Assessment of Student Learning at Heartland Community College

Assessment Committee

www.heartland.edu/ac

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Defining Assessment

Assessment involves the collection and analysis of data, numerical or otherwise, to make inferences about student learning, teaching, curriculum, programs, and more. Assessment is often part of an ongoing process that involves decision-making and feedback – both for the student and the instructor. The data from an assessment can be used to make an evaluation. Assessment of learning includes evaluations that may lead to decisions that are designed to improve student learning, instruction, curriculum, customer service, etc.
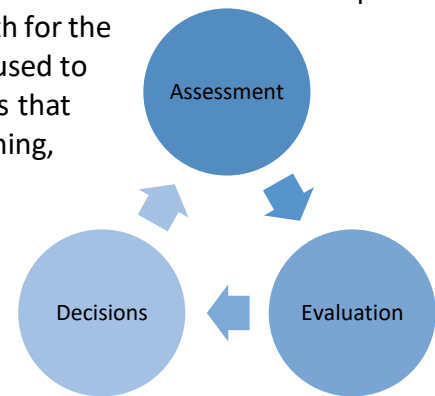
In the classroom, assessment generally involves gathering information about teaching and learning. Assessment can occur before, during or after a formal meeting time. Assessment allows instructors to measure student achievement and evaluate the effectiveness of their teaching methods. Assessment can and should be both formative and summative in the classroom. **Formative** assessments are typically "low stakes" assessments that are built into the learning process, and may or may not be associated with points or grades. Formative assessments are typically used to provide feedback to students regarding areas that need further improvements, about their levels of understanding or skill sets so that they can better address learning needs and are more related to assessment as learning. The most common type of formative assessment involves using a Classroom Assessment Technique (CAT) suggested by Cross and Angelo. For example, many faculty members choose to use the one-minute paper, a quiz, a worksheet, or a background knowledge probe to provide feedback before administering a summative assessment. **Summative** assessments are those that examine student work at a specific time after learning has been completed (i.e., at the end of a unit, at midterm, at the end of a course or at the end of a program). Examples of summative assessment include a test, a research paper, a performance, a project, a presentation or a portfolio of work.

Purpose of Assessment

There are essentially three main purposes for assessment. First, assessment is a requirement for accreditation. For us, accreditation is determined by the North Central Association (NCA) and the Higher Learning Commission (HLC). At the state level, the Illinois Community College Board (ICCB) expects member institutions to demonstrate student learning through an assessment plan. Assessment plans that have been implemented provide the evidence of student learning that accreditors, legislators, and taxpayers are demanding from educational institutions.

Second, assessment is a learning-centered endeavor. Assessment methods can provide the means to improve the learning experience. The goal of faculty should be to help learners be more effective and efficient in the learning process. In the past, some faculty assumed learning was taking place because they were *teaching*. A standard for many teachers was to give four exams - one roughly every four

weeks in a sixteen week semester - and nothing else. Unless students asked questions, the assumption was made that the students were learning. Then, when an exam was given, those teachers were often surprised by a lack of student performance. Faculty are now much more in tune with what their students are or are not comprehending during the learning process and can adjust their instructional methods before assessing the product of student work. Using an ongoing process of assessment and reflection, many faculty have adopted a variety of teaching strategies (i.e., Universal Design for Learning, active learning techniques, discussions, project based assessment, service learning, authentic assessments, etc.) to better address the diverse learning needs of their students. In this way, assessment can be used to improve the quality of the learning in our courses.

A third reason to assess is the valuable information it provides to the faculty about their instructional practices. Data generated from classroom assessment can lead to valuable insight for instructors about their instructional practices. Assessment is a valuable tool to determine why students are struggling with course material. When faculty know what is successful in the classroom, they can build on what works in class and continually modify their instruction to provide better learning opportunities for students. This makes assessment a formative tool for instructors as well, by giving them valuable data to better plan instruction, implement ideas for instruction, and be better informed to respond in a variety of ways to student learning needs.

Assessment is an ongoing and integrated method to help ensure quality of instruction on the institutional and instructor levels as well as to support student learning.

Assessing Student Learning

Exactly what instructors assess depends on the course being taught. In most courses, there is likely a certain amount of factual information that is important for students to learn. But knowledge of facts isn't the only goal we have for students. All courses at Heartland have a Master Syllabus that contains a list of learning goals, which we refer to as learning outcomes. The learning outcomes detail the cognitive and behavioral skills associated with the course content that students are expected to achieve in order to pass the course. These skills are based on a variety of learning verbs (Bloom's Taxonomy) to support and engage students toward enduring understanding and to support transfer of learning and better understanding.

