

2018/19

June 2019

Dearborn Discovery Core Evaluation & Recommendations to Faculty Senate



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Section 1: Executive Summary

This report is the result of nearly a year's work from the Dearborn Discovery Core (DDC) Subcommittee and its nine evaluation groups, involving more than forty faculty from all four colleges. The intent of the evaluation process was to assess how the DDC program has been operating since its inception in 2015 and determine whether any needed changes should be made. During the evaluation process, faculty consulted a wide-range of data and information, including the DDC Course Assessment Summary Reports, DDC Category Summary Reports, DDC Learning Outcomes data, DDC Survey results (faculty, student, and alumni), general education benchmarking matrix, examples of student work (for upper-level writing and capstone), and other relevant information and documents.

In keeping with its task, the DDC Subcommittee proposes that the Faculty Senate adopt the following changes to the Dearborn Discovery Core that will improve the assessment process, streamline components of the DDC, more effectively align the DDC to the goals of the 2013 General Education Task Force report, and provide undergraduate students with a broad-based liberal education.

- **Policy addition:** A course can count for up to **two** Dearborn Discovery Core categories plus a major/minor requirement (reduced from the current policy of three DDC categories plus a major/minor requirement).
- **Eliminate the Critical & Creative Thinking category**
- **Subdivide the Intersections category.** Split the Intersections category into two sub-categories: A) Intercultural Debates and B) Interdisciplinary Debates, and require students to take one course from each sub-category.
- **Institute Social & Behavioral Analysis category policy:** A student can take a maximum of two out of three courses from the same discipline.
- **Endorse Upper Level Writing Intensive supports:** endorse smaller course enrollment caps and enhanced supports for professional development, led by experts in the writing field.
- **Substantially revise learning outcomes:** Intersections, Natural Sciences, Upper Level Writing Intensive categories.

- **Minimally revise learning outcomes:** Capstone Experience, Humanities & the Arts, Quantitative Thinking & Problem Solving, Social & Behavioral Analysis, Written & Oral Communication categories.
- **Change title of Written & Oral Communication category:** New title proposed as Writing & Communication.
- **Implement new assessment system:** The new approach to DDC assessment will feature a restructured collection cycle to balance faculty responsibilities, streamlined reporting form and rubrics to aid in completing the assessments, and shorter feedback loop that allows for faculty review and discussions.

Section 2: Evaluation Method & Process

At the inception of the UM-Dearborn's campus-wide general education system in 2015, the Faculty Senate developed a five-year evaluation cycle to ensure the opportunity to assess the overall DDC program and recommend strategies that will improve the general education experience for students. As a University, we strive to promote change and improvements backed by data-informed decisions, and the DDC evaluation process is a crucial component of building an effective and quality general education curriculum.

The history of the creation of the Dearborn Discovery Core and links to the 2013 General Education Task Force report and Implementation report can be found on this webpage: <https://umdearborn.edu/faculty-staff/academic-program-and-course-development/dearborn-discovery-core-general-education/dearborn-discovery-core-history-and-development>

In the DDC's five-year assessment cycle, the first three years (2015-2018) saw data collection from courses in the nine DDC categories, the fourth year (2018-2019) consisted of an evaluation of evidence, and the fifth year is intended as an implementation of any changes. This DDC Subcommittee report is the culmination of the first four years of the DDC assessment cycle and contains recommendations to the Faculty Senate for revisions to the program. The recommendations are based on consideration of numerous pieces of evidence, not only by the members of the DDC Subcommittee but also by faculty members who served on the nine DDC category committees that convened in Fall 2018.

The nine DDC category committees were comprised of faculty members who have taught and assessed courses in the respective categories. Most of the category committees had members from multiple colleges. (A complete membership list can be found in the appendix.) The category committees examined the following evidence:

1. Course assessment reports
2. DDC assessment data, aggregated
3. DDC Faculty Opinion Survey results
4. DDC Student Opinion Survey results
5. DDC Alumni Opinion Survey results
6. Samples of student work (Upper Level Writing and Capstone categories only)
7. DDC enrollment data (for some categories)
8. UM-Dearborn's National Survey of Student Engagement (NSSE) results
9. Benchmarking research on General Education systems at Michigan public universities
10. Association of American Colleges & Universities research on general education

A further explanation of the DDC Evaluation process and links to much of the evidence listed above can be found on this webpage:

<https://umdearborn.edu/faculty-staff/academic-program-and-course-development/dearborn-discovery-core-general-education/ddc-evaluation-process>

Each category committee wrote a report that analyzed the pertinent evidence and made recommendations for improvements to the respective category and in some cases to the DDC as a whole. The committees submitted their reports to the DDC Subcommittee in early February 2019. The DDC Subcommittee is grateful for all of the careful work conducted by these category committees, which was an integral part of the DDC evaluation process.

To gather additional feedback with which to inform the evaluation process, the DDC Subcommittee held a faculty forum in January 2019. Additionally, the chair of the DDC Subcommittee, Pam Pennock, along with Jessica Blumerick held focus groups with academic advisors and students to gain more information about the operations of the DDC. Between February and May 2019 the DDC Subcommittee met several times to deliberate over the category reports and the evidence listed above, as well as a reexamination of the 2013 General Education Task Force report. At these meetings, the faculty members on the DDC Subcommittee consulted academic advisors from all four colleges.

The DDC Subcommittee accepted many of the recommendations of the category committees, but did not adopt all of them. It is important to keep in mind that the mission of the category committees was to examine the specific category whereas the DDC Subcommittee was considering the big picture of the DDC as a whole. While the Subcommittee is recommending a few major changes to the DDC to the Faculty Senate, most of the changes are of a minor nature. In all, the Subcommittee's recommendations leave most of the current structure and purpose of the DDC intact.

Section 3: Proposed Policy Change

Requirements Policy

Recommendation: A course can count for up to **two** DDC categories plus a major/minor requirement (reduced from the current policy allowing a course to count for up to **three** DDC categories plus a major/minor requirement).

