
College of Letters and Science Curriculum Committee
Report to L&S Faculty Senate
Academic Year 2011-2012

Curriculum Committee Members and Chair

Sigurd Angenent (Mathematics)	Jan Miernowski (French & Italian)
Marc Fink (Music)	Rebekah Pare (International Studies)
Diane C. Gooding (Psychology), <i>Chair</i>	Sean Teuton (English)
John Hawks (Anthropology)	
Clark Landis (Chemistry)	<i>Student:</i>
Bret Larget (Botany and Statistics)	Devon Miller

Ex Officio members:

Joni Brown (Assistant to the Associate Dean of Undergraduate Education & Academic Administration)
Kimbrin Cornelius (Curriculum Specialist Administrator, L&S Admin, Feb 2012- present)
Jennifer Kaufmann-Buhler (L&S Honors Program)
John Klatt (Curriculum Specialist Administrator, L&S Admin, through Oct 2011)
Elaine M. Klein (Assistant Dean, Academic Planning, Program Review & Assessment)
Christopher F. Lee (Assistant Dean, L&S Student Academic Affairs)
Michael J. Pflieger (Assistant Dean, L&S Student Academic Affairs)
Nancy Westphal-Johnson (Senior Associate Dean for Administration & Undergraduate Education)

Overview

The L&S Curriculum Committee (LSCC) advises the Dean on the curricular integrity of academic programs offered in the College of Letters and Science, from degree requirements affecting all L&S undergraduates, to changes to requirements for existing majors, certificates, and options. The committee reviews proposals to add, change, or delete courses from the L&S subject listings, after departmental approval and prior to final approval by the Divisional Executive Committees. To maintain the integrity of the undergraduate Liberal Arts curriculum, the committee also considers requests to allow courses offered outside the college to count toward L&S undergraduate degree requirements by awarding them the designation of "Liberal Arts and Science" courses. This work is described in greater detail online, at <https://kb.wisc.edu/lsc/page.php?id=20092>. At the Dean's request, the committee considers other issues related to undergraduate education for purposes of advising him, the faculty and L&S departments and programs, and the L&S division of Student Academic Affairs.

Proposals to Add, Change, or Delete courses

The LSCC is responsible for college level review of proposals to add, change, or delete courses managed by L&S departments and programs. Proposals approved by department faculty are forwarded for approval by the college-level Curriculum Committee, which has faculty representatives from all L&S divisions, as well as advisors. Action on course proposals may only be taken if a faculty quorum is present.

A review is conducted to evaluate whether the courses conform to technical requirements (e.g., valid course number, etc.) as well as the pedagogical goals of the College. New course proposals are carefully reviewed in terms of their syllabi, course goals, and possible overlap/opportunities for crosslisting with existing courses. The LSCC chair and staff review all proposals to determine if they are ready for committee consideration, and committee members review all proposals online prior to the meeting. On any of these levels, questions may be asked of the faculty and units submitting the proposals; the committee chair and L&S staff work with departments to resolve questions that come up before proposals are submitted to the Divisional Executive Committee. During the 2011-2012 academic year, the LSCC approved proposals to create 71 new courses, change 91 existing courses, and delete 4 courses. On a related note, the LSCC serves as the Executive Committee for Interdisciplinary subject listings. The Committee approved proposals for courses whose ownership was transferred into a traditional subject listing (e.g. Department). An example of this would be the course that was formerly entitled L&S Interdisciplinary 200, Introduction to LGBT Studies, and is now titled Sociology 200.

Other course related issues:

Phase-out of “T” designation. When the current L&S curriculum was adopted in 2007 (BABS07), it was also determined the “T” course designation would be discontinued in 2012, because it was only used in the older curriculum. Under those older requirements, L&S undergraduates could count up to 20 credits of “T” courses toward an L&S degree, and the rest were required to be Liberal Arts and Science (designated with a “C”) courses. Per BABS07, L&S undergraduates must earn at least 108 credits of Liberal Arts and Science courses, and may count up to 12 credits of “undesigned” UW-Madison courses among the minimum 120 credits required for graduation.