Types of Learning Outcomes

Course learning outcomes are the specific learning goals for a course. The course learning outcomes are created by the course developer, often in collaboration with other instructors who teach the same course. In some courses, established criteria from a certification or accreditation body outside the college strongly influences the choices in the learning outcomes. The course learning outcomes represent the minimum learning goals for the course that must be assessed by all instructors teaching the course. Instructors have the freedom to assess additional skills and knowledge that are not included in the course outcomes.

Program level outcomes are not used in all areas across campus. Program level outcomes are typically found in Allied Health and Career and Technical Education (CTE) courses and represent broad outcomes that are unique and specific to learning outcomes within a program. These program level outcomes may be influenced by external certification or accreditation bodies. Program level outcomes are typically addressed over multiple courses and are typically broader than course level learning outcomes.

Heartland has outlined a set of ***Essential Competencies (ECs)***, formally known as General Education Outcomes at the college. Heartland's Essential Competencies are tied directly to its Strategic Plan through College-wide Priorities and Goals in relation to promoting students access and success - the goal states "Increase student achievement of the College's Essential Competencies".

While once considered important broad learning outcomes for General Education courses, they were renamed in 2014 to reflect the importance of the competencies across the entire curriculum. In 2018, the original twenty outcomes were reduced down to five, broad Essential Competencies that represent important skills that all students should learn and demonstrate upon completing their plan of study at HCC.

While the level of assessment varies within particular contexts, students should not simply be exposed to these ECs but should be assessed on them through a more formal process, including course work and co-curricular activities - representing a more holistic picture of student learning across campus. They are categorized as follows: Communication, Problem Solving/Critical Thinking, Diversity, Ethics/Social Responsibility and Technology.

The ECs represent the College's attempt to answer the following questions:

- What do we want our learners to be able to do?
- In what contexts will we teach them how to do these things?

HCC considers the ECs as the five essential thinking and communication skills expected of all students. They represent the skills and qualities that employers are seeking in graduates and the skills and qualities that help students function in their everyday lives. While not all students completing coursework at HCC will go on to earn an Associate's Degree, HCC recognizes its obligation to ensure that students are being exposed to and assessed on these competencies in all of their courses. In order to ensure broad exposure to the ECs, these five competencies are mapped to course and program level outcomes as appropriate.

In continuing to support a culture of assessment at Heartland Community College, review of assessment practices is part of the College's continuous improvement process and has been ongoing since its inception. Assessment processes continue to not only include a variety of faculty, staff and administrators but the College is also dedicated to providing a variety of professional development and training opportunities, streamlining processes for collecting and understanding assessment data as well as to better communicate these important aspects related to student learning and success to the campus as a whole.

Learning Outcomes for Every Course

HCC's course-embedded approach to assessment begins with the design of each course. All courses have a Master Syllabus which identifies the learning outcomes to be achieved and the range of assessment methods that may be used in sections of that course. For example, the table below is a portion of the learning outcomes from a biology course. Column one lists the course outcomes, column 2 lists the Essential Competencies (ECs) related to the course outcomes, and column 3 lists any means to assess the outcomes. Since this course does not have program outcomes, this is not included in the chart below.

Learning Outcomes

Course Outcomes	Essential Competencies	Range of Assessment Methods
Predict outcomes of physiological parameters when controlled conditions are changed.	PS/CT	Throughout the semester, the following assessment methods will be used to measure the course and Gen Ed learning outcomes: Case studies, exams, experiments, journal article reports, quizzes, concept maps, simulations
Analyze and summarize two journal articles written for health professionals.	CO	
Apply problem solving skills in predicting probable diagnoses based on symptoms and signs through such activities as case studies and laboratory exercises.	PS/CT	

CO (Communication): Students communicate effectively.
PS/CT (Problem Solving/Critical Thinking): Students think critically to solve problems or explore issues.

