Other students say that without some structure students might limit their selections, like only eating dessert at a buffet.

I don’t mind having to take classes outside my major. I think it is good. But I don’t like having such a strict emphasis. If we could just take 20 credits outside our major that would be beneficial because we could choose what we want.

I don’t think students despise these requirements. It is just inconvenient for us to take them because they are so structured and we are limited to certain types of classes. I think better advising could help and I think if they were less structured it would be easier and students would be more accepting of the classes. Students will take classes they are interested in. I think less structure would be a good thing.

I like the structure. It forces you to take classes that you wouldn’t think you are interested in and it forces you to explore other areas. I think they should keep the structure. I would change the advising. Tell students they can spread the lib eds out and a lot may just get taken care of with their normal classes.

I think we need to do a better job of advising and less pushing right away for students to get things out of the way. I think they should tell students to relax a little more and find something they are interested in. As far as the structure goes, I think maybe they should just say 15 credits of social science and humanities rather than a specific number in history, etc. So they have a little flexibility. If you just say take some liberal eds they may take them all in the same area.... Someone might just take guitar every semester to fulfill their requirements. That defeats the purpose. I think you need some guidance but loosen it up a little bit so students have more options.
When I was a freshman it was really beneficial to me to be able to check things off my list and know exactly what I had done. So have a stricter first year.

Advice to increase choice.
- Offer more courses that meet LE requirements, so students have more choice.
- Offer more courses within majors that meet the LE themes.

Advice on writing intensives.
- Improve the quality of the writing intensive courses.
- Require students to meet face-to-face with writing instructors to get feedback.
- Improve the quality of the feedback in writing intensives so all students are challenged to improve their writing.

Advice on advising.
- Tell freshman that they can spread their liberal education requirements out over their four-year career.
- Tell freshman not to concentrate on the designated themes. The themes will probably be fulfilled by courses in their major.
- Challenge students to take courses they will learn from, not just easy courses.

Advice on ways of knowing.
- If you want students to understand different “ways of knowing” then develop a course that explicitly focuses on this. Tell why it is important to know about the different ways of knowing.
Our Observations and Suggestions
Students, in general, support liberal education requirements. They believe liberal education courses are part of a university education. They believe it is important to be well-rounded.

Many students view the LER as a burden, not an opportunity.

Change the image of the LER. Many students said they were taking additional liberal education classes (beyond those required) for fun, or balance, or just because they are interested—almost as a treat. But that is not the way they talked about the courses they took to fulfill the LER. Students see value in liberal education classes. Therefore, be explicit about the value of the LER to students. Emphasize the benefits or value of the LER to the student in ways that are credible, clear, and enticing. Place less emphasis on abstract benefits.

Provide more explicit help to students in selecting classes. Let them know the protocol used by other students. Help students find courses that are highly rated (not because they are easy, but because the professor teaches well or the students are challenged, etc.). Make One Stop easier to navigate.

Rewrite the description of the LER on One Stop so it presents a clear rationale to students, not just institutional rhetoric.

Spot-check LER courses to ensure that they actually do continue to meet requirements.

Considering being more explicit about the purpose of the LER. How are students supposed to be different because of these courses? Then determine to what extent the current structure achieves that purpose.
<table>
<thead>
<tr>
<th>Core courses:</th>
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</thead>
<tbody>
<tr>
<td>Introduce students to the &quot;ways of knowing&quot; in the discipline or field of knowledge—the kinds of questions asked, kinds of experiences explored, kinds of skills utilized; the types of theories employed; and the ways in which insight, knowledge, and data are acquired and used.</td>
<td>Explicitly help students understand what liberal education is, how the content and the substance of this course enhance a liberal education, and what this means for them as students and as citizens.</td>
</tr>
<tr>
<td>Set forth at a basic level the factual information and theoretical and/or artistic constructs that form the foundation of the discipline or field of knowledge, and describe how those facts and constructs were acquired</td>
<td>They employ teaching and learning strategies that engage students with doing the work of the field, not just reading about it.</td>
</tr>
<tr>
<td>Courses in the liberal education curriculum should be of high quality, offered frequently and predictably, and of sufficient number to facilitate the timely academic progress of undergraduate students.</td>
<td>They do not (except in rare and clearly justified cases) have prerequisites beyond the University's entrance requirements.</td>
</tr>
</tbody>
</table>

Instruction by regular faculty members and the availability of small group or individual learning opportunities in large classes contribute to a high quality education. We urge that, in the long term, all courses in the liberal education curriculum have both of these characteristics.

Core courses include a writing component as appropriate to the discipline (e.g., a final paper, essay examinations, or other graded writing assignments), even if the course is not intended to meet the separate writing intensive requirement.

The liberal education requirements include a diversified core in which the number of approved courses is limited. The limited number of approved courses allows students to experience a common curriculum. The Council intends to maintain the reduced size of the diversified core but invites faculty participation from across the Twin Cities Campus.

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

Rather than dictate an arbitrary number of courses to be approved for the Core, the Council has defined a rigorous set of criteria for inclusion. We urge departments and colleges to consider carefully what courses to propose for the Core, and to invest in fewer courses but pay greater attention to the intent of those courses.

The Council will also have a “sunset” policy for core courses; any courses approved for the Core and not offered in a three-year window will be decertified and will no longer be listed as meeting the Core requirements.

The Council encourages development of “liberal education minors”: a cluster of courses, centered around a topic, that as a totality meet most or all of the liberal education requirements, and that have a conscious, explicit focus on helping students to integrate knowledge across the disciplines. A list of currently approved interdisciplinary minors is included in Appendix 2.