Rationale: The Subcommittee's recommendation to reduce the number of requirements for which a single course can count from four (three DDC + one major/minor) to three (two DDC + one major/minor) is intended to address two main concerns:

1. That allowing a course to count for so many requirements serves to narrow the range of courses taken by our students. The current policy potentially reduces the breadth of curricular experiences to which students are exposed and diminishes the intent of the Dearborn Discovery Core to be a general education that "serves as a means of discovery for students, provides a foundation for learning, and connects to potential new areas of interest." (Language from the DDC webpage.)
2. The Subcommittee found - after having reviewed numerous DDC applications and assessment reports -- that instructors often have difficulty fully achieving and assessing more than two sets of DDC category learning outcomes along with the major learning outcomes.

These concerns have been raised by faculty who responded to the DDC Faculty Opinion Survey, by a few of the DDC category committees, and by faculty on the DDC Subcommittee.

Based on the Subcommittee's benchmarking research, when compared to general education systems at other Michigan public four-year universities, the DDC is unusually generous in allowing courses to count for multiple categories and to count for a major/minor requirement. Most universities do not allow much double (or triple or quadruple) counting because of a widespread philosophy undergirding general education that propels undergraduate students to broaden their experiences and aptitudes by taking courses outside of their major and from a variety of disciplines. Reducing the number of requirements that a course can count toward will bring UM-Dearborn more in line with higher education general education systems, while still preserving the benefits of double-counting.

The Subcommittee's review of the data found that such a policy change is unlikely to have a drastic or harmful effect on students and academic programs. Currently, only 30 courses out of approximately 450 DDC courses have been approved for three DDC categories, and all but 8 of those 30 courses include Critical & Creative Thinking as one of the three categories. Thus, if the Critical & Creative Thinking category is eliminated (as recommended), this policy change would only affect 8 DDC courses that would have to drop from three categories to two categories.

Section 4: Proposed Changes to Categories

1. Critical & Creative Thinking

Recommendation: Eliminate the Critical & Creative Thinking category of the DDC.

Rationale: Although the Critical & Creative Thinking category committee recommended keeping the category and revising its learning outcomes, the Subcommittee is responding to a view expressed by some faculty in the DDC Faculty Opinion Survey that critical and creative thinking is infused in a majority of courses throughout the campus, and especially in other DDC category courses, thus making a separate Critical & Creative Thinking category unnecessary.

After analyzing the learning outcomes of the other eight categories, the Subcommittee identifies multiple ways that critical thinking appears in the DDC. (Consult appendix for an analysis of critical thinking in DDC learning outcomes.) In recommending the elimination of this category, the Subcommittee is not intending to eliminate critical thinking from students' campus experience; rather, the committee is recognizing that critical thinking is infused throughout the other DDC categories so that it does not need to be measured on its own. Removal of the category will reduce the credit burden on students and the assessment responsibility for faculty.

Before making this recommendation, the Subcommittee considered relevant data about Critical & Creative Thinking courses and enrollment. Seventy-five percent of courses that count for the Critical & Creative Thinking category also count for another DDC category. Most non-double counted Critical & Creative Thinking courses are upper-level courses that are required or elective courses necessary for a major, such as BIOL 303 (Comparative Animal Physiology) and ECE 3731 (Microprocessors & Embedded Systems), that students in those majors would be taking anyway. Furthermore, enrollment data reveal that most students fulfill their Critical & Creative Thinking requirement with a lower-level course. Of the 121 Critical & Creative Thinking courses, only 11 of them are lower-level courses that count only for the Critical & Creative Thinking category. (Three of these are CASL First Year Seminar [LIBS] courses that are not offered regularly.)

2. Intersections

Recommendation: Split the Intersections category into two sub-categories: A) Intercultural Debates and B) Interdisciplinary Debates, and require students to take one course from each sub-category.

Current learning outcomes:

Understand plural societies and cultural differences, as well as synthesize multiple sources of information across disciplinary and experiential learning to develop new insights and creative problem-solving approaches.

1. Students are able to describe how ways of knowing and creating knowledge differ across disciplines and cultures.
2. Students are able to demonstrate knowledge, skills, and attributes needed to understand diverse local or global contexts.
3. Students are able to critically evaluate the narratives, values, artifacts, processes, technologies or structures that may create a just and sustainable society.
4. Students are able to creatively integrate theory and practice from across disciplines or from experiences outside of the classroom to address complex questions.

Proposed sub-categories and learning outcomes:

Understand plural societies and cultural differences, as well as synthesize multiple sources of information across disciplinary and experiential learning to develop new insights and creative problem-solving approaches.

A. Intercultural Debates

1. Students are able to demonstrate their knowledge of plural experiences, histories and perspectives across diverse local, national, and/or global communities.
2. Students are able to analyze the ways that perceptions, representations, and experiences are created by differing historical, social, scientific and cultural contexts across diverse local, national, and/or global communities.
3. Students are able to apply their knowledge of diverse local, national, and/or global communities to key issues of the course in order to analyze or engage in strategies to promote a just and sustainable society.

B. Interdisciplinary Debates

1. Students are able to describe how knowledge has been created about the course issue, problem, or theme from the perspective of two or more disciplines.
2. Students are able to integrate diverse knowledges, methods, and modes of thinking from across the disciplines for a more comprehensive understanding of the course issue, problem, or theme.

3. Students are able to apply their interdisciplinary understanding to provide new insights, explanations, and solutions to complex problems.

Rationale: The DDC Subcommittee accepts the Intersections category committee's recommendation to subdivide the category in order to address the concern that the Intersections category, as currently framed, attempts to combine two different teaching priorities (teaching students interdisciplinary ways of seeing, and teaching them comparative, intercultural understanding) in a way that is often unwieldy. After careful examination of evidence from Intersections course applications, syllabi, and assessment reports, the Intersections category committee concluded: "While many courses engaged deeply with one of these [teaching priorities] -- and some with both -- we felt that in some cases engagement with either occurred more as an afterthought."