In collaboration with other biology instructors, the ECs in the biology course objectives were chosen by the course developer because they represent the skills and thinking qualities expected of students. The ECs are linked directly to course outcomes that are conducive to the qualities of those ECs. Per HCC's Assessment Committee provisions, every master course syllabi is required to have at least two (2) Essential Competencies that are tied to course outcomes. Direct links between each course outcomes and an associated ECs are conducted every five years through a Program Review process (which includes reviews by Assessment Committee members) and through course revisions regularly reviewed by the Curriculum and Academic Standards Committee. It should be noted that the link between the course outcome and the EC are to assist instructors in seeing the relationship between the two, but instructors

have the freedom to assess the ECs in the context of any course material or course learning outcome that fits well with their instructional practices.

A student's final grade in the course should reflect, in part, the degree to which the learning outcomes were achieved.

Following is a list of some items that are examines when syllabi are submitted for review:

- Course outcomes that are tied to at least two (2) Essential Competencies (ECs)
- Key words used in the learning outcomes should reflect the level expected of the learner.
- Learning outcomes should be stated in a manner that describes what the student will do.
- Learning outcomes should be stated in a manner that makes them measurable.
- The syllabus should include a *means to assess* the outcomes. This should be a three column table, or alternative format, that shows each learning outcome, each applicable EC, and how each will be assessed.

Role of the Assessment Committee

The Assessment Committee (AC) is committed to improving student learning and instruction by communicating the importance of assessment as well as to disseminate information related to the provision of resources, guidance, training, and feedback to faculty, administrators, and coordinators regarding learning outcomes and assessment practices for courses, programs, and the essential competencies – for both curricular and co-curricular areas. The AC disseminates information related to assessment and also, in collaboration with other campus entities, facilitates the thoughtful reflection of assessment practices as related to student learning. The AC works closely with the Curriculum and Academic Standards (CAS) committee on syllabus and program review processes. At times, the AC also works closely with the college's Promotion Evaluation and Review Team (PERT) in developing processes for faculty to reflect on their methods of assessment as a means of growth throughout their careers. Members of the AC are faculty and administrators representing all academic divisions, as well as Academic Affairs, Enrollment and Student Support Services, and Adult Education.

The Assessment Committee (AC) dedicates much of its time to examining learning outcomes as well as the means to assess those outcomes. The learning outcomes represent the minimum sets of skills or abilities that a student must demonstrate to successfully complete the course. A variety of methods including Classroom Assessment Techniques (CATs), projects, portfolios, core test items (using a variety of types of question types), papers, presentations, demonstrations, and rubrics are then used by faculty to see how well students demonstrate mastery of the course learning outcomes.

In conclusion, the AC hopes to ensure that a new or revised course addresses the assessment issues in the course by having clearly stated learning outcomes and assessment expectations in the Master Syllabus. Having such an assessment plan in writing helps to ensure that all faculty are aware of the assessment requirements for all courses.

Key Elements in Understanding Assessment at HCC

Many assessment projects are aligned with the Higher Learning Commission which serves as HCC's guide to accreditation.

Cornerstone Project

Beginning with what were deemed the "Cornerstone" courses in our General Education Program (those with the highest enrollment), the Cornerstone Project was an intensive course revision process with the aim of linking course learning outcomes to Essential Competencies (Critical Thinking, Problem Solving, Communication, and Diversity) and developing meaningful assessments for those Program outcomes. The project coordinated the efforts of the General Education Program faculty to ensure that faculty have both a common understanding of our Essential Competencies and that they assess those outcomes in ways that reflect that common understanding.

Yearly Assessment Projects

With the Cornerstone Project completed in Spring 2013, the College developed a plan to examine assessment practices and student achievement of Essential Competencies across the curriculum. Each academic year, the AC coordinated a project that focused on discussion, training, and data collection on one of the most commonly assessed ECs. Instructors teaching a course with that competency were asked to complete an assessment form in which they detail their instructional practice, assessment method, and student achievement data for that competency.

The assessment practices and student achievement data were examined by a committee of faculty members during the following summer. Findings of the committee were presented at the College's Best Practices session prior to the start of the fall semester. Strengths and weaknesses of the assessments were then used to provide feedback and training to faculty for the purpose of improving assessment efforts across the curriculum. In addition, student achievement data was used to determine how well students were achieving the important skill sets represented by the EC that was assessed.

Information about each yearly project and full reports of each past project are available on the AC webpage.

Revision of Essential Competencies

Upon conducting analysis of two different competencies (Diversity 3 and Critical Thinking 2), it was found that there were discrepancies in the validity of the data collected from instructors, especially related to faculty understanding individual Essential Competencies and effectively assessing the competency/ies. Also, given that there were twenty (20) Essential Competencies, by assessing one EC per year, it would take more than twenty (20) years to fully assess all Essential Competencies.