The Council proposes a pilot program in which students in the University Honors Program would have the opportunity to individualize their liberal education including courses and activities not otherwise approved to meet the requirements. After the pilot has been in place for two years, it should be carefully evaluated to determine whether to continue it, and if so, whether it should continue to be for honors students or whether there are resources available to extend it more broadly across campus.
## CORE REQUIREMENTS: COMPARISON

<table>
<thead>
<tr>
<th>OLD (Current) WORDING*</th>
<th>NEW (Proposed) WORDING*</th>
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<tbody>
<tr>
<td><strong>PHYSICAL AND BIOLOGICAL SCIENCES</strong> (two courses, one each in physical and biological science with lab)</td>
<td>To satisfy the Biological Sciences Core requirement, a course must meet these criteria:</td>
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<tr>
<td>Comprehension of the hierarchical nature of scientific ideas from fundamental principles to detailed applications;</td>
<td>- The course provides experimental evidence for how current knowledge in biology was obtained.</td>
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<tr>
<td>- understanding of the important interrelationship between theory and experimental observation;</td>
<td>- The course explores examples of unanswered questions in biology.</td>
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<td>- appreciation that scientific theories are human constructs with well-defined rules of evidence that lead to testable theories through the construction of experiments and the analysis of data;</td>
<td>- Students integrate mathematical thinking into analysis and interpretation of data.</td>
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<tr>
<td>- comprehension of the relationships between simple and complex systems;</td>
<td>- The course includes at least two hours of laboratory per week, in which students have first-hand experience in producing and handling data, using tools of the discipline (i.e., thinking and working like a biologist).</td>
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<tr>
<td>- and consideration of the personal and social implications of scientific perspectives.</td>
<td>- The course includes laboratory experiences in which students do hands-on testing of principles presented in the lecture portion of the course; some laboratory sessions may include computer simulations of experiments or observations that otherwise cannot readily be addressed during a semester (e.g. evolution of a population over thousands of years).</td>
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<tr>
<td><strong>Laboratories or field</strong> experiences must engage students in</td>
<td>- The course provides laboratory experiments that allow students to confront interpretation of mistakes and unexpected results.</td>
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<tr>
<td>- the testing of scientific questions;</td>
<td><strong>A lab experience in the Biological Sciences Core</strong> requires students to do one or more of the following:</td>
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<tr>
<td>- the collection, analysis and interpretation of data;</td>
<td>- perform hands-on experiments, measurements, or analyses that test basic concepts or hypotheses about living organisms;</td>
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<tr>
<td>- the critique of alternative explanations and knowledge claims using the accepted criteria of the discipline.</td>
<td>- analyze, interpret, and draw conclusions from data;</td>
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<td>To satisfy the Physical Science Core requirement, a course must meet these criteria:</td>
<td>- examine the relationship between structure and function of biological specimens;</td>
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<td>- The course imparts an understanding of physical phenomena by analyzing and describing the nature, constitution and properties of non-living matter and energy.</td>
<td>- explore biological systems to understand how individual organisms interact with each other and the environment;</td>
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<tr>
<td>Students employ mathematical or quantitative analysis in the description and elucidation of natural phenomena.</td>
<td>- use mathematical models to describe or predict responses and behaviors in living systems.</td>
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<tr>
<td>The course includes a laboratory or field work component, consisting of, on average, two hours per week, which may involve direct experimentation, fieldwork, or computer simulations.</td>
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<tr>
<td>The course provides an understanding of the scientific method, by which observations lead to the formulation of hypotheses or explanations of physical phenomena that are then empirically tested by experiment or observation.</td>
<td><strong>A lab experience in the Physical Sciences Core</strong> requires students to do one or more of the following:</td>
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<tr>
<td><strong>A lab experience in the Physical Sciences Core</strong> requires students to do one or more of the following:</td>
<td>- perform hands-on experiments, measurements, simulations or analyses that test basic concepts or hypotheses;</td>
</tr>
<tr>
<td>- quantitatively examine and test phenomena that may be described in terms of principles recognized within the discipline;</td>
<td>- do discovery-based experiments.</td>
</tr>
</tbody>
</table>
| - manipulate data sets.
**Social Sciences** (2 courses). Courses admitted to the Social Sciences Core must address the following issues:

1. How social scientists describe and analyze human experiences and behavior;
2. The interrelationships among individuals, institutions, structures, events and ideas; and
3. The roles that individuals play in their cultural, social, economic, and political worlds.

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

- The course demonstrates how social scientists describe and analyze human experiences and behavior.
- Students manipulate social science data (primary or secondary) using one or more of the primary quantitative or qualitative methods for collecting and/or analyzing these data.
- The course identifies key disciplinary resources and evaluates their quality.
- The course explores the interrelationships among individuals, institutions, structures, events and/or ideas.
- Students examine the roles that individuals play in their cultural, social, economic, and/or political worlds.
- The course promotes multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these.
- Students work collaboratively and individually to construct new knowledge.

Courses admitted to the **Historical Perspective** core both examine the human past, studying the beliefs, practices, and relationships that have shaped human experience over time, and introduce students to sources, methods, and conceptual frameworks with which historians interpret the past.

In their application of historical methods of study to particular topics, Historical Perspective courses must focus on methods and concepts of historical inquiry, considering how the questions we ask shape the knowledge we make; and on sources from which historians construct interpretations of the past, reflecting on what we can and cannot learn from different kinds of evidence (oral, written, visual, and material; primary and secondary; public and private).

To satisfy the **Historical Perspectives Core** requirement, a course must meet these criteria:

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

**Mathematical Thinking.** The goals of the mathematical thinking core requirement are acquisition of mathematical modes of thinking; ability to evaluate arguments, detect fallacious reasoning, and evaluate complex reasoning chains; and appreciation of the breadth of applications of mathematics and its foundations. Courses that satisfy the mathematical thinking requirement can be from a variety of disciplines that introduce and emphasize mathematical modes of thinking rather than computational skills. Courses are encouraged that pique intellectual curiosity and are rooted in clear applications.