This finding echoes the DDC Subcommittee's experience of struggling to review Intersections course applications because the current learning outcomes seem to be asking many courses to do too much, i.e. to stretch in ways that are not organic to the courses. In the DDC Faculty Opinion survey as well as in Intersections course assessment reports, some faculty members similarly expressed dissatisfaction with the current Intersections learning outcomes for this reason. Oftentimes, faculty struggle to satisfy all of the learning outcomes as their course may fulfill very well either the intercultural requirements or the interdisciplinary ones (but not both), which forces the DDC Subcommittee members to devalue one aspect of the category over another, if voting to approve such course applications. On the other hand, if such an application is not approved, then the faculty member is often confused and/or frustrated as one of the areas of focus (interdisciplinary or intercultural) was satisfied. Many faculty believe Intersections is a narrower category where their course only needs to satisfy the interdisciplinary or intercultural aspects of the learning outcomes. As a result, the DDC Subcommittee is sometimes seen as too restrictive in evaluating the category.

The Subcommittee agrees with the Intersections committee's position that interdisciplinary and intercultural learning are essential for our students and that incorporating both types of learning was the original goal of the Intersections category as envisioned in the 2013 General Education Task Force report. The risk in maintaining the category as it is now structured is that students can take two Intersections courses that emphasize interdisciplinary learning over intercultural learning (or vice versa), and thereby not gain deep engagement with the other type of learning intended in the category.

Dividing the Intersections category into two sub-categories -- A. Intercultural Debates and B. Interdisciplinary Debates (the titles suggested by the Intersections committee) -- and requiring students to take one course from each sub-category, will ensure that students engage with both types of learning in their DDC curriculum.

Recommendation: Create a "Guiding Statement" for faculty.

Proposed Intersections guiding statement for faculty:

The Intersections category is designed to push students beyond single fields, areas, and populations. Courses are expected to include substantial material from two or more different disciplines or cultural perspectives. The interdisciplinary or intercultural elements are expected to be central areas of focus for the courses, which should be significantly reflected in the graded assignments.

Rationale: The DDC Subcommittee accepts the Intersections committee's view that faculty need more guidance about what types of courses best fit the category. The Intersections committee drafted a "Guiding Statement" for faculty, and the DDC Subcommittee slightly revised it and recommends that it be provided to faculty to help them understand the intentions of the Intersections category and its sub-categories, choose/create appropriate courses to submit, and make a clear case to the DDC Subcommittee.

Recommendation: Re-certify and sort the existing Intersections courses using the following procedure:

- A. The Subcommittee chair and the campus assessment coordinator will review all existing Intersections courses (original applications, recent syllabi, and assessment reports) and sort them into the appropriate subcategory (Intercultural Debates or Interdisciplinary Debates, not both) and notify course faculty of this new subcategory designation.
- B. A course that has been designated for one of the subcategories has the opportunity to apply to be in the other subcategory -- instead of or in addition.
- C. Any existing Intersections courses that the chair and assessment coordinator decide do not fit either subcategory will have to re-submit an application for DDC Intersections: Intercultural or Interdisciplinary (or both).

Rationale: Because the proposed restructuring of the category is significant, the Subcommittee thinks that all of the courses in the category would need to be re-examined and sorted. This would entail a review of the courses' original applications, recent syllabi, and assessment reports. Because there are over 100 Intersections courses, the Subcommittee decided that this review would be too much work for the Subcommittee itself to undertake in a timely manner and therefore proposes that the chair of the Subcommittee along with the campus's assessment coordinator conduct the bulk of the work for the review, in consultation with the Subcommittee.

The Subcommittee anticipates that the vast majority of the courses will fall clearly into one of the two proposed sub-categories. The assigned sub-category will be communicated to the relevant faculty members. Faculty members will have the opportunity to change which sub-category their course is placed in and to have their course included in both categories. The Subcommittee recognizes that a few courses may not demonstrate a strong adherence to either set of sub-category learning outcomes, and in those cases the Subcommittee will ask the course faculty to submit a new application. This recognition is based on the Intersections committee's review of course materials which revealed that, in their view, a few courses (usually approved for the category early on) are not demonstrating either interdisciplinary or intercultural learning in a clear, meaningful way.

3.Social & Behavioral Analysis

Recommendation: A student can take a maximum of two out of three courses from the same discipline.

Rationale: The Social & Behavioral Analysis category committee raised the question of whether students should be required to take their 9 credits for this category in various disciplines. Currently, for example, students majoring in Anthropology could fulfill their Social & Behavioral Analysis category requirements with three Anthropology courses. The DDC Subcommittee shares the category committee's concern that the current way this category operates does not provide enough breadth of learning across disciplines.

Because Social & Behavioral Analysis is the only category that requires nine credits (three courses), it seems reasonable to require students to take their three SBA courses in at least two different disciplines, in order to increase students' exposure to a variety of disciplines in the social and behavioral sciences.

Such a policy would also bring the DDC more in line with many community colleges, which require their students to take courses from different disciplines to fulfill the social and behavioral science area of the Michigan Transfer Agreement.

Recommendation: Revise the learning outcomes.

Current learning outcomes:

Understand the fundamental concepts and theories of a field in the social or behavioral sciences while also learning how those concepts affect human behavior and societal change.

1. Students are able to demonstrate knowledge of the fundamental concepts of a specific discipline in the behavioral or social sciences and the impact of those fundamental concepts on actions, perceptions or values.
2. Students are able to apply disciplinary knowledge in the behavioral or social sciences to contemporary or historical issues.
3. Students are able to demonstrate understanding of the methods, models or theories that produce knowledge in a specific field in the behavioral or social sciences.