As a result, beginning in 2016 a revision of the Essential Competencies was undertaken to streamline the twenty (20) ECs down to five (5) Essential Competencies. The deliberation of these new ECs included targeted conversations within the Assessment Committee, individual departments and divisions across campus, as well as in campus conversations so as to provide broader input and understanding. In collaboration with the Curriculum and Academic Standards committee, these new ECs were cross walked and compared to the old ECs. This process resulted in modifications on all course syllabi. In the Spring of 2018, all master syllabi were also transitioned to the new ECs.

Assessment leaders attended an HLC workshop in the Fall of 2019 which presented a hierarchical structure in which to think about assessment outcomes. The team learned how to better structure broader, general education goal areas and competencies (i.e., Essential Competencies/ECs), learning outcomes and performance indicators. This structure would also assist in better data collection methods, as illustrated below:
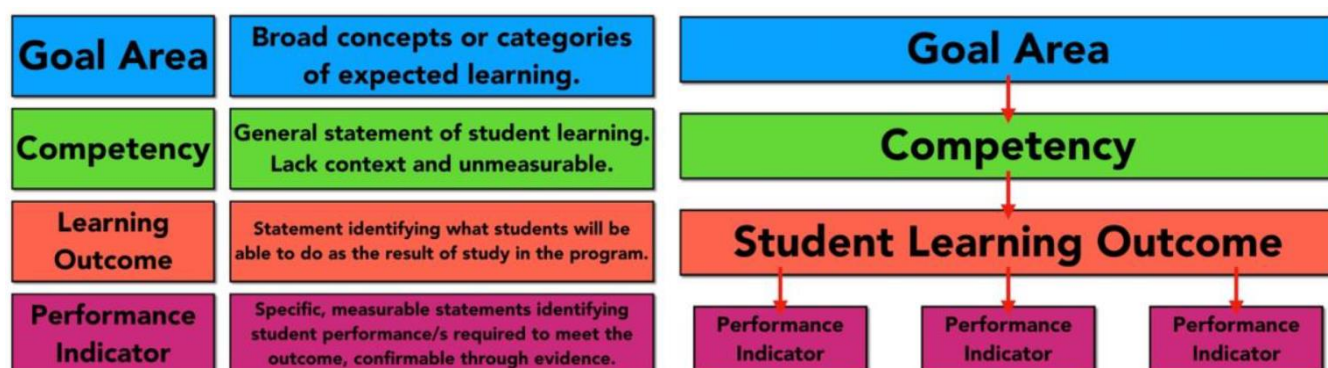
Based on that workshop, the Assessment Committee further honed the ECs over the course of 2019-2021 to follow this model.

In January of 2019, Heartland also transitioned to a new learning management system (from Blackboard to Instructure/Canvas) which provided a better system to streamline processes not only for faculty to tie the ECs (and subsequent Program, Course, and even Module level outcomes) to course assessments, provide immediate feedback to faculty (and, in the future, to students) as well as to collect assessment data more effectively and efficiently.

Pilot projects for the ECs were developed and maintained and surveys to include faculty feedback on the verbiage of the revised ECs as well as on processes using Canvas. One noteworthy item that was gained through this feedback process was in regard to the Ethics/Social Responsibility EC. Since ethics is highly valued at the college, that specific competency was embedded into each existing Essential Competency as a performance indicator rather than in a stand-alone competency. In addition, to further the scope of the ECs into co-curriculars as well as to address HLC accreditation criteria, in FY 2022, assessment of the ECs by Tutoring, Athletics, and Student Engagement began.

The Assessment Committee continues seek out campus-wide feedback and to provide direction related to assessment in coursework and in co-curricular areas in the following ways:

- A better understanding of outcomes and performance indicators for each EC,
- More training opportunities related to assessment (such as how to tie ECs with course outcomes. how to assess ECs and course outcomes, how to collect assessment data on ECs and course outcomes as related to student learning, how to use collected data for more informed teaching practices, etc.
- Collection of valid data related to the ECs through the creation of rubrics for each EC – this is especially important for course that are part of the Associate of Arts.
- Collection of valid data related to program outcomes, key for certificates and degree programs within the Associate of Science.