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

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

Acceptable options are: 1) courses dealing with “great ideas in mathematics and its applications,” 2) calculus or other traditional courses in the mathematical sciences, 3) formal logic or applied courses that emphasize mathematical modes of thinking that go beyond rote computational skills. Courses on specific applications of mathematics, such as statistical methods, to a particular field are fine if there is emphasis on underlying mathematical ideas, rather than just recipes for the particular application.
| Arts/Humanities requirement (one course in literature, one in “other humanities”) | To satisfy the Literature Core requirement, a course must meet these criteria: |
| Course proposals for the Art/Humanities core requirement should indicate how the course will address some or all of the following questions: |
| --How and why do writers, filmmakers, studio artists, actors, dancers, musicians, and other creative artists interpret the human condition through their activities? |
| --How and why do scholars interpret the human condition through their study of philosophy, the arts, and cultural expressions? |
| --What are the historical and contemporary contexts in which these artists and scholars comment on the human condition? |
| --What comparisons can they and their audiences make across national, cultural, regional, genre, or other “boundaries” in the process of studying and/or producing art and culture? |
| --What are the tools, perspectives, and methods of the arts and humanities? How and why have these changed over time, and how might they change in the future? |
| To satisfy the Literature Core requirement, a course must meet these criteria: |
| • The course focuses on analysis of written works of literature (fiction, creative nonfiction, poetry, and other kinds), and specifically addresses issues of language and meaning in the works studied. |
| • Students study the formal dimensions of literature: they study how the author’s choices – such as the choice of genre, style, character presentation, vocabulary, meter or the use of symbolism – have created the work’s effect of powerfully evoking the reader’s response. |
| • The course examines the social and historical contexts of the literary works as well as their content. |

(One course meeting either of the following) |

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

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

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

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

*Document sources:*

Current LE language from the Call for Proposals; full document available at [http://www1.umn.edu/usenate/cle/liberaleducation.html](http://www1.umn.edu/usenate/cle/liberaleducation.html)

Comparison of Theme Requirements: General Information

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<thead>
<tr>
<th>OLD (Current) Requirements</th>
<th>NEW (Proposed) Requirements</th>
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<tr>
<td>Courses may meet both a core and a theme; the theme must comprise at least 1/3 of the content of the course.</td>
<td>The course syllabus needs to document explicitly, both in the stated course objectives and the course activities such as the readings and lecture topics, how the Theme functions as an integral part of the course. The Theme needs to be interwoven throughout the course material (i.e., the &quot;one-third&quot; rule is no longer applicable).</td>
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<tr>
<td>An approved course may count for . . . two designated theme requirements</td>
<td>The Council will no longer approve a course to meet two Themes; while courses may integrate materials relevant to two different Themes, the department proposing the course must choose what Theme they will address when they seek CLE approval.</td>
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<tr>
<th>THEME REQUIREMENTS: COMPARISON</th>
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<thead>
<tr>
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<tr>
<td>Courses proposed to satisfy the environmental education theme must: a. focus on the interdependency of humans and the natural environment and use critical issues of this interaction for illustrative and explanatory purposes, b. consider the regenerative capacity of the biosphere, and c. consider both the cultural and social implications of human intervention in biophysical planetary processes.</td>
<td>To satisfy the Environment Theme requirement, a course must meet these criteria: * The course raises contemporary environmental issues of major significance. * The course gives explicit attention to interrelationships between the natural environment and human society. * The course introduces the underlying scientific principles behind the environmental issues being examined * Students explore the limitations of technologies and the constraints of science on the public policy issues being considered. * Students learn how to identify and evaluate credible information concerning the environment. * Students demonstrate an understanding that solutions to environmental problems will only be sustained if they are consistent with the ethics and values of society.</td>
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<tr>
<td>To qualify as an International Perspectives course, a course must: * explicitly compare, across national boundaries, important interdependencies, similarities, and differences of people, ideas, cultures, or institutions in today's world. * The perspective of the people of each of the nations involved must be explicitly addressed. * Attention to the historical background of the interdependencies, similarities, or differences being studied is welcome, as long as the main focus remains on the relevance of that history to today's world.</td>
<td>To satisfy the Global Perspectives Theme requirement, a course must meet these criteria: * The course, and most or all of the material covered in the course, focuses on the contemporary world beyond the United States. * The course either (1) focuses in depth upon a particular country, culture, or region or some aspect thereof; (2) addresses a particular issue, problem, or phenomenon with respect to two or more countries, cultures, or regions; or (3) examines global affairs through a comparative framework. * Students discuss and reflect on the implications of issues raised by the course material for the international community, the United States, and/or for their own lives.</td>
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<tr>
<td><strong>To meet the Citizenship and Public Ethics requirement approved courses will have the following components:</strong></td>
<td><strong>To satisfy the Civic Life and Ethics Theme requirement, a course must meet these criteria:</strong></td>
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</table>
| - A consideration of issues and themes of citizenship, public affairs, and public ethics in the abstract, as these relate to the discipline or field of knowledge in question, including professional ethics. The course readings and lectures present general theoretical frameworks to help define and analyze citizenship or public ethics.  
- An application of these general or theoretical frameworks to concrete instances; and  
- the inclusion of class discussions, writing components, or other pedagogies that would help students develop their own civic judgment, skills, and capacities for civic and ethical deliberation. | - The course presents and defines ethics and the role of ethics in civic life.  
- The course explores how the ethical principles of a society or societies have been derived and developed through group processes, and debated in various arenas.  
- The course encourages students to develop, defend, or challenge their personal values and beliefs as they relate to their lives as residents of the United States and members of a global society.  
- Students have concrete opportunities to identify and apply their knowledge of ethics, both in solving short-term problems and in creating long-term forecasts. |

| **To qualify for Cultural Diversity designation, a course must:** | **To satisfy the Diversity and Social Justice in the United States Theme requirement, a course must meet these criteria:** |
| a. focus on historical and/or contemporary manifestations of social and cultural diversity with an emphasis on issues such as gender, race, ethnicity, age, socioeconomic status, affectional orientation or religious belief; and  
b. offer students an opportunity to critically examine issues of social and cultural diversity through instructional methods that foster interpersonal interactions. | - The course explores one or more forms of diversity through the multi-layered operation of social power, prestige, and privilege.  
- The course advances students’ understanding of how social difference in the U.S. has shaped social, political, economic, and cross-cultural relationships.  
- Students examine the complex relationship between a particular form of diversity in the United States and its impact on historical and contemporary social dynamics, democratic practices, and institutional stratification.  
- The course enhances students’ understanding of diversity as a social construct that has promoted the differential treatment of particular social groups and served as the basis for response to subsequent social inequities by these groups.  
- The course engages scholarship that has emerged in response to epistemological gaps in information and perspective in traditional disciplines. |