Proposed learning outcomes:

Understand the fundamental concepts and theories of a field in the social or behavioral sciences while also learning how those concepts affect human behavior and societal change.

1. Students are able to demonstrate knowledge of the fundamental concepts of a specific discipline in the behavioral or social sciences.

2. Students are able to demonstrate understanding of methods, models, or theories that produce knowledge in a specific field in the behavioral or social sciences.
3. Students are able to apply disciplinary knowledge in the behavioral or social sciences to explain people's actions, perceptions, values, and/or their impact on contemporary or historical issues.

Rationale: The proposed revisions are largely based on the suggestions of the Social & Behavioral Analysis category committee, recommendations which were informed by that committee's review of Social & Behavioral Analysis course assessment reports. Some faculty found the first learning outcome difficult to assess because it contained two aptitudes. Thus, we propose simplifying the first learning outcome by removing part of it and placing that text in the third learning outcome, where it seems to make more sense in terms of applying knowledge. We recommend re-ordering the second and third learning outcomes to follow the hierarchy of Bloom's Taxonomy: first comes knowledge and understanding, next comes application. Finally, in what is now the second learning outcome, we recommend removing the word "the" before "methods, models, or theories" so as not to imply that a student should understand *all* methods in a field.

4. Upper Level Writing Intensive

Recommendation: Set the expectation that Upper Level Writing courses should incorporate students revising their writing based on formative feedback.

Recommendation: Revise the learning outcomes.

Current learning outcomes:

Critically engage with advanced content material by intensively practicing the writing conventions of a particular discipline.

1. Students are able to demonstrate advanced competency by writing for a specific audience and integrating disciplinary ideas and concepts.
2. Students are able to effectively evaluate and use research methods, sources or technology appropriate to the field.
3. Students are able to engage in critical inquiry and thinking to synthesize or create a new rendering or perspective.

Proposed learning outcomes:

Critically engage with advanced content material by intensively practicing the writing conventions of a particular discipline.

1. Students are able to demonstrate advanced competency by writing for a specific audience.
2. Students are able to effectively respond to and incorporate feedback.
3. Students are able to effectively evaluate and use research methods, sources or technology appropriate to the field in their writing.
4. Students are able to demonstrate in their writing critical inquiry and thinking to synthesize disciplinary ideas or create a new work or perspective.

Rationale: The main change that the Subcommittee proposes to the expectations for the Upper Level Writing category is to ensure that courses include a key practice of writing pedagogy, which is to provide students formative feedback and allow them to revise their writing based on the feedback. This expectation is embodied in the proposal of an additional learning outcome, the new second learning outcome. The other proposed revision appears in the fourth learning outcome. The slight change in phrasing is meant to broaden the purposes and types of conclusions students make in different disciplinary writing genres.

Recommendation: Endorse course enrollment caps of 25 students for Upper Level Writing courses.

Rationale: A maximum class size of 25 students for writing intensive courses was recommended in the 2013 General Education Task Force report and is reinforced in the Upper Level Writing category committee's report. The guideline follows best practices for writing

pedagogy in higher education, according to the benchmark research conducted by faculty who wrote both reports. The DDC Subcommittee adds that a smaller class size will better enable faculty to provide feedback on students' writing, as emphasized in the previous recommendation for this category.

The Subcommittee realizes that course cap decisions are under the purview of the units, and that some colleges and departments already ensure a smaller course cap for their writing intensive courses. The Subcommittee urges other colleges and departments to take steps to reduce their enrollment caps for courses in the Upper Level Writing category of the DDC to ensure the kind of rigor and faculty time needed for the intensive writing pedagogy expected in these courses.

Recommendation: Endorse the creation of enhanced supports for Upper Level Writing professional development across the university, led by UM-Dearborn experts in the field.

Rationale: The DDC Subcommittee endorses the recommendation in the Upper Level Writing committee's report for establishing a position and/or center on campus that provides professional development in writing pedagogy for faculty in all units, and that our writing faculty (in the Composition & Rhetoric discipline) should serve as leaders in this endeavor. We note that the recommendation for such a faculty-facing writing center was also part of the 2013 General Education Task Force report which envisioned the need for greater support for faculty teaching writing intensive courses in various disciplines throughout the university. The Subcommittee recognizes that such an initiative will require resources and recommends that the Provost's Office takes the lead in working with all four colleges to design a position or office that serves this purpose and to secure the funding.

5. Capstone Experience

Recommendation: Revise the third learning outcome and the guidelines provided to faculty.

Current learning outcomes:

Engage in a culminating experience in which you apply knowledge to a research or experiential project that requires you to think critically and creatively and communicate your results in research products or reflective writings.

1. Students are able to identify, obtain, research, and describe major issues associated with a specific topic of inquiry.
2. Students are able to identify and discuss critical questions leading to a deeper engagement in the study of a specific topic of inquiry or technology.
3. Students are able to apply knowledge, skills and abilities in the creation and execution of a concrete project informed by a specific topic of inquiry.

Proposed learning outcomes:

Engage in a culminating experience in which you apply knowledge to a research or experiential project that requires you to think critically and creatively and communicate your results in research products or reflective writings.

1. Students are able to identify, obtain, research, and describe major issues associated with a specific topic of inquiry.
2. Students are able to identify and discuss critical questions leading to a deeper engagement in the study of a specific topic of inquiry or technology.
3. Students are able to apply knowledge, skills and abilities in the creation, execution, and reflection on a concrete project or experience informed by a specific topic of inquiry.

Current guidelines for faculty:

To be eligible for the Capstone Experience category, a course should be a culminating experience in the students' curriculum. This may mean that the course has a prerequisite of a lower-level course in the discipline (or a related discipline), the course is restricted to students with junior or senior level standing, or the course in some way requires students to use knowledge and the skills that they have learned previously in that discipline's curriculum. Capstone courses may include a course, independent study, internship, or other kinds of experiential learning in which students complete a serious intellectual project - worth at least 25 percent of the grade - consistent with practices in their own discipline.