Departments offering courses with “T” designations were contacted when this change was approved and BABS07 was implemented. When the “T” designation faced retirement in 2012, these departments were contacted again, were provided with the “Criteria for Liberal Arts and Science Courses”, informed of the process for obtaining a “C” designation, and were invited to submit their courses for review. In March, 2012, the “T” designation was removed from 448 courses. In light of the fact that only “C” courses can carry L&S Breadth and Level designations, some of these courses had those designations removed, as well. Students under the 1971 degree requirements should be minimally affected: if a course was designated as a “T” when the student was enrolled, it will continue to meet requirements. If these students take courses that formerly carried a T designation, deans retain the discretion to count that course as though the designation still appeared. L&S communicated with the Registrar’s Office and Undergraduate Catalog to ensure information about the designations is accurate in their materials. (The catalog webpage regarding these designations can be found here: http://pubs.wisc.edu/ug/ls_degrees_allmajors.htm)

Liberal Arts and Science (LAS) Designation. In response to the phase-out of T course designations, the LSCC considered a higher than normal number of requests from non L&S programs to consider whether their courses met College criteria for Liberal Arts and Science courses (see <https://kb.wisc.edu/ls/page.php?id=20092>). Fifty-eight courses were considered for LAS designation, with forty-three approved, thirteen denied, and two tabled until more information can be provided.

Transition to online course proposals: The Office of the Secretary of Faculty transitioned to an online course proposal process; L&S faculty and staff have participated in feedback and training. Proposals that were submitted which had not yet been approved were accommodated under the older system for a brief period; all proposals submitted to the process now use the new online course proposal system.

Proposals to Change Requirements for Academic Programs

The LSCC guidelines regarding changes to requirements for academic programs continue to remain in effect (see <https://kb.wisc.edu/ls/page.php?id=20013>). Since the last LSCC report, several departments and programs sought changes to their academic programs; these appear in this report as **Attachment A**. The Committee and L&S Administration staff continue to work with departments to articulate the connections between requests for curricular changes and efforts to assess student learning in academic programs, to link changes to evidence, and to demonstrate more clearly that learning is improving. As part of the approval process, implementation dates are established and plans are developed to ensure that students on the “old” programs are still able to complete those requirement or that they may be transitioned to the new requirements without adversely affecting their progress.

Assessment of Student Learning

As can be seen from the section above, LSCC processes help to ensure that L&S departments and programs obtain information about student learning in L&S academic programs, and that this information is used for program improvement. These responsibilities (which are shared with the L&S Academic Planning Council) include the L&S baccalaureate degree programs.

College Learning Outcomes and Assessment Plan

Although there are ongoing evaluations of student learning on the faculty, departmental, and program levels, there has not been a college-wide evaluation of students’ learning in several years. Dean Sandefur requested that the

LSCC propose a college-wide means of assessing undergraduates' progress and success in terms of meeting their liberal arts and science requirements and the learning outcomes commensurate with a liberal education. The L&S Assessment Plan includes five college-wide learning outcomes, in accordance with the Essential Learning Outcomes articulated in *The Wisconsin Experience*. A draft was finalized by November 2011, and approved by the Academic Planning Council in December 2011. The College Learning Outcome and Assessment Plan appears in this report as **Attachment B**; it is available at <https://kb.wisc.edu/lis/page.php?id=25259>.

Assessment Pilot Project: In Summer 2012, a pilot project was undertaken to help guide the Committee's efforts to assess student learning in the undergraduate degree requirements. L&S Academic Information Management (a section within L&S Student Academic Affairs) will use Degree Audit data to gather information regarding undergraduate L&S students' course taking patterns across various L&S breadth areas. The goal is to better understand the range of "breadth" courses students are taking in subjects beyond the "depth" acquired in the major. The LSCC plans to use the understanding gleaned from knowing how students are meeting their breadth requirements to develop a work plan for evaluating student learning with respect to "breadth". Through a competitive funding allocation process, the University Assessment Council has awarded L&S a modest grant to support this assessment project.