**(NOT IN OLD REQUIREMENTS—NEW THEME)**

| **To satisfy the Technology and Society Theme requirement a course must meet these criteria:** | **To satisfy the Technology and Society Theme requirement a course must meet these criteria:** |
| - The course examines one or more technologies that have had some measurable impact on contemporary society.  
- The course builds student understanding of the science and engineering behind the technology addressed.  
- Students discuss the role that society has played in fostering the development of technology as well as the response to the adoption and use of technology.  
- Students consider the impact of technology from multiple perspectives that include developers, users/consumers, as well as others in society affected by the technology.  
- Students develop skills in evaluating conflicting views on existing or emerging technology.  
- Students engage in a process of critical evaluation that provides a framework with which to evaluate new technology in the future. | - The course examines one or more technologies that have had some measurable impact on contemporary society.  
- The course builds student understanding of the science and engineering behind the technology addressed.  
- Students discuss the role that society has played in fostering the development of technology as well as the response to the adoption and use of technology.  
- Students consider the impact of technology from multiple perspectives that include developers, users/consumers, as well as others in society affected by the technology.  
- Students develop skills in evaluating conflicting views on existing or emerging technology.  
- Students engage in a process of critical evaluation that provides a framework with which to evaluate new technology in the future. |
May 23, 2008

TO: Twin Cities Faculty, Academic Advising Staff, and Academic Administrators

FROM: Robert McMaster, Professor of Geography and Vice Provost and Dean, Undergraduate Education
       Leslie Schiff, Professor of Microbiology and Chair, Council on Liberal Education

SUBJECT: Guidelines for Course Submission for Liberal Education Designation

This communication will outline the guidelines that colleges must follow in submitting their courses for Liberal Education designation. Since the new guidelines developed by the Council on Liberal Education are clearer and more rigorous, those proposing courses, as well as those reviewing courses, now have an unambiguous basis from which to work. Guidelines are outlined in the following document.

As a reminder, any course submitted now must meet the new guidelines; courses that were submitted with permission under the soft moratorium (before May 1) using the old guidelines must be resubmitted and reviewed again under the new guidelines before January, 2010. The new requirements for liberal education will go into place for students entering the University in fall, 2010. Further implementation and recertification timelines were outlined in a previous memo, dated April 30, 2008.

If you have questions about the guidelines or about the implementation process, please contact Laurel Carroll at l-carr@umn.edu or Linda Ellinger at ellin001@umn.edu.
Guidelines for Proposing a Liberal Education Course

The new requirements for liberal education, approved by the Faculty Senate on April 3, will go into effect for students entering the university in fall, 2010.

**CORE**

One course of at least three credits in each of the following:
- Arts/Humanities
- Historical Perspectives
- Literature
- Mathematical Thinking
- Social Science

One course of at least four credits, with a laboratory or field experience, in each of the following:
- Physical Science
- Biological Science

**THEMES**

A minimum of one course of at least three credits in each of the following thematic areas:
- Civic Life and Ethics
- Diversity and Social Justice in the United States
- The Environment
- Global Perspectives
- Technology & Society

Courses may be certified for both a Core and a Theme if the theme is fully infused into the Core course.

**PROCEDURES**

- Courses in the liberal education curriculum should be of high quality, and offered frequently and predictably so undergraduate students are able to plan their degree programs and make timely academic progress.

- The text of the proposal for the liberal education (LE) requirement must be entered in the Electronic Course Authorization system (ECAS) under the Liberal Education section. This documentation includes a new expectation that courses in the liberal education curriculum must meet one or more of the Student Learning Outcomes (SLO). Under the Liberal Education section on ECAS, check which of the SLOs that the course meets, and provide a brief paragraph (300 characters) explaining why. (See page 14 below for the complete list.)

- A copy of the current course syllabus is required for all proposals. The syllabus must be for a term within the past two years, in English or with an English translation provided. For courses under development, the syllabus may be provisional but still must document how the course will meet the LE requirement(s), both in the course objective and as a part of the

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1 This document replaces the previous Call for Course Proposals dated January 20, 2005. The full text of “Renewing Our Commitment to Liberal Education,” the report of the Council on Liberal Education, can be found at [https://www.myu.umn.edu/public/cle.html](https://www.myu.umn.edu/public/cle.html). A summary document comparing the old and new requirements is available at the same URL. The University of Minnesota-Twin Cities liberal education requirements apply to undergraduate students entering a baccalaureate degree program.
course activities. A list of lecture topics or discussion topics should be included, with the understanding that dates, schedules, and readings may be tentative.

- The syllabus is a critical part of the proposal and may be the determining factor in whether a course is approved. The syllabus needs to conform to the University Senate Syllabi Policy, approved December 6, 2001. (The complete policy can be found at http://www1.umn.edu/usenate/policies/syllabipol.html.) The syllabus must document explicitly how the course meets the core or theme criteria through the stated course objectives, course topics, writing assignments, and required readings so students are aware of how and why the course meets the LE requirements. Supporting materials, such as lab manuals, sample assignments, or handouts, may be included.

**CORE COURSES**

<table>
<thead>
<tr>
<th>All courses in the Core must meet the following requirements:</th>
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<tr>
<td>- They explicitly help students understand what liberal education is, how the content and the substance of this course enhance a liberal education, and what this means for them as students and as citizens.</td>
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<td>- They employ teaching and learning strategies that engage students with doing the work of the field, not just reading about it.</td>
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<tr>
<td>- They include small group experiences (such as discussion sections or labs) and use writing as appropriate to the discipline to help students learn and reflect on their learning.</td>
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<tr>
<td>- They do not (except in rare and clearly justified cases) have prerequisites beyond the University’s entrance requirements.</td>
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<td>- They are offered on a regular schedule.</td>
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<td>- They are taught by regular faculty or under exceptional circumstances by instructors on continuing appointments. Departments proposing instructors other than regular faculty must provide documentation of how such instructors will be trained and supervised to ensure consistency and continuity in courses.</td>
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**Arts and Humanities**

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

**CLE Guidelines for Arts Courses**

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

To satisfy the Arts and Humanities Core requirement in Arts a course must meet these criteria:
- Students create their own artistic efforts.
- Students reflect on their artistic efforts in writing or in discussion that develops awareness of the considerations that guide artistic practice and response.
- Students become aware of why and how artists select their content, media, and method.
- Students develop an understanding of the arts in relation to communities in and for which art is created.
- Students examine how the historical dimensions of time, place, and culture inform artistic practice.