Assessment Form

Our approach to assessment continues with individual faculty. Most full-time faculty must submit two Assessment Forms as part of an annual self-evaluation process. Part-time faculty members may also be asked to complete the form as part of their employment responsibilities.

The Assessment Form was developed to allow faculty members to reflect on their assessment activities. The intent was to allow faculty to make curricular changes based on their investigations of one learning outcome or competency each semester. The questions behind the creation of the form were basic - Are the students learning? How do you know?

By completing the form each semester, faculty reflect on their instructional and assessment practices and use their professional judgment to assess student learning. One primary goal is for faculty to link graded and non-graded assignments to the course outcomes. Another goal is for faculty to discuss their "findings" with another faculty member, an IDC staff member or their supervisor (Associate Dean, Dean or Program Coordinator). This goal is loosely based on the scholarship of teaching literature that advocates making classroom research public.

The Assessment Form includes a list of suggestions regarding assessment practices as well as the types of information instructors can include in each section of the form. The major sections are: Instructional Activity, Method of Assessment and Evidence of Student Learning, and Reflections on Instruction and Curriculum. The assessment form is available on the AC webpage and SharePoint site.

In collaboration with the Promotion and Evaluation Review Team, the Assessment Form continues to be reviewed to serve as a means to gather feedback and data related to faculty member's understanding of Essential Competencies but, more importantly, how faculty are using assessment to guide and support teaching and learning practices.

Program Reviews

Each co-curricular and instructional area is required to complete a Program Review Report for the Illinois Community College Board (ICCB) every 5 years. The Program Review process is consistent with Higher

Learning Commission's (HLC) accreditation requirements and state recognition (ICCB) requirements, while also facilitating meaningful and ongoing internal review of each Program's effectiveness. A template is available guiding each program through the process. Each program then presents a preliminary review to the AC for feedback related to assessing of the Essential Competencies and/or program objectives prior. In addition a meeting with program leads as well as upper level administration is held to discuss each program review prior to developing its final report. In addition, a meeting with program leads and upper level administration is held to discuss each program review prior to developing its final report. The Program Review is designed to address the following questions:

- Who are we trying to help?
- What are we trying to accomplish?
- How well are we doing?
- Where are the program's strengths?
- What are the current plans to improve the program?

Assessment Resources

Assessment Committee Webpage: www.heartland.edu/ac
The AC webpage contains documents and forms that faculty use in their assessment efforts. It also includes the list of ECs, AC reports, and information about current assessment projects.

Assessment Committee SharePoint site: https://heartland0.sharepoint.com/sites/tc96
The AC SharePoint contains most of the same information found on the webpage, and more. It also contains links to assessment websites, sample assessment forms, meeting notes and agendas, and other AC documents that are used less frequently than those on the webpage.

Program Review SharePoint site: https://heartland0.sharepoint.com/sites/g98
The Program Review SharePoint site contains templates used in submission of qualitative and quantitative information use in Program Reviews for ICCB. It also includes additional resources such as video regarding the Program Review submission process, documents in the form of timelines for submission of Program Reviews and due dates of the 5-year rotation of campus-wide programs, an archive of previous Program Review submissions, etc.

HCC's Essential Competencies

Current Essential Competencies (beginning 2021)

The current structure for the Essential Competencies is illustrated above and includes five goal areas, their individual competency, learning outcomes and performance indicators (of which ethics has been designated via purple font. Only one performance indicator and one learning outcome needs to be

met in order to address the Essential Competency. In addition, to achieve the competency multiple assignments may be used.

- **Communication (C)** – *Students communicate effectively.*
  - Students develop an effective message.
    - Student provided clear explanations and reasoning.
    - Student provided detailed descriptions and explanations of concepts and ideas.
    - Student provided meaningful evidence.
    - Student identified audience.
    - Student adhered to ethical expectations in developing message.
    - Student organized information around a unifying purpose and this is maintained throughout the work.
  - Students effectively deliver the message.
    - Student identified clear objectives.
    - Student presented material in a clear and structured manner.
    - Student met the objectives outlined in the assessment.
    - Student selected appropriate modality for message.
    - Student addressed the ethical implications of message.

