A Handbook on Academic Assessment

at Bergen Community College

A PROCESS FOR SELF-EVALUATION AND CONTINUOUS IMPROVEMENT
2024

Bergen Community College | Center for Institutional Effectiveness

Forward

A Handbook on Assessment at Bergen Community College was created to serve as a reference for understanding the assessment framework, creating assessment projects, and conducting program reviews of all academic offerings. The information in this handbook should be considered a starting point for developing in-depth and informative projects that allow flexibility to suit all academic programs.

At Bergen, the assessment and the program review processes support the intentional examination of programs, assignments, curricula, teaching methods, and student learning experiences. Assessment and program review help ensure the currency of Bergen's programs in meeting the academic needs of our students. These processes are collaborative and generative endeavors. Faculty, using their expertise and knowledge of their program's strengths and limitations, can lead to continuous improvements in our efforts to address teaching and learning practices. The framework and processes described in this handbook encourage thoughtful faculty-led assessments.

While some elements contained in this handbook overlap with curriculum development, the information provided here offers a cohesive guide to the internal processes that help to maintain high-quality academic programs. Faculty can get additional curriculum support for the following matters from the Office of Curriculum and the Curriculum Committee:

- Development and revision of program learning outcomes
- Development and revision of course-level student learning outcomes
- Development and revision of curriculum maps
- All matters that relate to curriculum development or revision, such as the development of new academic programs, new course development, or revision of existing courses.

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Mission, Vision, Values, and Institutional Goals

MISSION

Bergen Community College provides accessible and transformative programs and services to its diverse community. As a comprehensive community college, we are committed to student success, innovation, and inclusivity.

VISION

Bergen Community College will be:

- A first-choice option for its community.
- A national model for innovation and partnerships.
- An institution recognized for its ability to meet the needs of an ever-changing student population in a landscape of evolving employers' workforce needs.

VALUES

Consistent with Bergen Community College and who we are as a community, these core values guide our daily work:

Commitment: We are committed to providing education in the liberal arts, sciences, technical fields, and a variety of non-credit programs that fosters critical thinking, facilitates upward mobility, and instills a sense of purpose.

Creativity: We are imaginative and innovative in promoting success for our students and in accomplishing our goals.

Collaboration: We emphasize teamwork and acknowledge and take pride in the contributions of others.

Communication: We regularly and openly share what we do with both internal and external community members.

Care: We identify, prioritize, and resolve issues by leading with an ethic of care.

Challenge: We challenge ourselves to improve upon our programs and services.

Celebration: We acknowledge, honor and take pride in the quality of our work and the work of others.

Bergen COMMUNITY COLLEGE

Approved January 10, 2023

INSTITUTIONAL GOALS

#1 Bergen Community College serves the needs of a diverse college population by creating a welcoming campus environment where all members of the community are valued. The College adheres to the principles of access, equity, and inclusion.

#2 Bergen Community College offers educational programs and services that promote success for students of different abilities and economic needs.

#3 Bergen Community College provides evidence of effective educational experiences.

#4 Bergen Community College offers programs and services which enable community members to engage in lifelong learning opportunities.

#5 Bergen Community College cultivates community relationships which support a growing network of partnerships with external organizations.

#6 Bergen Community College shares its stories of success as a vital resource in Bergen County and the surrounding region.

Bergen COMMUNITY COLLEGE

Chapter 1: The Assessment Framework

Introduction

Bergen Community College (Bergen/the College) is committed to providing accessible and transformative programs and services to its diverse community. Critical to this mission is the promotion of policies, practices, and activities that enhance the institution's effectiveness in providing these programs and services and the collection of evidence that supports decision-making and planning at every level. Academic excellence is a cornerstone of this work and assessment of student learning, and cyclical program review serves as the mechanism through which this excellence is measured and documented.

Bergen's outcomes assessment and program review processes are designed to be consistent with the Middle States Commission on Higher Education's (MSCHE) Standards for Accreditation, especially:

> Standard III: Design and Delivery of the Student Learning Experience
> *An institution provides students with learning experiences that are characterized by rigor and coherence at all program, certificate, and degree levels, regardless of instructional modality. All learning experiences, regardless of modality, program pace/schedule, level, and setting are consistent with higher education expectations.*