CLE Guidelines for Humanistic Studies Courses
The second group, Humanistic Studies, includes such disciplines as art history, classics, cultural studies, design history, film and media studies, philosophy, and religious studies. Works in Humanistic Studies reflect on the common and familiar human condition – our human limitations and unique failures together with our distinctive human capacities and achievements. Courses in this group examine works that invite or compel critical thought. Reflection on such works will enrich students’ lives and make them more thoughtful and perceptive members of our communities.

To satisfy the Arts and Humanities Core requirement in Humanistic Studies a course must meet these criteria:
- Students engage in detailed analysis of and reflection on some humanistic literature or creative product – for example, a philosophical essay, a religious treatise, a work of cultural commentary, or a documentary film.
- Students develop their understanding of the works or cultural practices they consider. Where appropriate (for example, in considering a philosophical work) they engage in critical evaluation of the work.
- Students examine how the work under consideration arose out of its cultural or historical context.
- The course explores the role that the work plays in the larger society of which it is a part.

Biological Sciences
Students need to have a measure of biological literacy that will allow them to analyze new biological information as it becomes available, put it into the framework of previous knowledge, and appreciate how it affects the earth’s organisms. Because biology is not static, the important element of biological literacy is in students seeing for themselves how biology is done and reaching an appreciation of the creative spark that drives discovery in biology. This requires providing students with opportunities to formulate and test hypotheses, interpret experimentally obtained data, and draw conclusions from the data that may challenge their preconceptions.

CLE Guidelines for Biological Sciences Courses
Courses that meet the Biological Sciences Core requirement might be broad survey courses or focus more specifically on a particular type of organism, topic, or process of living organisms. Courses in the Biological Sciences Core requirement must present the evidence for our current knowledge (i.e.,
how did we learn what we know), guide students through the process of acquiring knowledge using
the tools of the discipline, present the limitations of current research, convey the message that
questions of the future may require new ways of gathering information, and emphasize that new
knowledge may require substantial revision of our current thinking. Courses that guide students
through an understanding of examples from the primary research literature in biological sciences are
couraged. The aim is not to simply capture a snapshot of what we currently know in a given field,
but to guide students to develop skills that will enable them to undertake analysis of information
pertaining to biological sciences.

Because interpretation of biological data relies so intimately on quantitative skills, courses in this
Core area also need to demonstrate integration of mathematical thinking, such as interpretation of
graphs and figures, to a level suitable for an introductory, non-major course.

To satisfy the Biological Sciences Core requirement, a course must meet these criteria:
- The course provides experimental evidence for how current knowledge in biology was obtained.
- The course explores examples of unanswered questions in biology.
- Students integrate mathematical thinking into analysis and interpretation of data.
- The course includes at least two hours of laboratory per week, in which students have first-hand
  experience in producing and handling data, using tools of the discipline (i.e., thinking and working
  like a biologist).
- The course includes laboratory experiences in which students do hands-on testing of principles
  presented in the lecture portion of the course; some laboratory sessions may include computer
  simulations of experiments or observations that otherwise cannot readily be addressed during a
  semester (e.g. evolution of a population over thousands of years).
- The course provides laboratory experiments that allow students to confront interpretation of
  mistakes and unexpected results.

A lab experience in the Biological Sciences Core requires students to do one or more of the
following:
- perform hands-on experiments, measurements, or analyses that test basic concepts or hypotheses
  about living organisms;
- analyze, interpret, and draw conclusions from data;
- examine the relationship between structure and function of biological specimens;
- explore biological systems to understand how individual organisms interact with each other and
  the environment;
- use mathematical models to describe or predict responses and behaviors in living systems.

Historical Perspectives

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

**CLE Guidelines for Historical Perspective**

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

First, Historical Perspectives courses examine the human past, studying the beliefs, practices, and relationships that shaped human experience over time. Historical Perspectives courses must be primarily about *people* and their changing experiences in particular contexts, whether the sources examined in a course are hieroglyphic political tracts in ancient Egypt, oil paintings depicting gentility in Renaissance Italy, court records from nineteenth-century Brazil, or the artifacts of popular culture that create and perpetuate memories of the 1989 Tiananmen Square protests in China. Change over time is a fundamental category of analysis in Historical Perspectives courses, and attention to the specific and distinctive historical context is crucial.

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

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

**To satisfy the Historical Perspectives Core requirement, a course must meet these criteria:**

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

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

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

CLE Guidelines for Literature Courses
To satisfy the Literature Core requirement, a course must meet these criteria:

- The course focuses on analysis of written works of literature (fiction, creative nonfiction, poetry, and others), and specifically addresses issues of language and meaning in the works studied.
- Students study the formal dimensions of literature: they study how the authors’ choices – such as the choice of genre, style, character presentation, vocabulary, meter or the use of symbolism – have created the literature’s effect of powerfully evoking the reader’s response.
- The course examines the social and historical contexts of the literary works as well as their content.

Mathematical Thinking

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

The first aspect is mathematics as a body of knowledge. It is concerned with such issues as enumeration and computation, quantifying change, geometrical figures, shape, and symmetry. It deals with these topics via precise, unambiguous symbolic language. Students need some facility in
communication with these symbols to appreciate the power of its manner of expression. Students should understand some of the esthetically beautiful ideas and their history that have implications so powerful that science and technology would be impossible without this underpinning—selected from topics such as number theory, geometric analysis, calculus, probability and statistics, combinatorics, and symbolic logic, among others. Students should appreciate that mathematical results are established by logical proofs or algorithms with rigorous methods for testing whether something in a symbolic language is an acceptable proof.