- **Problem Solving Critical Thinking (PS/CT)** – *Students think critically to solve problems or explore issues.*
  - Students think critically to explore an idea.
    - Student clearly stated idea.
    - Student clearly described idea.
    - Student provided evidence of idea.
    - Student provided relevant, credible information/evidence for understanding idea.
    - Students addressed ethical considerations of idea.
  - Students explain problem.
    - Student clearly stated problem.
    - Student clearly described problem.
    - Student provided evidence of problem.
    - Student provided relevant, credible information/evidence for understanding problem.
    - Students addressed ethical considerations of problem.
  - Students propose a solution to problem.
    - Student identified strategies to solve problem.
    - Student identified contextual factors relevant to the problem.
    - Student identified ethical dimensions of solution.
    - Student ruled out options that were not helpful in solving problem.
  - Students implement solution to problem.
    - Student used steps to solve the problem.
    - Student used strategies to solve the problem.

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- - - Student addressed the ethical implications of solution.
  - o Students critically evaluate outcomes or ideas.
    - - Student critiqued options that were not helpful in solving problem.
    - - Students critiqued implications of solution or idea.
    - - Student identified best options for solution.
    - - Student identified consequences of solution.
    - - Student determined solution is correct.

- *Diversity (D)* – *Students appreciate diversity.*
  - o Students recognize their own attitudes and/or values.
    - - Student articulated their attitudes.
    - - Student articulated their positions.
    - - Student articulated their values.
    - - Student articulated their ethical perspective.
  - o Students recognize attitudes and/or values of others.
    - - Student articulated knowledge of other's attitudes.
    - - Student articulated knowledge of other's positions.
    - - Student articulated knowledge of other's values.
    - - Student articulated knowledge of other's ethical perspectives.
  - o Students demonstrate respect for other individual's identities.
    - - Student listened attentively while other perspectives were presented.
    - - Student demonstrates understanding of other perspectives.
    - - Student accurately represented ethical implications of other perspectives.

- *Technology (T)* – *Students appropriately utilize technology.*
  - o Students identify available technology.
    - - Student provided relevant information for understanding use of technology for accomplishing goal.
    - - Student identified technology options to accomplish goal.
    - - Student evaluates available technology.
  - o Students select suitable technology.
    - - Student identified contextual factors relevant to the technology.
    - - Student identified elements of the goal that were helpful in choosing the technology.
    - - Student demonstrated an understanding of ethical implications of selected technology.
  - o Students utilize chosen technology.
    - - Student applies chosen technology.
    - - Student used strategies to accomplish an objective.
    - - Student ethically applied technology.
    - - Student evaluates chosen technology.

- *Social Responsibility (SR)* – *Students cultivate social responsibility.*

- o Students demonstrate self-awareness in connection with social responsibility.
  - Student identifies their own roles in society.
  - Student demonstrates awareness of their own ethics.
  - Student demonstrates awareness of their own social framework.
  - Student describes influence of personal values on ethical decision making.
- o Students recognize societal issues.
  - Student recognizes social justice issue(s).
  - Student recognizes ethical considerations of societal issue(s).
  - Student identifies the contextual challenges around societal issue(s).
  - Student evaluates societal issue(s) from different perspective(s).
- o Students develop skills for socially responsible engagement.
  - Student connects classroom learning to develop a skill set(s).
  - Student demonstrates proper use of skill set(s).
  - Student identifies the challenges in using skill set(s) ethically.
  - Student demonstrates awareness to modify their skill set(s) in response to situation
- o Students reflect on their engagement with social responsibility.
  - Student provides evidence of engagement with social responsibility.
  - Student analyzes their engagement with social responsibility.
  - Student evaluates their engagement with social responsibility.
  - Student assesses their commitment to social responsibility.

Essential Competencies (2017-2021)

Communication (CO) – Students develop and present an effective message using various modalities suitable to the topic, purpose and audience.

Problem Solving/Critical Thinking (PS/CT) – Students identify and interpret problems ot engage in thinking that is informed by evidence; or students apply strategies and procedures to arrive at a workable solution.

Diversity (DI) – Students recognize their own attitudes and values as well as those of others and demonstrate respect for others with diverse perspectives, behaviors and identities.

Ethics/Social Responsibility (E/SR) – Students ethically engage with and respond to academic, civic, social, environmental, technological, or environmental challenges at local, national or global levels.

Technology (T) – Students appropriately use technology to solve problems, complete tasks, or accomplish goals; or students demonstrate effective adaptability to various technologies.

Essential Competencies (Prior to 2017)

Communication
Note: The term "message" in each of the first three competencies implies any form of communication – whether in written (essay, email, etc.), oral, or non-verbal modes.