and

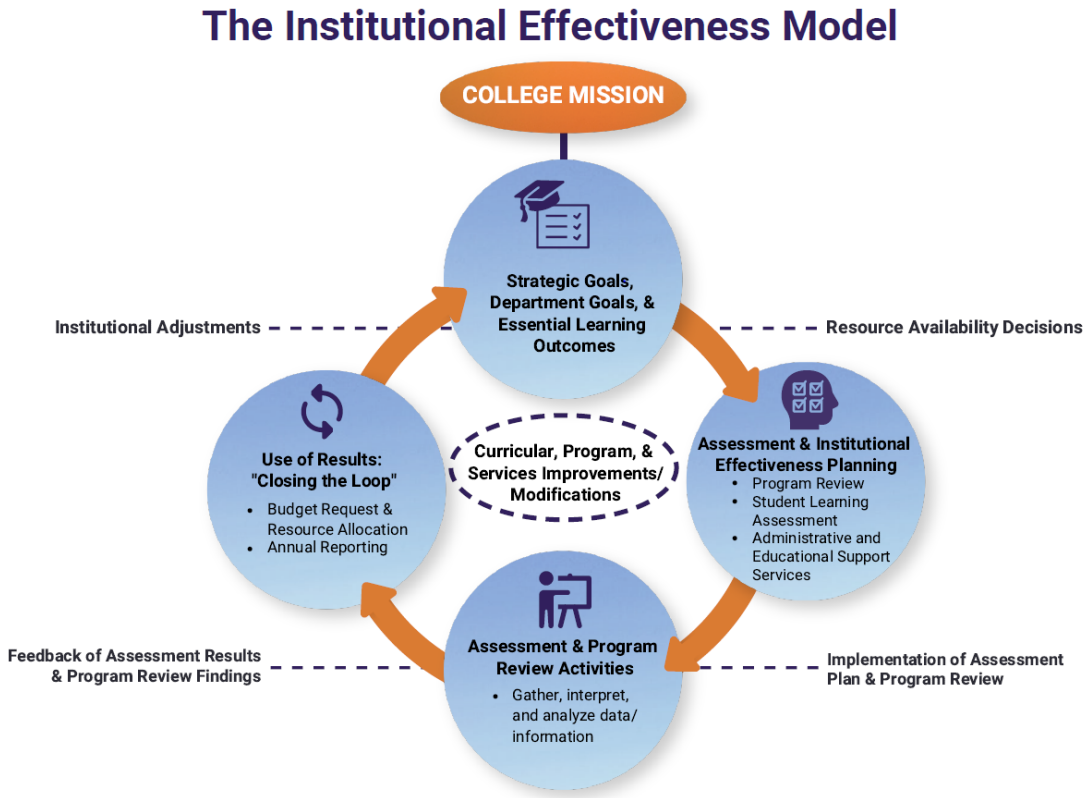
> Standard V: Educational Effectiveness Assessment
> *Assessment of student learning and achievement demonstrates that the institution's students have accomplished educational goals consistent with their program of study, degree level, the institution's mission, and appropriate expectations for institutions of higher education.*

The Program Learning Outcomes assessment (PLOA) refers to a formalized protocol for the assessment of student learning. This assessment cycle can be described as a systematic measure of what a student knows and can do in terms of what was presented within an academic program. Outcomes assessment reports provide evidence of student learning and the use of assessment results for the improvement of educational effectiveness (MSCHE). Additionally, Bergen's comprehensive examination of the programs and program options provides evidence of program renewal, effectiveness, and improvement as the College embraces a model of institutional effectiveness.

Bergen Community College Institutional Effectiveness and Planning Model

Assessment, Program Review, and Program Option Reporting are important components of the Bergen Community College's institutional effectiveness efforts. Institutional Effectiveness (IE) in higher education refers to an institution's effort to organize evaluation, assessment, and improvement initiatives so the institution can determine how well it is fulfilling its mission and achieving its goals. (SCUP, 2024) From this point on, Program Review and Program Option Reporting will be referred to as Program Review throughout this document. The figure below, *Figure 1*, presents a visual representation of institutional effectiveness at Bergen Community College, which seeks to integrate assessment and program review with the College's planning and resource allocation cycles. The IE model below also presents how the alignment of planning, resource allocation, assessment, and institutional adjustments are integral in realizing the College's mission and highlights assessment and program review in an institutional context of institutional renewal through improvements in curricula, programs, and services.

Figure 1: Integrated Institutional Effectiveness and Planning Model



Adopted from:

A Practitioner's Handbook for Institutional Effectiveness and Student Outcomes Assessment Implementation by James O. Nichols, Third Edition, 1995, Agathon Press, New York

Institutional Effectiveness Fieldbook: Creating Coherence in Colleges and Universities by Daniel Seymour and Michael Bourgeois, 2018, Olive Press Publishing, Santa Barbara, California

Assessments at Bergen

At Bergen, the assessment processes are designed to portray a comprehensive picture of how the College continuously assesses, reviews, evaluates, and improves our academic programs and support services. Bergen's assessment processes are an integral component of the educational process and support the college's commitment to meeting its responsibilities to its students and meeting the expectations of the higher education community. This commitment guides the assessment and review processes because when the model is fully operational, it leads to continuous improvements in the following ways:

- Faculty and administration look at the assessment process, not just the products, as both are integral to positive change
- The continuous review and improvement cycle, which includes "sharing the knowledge" and "closing the loop," informs changes based on assessment results
- Assessment work leads to improvements in the quality of the student experience
- Assessment projects inform Program Reviews and Program Option Reports, revealing the critical relationship between learning and academic excellence.

General Education Assessment, Program Learning Outcomes Assessment, and Program Review are the processes through which this assessment and evaluation is done. Beginning in 2023, with the approval of the reclassification of General Education as Essential Learning Outcomes (ELO) and the College's Institutional Learning Outcomes (ILO), General Education assessment is synonymous with the assessment of the College's ELOs. As noted in Table 1, the General Education Committee of the Faculty Senate oversees General Education assessment/Institutional Learning Outcomes. Please see the General Education webpage (https://bergen.edu/academics/general-education-program/) for more information about the General Education Assessment. Note: The assessment process for General Education assessment/Institutional Learning Outcomes and its integration into the current program learning outcomes assessment and program review framework is being considered. It will be included in a future version of this handbook once it is final.

Since 2019, the Center for Institutional Effectiveness has overseen the Program Learning Outcomes Assessment and Program Review processes. See Table 1. This handbook is designed to guide those engaging in this work and others interested in learning more about these processes.