Proposed guidelines for faculty:

To be eligible for the Capstone Experience category, a course should be a culminating experience in the students' curriculum. This may mean that the course has a prerequisite of a lower-level course in the discipline (or a related discipline), the course is

restricted to students with junior or senior level standing, or the course in some way requires students to use knowledge and the skills that they have learned previously. Capstone courses may include a course, independent study, internship, or other kinds of experiential learning in which students complete a serious intellectual project worth at least 25 percent of the grade.

Rationale: The proposed revisions are guided by the Capstone Experience committee's concern that the category has been too narrowly focused on upper-level courses in disciplines. For some disciplines that did not have a tradition of capstone courses in their degree curricula, the need to create DDC-Capstone Experience courses and to staff and schedule them has posed some logistical problems and burdens. The Capstone Experience committee thinks that Capstone opportunities outside of upper-level courses in a student's major should be encouraged and increased. In particular, the Capstone Experience committee thinks there should be more emphasis on experiential learning to fulfill the DDC Capstone Experience requirement.

Noting that the Capstone Experience category is already open to internship courses, the DDC Subcommittee proposes minor revisions to the guidelines for faculty as well to the learning outcomes to de-emphasize the disciplinary focus of the category and allow for a greater variety of curricular experiences. The DDC Subcommittee created the guidelines for faculty (technically as an "addendum" to the category) in 2016. In the revised version, the Subcommittee suggests removing "in that discipline's curriculum" from the end of the second sentence, and removing "consistent with practices in their own discipline" from the end of the final sentence. As for the learning outcomes, the Subcommittee recommends revising the third learning outcome to include "reflection" and "or experience" as a way to broaden the type of work that a student can undertake to complete a capstone.

In its report, the Capstone Experience committee discussed the value of portfolios, such as MPortfolios, in fulfilling a student's capstone experience. The DDC Subcommittee agrees but is cognizant that a DDC requirement has to be met in a credit-bearing course. Thus the DDC Subcommittee has asked the campus assessment coordinator to provide disciplines with support and training on incorporating MPortfolios in Capstone Experience courses in order to spread this high-impact practice to disciplines that wish to adopt it.

6. Natural Sciences

Recommendation: Revise the learning outcomes and allow only the lab courses to assess the fifth learning outcome.

Current learning outcomes:

Understand the basic concepts in the physical and natural sciences while also developing the ability to explain the relationship of evidence, assumptions, method, and theory in scientific analysis.

1. Students are able to demonstrate an understanding of the nature of the scientific method including hands-on practice.
2. Students are able to formulate and interpret testable questions that result in qualitative and quantitative data.
3. Students are able to apply unifying theories and laws to natural science disciplines and are able to explain examples.
4. Students are able to demonstrate the ability to interpret and communicate science and apply its relevance.

Proposed learning outcomes:

Understand the basic concepts in the physical and natural sciences while also developing the ability to explain the relationship of evidence, assumptions, method, and theory in scientific analysis.

1. Students are able to demonstrate an understanding of the core concepts and vocabulary relevant to a particular area of the natural sciences.
2. Students are able to use model-based thinking to explain a complex system in a simplified manner.
3. Students are able to formulate questions to guide scientific investigations.
4. Students are able to evaluate scientific explanations or conclusions within the natural sciences.
5. Students are able to create or follow a plan to answer a scientific question, enact the plan by collecting data, and analyze and interpret the data with respect to the question (**lab courses only**).

Rationale: These revisions are largely based upon the Natural Sciences category committee's recommendations, which are intended to make the learning outcomes less repetitive and more clearly defined. The proposed learning outcomes break down the different aspects of the practice and skills of science in a way that is easier for faculty to identify and assess. Furthermore, the Natural Sciences category committee modeled some of the proposed learning outcomes on those designed by professional science education organizations.

Another problem with this category was that non-lab courses often had difficulty assessing all of the learning outcomes, particularly learning outcome two. To address this issue, the

Subcommittee recommends the inclusion of one learning outcome, the fifth, which is only meant for lab courses. The Subcommittee thus agrees with the Natural Science category's recommendation that non-lab DDC-Natural Science courses will address and assess the first four learning outcomes, whereas only the lab courses eligible for DDC-Natural Sciences will address and assess all five of the learning outcomes. (Students will still be required to take at least one lab course to fulfill their DDC-Natural Sciences requirement.)

7.Humanities and the Arts

Recommendation: Revise the category description statement and learning outcomes as follows:

Current learning outcomes:

Learn tools to interpret literature, philosophy, religion, and arts in order to understand and analyze the creative expression of the human condition.

1. Students are able to demonstrate foundational knowledge of the subject area including the use of specialized vocabulary relevant to the area of study.
2. Students are able to demonstrate the ability for close reading of primary sources, whether works of literature, philosophical discourses, works of art, film, music, media studies, and/or digital arts.
3. Students are able to think critically and to demonstrate in writing well-reasoned or argued essays/exercises/papers.
4. Students are able to contextualize selected texts, works of art, music and/or film in relation to their production and reception (may include historical, geographical, cultural and cross-cultural context).

Proposed learning outcomes:

The humanities and the arts can be described as the study of how people process and document the human experience. As humans we use philosophy, literature, religion, art, music, theatre, film, media studies, history and language to understand, record, and analyze our world.

1. Students are able to demonstrate foundational knowledge of a specific subject area in the humanities and arts, including the use of specialized vocabulary. [Slight revision of #1]
2. Students are able to define and analyze the form, structure, and content of selected texts or works of art, either through critical analysis or creative production. [New]
3. Students are able to demonstrate the ability for the close reading, interpretation, and contextualization of primary sources in relation to their production and reception. [Combination of #2 & #4 above]

Rationale: The proposed revisions of the category description statement and learning outcomes are based on the Humanities & Arts category committee's suggestions. The revisions are intended to clarify and simplify the outcomes and eliminate redundancies. They also address concerns expressed in some Humanities & Arts assessment reports.