The second aspect of mathematical thinking is its broad applicability, its “unreasonable effectiveness” in the natural, biological and engineering sciences, as well in many of the social sciences and psychology. The essential concept is “mathematical modeling.” Using mathematical ideas many problems that arise in the everyday world can be abstracted and expressed as mathematical problems. The solutions, often obtained via scientific computation, are then applied to the original problem, and their conformance to reality checked. These elegant solutions to applied problems are necessary for a deeper understanding of the forces that continuously transform our world.

**CLE Guidelines for Mathematical Thinking Courses**

There should be a variety of courses on mathematical thinking if the diverse needs of our students are to be met, and faculty from a variety of disciplines should participate. Responsibility for introducing students to mathematical thinking rests mainly with the courses in this part of the Core, but courses in the physical, biological, applied, and some of the social sciences will also properly address these issues. While courses should have applied dimensions, all should focus on the manipulation of mathematical or logical symbols. An appropriate course needs both to involve education in mathematical literacy, including communication with the special symbols of mathematics or logic (not prose only), and indication of how these concepts could be applied to analyze applied problems.

The Council urges the continued development of a different approach for those students for whom the traditional calculus route is inappropriate or not required for subsequent course work. Special courses dealing with “Great Ideas in Mathematics and its Applications” could be substantially more effective in providing these students with an understanding of diverse mathematical ways of thinking.

Acceptable tracks are: 1) courses dealing with “Great Ideas in Mathematics and its Applications,” 2) calculus or other traditional math courses, 3) formal logic or applied courses that emphasize mathematical modes of thinking that go beyond rote computational skills. Courses on specific applications of mathematics, such as statistical methods, to a particular field are fine if there is emphasis on underlying mathematical ideas, rather than just recipes for the particular application.

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

- The course exhibits the dual nature of mathematics both as a body of knowledge and as a powerful tool for applications.
- Students manipulate mathematical or logical symbols.
- The prerequisite math requirements and mathematics used must be at least at levels that meet the standards for regular entry to the University.
Physical Sciences

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

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

To satisfy the Physical Science Core requirement, a course must meet these criteria:
- The course imparts an understanding of physical phenomena by analyzing and describing the nature, constitution, and properties of non-living matter and energy.
- Students employ mathematical or quantitative analysis in the description and elucidation of natural phenomena.
- The course includes a laboratory or field work component, consisting of, on average, two hours per week, which may involve direct experimentation, fieldwork, or computer simulations.
- The course provides an understanding of the scientific method, by which observations of the natural world lead to the formulation of hypotheses or explanations of physical phenomena that are then empirically tested by experiment or observation.

A lab experience in the physical sciences requires students to do one or more of the following:
- perform hands-on experiments, measurements, simulations or analyses that test basic concepts or hypotheses;
- quantitatively examine and test phenomena that may be described in terms of principles recognized within the discipline;
- do discovery-based experiments.
- manipulate data sets.

Social Sciences

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

A core course must address questions that are central to social science and relate to current societal themes, such as race and class, environmental equity, economic development, world economies, and local cultures. Courses that fulfill the Social Science Core requirement must expose students to appropriate quantitative and/or qualitative approaches and methods for the collection and analysis of data, including textual analysis, discourse analysis, surveys, interviews, experimental and quasi-experimental methods, focus groups, ethnographic work, statistics, modeling, or spatial analysis. Courses in the Social Science Core are not required to meet pre-defined standards for disciplinary, theoretical, or methodological content.

**CLE Guidelines for Social Sciences Courses**

To satisfy the Social Science Core requirement, a course must meet these criteria:
- The course demonstrates how social scientists describe and analyze human experiences and behavior.
- Students manipulate social science data (primary or secondary) using one or more of the primary quantitative or qualitative methods for collecting and/or analyzing these data.
- The course identifies key disciplinary resources and evaluates their quality.
- The course explores the interrelationships among individuals, institutions, structures, events and/or ideas.
- Students examine the roles that individuals play in their cultural, social, economic, and/or political worlds.
- The course promotes multidisciplinary ways of thinking that can be used to synthesize and analyze local, national, and global issues, and the connections among these.
- Students to work collaboratively and individually to construct new knowledge.

**THEME COURSES**

<table>
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<tr>
<th>Theme courses have the common goal of cultivating in students a number of habits of mind:</th>
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<tr>
<td>thinking ethically about important challenges facing our society and world;</td>
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<tr>
<td>reflecting on the shared sense of responsibility required to build and maintain community;</td>
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<tr>
<td>connecting knowledge and practice;</td>
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<tr>
<td>fostering a stronger sense of our roles as historical agents.</td>
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With their emphasis on compelling contemporary issues, the Themes offer opportunities for students to consider timely and engaging questions in all of their complexity; to reflect on ethical implications; to discuss and to debate; to formulate opinions; to have their opinions respectfully challenged and to respectfully challenge the opinions of others; and to connect what they are learning to their own lives and to the world around them. Courses in these areas offer students a sustained opportunity to engage in difficult debates around moral, legal, and ethical issues that require critical inquiry from a variety of perspectives and the cultivation of independent thinking. Like core courses, theme courses are taught by regular faculty or by instructors on continuing appointments. Departments proposing instructors other than regular faculty must
provide documentation of how such instructors will be trained and supervised to ensure consistency and continuity in the courses.

**Civic Life and Ethics**

Education in civic life and ethics will help students as they continually shape their identities and character in the context of civic life and public engagement. Civic life and public engagement is not simply political activity; it inevitably encompasses the everyday actions that individuals take in their personal, professional, and public lives. Ethics involves acquisition of insight into experiences that help us to make decisions about what is good or bad, right or wrong, just or unjust – and to recognize the ambiguity inherent in many public problems.