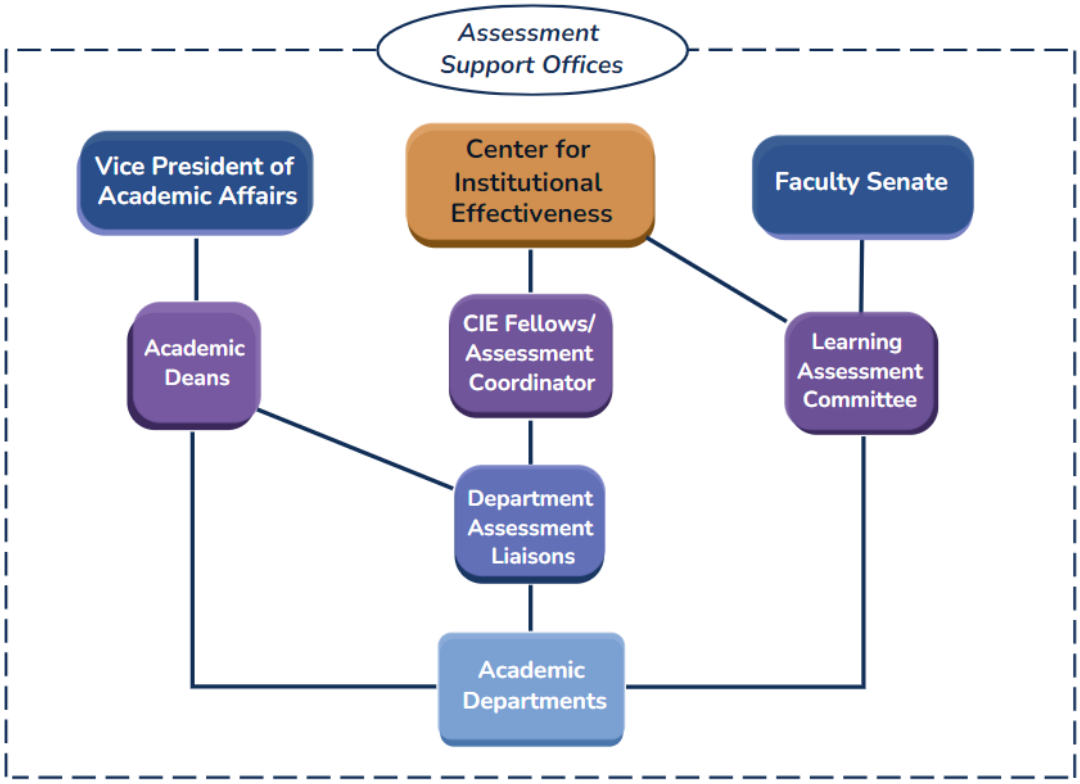
Table 1: Assessment at Bergen, Administrative Responsibility

Assessment	Prior to 2019	2019 to Current
Institutional Learning Outcomes (ILO)	*New (2023-2024)*	*General Education Committee*
General Education (Gen. Ed.)	General Education Committee	General Education Committee
Program Learning Outcomes (PLO)	Center for Institutional Effectiveness	Center for Institutional Effectiveness
Program Review (PR)	Office of VP of Acad. Affairs	Center for Institutional Effectiveness

Assessment and Program Review: Roles and Responsibilities

Beginning with the Center for Institutional Effectiveness, this section provides an overview of key roles and responsibilities that lead and support assessment and program review efforts at Bergen Community College. Furthermore, Figure 2 outlines the current structure supporting the assessment of student learning at Bergen and is followed by a description of each role.

Figure 2: The Assessment Support Structure at Bergen



The Center for Institutional Effectiveness

The mission of the Center for Institutional Effectiveness (CIE) is to promote institutional policies, practices, and activities that enhance institutional effectiveness. CIE fosters a culture that values inquiry, evidence, and collaboration. It supports college-wide decision-making and initiative planning by collecting, analyzing, and reporting information about the college. While the Center's activities, initiatives, and projects will vary in response to changing needs, its ongoing emphasis is on institutional research, strategic planning, assessment, program review, and accreditation. CIE oversees the implementation of the assessment framework, which includes the outcomes assessment projects and program review processes. Through the systematic assessment of PLOs and cyclical review of its programs, the College can encourage and affect student success and appraise the viability of its academic offerings.

Vice President of Academic Affairs/Provost

To facilitate the effectiveness and efficiency of student learning assessment, the Vice President of Academic Affairs/Provost (VPAAP) collaborates with CIE to coordinate and lead the process. The VPAAP leads and supports the academic deans and academic departments as they participate in assessment endeavors. As the executive leader of the Division of Academic Affairs, the VPAAP ensures assessment results are considered, prioritized, and addressed at the institutional, divisional, and departmental levels.

Academic Deans

As divisional leaders, Academic Deans review and approve the work of assessment projects and Program Review reports. They support faculty with these projects at the start of each assessment cycle, review the plans, and provide feedback. The Deans also ensure the results and recommendations from these processes are addressed appropriately, including working with departments to review and prioritize the findings, set goals/action steps, request resources (if necessary), and track, manage, and document the completion of the goals/action steps.

Learning Assessment Committee (LAC) The Faculty Senate

Established in 2011, the Learning Assessment Committee is a standing committee of the Faculty Senate that provides guidance on the processes for assessing student learning outcomes and considers and advises on college-wide policy and best practices in learning assessment. With representatives from academic departments across the College, this body considers the varied experiences and practices through open and collaborative dialogue. The Committee plays a vital role in developing, maintaining, and refining the framework guiding the assessment of student learning at the College.

CIE Assessment Fellows

Assessment Fellows are faculty members with knowledge and expertise in learning outcomes assessment. They are instrumental in coordinating, developing, and maintaining the assessment and program review processes. They assist in developing assessment initiatives, support the goals and objectives of the College, and help departments complete Program Reviews and Program Option Reports. Fellows provide direction to their peers and make suggestions as needed. The expectations and responsibilities of Assessment Fellows include:

- Work with academic departments, programs, and faculty to ensure ongoing assessment and Program Review.
- Participate in the collaborative development and maintenance of the Assessment and Program Review Cycle, templates, and the Assessment and Program Review Handbook.
- Assist with the implementation of the 5-year program review and assessment cycles.
- Plan and implement CIE's Assessment Institute activities, including collaborating with other professional development partners and hosting/facilitating appropriate workshops and meetings.
- Initiate the assessment and Program Review processes for academic and educational support units.
- Participate as *ex-officio* LAC members.