8. Written and Oral Communication

Recommendation: Change category title to: Writing & Communication.

Rationale: The DDC Subcommittee agrees with the Written & Oral Communication category committee's recommendation to change the category's title, based on the rationale articulated in their report: "We recommend emphasizing the important role of the writing process in courses that teach diverse forms communication. A revised title reflects the attention this category already pays to audience and genre, and the kind of writing that goes into final essays, oral presentations, professional documents, and the many other kinds of texts/rhetorical situations students produce/encounter in these courses."

Recommendation: Revise the learning outcomes, reducing them from four to three.

Current learning outcomes:

Develop the fundamentals of expressing yourself in writing and speaking, including the effective communication of a research-based argument.

1. Students are able to compose, revise, and edit their own writing for clarity and fluency of expression.
2. Students are able to demonstrate how to prepare and adapt written and oral communication to the needs of multiple audiences across professional, academic, and interpersonal contexts.
3. Students are able to demonstrate an understanding of academic integrity and use research skills, including evaluating information, writing from sources, and correctly citing work.
4. Students are able to critically evaluate and use readings and ideas in composing written or oral work.

Proposed learning outcomes:

Develop the fundamentals of expressing yourself in writing and speaking, including the effective communication of a research-based argument.

1. Students are able to compose, revise, edit, and present their own writing for clarity and fluency of expression.
2. Students are able to demonstrate how to prepare and adapt written and oral communication to the needs of multiple audiences across different genres in professional, academic, and interpersonal contexts.
3. Students are able to demonstrate an understanding of academic integrity and use research skills, including critically evaluating information, writing from sources, and accurately citing work.

Rationale: The DDC Subcommittee accepts the revisions to learning outcomes proposed by the Written & Oral Communication category committee because they eliminate redundancies and

provide more clarity about expectations. In further explaining their revisions, the category committee wrote: “In learning outcome one, we include the verb ‘present’ to acknowledge the link between audience, text, and the fact that presenting involves a significant amount of writing. Then, to strengthen interdisciplinary perspectives, we added the word ‘genre’ to learning outcome two. Finally, we combined outcomes three and four because we saw them as essentially asking for similar things – a kind of ‘critical analyses’ and ‘evaluation of sources.’”

9. Quantitative Thinking & Problem Solving

Recommendation: Revise the fourth learning outcome for this category.

Current learning outcomes:

Develop your math, logical reasoning, data analysis, and problem-solving abilities.

1. Students are able to interpret information provided in mathematical form (e.g. with functions, equations, graphs, diagrams, tables, words, geometric figures).
2. Students are able to represent information/data in mathematical form as appropriate (e.g. with functions, equations, graphs, diagrams, tables, words, geometric figures).
3. Students are able to carry out mathematical (e.g. algebraic, geometric, logical statistical) procedures flexibly, accurately, and efficiently to solve problems.
4. Students are able to evaluate the validity of logical or quantitative arguments.

Proposed learning outcomes:

Develop your math, logical reasoning, data analysis, and problem-solving abilities.

1. Students are able to interpret information provided in mathematical form (e.g. with functions, equations, graphs, diagrams, tables, words, geometric figures).
2. Students are able to represent information/data in mathematical form as appropriate (e.g. with functions, equations, graphs, diagrams, tables, words, geometric figures).
3. Students are able to carry out mathematical (e.g. algebraic, geometric, logical statistical) procedures flexibly, accurately, and efficiently to solve problems.
4. Students are able to accurately employ logical or quantitative reasoning (e.g. analyzing evidence, detecting fallacies, drawing a valid conclusion) and to explain their reasoning.

Rationale: The revision to the fourth learning outcome is based on the Quantitative Thinking & Problem Solving category committee's recommendation to require students to be able to use forms of logical thinking and analysis in order to both solve problems and to test/support claims. They thought the current phrasing puts too much emphasis on only deciding the validity of an argument, leaving out other equally important concerns. The proposed phrasing is intended to be less rigid in categorizing the types of skills that the committee would like to see the students possess. Furthermore, it allows faculty to consider assessing slightly different skills without requiring future changes to the wording of the outcome itself.

Section 5: Assessment

Recommendation: Adopt the following assessment schedule and review process:

	Fall	Winter	Summer (June)
Year 1	Collect WC, CAP	Collect WC, CAP	--
		Review Fall data	Review Winter data
Year 2	Collect SBA, NS	Collect SBA, NS	--
	DDC Sessions for WC, CAP	Review Fall data	Review Winter data
Year 3	Collect INT, HA	Collect INT, HA	--
	DDC Sessions for SBA, NS	Review Fall data	Review Winter data
Year 4	Collect ULW, QTPS	Collect ULW, QTPS	--
	DDC Sessions for INT, HA	Review Fall data	Review Winter data
Year 5	DDC Sessions for ULW, QTPS	Faculty Development Series	--
Year 6	DDC Program Review: Subcommittee Review & Course Evaluation		

Features:

- Courses targeted for assessment collection
 - Group A (top enrolled, multi-sectioned courses; Quantitative):
 - Assignments (in Canvas, optimally) with attached rubrics
 - Group B (remaining courses; Qualitative):
 - Reflection on learning goals as a whole in course, discuss student learning and teaching strategies overall
- Develop new, streamlined assessment reporting forms and assessment rubrics
- Review of data:
 - Conducted annually by Assessment Subcommittee + 2 faculty representatives from the assessed categories

- Review of data for the Capstone and Upper-Level Writing categories will occur within the disciplines
- DDC Sessions:
 - Co-led by Assessment Subcommittee and the Hub for Teaching & Learning
 - Review and discussion series of the past academic year's assessment data. Topics could include: What data suggest about student learning and growth, changes in teaching strategies to improve learning, instructional and curriculum design.