Elaboration of Breadth Descriptions

Breadth descriptions: The current description of "breadth" that appears in the *Undergraduate Catalog* includes some general information about the role breadth of study plays in a liberal education. The Committee, in reviewing so many requests for LAS credit, determined that this language could be expanded upon. Revised descriptions were drafted; these offer more detail than the descriptions that currently appear in the catalog. Given the diversity of L&S courses, topics, and pedagogical styles, the descriptions of the breadth designations are articulated in flexible language designed to accommodate various approaches. "Breadth" plays an important role in the L&S curriculum; as such, the Committee felt it useful to elaborate upon the descriptions in order to communicate more clearly with students, faculty, and advising staff regarding the learning goals for courses that meet those requirements. The elaboration of the breadth designations is intended to provide further definition and guidance as the LSCC implements our planned assessment of the extent to which L&S students are achieving those learning outcomes.

The breadth descriptions are in final draft form (see attached, **Appendix C**). They will likely be approved in Fall 2012 for inclusion in the *Undergraduate Catalog*.

Other Curricular Issues

L&S Associate Degree Transfer Policy: The LSCC approved a transfer policy change to align with the new university transfer policy. This new Board of Regents approved policy, effective Fall 2012, grants transfer students "General Education Breadth" automatically if they have an Associate's Degree (AAS) from a UWC institution. Requirements beyond General Education Breadth are determined on a course-by-course analysis of students' transcripts. (The previous L&S policy was to give full L&S required breadth to those students). The LSCC also approved implementation suggestions: 1.) That students matriculating to UWC and completing their AAS prior to the policy change be accommodated under the older policy, 2.) That students matriculating to UWC after Fall 2011 and completed their AAS after Fall 2012 be held to the new policy; and that 3.) Students that matriculated in Fall 2011 and graduated with an AAS in Spring 2012 should be considered on a case-by-case basis. The link to the document that describes the policy can be found at: <https://kb.wisc.edu/lis/page.php?id=21133>.

Variable Credit Issues: Policies regarding expectation of instructional time per credit for variable credit courses were clarified, with Divisional Committee and Graduate School assistance, to ensure that credits align with the Federal definition for credit hours. Any proposals for variable credit course must now clearly articulate the instructional time for each of the credit variations that may be offered.

"Independent Learning" Courses Offered Through the Division of Continuing Studies: The L&S Curriculum Committee identified several concerns regarding L&S undergraduates who enroll in Independent Learning courses

through the Division of Continuing Studies/UW Extension: the semesters are not aligned with the general UW-Madison schedule; the relationship between these courses with UW-Madison courses bearing the same numbers and titles is unclear; whether or not the credits will transfer for UW-Madison students and if so, how the transfer credits will appear on their transcripts is unclear; and uncertainty whether the courses will satisfy various requirements. Staff from DCS Independent Learning, DCS, and L&S met with members of the LSCC in December 2011 to discuss these concerns. The DCS will confer with the L&SCC in 2012-13 about appropriate oversight for these courses.

Individual Major: The L&S Curriculum Committee suggested reconstituting a college-wide Individual Major Committee to confirm the process for students to declare and satisfy the Individual Major. Professor Larget will chair a committee that will make recommendations about how best to constitute the Individual Major Committee.

Directed Study: At the Dean's request, the Committee reviewed college policy regarding Directed Study. The committee discussed pedagogical goals for these courses and the aspiration that each student enrolled in a directed study should receive a high quality educational experience that involves substantive engagement with an instructor. Related issues regarding why students might find the need to enroll in a directed study at different points in a semester were also acknowledged. The LSCC's recommendation policy regarding the maximum number of students a faculty member may supervise under Directed Study courses, and the appropriate amount of work and instructional time that should be included per credit was circulated to L&S departments during the Spring. This updated policy is also available via the L&S Gateway (<https://kb.wisc.edu/ls/page.php?id=20133>).

This report was approved by the L&S Curriculum Committee on October 23, 2012.