The Fellows provide the following assistance to Assessment Liaisons:

- Engage in general discussion(s) of practical design approaches for the planned assessment or review project, individually or in groups, as needed.

- Engage in discussions about the assessment tool and identify data sources relevant to the program goal(s) being assessed.
- Host workshops related to common issues that may come up during the assessment and review process.
- Consider practical use of the assessment results and assist in making recommendations from the data gathered during the Program Review. For example, how will the academic department change something about the program to improve student learning and student service or to maintain the currency of the program?

Academic Departments

At Bergen, programs, program options, and courses are housed in the academic departments. Led by the Department Chair, these departments, the affiliated liaison, and the faculty conduct assessment and program review activities consistent with the published Program Review and Assessment Cycle. Academic Department Chairs provide faculty support and help facilitate department-wide collaboration when working on assessment and review projects.

Assessment Liaisons

The Department Assessment Liaison is a faculty member selected from within their department to serve in this role. Currently, each academic department has a designated assessment liaison who facilitates, coordinates, and collaborates with the department's faculty to ensure an assessment plan is developed and completed according to the program review and assessment schedule. The specific responsibilities of the academic assessment liaisons include:

- Collaborate with the faculty, department chair, and academic dean to coordinate a departmental or program assessment plan,
- Coordinate with a fellow from the Center for Institutional Effectiveness (CIE) on the implementation of the assessment plan,
- Participate in assessment workshops sponsored by the CIE and Faculty Development,
- Assist the department in completing the relevant assessment documentation,
- Inform department faculty, chair, and academic dean about the outcomes assessment activity and
- Help the department chair share and discuss assessment findings.

Designated Assessment Support Offices

Assessment support personnel, including Assessment Fellows, offer help with planning assessment projects, identifying assessment tools, identifying and locating data for reviews, writing reports, etc. These offices are throughout the college and are labeled with "Assessment Support Office" decals. Faculty conducting assessment or program review can stop in or make an appointment if they have questions or need assistance with their project(s).

Program Review Chairs and Committee

A Program Review Chair is a faculty member who is appointed or nominated to lead a Program Review. With the support and feedback from the department and dean, they lead the Program Review Committee through the process, coordinate the report's completion, engage with external evaluators (if applicable), and draft an action plan to address programmatic priorities and improvements. In short, they work collaboratively with the review committee to ensure the review is completed within two or three semesters. For Program Options, a report writer serves in a similar capacity as the Program Review Chair, ensuring the completion of the Program Option report. Chairs of Program

Reviews and Program Option Reports are compensated for their work per the Bergen Community College Faculty Association Contract.

See the Assessment and Program Review Cycle section below, or Chapter Three, for more on the role of the Program Review Chair and the Program Option Report Writer.

The Assessment and Program Review Cycle

Since 2019, with administrative oversight of program review, CIE has focused on creating a more integrated assessment and program review schedule, which led to a closer look at the relationship between the two processes. As Figure 3 shows, the resulting schedule dictates that the assessment and program review processes follow a five-year cycle, including four consecutive years of assessment and the completion of a program review or option report in the fifth year. The current assessment schedules for each academic department can be viewed on the CIE website. Please refer to the website for the most recent schedule

(https://bergen.edu/about-us/institutional-effectiveness/assessment/).

Figure 3: The Assessment and Program Review Cycle

The Assessment and Program Review Cycle consists of three phases: the Evaluation Phase, the Implementation, and the Assessment Phase.

Evaluation Phase

The Evaluation Phase is the year (Year 5 in Figure 3) during which the program review or program option report is completed. It is based on the schedule referenced earlier in this section and typically runs from September to June of a fiscal year. Deans, department chairs, and designated faculty members attend a kick-off meeting hosted by the Center for Institutional Effectiveness, during which this process is discussed and supporting materials are shared and reviewed.

For the comprehensive Program Review of programs and certificates, this process is led by a chair or two co-chairs from the academic department and supported by a committee of peers, who assist with collecting and reviewing data and other information and completing the final report. This comprehensive review also includes an external evaluation, which offers an objective review of the program(s) and certificate(s) under consideration. The external reviewer completes a report, which is included as part of the final program review report. This report is expected to include a list of recommendations based on the internal and external review and an action plan that outlines the steps needed to address priorities or improve the program(s) and certificate(s).

The review of program options includes completing a Program Option Report, which is considered part of the comprehensive program review of the programs with which the options are associated. For example, the Sociology (AA.LA.SOC) and Communication (AA.LA.COM) options each complete a program option report in accordance with the assessment schedule. These option reports are

considered part of the comprehensive program review of the Liberal Arts General program (AA.LA.GEN) affiliated with these options. The Program Option Report does not require an external evaluator, as this step is only required for program review. Like the Program Review report, the Program Option Report should include a list of recommendations and an action plan outlining the steps needed to improve the program option(s) considered.

Please see Chapter 3 for more information on this phase and the completion of these reports.

Implementation Phase

The Implementation Phase begins when the above reports have been submitted and approved by the Vice President of Academic Affairs. This phase represents the period during which the findings, recommendations, and action plan of the program review or option report are addressed. Deans, department chairs, and faculty will begin to review and prioritize the recommendations, set goals where appropriate, and begin implementing steps to improve the program(s), option(s), and certificate(s). Depending on the action needed, this work may occur at the departmental, divisional, or institutional levels and is led by the VPAA/Provost and Divisional Deans. For example, as necessary, administrators (Deans, VPAA's office, and others) consider the budgetary implication included in an action plan as part of the College's budgeting process.