Rationale: This assessment plan, designed by Jessica Blumerick and endorsed by the Assessment Subcommittee of UCDC, takes into account the feedback provided by the DDC category committees as well as by individual faculty members on their course assessment reports and the DDC Faculty Opinion Survey.

The proposed new assessment process provides for a faster review of data and closing-the-loop period for individual categories, streamlined collection and reporting formats, and dedicated times for instructors in categories to come together to discuss assessment, teaching, and learning in their courses. As in the earlier DDC assessment cycle, assessment reports from different categories are collected in different years, but in this plan the schedule of when various categories are collected has been reorganized to reduce the possibility that courses would submit reports for multiple categories at once.

Group A and Group B courses: We propose splitting courses into two groups for assessment data collection. Group A courses will consist of the highest-enrolled courses for DDC. Analysis of enrollment data reveals that in most DDC categories, such as Social & Behavioral Analysis, a majority of students are selecting only a few of the eligible courses (such as PSYC 101 and ANTH 101) to fulfill their DDC requirements. Faculty teaching these courses will be asked to submit quantitative data by using rubrics attached to key assignments in Canvas. Focusing on areas with the highest concentration of students taking the particular course for the DDC attribute being assessed gives us the opportunity to improve the quality of assessment data gathered and measured through developing consistent and valid measures in rubrics and between courses.

Remaining courses will be considered part of Group B, and their assessment will focus on qualitative evidence. Faculty teaching these courses will be asked to submit a brief reflection on how the course went for the semester in relation to the DDC category's learning outcomes. This new reporting form will be more streamlined than previous forms, and be more accessible in general.

The Assessment Subcommittee will develop the collection processes in consultation with the Office of Institutional Research to determine Group A courses. The Subcommittee will also consult with the Hub for Teaching and Learning to develop rubrics and consider assignments.

Data and information gathered from both groups of courses will be used to guide the DDC Sessions the year following assessment collection from each category.

DDC sessions: After each year of assessment collection, faculty who teach courses in the categories are invited to convene to discuss the results. These sessions are intended to address the preference expressed in several of the DDC category committee reports for greater communication among DDC faculty and for “brown bag” style discussions informed by the assessment results. Because most Capstone and Upper-Level Writing courses are discipline-specific and usually embedded within majors, the Subcommittee suggests that the assessment review of these categories should occur within disciplines and align closely with program assessment.

In addition to overseeing this campus-wide DDC assessment plan, Jessica Blumerick intends to undertake a few assessment initiatives guided by recommendations from DDC category committees. One initiative involves assisting disciplines in devising and coordinating assessment methods for their DDC courses, especially for multi-section courses taught by multiple faculty and LEOs. Another initiative is a project to assess writing skills of incoming transfer students.

Section 6: DDC Subcommittee Structure & Process

As part of the evaluation process, the DDC Subcommittee also considered possible changes to the structure and process of the Subcommittee. Although it did not make any firm decisions or recommendations, the Subcommittee would like to share some of the ideas that were discussed.

Membership:

- Most members suggested lengthening the term to serve from two years to three years in order to take into account the learning curve for new on-boarding members and to provide more consistency in decision-making.
- One member brought up the idea of making membership an elected position rather than appointed, but the other committee members disagreed.

Course Applications:

- Most members think that faculty submitting DDC course applications should include examples of the assessed assignments along with the syllabus and the application form. The members stated they often struggle to understand how a course addresses the DDC category's learning outcomes if they do not have the pertinent assignments to review.
- The members also suggested the development of a better application form, rather than the clunky PDF form that is in current use. Jessica Blumerick is already working on a new electronic application form.

Section 7: Next Steps

Although the general education program may need a more substantial overhaul in the future, the Subcommittee thinks the changes recommended will improve the program's operations, clarify intentions both for students and faculty, and bring the DDC closer in line with the 2013 General Education Task Force report. Furthermore, it is important to emphasize that the recommendations put forth by the Subcommittee have emanated from an evaluation process that involved substantial faculty, staff, and student input and that was informed by research and data.

We recognize there is still work to be done, and in particular the Subcommittee believes that we need to continue to explore ideas for providing students with strategies for selecting and making meaning out of their DDC courses. We also need to continue developing appropriate courses for many of the DDC categories as well as use enrollment data in an effort to achieve more optimal accessibility of courses and probably right-size some of the categories.

If the Faculty Senate approves any of the major changes recommended in the report -- namely 1) the policy change to count a course for no more than two categories, 2) the subdivision of the Intersections category, 3) the removal of the Critical & Creative Thinking category, and 4) requiring Social & Behavioral Analysis courses in at least two disciplines -- then we envision these changes going into effect for FTIAC students entering the university in Fall 2020 and transfer students entering the university in Fall 2021. Students who started at UM-Dearborn before those dates would continue to follow the current DDC requirements.

Many of the other changes recommended in the report, such as the changes to learning outcomes in most of the categories, can be implemented as early as Winter 2020. The implementation would require concerted and intentional communication from the DDC Subcommittee to faculty in all units. Courses already approved for the categories would not have to resubmit applications, although they would be expected to assess the revised learning outcomes in the next assessment cycle, which would begin in Fall 2020. Courses submitting new applications for these DDC categories would address the revised learning outcomes, probably beginning in Winter 2020.