The Civic Life and Ethics Theme explores the social construction of ethics and the role of ethics in decisions that affect the general population in their everyday lives. It also explores how decisions are made or influenced by public engagement. Students will be best equipped to manage contemporary problems if they learn how civic and ethical principles have been historically developed, critically assessed by individuals and groups, and negotiated within specific cultural settings. It is desirable but not required of this Theme that students have opportunities to apply their knowledge and skills to contemporary problems in civic life.

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

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

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

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

Understanding the internal diversity of the United States and the complex ways in which diversity can be both an asset and a source of social tensions is integral to an informed, responsible, and ethical citizenry. Courses fulfilling the Diversity and Social Justice in the United States Theme requirement may emphasize very different content and be taught from a variety of disciplinary or interdisciplinary perspectives. They promote historical and contemporary understanding of how social differences (such as race, ethnicity, class, gender, religion, sexual orientation, and disability) have shaped social, political, and cross-cultural relationships within the United States. More specifically, courses fulfilling this Theme will critically investigate issues of power and privilege, instead of merely promoting a surface-level “celebration” of diversity. The objective of this requirement is to ensure that students’ educational experience and knowledge-base of the United States is inclusive of group and social differences. Through this type of educational experience, our students will be better able to live and work effectively in a society that continually grows more diverse and inclusive.
CLE Guidelines for Diversity and Social Justice in the United States Courses

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

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

The Environment

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

CLE Guidelines for the Environment Courses

Environmental issues are complex. Finding solutions to these environmental issues will have students vigorously debating the myriad of solutions; weighing the costs with the benefits and tradeoffs among alternative policies and practices; exploring the roles of science and technology; learning to become involved, informed, and constructive citizens after graduation. Issues such as sustainability and the ethics of intergenerational equity must be weighed against meeting current needs and wants. The pursuit of solutions to environmental issues is a highly synthetic and interdisciplinary endeavor. Therefore, courses that fulfill this Theme need to connect students, in explicit ways, to solving problems. A broad array of disciplines, from physical and biological sciences, to the social sciences and humanities need to be integrated into the proposed solutions, which must be based on science, but which will be implemented and sustained only if they are consistent with the ethics and values of society.
To satisfy the Environment Theme requirement, a course must meet these criteria:

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

Global Perspectives

Undergraduates must develop the competence to function effectively and ethically in a complex, rapidly changing world that is increasingly interdependent yet fraught with conflicts and disparities. The Global Perspectives Theme assures that graduates from the University have had at least one significant academic exposure to the world beyond U.S. borders, and the opportunity to consider the implications of this knowledge for the international community and their own lives.

**CLE Guidelines for Global Perspectives Courses**

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

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

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

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

The Council also recommends that all Learning Abroad experiences for which students earn at least three college credits should fulfill the Global Perspectives Theme requirement.
**Technology and Society**

Advances in science and engineering produce technologies that have a profound impact on society. Informed and engaged citizens must be thoughtful rather than passive consumers of new technology. Because developing innovative technologies is essential to the University’s mission, it is crucial that students and faculty reflect upon the complex and compelling ethical issues raised by technological change and its effects on society. Society, explicitly or indirectly, defines the context in which new technologies are developed, the ways in which they are adopted and implemented, and the rules by which they are used. Students need to be prepared to make sense of, evaluate, and respond to present and future technological changes that will shape their workplaces and their personal and public lives.

**CLE Guidelines for Technology and Society Courses**

Technology and Society Theme courses consider the impact of technology on society as well as how society has shaped, used, and responded to new technology. The rapid pace of technological advancement requires thoughtful and meaningful consideration so that the use of technology reflects the shared needs and values of society. Technology and Society Theme courses should introduce students to a broad range of perspectives on the adoption and use of certain technologies.

Courses that fulfill the Technology and Society Theme requirement will come from a wide range of colleges and units across the university. The emphasis on both the underlying science and the societal context may require current courses that are primarily science and/or engineering oriented to enhance social science aspects of the course. Likewise, courses that focus primarily on the societal context of technology will need to address the underlying science and engineering.

**To satisfy the Technology and Society Theme requirement a course must meet these criteria:**

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

In fall 2003, the Council for Enhancing Student Learning (CESL) proposed a common set of undergraduate Student Learning Outcomes (SLOs) for all University of Minnesota students. The outcomes approved by the University Senate in spring 2007 are intended to help departments and curriculum committees identify how both individual courses and entire curricula develop the kind of well-educated graduates we expect for the University of Minnesota. The SLOs are very closely connected to the goals of liberal education:

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

- Can identify, define, and solve problems
- Can locate and critically evaluate information
- Have mastered a body of knowledge and a mode of inquiry
- Understand diverse philosophies and cultures within and across societies
- Can communicate effectively
- Understand the role of creativity, innovation, discovery, and expression across disciplines
- Have acquired skills for effective citizenship and life-long learning.

WRITING INTENSIVE REQUIREMENT

Courses may continue to be submitted for both LE and WI designation, though the WI review will now be handled by the Campus Writing Board. Reviews by both bodies will be coordinated as much as possible to assure timely responses. The CLE strongly supports writing in the curriculum, and emphasizes the importance of writing as part of a liberal education curriculum.
April 30, 2008

TO: Twin Cities Faculty, Academic Advising Staff, and Academic Administrators

FROM: Robert McMaster, Professor of Geography and Vice Provost and Dean, Undergraduate Education  
Leslie Schiff, Professor of Microbiology and Chair, Council on Liberal Education

SUBJECT: Implementation of the New Liberal Education Requirements

The new requirements for liberal education, approved by the Faculty Senate on April 3, will go into place for students entering the university in fall, 2010. At the end of summer term, 2010, all current certifications for liberal education will expire. This communication will provide an initial overview of the process for implementing these new requirements.

The Council on Liberal Education has attempted to provide significantly greater clarity about its intent in each of the new Core and Theme requirements, so that those who are proposing or reviewing courses have surer ground on which to base their development and assessment efforts. The new requirements are clearer and more rigorous, and place greater emphasis on helping students understand why we have liberal education and explicitly what educational benefits these requirements provide.