Presented by:

Diane C. Gooding, Professor of Psychology and Chair, L&S Curriculum Committee, 2011-2012

Attachment A: Changes to Academic Programs

Revisions approved for the undergraduate majors since the last LSCC Report in:

- Environmental Studies Certificate (April, 2011): Following the Regent's approval of a new Environmental Studies major, reduced number of credits in certificate from 26 to 15. The redesigned certificate may serve either as a building block for the major or for other students to gain introductory environmental knowledge.
- Honors in the major Zoology (December, 2011): Added flexibility to the program by decreasing the number of individual required courses, and created a course array from which students may select those of most interest.
- Spanish
 - Spanish Major (February 2012): Approved substantial changes that eliminated a two track system (linguistics or literature), and introduced requirements intended to establish a balance among language practice, cultural study, literature, and linguistics, while also allowing students flexibility to concentrate in one of these areas.
 - Honors in the major Spanish (April 2012): Restructured honors requirements to decrease the number of honors credits required and give the option of completing graduate level courses in lieu of the Senior Honors Thesis sequence. These changes increase accessibility to entering the major or honors later, and also gives students more course options for meeting the requirements.
- Medical Microbiology and Immunology (March, 2012): Approved a change to eliminate a 2 cr. laboratory experience requirement that the department could no longer feasibly offer. With the revision the program continues to expose students to multiple laboratory experiences while increasing students' ability to graduate in a timely manner.

Revisions were approved for undergraduate certificates since the last LSCC Report in:

- Spanish Certificate for Business Majors (April 2011): Changed the number of required credits from 16 to 15 credits. This aligns with the Spanish program changes of changing all 3-4 variable credit courses to only 3 credits; students may now still take 5 courses and meet the requirements.
- Global Cultures Certificate (September, 2011): Approval of changes to adjust the residency requirement, clarify the language regarding number of credits completed at the intermediate or advanced level, and include a minimum grade point average for course to meet certificate requirements.
- TESOL certificate (September 2011): Reduced the required grade point average from 3.25 to 3.0 to align with other certificates, and added a course to the list that may meet requirements.
- Jewish Studies Certificate (January, 2012): Approved course revisions that reflect the changes in course array and the discipline, and aligns courses required with courses offered. Also approved of a number of new Topics Courses with various course designations, which will allow students to take advantage of special courses offered and receive the appropriate designations.
- ILS certificate (March, 2012): Requirements for the ILS were revised to include up to 6 credits of FIG (First Year Interest) courses towards the certificate, as FIG courses also support integrative learning experiences.
- Criminal Justice Certificate (May 2012): Approved updated requirements intended to develop a broader and deeper foundation, and updated courses offering in each group of courses (a number were no longer being offered or their content had change significantly).

Revisions were approved for graduate programs, PhD Minors or graduate certificates in:

- Gender and Women's Studies PhD Minor (February 28): Approved changes to clarify allowable course overlap between PhD Minors (only one course), and to clarify what level of courses may count for the requirements.
- Economics, MS (April, 2011) Approved a reduction in credits from 24 to 18 credits, to better align with the course requirements with the PhD program.
- Sociology MS (December, 2011): Approved a proposal to create a non-thesis track in the existing Sociology MS program, to give more options for program completion.
- REECAS

- PhD Minor and graduate certificate (January, 2012): The requested changes reduce the number of credits and better align with other graduate programs, with the goal of improving completion rates.
- MA (May 2012): Reduced the number of credits required for the program from 27 to 22 credits which would allow students to complete the program within three academic semesters, or 12 months, in an intensive, streamlined way.
- History MA (April, 2012): Approved revisions to promote timely completion of the MA milestone in the PhD program, including changing the thesis requirement to a research paper, increasing the number of research seminars, and introducing a requirement for an MA review by the end of students' fourth semester.

Revisions submitted in 2011-12 but no action taken in that period:

- Revisions to the Art History undergraduate program are still under consideration, and will receive a final review in early Fall, 2012.