This follow-up or 'closing the loop' is essential to the health, currency, and effectiveness of the College's academic offerings. Departments and deans are encouraged to track and document this follow-up, including all actions taken, resources allocated, and pending needs related to review recommendations. Evidence of this tracking should be maintained in the Dean's and VPAA/Provost's offices. This phase of implementing, tracking, and documenting evidence of action(s) taken is a higher education expectation and demonstrates a commitment to compliance with Middle States Standards. See the Closing the Loop: Use of Assessment Results section below for more information.

Assessment Phase

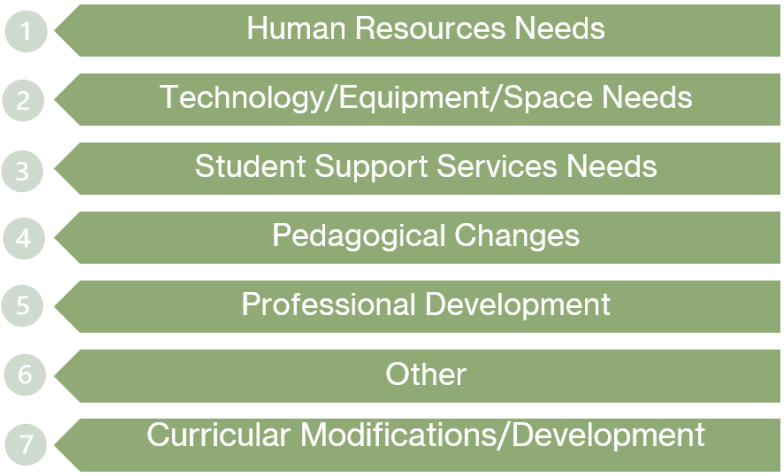
The Assessment Phase refers to the years (Years 1 through 4 in Figure 3) before or after the Evaluation Phase. During this phase, departments are expected to engage in student learning assessment, i.e., the Program Learning Outcomes Assessment (PLOA) and the General Education/Essential Learning Outcomes Assessment. Before Spring 2022, Bergen utilized a two-year assessment cycle with academic programs assessing PLOs within a four-semester cycle. To optimize this work to be a more effective process, Bergen moved to a one-year assessment cycle, which also helped better address the concepts of closing the loop and using the assessment findings to improve programs. This shift is consistent with a recommendation of the 2016 MSCHE re-accreditation visiting team. As this approach continues to evolve, it will draw elements from the action research design, where information learned informs and addresses the diverse learning needs of today's students. Note that the assessment and implementation phases may run concurrently as part of the Assessment and Program Review Cycle. See Chapter Two, Assessment of Student Learning: Program Learning Outcomes Assessment, for more information on this phase.

Closing the Loop: Use of Assessment Results

Consistent with its commitment to institutional improvement, Bergen Community College has developed an institutional effectiveness model that encourages using assessment results (See the Bergen Community College Institutional Effectiveness and Planning Model discussion on Page 7).

Further, this model also encourages the implementation of program review and option report recommendations and action plans. This section guides how these results can inform departmental, programmatic, and institutional improvement and change. Completing the Assessment-Program Review cycle integrates inputs from major components of the academic hierarchy, including the Vice President of Academic Affairs/Provost(VPAAP), the academic deans, department chairs, and faculty members in the respective departments. The results from these yearly assessments are essential components of ongoing activities that ensure the College (institution) meets its academic obligation to students and the expectations of higher education. Below is a list of categories of findings and recommendations likely to result from the assessment and program review processes. Given the nature of these results, the steps needed to ensure follow-through or closing the loop will differ. However, the expectation is that the department, supported by the Dean and VPAAP, will take action to consider and use the results. See Appendix A for a suggested workflow and responsible parties for addressing each category listed below.

List 1: Categories of Findings and Recommendations



Maintaining evidence of closing the loop is an expectation of Middle States and a best practice in higher education. The departmental and divisional annual reports capture progress in addressing the goals, findings, and recommendations. These reports are submitted to the VP of Academic Affairs, address the prior year's activities, and summarize the current year's findings and recommendations. The program review and assessment processes also offer opportunities for the accomplishments and changes made due to these processes to be captured and considered in future reviews and assessments. Figure 4 below illustrates the integration of the reporting in the annual report and its reflection in the program review and assessment reports.

Figure 4: Linking Annual Progress Reporting to the Assessment and Program Review Processes