CODE	STATEMENT	QUALITIES
CO1	Students compose a message and provide ideas and information suitable to the topic, purpose, and audience.	Students create a message using various structures, claims, support, credibility, etc., depending upon their topic, purpose, and audience.
CO2	Students effectively deliver a message via various channels/modalities.	Students prepare written, oral, visual, and/or experiential materials for an area of study.
CO3	Students listen in order to comprehend information, critique and evaluate a message, show empathy for the feelings expressed by others, and/or appreciate a performance.	Students determine what is expected of them as listeners in an interaction and respond appropriately.
CO4	Students are self-reflective of the communication process.	Students objectively analyze their own communication and modify it when necessary.
CO5	Students communicate ethically through monitoring their behavior and interactions with others.	Students recognize the meanings and values associated with their communication and take these into account during the communication process.
CO6	Students can recognize and negotiate differences.	Students develop and use appropriate conflict management strategies.

Critical Thinking Competencies
These are leveled from low (CT1) to high (CT4) and are meant to show a progression of the student. The progression is based on the Cognitive Domain of Bloom's Taxonomy.

CODE	STATEMENT	QUALITIES	DOMAIN LEVEL
CT1	Students gather knowledge, apply it to a new situation, and draw reasonable conclusions in ways that demonstrate comprehension.	Students inquire into an unfamiliar situation given a strategy or concept. (Responding in a similar situation)	Applying
CT2	Students determine the value of multiple sources or strategies and select those most appropriate in a given context.	Students compare various perspectives, strategies or concepts and respond using the most appropriate alternative. (Making a decision)	Applying Analyzing Evaluating
CT3	Students generate an answer, approach, or solution through an effective synthesis of diverse sources and arguments and provide a rationale.	Students use creative thinking to produce a product, idea, or method that is new to them. (Designing your own)	Analyzing Evaluating Creating
CT4	Students actively reflect on their answer, approach, or solution and act upon those reflections to improve the final result.	Students justify, challenge, and revise their position, judgment, or conclusion through self-assessment and active reflection. (Reflecting upon one's own thought process)	Evaluating Creating

Problem Solving Competencies

These are leveled from low (PS1) to high (PS5) and are meant to show a progression of the student. The progression is based on the Cognitive Domain of Bloom's Taxonomy.

CODE	STATEMENT	QUALITIES	DOMAIN LEVEL
PS1	Students can solve problems based on examples and frameworks provided by instructor.	Students can only solve problems that they are shown first. Students see answers as only being right or wrong. Students are highly dependent on the instructor.	Remembering Understanding
PS2	Students identify the type of problem and use a framework to solve the problem.	Students can solve problems different from those shown. Students recognize where the process broke down when incorrect answers result.	Understanding Applying
PS3	Students identify the type of problem and, from multiple problem solving methods, choose the best method and solves problem.	Students try to apply multiple strategies to solve problems. Students show ability to solve problems which have not been previously demonstrated by the instructor. Students are not as dependent on the instructor.	Applying Analyzing Evaluating
PS4	Students analyze the situation, explore different outcomes from multiple frameworks, apply the appropriate solution, analyze the results, and refine the solution.	Students see problem solving as a process and are not satisfied with the first answer to the problem - review answers for validity. Students transfer problem solving ability across the disciplines.	Applying Analyzing Evaluating
PS5	Students have the ability to define, interpret, and solve problems through collaboration with others.	Students have the ability to consult with students from other disciplines to solve problems in all situations. Students persevere until solution is found.	Analyzing Evaluating Creating

Diversity Competencies

These are leveled from low (DI1) to high (DI5) and are meant to show a progression of the student. The progression is based on the Affective Domain of Bloom's Taxonomy.

CODE	STATEMENT	DOMAIN LEVEL
DI1	Students are receptive to beliefs and values that differ from their own.	Receiving
DI2	Students consider the views of others in light of those persons' experiences and particular understandings.	Receiving Responding
DI3	Students reflect upon the formation of their own perspectives, beliefs, opinions, attitudes, ideals, and values.	Valuing
DI4	Students explain the contributions of diverse perspectives to the development of various fields of inquiry and to society as a whole, and re-examine their own values and beliefs in light of the insights they have gained from their study of other cultures.	Organizing
DI5	Students consistently and characteristically approach diversity issues in a manner that exemplifies respect for and appreciation of difference.	Characterizing

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