Attachement B: UW-Madison College of Letters and Science Assessment Plan

Revised per LSCC discussion November 22, 2011

Endorsed by L&S APC December 6, 2011

Overview: An Introduction to Assessment of Student Learning in L&S

The College of Letters and Science (L&S) is UW-Madison's largest unit, consisting of 40 departments, 10 non-departmental instructional programs, 5 professional schools, and about 60 interdisciplinary research centers. The work of the college is essential to UW-Madison's instructional mission, with L&S conferring more than half (60%) of all UW-Madison undergraduate degrees, and 45% of graduate degrees. L&S contributes extensively to the instructional missions of other schools and colleges, teaching about 89% of all UW-Madison Freshman/Sophomore credits delivered across all units. Well over half of all living UW-Madison alumni hold L&S degrees. In order to help our students graduate and become alumni, the college operates the largest and most complex academic affairs unit in the university, providing services ranging from general academic advising, to policy analysis and implementation of the L&S baccalaureate degree requirements, to enrichment programs serving the range of students from "at-risk" to "honors". In short, the breadth of the university is reflected in the breadth of the College, which is "the heart of a great university".

Assessment of student learning is an important tool for informing the decisions we make. In L&S, this task is guided by the following principles:

- Many "ordinary" processes of academic life are evaluative. When approached systematically, from an analytical "big picture" perspective, these activities can serve as important ongoing forms of assessment.
- Academic assessment supplements but does not replace curricular, departmental, and other types of ongoing review for improvement.
- Our programs have a wide array of learning objectives; therefore, L&S does not have a "one-plan-fits-all" assessment approach.
- Departments and programs are central to academic assessment: faculty and staff develop and implement plans that align learning goals with their departmental missions, using tools appropriate to their available human, financial, and technical resources; and results are used to achieve or expand upon improvement.
- Non-academic and student service units play an important role in supporting student learning; they can also help us evaluate our students' integrative, practical, and other critical thinking skills.
- Faculty ownership and participation in assessment activities is essential.

Audiences Concerned With Student Learning. Assessment results are reported to various audiences and serve a variety of purposes.

Within the unit, assessment information is shared with program faculty and staff to inform decision-making. Academic units share results with the departmental curriculum and executive committees; student service units report results to directors, advisers, and others to improve services. Decisions influenced by assessment results may involve requests to change existing program requirements, development of proposals to create new programs, or preparation of communications with external audiences in alumni newsletters and community partners. The assessment of student learning is a form of action research that engages teachers interested in the scholarship of teaching and learning, and this work is frequently pursued as research in its own right, often the most immediate beneficiaries are students, colleagues, and departments.

When units want to implement program changes, the L&S Curriculum Committee reviews requests that arise from assessment activities, since careful study of whether the program is working – and if students are learning – will often identify problems that need to be addressed (and potential solutions). If departmental inquiries suggest that new programs could be developed, the L&S Academic Planning Council will review requests as part of that process, which requires submission of assessment results. New programs must include assessment plans before they are approved.

Units also compile assessment results when preparing department-wide self-studies for program and accreditation reviews. Taking a "long view" of assessment results offers insights into patterns of student interest, academic quality, resource allocation, student satisfaction, and the overall student experience.

Finally, students are an increasingly important audience for assessment information. They participate not only as subjects whose learning attainment is evaluated, but also as beneficiaries of efforts to improve the quality of education. They are subjects *and partners* in this effort.

At the college-level, assessment results are used for decision making (as noted above, when the Curriculum Committee and Academic Planning Council consider curricular changes). They are also included in reports of major committees and service units in periodic and annual reports to the dean, and these, in turn, serve as the foundation for the Dean's annual reports to the Provost on assessment and program review. These reports include both academic and non-academic assessment activities conducted by departments and service units across the college, and they are shared with other units (e.g. Undergraduate Academic Services) and bodies (e.g. the Academic Planning Council, Department Chairs).