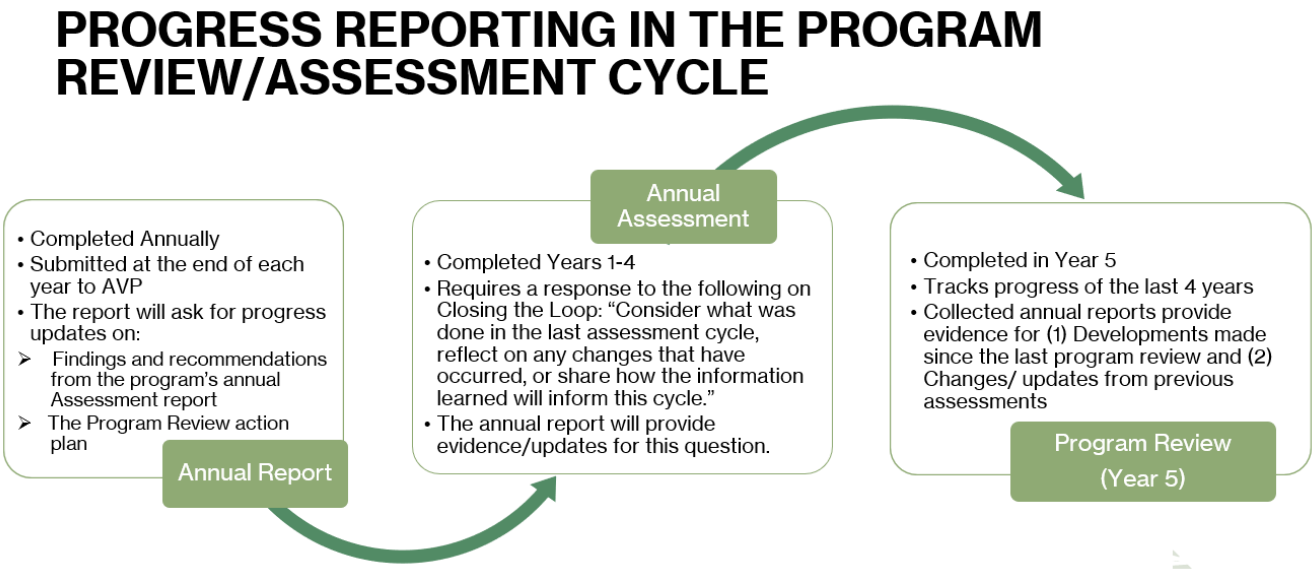
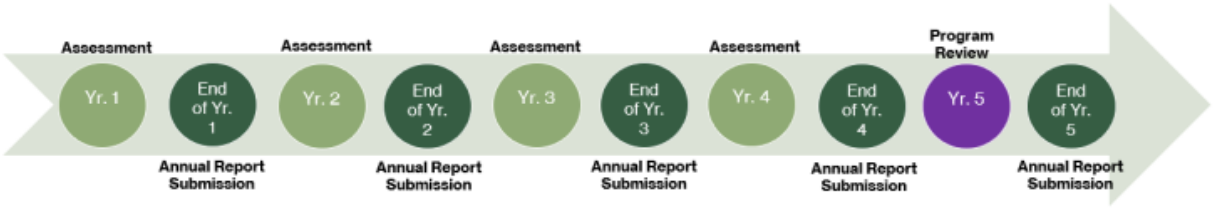


Figure 5 provides an overlay of the five-year program review and assessment cycle and shows a timeline of integrating the annual report, i.e., the reporting on closing the loop, with the assessment and review processes.

Figure 5: *Linking Annual Progress Reporting to the Assessment and Program Review Processes*



This process of prioritizing, tracking, and documenting progress and improvements made because of the assessments and program review is crucial to ensuring educational and institutional effectiveness.

Professional Development: The Assessment Institute

Professional development opportunities are available to faculty and are designed to continually support their classroom teaching by offering ways to meet students' learning needs. All assessment-affiliated faculty and staff are encouraged to participate in internal and external professional development opportunities. This handbook supplements faculty development experiences and complements Bergen's wide range of face-to-face and virtual professional development activities.

The Center for Institutional Effectiveness supports faculty and staff by providing and co-sponsoring professional development opportunities via the Assessment Institute. These training and professional development opportunities are done in collaboration with the Faculty Development Committee, the Center for Innovation in Teaching and Learning (CITL), the General Education Committee, and the Office of Adjunct Administration. These opportunities are offered throughout the academic year and include workshops, tutorials, work groups, and resources on numerous topics related to evidence-based best practices for teaching and assessment. The following are a few of the topics covered in these sessions: Creating Assignments and Rubrics; Data-Driven Decision Making; Aligning Learning Outcomes with Assignments; Creating Learning Outcomes; Supporting Diverse Learners; Backward Course Design; Student-Centered Practices.

Chapter 2: Assessment of Student Learning: Program Learning Outcomes Assessment

Program Learning Outcomes Assessment (PLOA) is the vehicle through which a department or program collects, examines, and tracks evidence that students are acquiring stated knowledge, skills, and competencies. PLOA encourages faculty, staff, and students to ask questions continuously and systematically, leading to new learning opportunities and informed decisions that affect student learning. The assessment findings may lead to improvements in curricular design, the development of course activities, and the review of pedagogy.

PLOA is an ongoing process that generates feedback and information on student performance. It should encourage reflection on how/what students are learning and whether the assessments of student learning align with Institutional Learning Outcomes (ILOs) or Program Learning Outcomes (PLOs), the program's description, program learning outcomes, and course objectives. PLOA refers to structured activities designed to collect information on whether students can demonstrate knowledge and skills gained during and after completing an academic program. PLOA is a review and analysis of the course-embedded student learning outcomes through the program's course assignments, projects, presentations, and other means used to assess student learning at the course level. Program outcomes data informs curriculum and program enhancement. It is **not** an evaluation of faculty.