Section 8: Appendices

Appendix A. Membership of DDC Evaluation Category Committees (*denotes chair)

Written and Oral Communication

*Mike MacDonald (CASL)
P.F. Potvin (CASL)
Nick Iannarino (CASL)

Quantitative Thinking and Problem Solving

*Mahesh Agarwal (CASL)
Montaha Macany (CASL)
Benjamin Phillips (CASL)
Keshav Pokhrel (CASL)

Critical and Creative Thinking

*Michael Rosano (CASL)
Mesut Duran (CEHHS)
Maureen Linker (CASL)
Hafiz Malik (CECS)

Social and Behavioral Analysis

*Nancy Wrobel (CASL)
Lara Rusch (CASL)
Paul Fossum (CEHHS)
Aaron Ahuvia (COB)

Humanities and the Arts

*Danielle DeFauw (CEHHS)
Jim Gilmore (CASL)
Anna Muller (CASL)
Caitlin Finlayson (CASL)

Natural Sciences

*Katherine LaCommare (CASL)
Kris Bandyopadhyay (CASL)
Claudia Walters (CASL)
William Clarkson (CASL)

Upper-Level Writing Intensive

*Liz Rohan (CASL)
Armen Zakarian (CECS)

Intersections

*LaShorage Shaffer (CEHHS)
John Chenoweth (CASL)
Nilay Chakraborty (CECS)
Elif Izberg-Bilgin (COB)

Capstone Experience

*Troy Murphy (CASL)
Julie Roddy (CASL)
Diana Smrt (COB)

Appendix B. Critical Thinking in Proposed DDC Category Learning Outcomes

Writing & Communication

Develop the fundamentals of expressing yourself in writing and speaking, including the effective communication of a research-based argument.

1. Students are able to compose, revise, edit, and present their own writing for clarity and fluency of expression.
2. Students are able to demonstrate how to prepare and adapt written and oral communication to the needs of multiple audiences across different genres in professional, academic, and interpersonal contexts.
3. Students are able to demonstrate an understanding of academic integrity and use research skills, including critically evaluating information, writing from sources, and accurately citing work.

Quantitative Thinking and Problem Solving

Develop your math, logical reasoning, data analysis, and problem-solving abilities.

1. Students are able to interpret information provided in mathematical form (e.g. with functions, equations, graphs, diagrams, tables, words, geometric figures).
2. Students are able to represent information/data in mathematical form as appropriate (e.g. with functions, equations, graphs, diagrams, tables, words, geometric figures).
3. Students are able to carry out mathematical (e.g. algebraic, geometric, logical statistical) procedures flexibly, accurately, and efficiently to solve problems.
4. Students are able to accurately employ logical or quantitative reasoning (e.g. analyzing evidence, detecting fallacies, drawing a valid conclusion) and to explain their reasoning.

Natural Sciences

Understand the basic concepts in the physical and natural sciences while also developing the ability to explain the relationship of evidence, assumptions, method, and theory in scientific analysis.

1. Students are able to demonstrate an understanding of the core concepts and vocabulary relevant to a particular area of the natural sciences.
2. Students are able to use model-based thinking to explain a complex system in a simplified manner.
3. Students are able to formulate questions to guide scientific investigations.
4. Students are able to evaluate scientific explanations or conclusions within the natural sciences.
5. Students are able to create or follow a plan to answer a scientific question, enact the plan by collecting data, and analyze and interpret the data with respect to the question (lab courses only).

Humanities and the Arts

The humanities and the arts can be described as the study of how people process and document the human experience. As humans we use philosophy, literature, religion, art, music, theatre, film, media studies, history and language to understand, record, and analyze our world.

1. Students are able to demonstrate foundational knowledge of a specific subject area in the humanities and arts, including the use of specialized vocabulary.
2. Students are able to define and analyze the form, structure, and content of selected texts or works of art, either through critical analysis or creative production.
3. Students are able to demonstrate the ability for the close reading, interpretation, and contextualization of primary sources in relation to their production and reception.

Social & Behavioral Analysis

Understand the fundamental concepts and theories of a field in the social or behavioral sciences while also learning how those concepts affect human behavior and societal change.

1. Students are able to demonstrate knowledge of the fundamental concepts of a specific discipline in the behavioral or social sciences.
2. Students are able to demonstrate understanding of methods, models, or theories that produce knowledge in a specific field in the behavioral or social sciences.
3. Students are able to apply disciplinary knowledge in the behavioral or social sciences to explain people's actions, perceptions, values, and/or their impact on contemporary or historical issues.

Intersections

Understand plural societies and cultural differences, as well as synthesize multiple sources of information across disciplinary and experiential learning to develop new insights and creative problem-solving approaches.

A. Intercultural Debates

1. Students are able to demonstrate their knowledge of plural experiences, histories and perspectives across diverse local, national, and/or global communities.
2. Students are able to analyze the ways that perceptions, representations, and experiences are created by differing historical, social, scientific and cultural contexts across diverse local, national, and/or global communities.
3. Students are able to apply their knowledge of diverse local, national, and/or global communities to key issues of the course in order to analyze or engage in strategies to promote a just and sustainable society.

B. Interdisciplinary Debates

1. Students are able to describe how knowledge has been created about the course issue, problem, or theme from the perspective of two or more disciplines.

2. Students are able to integrate diverse knowledges, methods, and modes of thinking from across the disciplines for a more comprehensive understanding of the course issue, problem, or theme.
3. Students are able to apply their interdisciplinary understanding to provide new insights, explanations, and solutions to complex problems.

Upper-Level Writing Intensive

Critically engage with advanced content material by intensively practicing the writing conventions of a particular discipline.

1. Students are able to demonstrate advanced competency by writing for a specific audience.
2. Students are able to effectively respond to and incorporate feedback.
3. Students are able to effectively evaluate and use research methods, sources or technology appropriate to the field in their writing.
4. Students are able to demonstrate in their writing critical inquiry and thinking to synthesize disciplinary ideas or create a new work or perspective.

Capstone Experience

Engage in a culminating experience in which you apply knowledge to a research or experiential project that requires you to think critically and creatively and communicate your results in research products or reflective writings.

1. Students are able to identify, obtain, research, and describe major issues associated with a specific topic of inquiry.
2. Students are able to identify and discuss critical questions leading to a deeper engagement in the study of a specific topic of inquiry or technology.
3. Students are able to apply knowledge, skills and abilities in the creation, execution, and reflection on a concrete project or experience informed by a specific topic of inquiry .