Student Learning in L&S

College-Wide

1. **Learning Goals.** The College of Letters and Science promotes a liberal arts education via research, inquiry, and conscious integration of learning across the liberal arts and sciences; in L&S, “the Wisconsin Experience” is grounded in liberal education. At a minimum, we expect that L&S students will recognize and value the various “ways of knowing” the world through the arts and humanities, and the biological, physical and social sciences, as described in *Catalog* and other materials (see http://pubs.wisc.edu/ug/ls_ugstudy.htm#breadth). Beyond this minimum, we believe that, through in-class education and experiences beyond the walls of the traditional classroom students should:
 - Develop a level of proficiency in the different “ways of knowing” the world through the arts and humanities, and the biological, physical and social sciences, which will be reflected in an ability to communicate across the disciplinary boundaries, so as to interpret and investigate the complex world in which they live;
 - Integrate knowledge across disciplines in order to bring novel perspectives to challenging social and technological problems;
 - Communicate effectively, so they may share their knowledge, wisdom, and values with others across social and professional settings;
 - Understand their own learning processes and possess the capacity to intentionally a) seek and evaluate information, b) recognize and reduce bias in their thinking, and c) build new knowledge for application in their personal and professional lives.
 - Construct a worldview in which they accept the responsibility for civic engagement and appreciate the need to live lives of purpose and meaning.

2. **Plan for Assessing Student Learning.** An annual assessment project to evaluate student learning with respect to one or more of the learning goals stated above could be conducted. The tools used for this purpose will include a variety of activities, with projects dedicated to answering questions that have college-wide implications for students. For example, the committee may decide to:
 - Periodically re-administer the survey on “breadth” that was developed while evaluating the 1971 curriculum;
 - Evaluate samples of student projects from a range of interdisciplinary capstone courses;
 - Monitor and assess L&S student participation in relevant “showcases” of student achievement, such as the Undergraduate Research Symposium;
 - Monitor awards/honors relevant to these goals;
 - Analyze student enrollment patterns, with particular attention to how undergraduates meet breadth requirements outside their major division;
 - Investigate issues concerning students who do not satisfy requirements or meet performance expectations, with an eye toward addressing systemic issues in the curriculum;
 - Obtain and analyze L&S student responses to the National Survey of Student Engagement (NSSE) and graduating senior surveys;

- Organize focus group sessions with relevant students, faculty & advisors.

Detailed planning for assessment will be conducted by the L&S Curriculum Committee, which will develop multi-year project plan, to be implemented in Fall 2012. Projects will be designed to make effective use of limited resources, using pilot studies and sampling strategies to manage the large scale of studies required in L&S.

- 3. Reporting.** The L&S Curriculum Committee could report results of assessment activities to the L&S Senate. That report could also be shared with the L&S Chairs and Directors, L&S Student Academic Affairs, and advisors in various units across the College. The Chair of the Curriculum Committee could share additional information with the L&S Academic Planning Council and others groups on an *ad hoc* basis. Recommendations arising from assessment results could be discussed by the L&S Curriculum Committee and presented to the bodies empowered to enact/approve the change (usually, the Dean, the L&S Senate, and/or the Academic Planning Council).

Unit-Level

Major-specific Learning Goals. As noted above, each department and program is responsible for assessing undergraduate and graduate education. Each is required to have a statement of educational objectives for each degree program it sponsors. Assessment plans are expected to include the following characteristics:

For undergraduate majors:

- Learning outcomes for the major, as they relate to the field as well and to the overall context of a liberal arts education.
- A plan whereby these outcomes are evaluated, using instruments appropriate to the stated objectives and departmental resources available.
- A process for reviewing results and recommending changes based on them, where appropriate.
- Periodic program reviews conducted by the College in which assessment results are used to examine and monitor program quality.

For graduate programs:

- Learning outcomes stated for the program, appropriate to graduate-level education.
- A plan for evaluating the extent to which these educational outcomes are achieved, often by leveraging the traditional mechanisms for evaluating graduate progress and mastery of the subject.
- Processes whereby department and program committees use these measures to monitor success and suggest changes in the graduate program.
- Periodic program reviews conducted by the College in collaboration with the Graduate school examine and monitor program quality.

Student Service and Academic Support Units. Assessment plans for these units should include the following characteristics:

- Defined, student-centered, outcomes for the program, as they relate to the impact the unit expects to have on student success.
- A plan whereby these outcomes are evaluated, using instruments appropriate to the stated objectives and resources available.
- A process for reviewing results and recommending changes based on them, where appropriate.
- Periodic reviews in which assessment results are used to examine and monitor program quality.

This document has been endorsed by the College of Letters and Science Curriculum Committee and the Letters and Science Academic Planning Council.