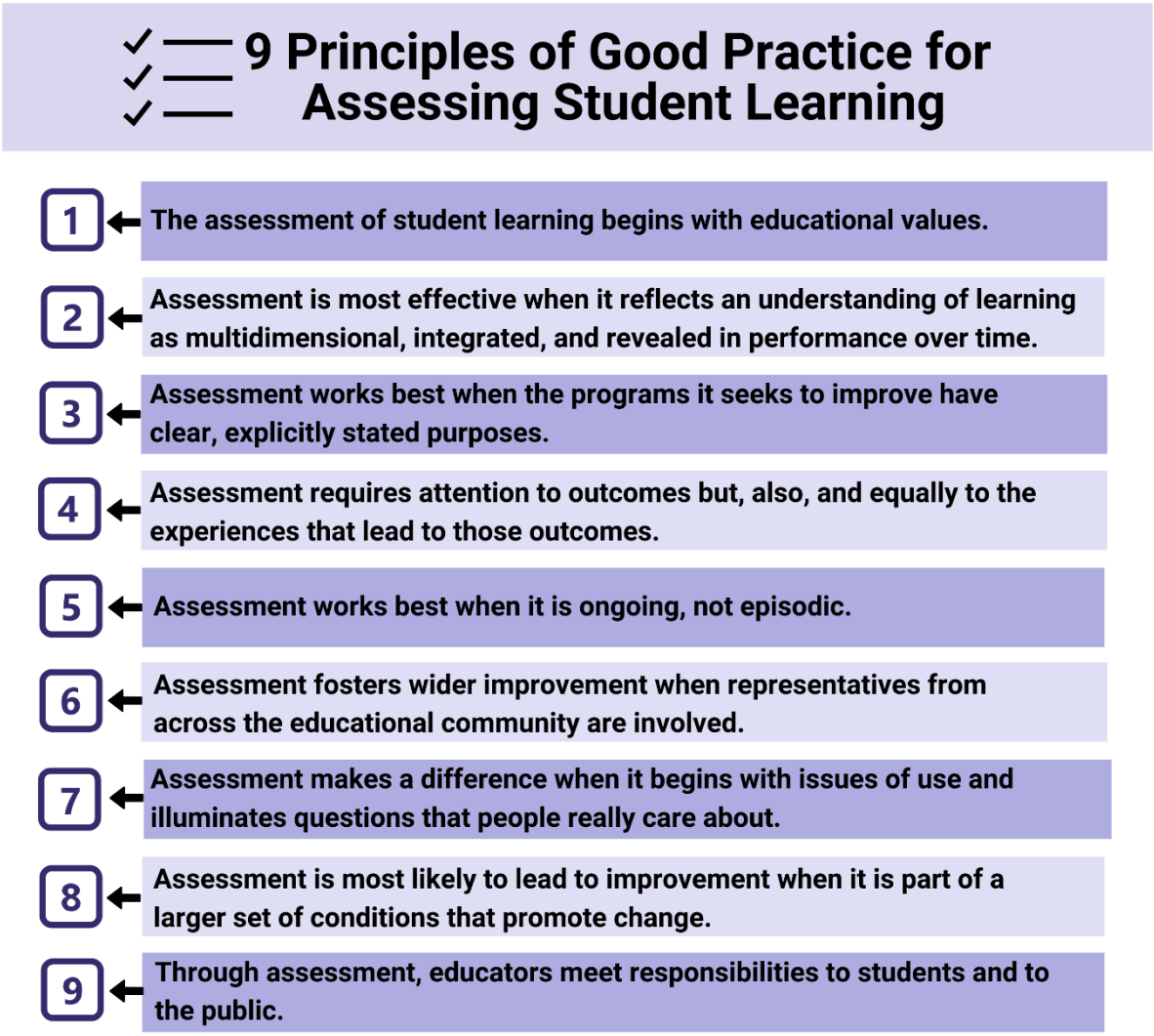
PLOA projects help to:

- Ensure ELOs, PLOs, and SLOs are aligned and reflected within the teaching and assessment methods
- Gather and analyze evidence that program outcomes and course objectives relate to concepts and skills in targeted assignments
- Identify weaknesses and strengths in assessment methods to confirm an assignment's strengths, inform revisions, or develop new assessments
- Maintain relevant program descriptions, outcomes, and course objectives or revise as needed
- Sustain the integrity, relevancy, and currency of academic programs
- Portray the rigor and curriculum of the academic program.

Conceptual Framework for Student Learning Assessment

The American Association for Higher Education and Accreditation (AAHEA) adopted the 9 Principles of Good Practice for Assessing Student Learning (Astin et al., 1996; Hutchings et al., 2012). These nine principles are applied in assessment work in meaningful and organized ways within outcomes assessment projects that take place within each academic program. Reports of these projects that include evaluation and closing the loop on what was learned are integrated into the five-year Program Review process. These nine principles are listed in Figure 6 and are further described in Appendix B.

Figure 6: Principles of Good Practice for Assessing Student Learning



In response to the changing educational landscape, assessment encourages faculty to make a difference in student learning and instruction to meet the needs of a diverse student population. The assessment process provides opportunities for faculty and deans to strengthen their understanding of the learning experiences and content provided within their programs. Additionally, taxonomies of educational and developmental learning objectives guide how academic departments plan assessment projects. The taxonomies of Anderson & Krathwohl (2002), Bloom (1956), Fink (2003), and Krathwohl (2001) provide the foundation for how assessments account for the unique learning needs of students through the development of intentional program learning outcomes and objectives—more on taxonomies in the following section.

Program Learning Outcomes (PLOs)

Program learning outcomes (PLOs) are broad student-centered goals of an academic program or certificate and are aligned with the more specific student learning outcomes of each course.
PLOs are measurable statements that describe what students should know, be able to do, value, or become as an outcome of completing an academic program. Lawlor (2012) explains that PLOs are specific, measurable, observable, and achievable within the program's time frame. Program outcomes relate to the content presented within the academic discipline and reflect the specific academic skills and body of knowledge that students are expected to master as a result of following the program's course sequence.

How are PLOs developed?

There are several ways to develop good PLOs, whether newly created or old learning outcomes being revised. The questions below highlight the main ideas PLOs are intended to address.

- What knowledge will students acquire from participating in the program?
- What will students be able to do as a result of the successful completion of the program?
- What skills will they demonstrate?
- What attitudes, values, or behaviors will they develop?

Whether experienced or new to the process, faculty should consider the available taxonomies as they develop their PLOs (Anderson & Krathwohl, 2001; Bloom, 1956; Fink, 2003; Krathwohl, 2002). For example, consider Fink's Taxonomy (2003) if creating PLOs to address the affective domain. (See Appendix B.) Appendix B of this Handbook offers a list of widely used learning taxonomies.

Here are some examples of PLOs:

- Students will be able to describe and compare economic institutions such as the Federal Reserve and stock markets.
- Students will be able to apply basic pharmacokinetic principles to estimate drug concentration in a patient.
- Students will be able to collaborate in a multidisciplinary team to solve an environmental problem.