Like the current requirements, the new requirements have a matrix structure, with seven Core areas (Arts and Humanities, Biological Sciences, Historical Perspectives, Literature, Mathematical Thinking, Physical Sciences, and Social Sciences) and five Theme areas (Civic Life and Ethics, Diversity and Social Justice in the United States, the Environment, Global Perspectives, and Technology and Society). Technology and Society is a new Theme requirement; a reduction of one course in the core (from two social science courses to one), means that we will continue to have twelve distinct requirements.

Course Certification

The current “soft” moratorium on proposal of new LE courses is officially lifted as of May 1, 2008. Since the Council will not meet over the summer, courses submitted during the summer will be held for review in the fall. Any course submitted on or after May 1 must meet the new guidelines; courses that were submitted with permission under the soft moratorium (before May 1) using the old guidelines must be resubmitted and reviewed again under the new guidelines before January, 2010.

In order to make the review process more manageable for college curriculum committees and for the Council on Liberal Education, we have developed a submission schedule that will help review committees focus on a more limited range of topics. We ask that courses be submitted according to the following schedule; each broad subject area will have three possible submission

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1 The full text of “ Renewing Our Commitment to Liberal Education,” the report of the Council on Liberal Education, can be found at [https://www.myu.umn.edu/public/cle.html](https://www.myu.umn.edu/public/cle.html). A summary document comparing the old and new requirements is available at the same URL.
dates, with courses submitted according to their proposed Core area (for Core courses only, or Core plus Theme), or by their proposed Theme area (for Theme-only courses):

<table>
<thead>
<tr>
<th>Core only or Core+Theme submitted by Core topic; Theme only submitted by Theme topic</th>
<th>Round 1 Submission Date</th>
<th>Round 2 Submission Date</th>
<th>Round 3 Submission Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core</strong> courses in Mathematical Thinking, Biological Sciences, Physical Sciences (with or without any theme); <strong>Theme only</strong> courses in Environment, Technology and Society</td>
<td>October, 2008</td>
<td>February, 2009</td>
<td>October, 2009</td>
</tr>
<tr>
<td><strong>Core</strong> courses in Historical Perspectives, Social Sciences (with or without any theme); <strong>Theme only</strong> courses in Global Perspectives, Diversity and Social Justice in the U.S.</td>
<td>November, 2008</td>
<td>March, 2009</td>
<td>November, 2009</td>
</tr>
<tr>
<td><strong>Core</strong> courses in Arts and Humanities, Literature (with or without any theme); <strong>Theme only</strong> courses in Civic Life and Ethics</td>
<td>December, 2008</td>
<td>April, 2009</td>
<td>December, 2009</td>
</tr>
</tbody>
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Courses may be submitted for review throughout the month during any of the three rounds noted above; courses submitted after the month indicated will be held for the next round of review. A final round of review in spring 2010 will be limited to resubmissions of courses formerly submitted and returned for revision. All course proposals initially submitted by December 2009 will be reviewed and acted on before spring 2010 registration and summer orientation and registration. During the review, course capacity in each requirement will be closely monitored to assure sufficient available seats to allow students to meet requirements.

Important points to remember when developing courses under the new criteria:

- Core courses must help students understand what liberal education is, how the content and the substance of this course enhance a liberal education, and what this means for them as students and as citizens.
- Core courses must employ teaching and learning strategies that engage students with doing the work of the field, not just reading about it.
- A course may be approved to meet one core or one theme or both a core and a theme. In the latter case, the theme must be fully and meaningfully integrated into the course (the old standard of “one-third of the course” will no longer be sufficient).
- Courses will no longer be approved to meet two themes; although the course subject matter may touch on more than one theme, proposers must choose the theme for which they request certification.
- Courses may continue to be submitted for both LE and WI designation, though the WI review will now be handled by the Campus Writing Board. Reviews by both bodies will be coordinated as much as possible to assure timely responses.
- We will continue the current policy that courses in the Physical and Biological Science Cores must be four credits each because of the lab requirements; courses in all other Cores and Themes must be at least three credits.
Both the old and the new requirements for the Core stated that Core courses should be taught by regular faculty. The Council remains convinced that because liberal education is central to the teaching mission of the University it should be largely carried out by tenured and tenure-track faculty. Exceptions may be made in extraordinary circumstances.

The Council endorses another current LE provision requiring that core courses include “small group experiences.” The Council does not define the nature or size of these groups; labs or discussion sections might be examples, but so would project work groups, online discussions, group presentations, or other kinds of learning. The goal is to support active and engaged learning rather than passive acceptance of information.

The Council’s expectation is that, as much as possible, Core courses will not have prerequisites. (The same is not true for Theme courses.) The reason for this is simple: in most cases, the prerequisite course(s) will have already met the Core requirement. For example, there might be a number of excellent computer science courses that would meet the Mathematical Thinking requirement, but most of those courses require completion of another math course (calculus or college algebra) that would already have met the requirement.

Student Issues

As was the case when the current liberal education requirements went into effect, and again when the University converted from quarters to semesters, students will be accommodated as generously as possible during the change to new requirements. Students who matriculated at the University before fall 2010 will be under the old requirements; courses certified under the new requirements will be applicable to the old requirements for these students. Students may switch to the new requirements if they wish; this change will need to be noted as an exception on the student’s APAS report. Appeals will continue to be handled as at present. Transfer students will continue to be accommodated as at present; the Minnesota Transfer Curriculum will still meet all but the new Technology and Society Theme, which can be completed after students transfer to the Twin Cities campus. Some Advanced Placement (AP) courses will probably continue to meet liberal education requirements. The Council will review AP courses in relation to the new liberal education requirements in fall 2008.

Next Steps

Within the next month, colleges will receive more explicit information on proposing courses under the new CLE guidelines. During fall semester, the Council will also develop guidelines for the proposed “liberal education minor” designation, and for the pilot program (to be offered through the University Honors Program) that will allow students to individualize their liberal education requirements.

If you have questions about the guidelines or about the implementation process, please contact Laurel Carroll at l-carr@umn.edu or Linda Ellinger at ellin001@umn.edu. They will be able to answer your question, or will direct it to the Council for a response.