Gary Sandefur, Dean
Diane Gooding, Chair (2011-12), Professor of Psychology
Elaine M. Klein, Assistant Dean, L&S Academic Planning

Attachment C: Breadth Designations

Undergraduate Catalogue (http://pubs.wisc.edu/ug/lis_ugstudy.htm#breadth)

Breadth: Ways of Knowing

At the heart of any degree in the liberal arts and sciences is an active understanding of the variety and breadth of the many scholarly approaches to knowing the world. Every student in the College of Letters and Science experiences significant exposure to three principal fields of knowledge: the arts and humanities, the social sciences, and the natural sciences. These broad fields of knowledge are not the same as the areas of depth that we call "majors." In fact, any particular major—or even a particular course within a major—might well involve more than one of these fields of knowledge. (For example, imagine a seminar on "people and the environment" that combines historical background, research on social patterns of energy use, and scientific understandings of climate.) Working together, each of these three fields of knowledge represents a particular "way of knowing" about the world around us.

Courses in the **arts and humanities** attempt to know the world through the production and analysis of artistic, literary, and scholarly work. Some courses examine the fine and performing arts, or literature, presenting students with opportunities to interpret and think critically about these creative expressions of the human condition. Other courses help students to understand and compare religious and philosophical conceptions of humankind. Still other courses take on historical subjects, focusing on moments of change and periods of continuity for the peoples and regions of the world. These courses all encourage students to analyze the range of creative and cultural artifacts, expressions, and ideas of human existence—history, literature, art, culture, folklore—and to use that information to better understand humanity and to cultivate civic and social responsibility.

Courses in the **social sciences** demonstrate ways of knowing the world through the systematic study of human society, interactions, and institutions. The social sciences explore these issues from a wide range of perspectives and research techniques, both quantitative and qualitative. Through these courses students learn how to formulate research questions and determine what techniques are best used to answer those questions—for example, exploring ideas and developing theories, conducting surveys and building models, or observing and participating in social life itself. Developing such analytical skills assists students as they approach complex problems and seek to solve them in both the workplace and the community.

Courses in the **natural sciences** involve knowing the world through scientific inquiry—assembling objective information that can be used to explain observed natural phenomena in a way that is thorough and verifiable. The natural sciences are often divided into the **physical sciences** (dealing with matter and energy, or the study of the earth, atmosphere, and oceans) and the **biological sciences** (dealing with life and living systems, like plants, animals, and environments). The natural sciences also include computational sciences (like Mathematics, Statistics, and Computer Sciences), which deal with the systematic use of mathematical abstraction, logical reasoning, and analysis to problems in the biological, physical, and other sciences. Natural science courses often contain laboratory components that allow students to gain firsthand experience in scientific research methods. By completing this requirement, science and non-science majors alike will gain an appreciation for science as a way of systematically looking at the natural world, understanding how this process can be used to inform decision-making in a wide range of political, economic, and social contexts.

Together, these broad "ways of knowing" give students a complementary set of tools for seeing, imagining, and asking questions about the world—tools that enhance creative problem solving no matter what the field. And, because twenty-first-century knowledge is not neatly compartmentalized, it is worth noting that these areas of study intersect and overlap; courses in some areas draw upon strategies used in the others. Experiences in "breadth" courses can be life-changing: we frequently hear that a course taken to fulfill a breadth requirement introduced someone to a subject that became a new major, a new way of looking at a current major, or a lifelong interest.

For more on the breadth designation for courses, see the [section on breadth](#) in the L&S section of this catalog.

Guidance regarding BREADTH DESIGNATIONS

Courses with breadth designation indicate to students that the course meets [university breadth requirements](#) as well as the additional [L&S breadth requirements](#). A course may be eligible for breadth if it has broad content in one of the breadth categories described below and satisfies criteria described under *at least one* of the Three Habits of the Mind (see attached document). To request a breadth designation for a course, a course change proposal must be submitted for L&S Curriculum Committee review, with a brief statement explaining why the breadth designation is appropriate. A course may only have one breadth designation, and the most appropriate may be requested from the following list:

B—Biological Science

H—Humanities

L—Literature

N—Natural Science. *Satisfies the Natural Science requirement but not the Biological or Physical Science requirement.*

P—Physical Science

S—Social Science

W—Either Social Science or Natural Science*

X—Either Humanities or Natural Science*

Y—Either Biological Science or Social Science*

Z—Either Humanities or Social Science*

PURPOSE: The goal of the descriptions below is to provide guidance and assist faculty and staff in determining whether a given course might be eligible for breadth designation in Liberal Arts and Science. This document is not intended to be prescriptive in terms of learning objectives, but rather, it is meant to convey the values and goals that are consistent with a Liberal Arts and Science perspective.

*Please note that the four interdivisional breadth designations are reserved for those rare courses that will always meet *both* types of breadth represented, such that a student may appropriately be awarded credit for having completed either requirement.

THE ARTS & HUMANITIES (Breadth designations H, L, or X)

Courses in the Arts and Humanities all share the pursuit of understanding and communicating the exploration of the human experience, and the meaning of historical and social phenomena, whether through creative expression, reflection, or interpretation. Students are required to take a Literature courses (L) as part of their Humanities requirement. Courses with L designation may meet literature requirements or the broader Humanities breadth requirements.

Ideally, after completing an Arts & Humanities course, a student should be able to:

- Comprehend, and employ various approaches to interpreting and, expressing cultural artifacts such as works of art, literature, music, architecture, philosophy, film, etc.
- demonstrate knowledge of major movements, trends, or events in the development of world culture
- demonstrate an appreciation of the complexities of the interpretative process within a historical context
- Apply critical approaches to the “texts”/works and alternative ways of considering them
- think critically about their own cultures and the larger global community

SOCIAL SCIENCES (Breadth Designations S, W, Y, or Z)

Courses in the Social Science discipline all rely upon methods of data collection (either qualitative or quantitative), data analysis, or data interpretation that characterize their factual, methodological, institutional, and theoretical inquiry into the systematic study of humans/groups and institutions/society.

Ideally, after completing a Social Science course, a student should be able to:

- think critically about various units of analysis, as appropriate (i.e., the individual, group, culture, society)
- think critically about their own cultures and the larger global community
- demonstrate knowledge of one or more methodologies
- demonstrate knowledge of one or more theoretical approaches

- synthesize and apply social science concepts
- view issues from multiple perspectives

NATURAL SCIENCES

Courses in the Natural Sciences are characterized by the systematic study of the natural and physical world, and with the use of abstraction and logical reasoning. These courses typically involve a laboratory component. As part of their overall Natural Sciences requirements, students are required to take both Biological and Physical Sciences (areas and designations described below). Courses that do not fit into those two categories, such as Computer Science, Mathematics, and Statistics, may have N, W, or Y designations.

PHYSICAL SCIENCES (Breadth designation P)

Courses in the Physical Sciences involve the systematic study of objective information about the physical world, broadly defined, and include areas of study such as Astronomy, Biology, Chemistry, Physics, Materials Science, and Earth Science (atmospheric science, oceanography). Students are required to take Physical Science credits as part of their Natural Sciences requirement. Courses with this designation may meet Physical Science requirements or the broader Natural Science breadth requirements.

Ideally, after completing a Physical Science course, a student should be able to:

- demonstrate knowledge of scientific concepts and assumptions
- analyze and interpret scientific evidence
- demonstrate knowledge of the scientific method
- demonstrate understanding of scientific reasoning, and determine when scientific information supports a given conclusion.
- think critically about the impact of scientific discovery on society

BIOLOGICAL SCIENCES (Breadth designations B or Y)

Courses in the Biological Sciences all deal with the systematic study of the structure, function, growth, origin, evolution, distribution, and taxonomy of living organisms. Students are required to take Biological Science credits as part of their Natural Sciences requirement. Courses with this designation may meet Biological Science requirements or the broader Natural Science breadth requirements.

Ideally, after completing a Biological Science course, a student should be able to:

- demonstrate knowledge of scientific concepts and assumptions
- analyze and interpret scientific evidence
- demonstrate knowledge of the scientific method
- demonstrate understanding of scientific reasoning
- think critically about the potential implication(s) of a scientific finding