Student Learning Outcomes

Student Learning Outcomes (SLOs) are created by a faculty member or group of faculty members for each course. SLOs are student-centered and aligned with observable behaviors demonstrated within course assignments, planned classroom activities, and other observable behaviors in the classroom. Like PLOs, SLOs are based on the Taxonomies of Learning Objectives (Anderson & Krathwohl, 2001; Bloom, 1956; Fink, 2003; Krathwohl, 2002; Webb, N. L., 2005). Creating course activities, assignments, exams, and projects to assess SLOs allows faculty members to gather data about teaching techniques, curriculum, and students' learning. This possible outcome is why the SLOs in course syllabi should align with the learning activities and the assessments used to indicate student learning.

When writing effective learning objectives, faculty members should first identify the level of knowledge they are targeting for the students in the program. Then, select an action verb that portrays low, middle, or high-level thinking skills by referencing one or more of the taxonomies above. When writing SLOs, consider that the foundational behaviors of "reading, remembering, and describing" relate to lower-level thinking skills, so an aligned learning activity and assessment in a specific course would portray how students read, remember, and describe. Likewise, if faculty decide to elevate an SLO to a middle or higher level of thinking, they would write an objective that includes verbs that exemplify what students would be able to do.

More examples of SLOs, from lower, mid, and higher levels of the taxonomies, are:

- Students will examine and describe xxx. (Low)
- Students will compare and contrast xxx. (Mid)
- Students will analyze xxx using the theoretical frameworks provided. (Mid)
- Students will create oral and visual presentations on xxx and present their work to their peers. (High)
- Students will apply the theory they learned to a practical situation. (High)

Once the preliminary list of outcomes is established, faculty should engage in curriculum mapping to see where those outcomes are embedded in current courses and assignments.

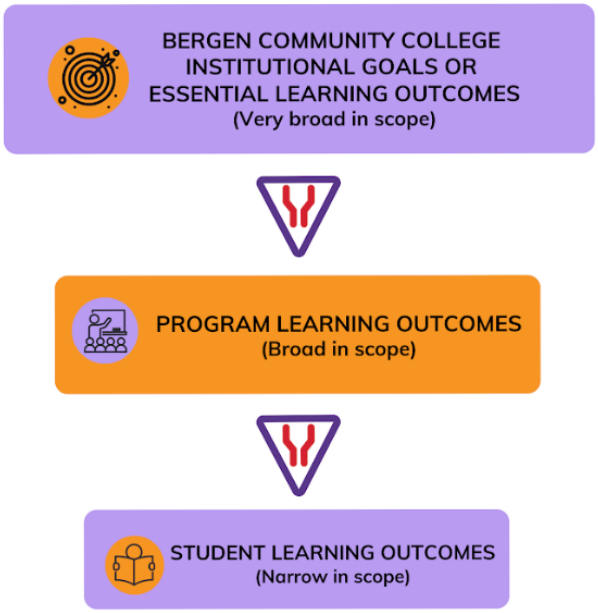
Using Curriculum Mapping to Confirm Outcomes

Mapping supports curriculum and course planning that is both organized and sequential. By definition, mapping is a tool that documents the relationship between learning outcomes and where and how that learning occurs. Curriculum Mapping is the most common form of mapping. A curriculum map consists of a table with two axes, one listing program outcomes and the other listing courses in the program. At the program level, curriculum mapping "makes visible how courses in a curriculum align to the learning outcomes to which that curriculum strives." (National Institute for Learning Outcomes Assessment, 2018) This mapping can show how individual courses relate to the program learning outcomes and the curricular emphasis given to each outcome. Curriculum mapping can help facilitate faculty discussion about the extent to which the program currently addresses the list of learning outcomes. A map can also identify program redundancies or gaps. A map also serves as a tool for confirming alignment and identifying the course(s) where the assessment should occur. See Mapping Learning: A Toolkit (https://www.learningoutcomesassessment.org/wpcontent/uploads/2019/02/MappingLearning.pdf) to learn more about mapping and its application in documenting learning.

Alignment of PLOs and SLOs

As stated earlier, program learning outcomes (PLOs) tend to be broad in scope, reflecting the overall program's goals. These outcomes should align with the narrower student learning outcomes at the bottom and the Essential Learning Outcomes (General Education) at the top, ensuring the graduates have the opportunity to acquire the stated learning, knowledge, or skill upon completion of the program. See the illustration of this alignment in Figure 7 below.

Figure 7: Aligning Learning Outcomes from Institutional Learning Outcomes through Student Learning Outcomes



Within all levels of learning are expected to be represented in the College's curriculum, meaning *mastery* or *working towards mastery* of all PLOs can be expected as a result of taking a sequence of courses in a program. In preparation for a program review, all PLOs are expected to be assessed within four years. As an example, consider a Literature program where faculty members recognize that "reading" and "remembering" are the first steps toward "analyzing." In the following SLO, the assumption is that students have already mastered reading and comprehending the assigned reading, so the statement "The students will choose an assigned reading and analyze the elements of …" is a mid-level learning outcome categorized as "analyzing." "Evaluating" and "creating" portray the highest learning levels and advance from cognitive learning to affective and psychomotor learning, with assessment activities linked to practical applications of materials presented. For example, "The students will create a portfolio presenting…." or "The students will present an argument related to …." A lower-level PLO to align with the above SLOs might be "Students will summarize varied assigned literary readings." A higher-level PLO aligned with the above SLOs might be "Students will analyze multiple texts and create a portfolio of their written analyses." In a nod to the Universal Design for Learning (UDL), attention to students' diversity of skills and development is represented throughout these examples. It allows for varied means of participation, mastery, and working towards mastery.

Planning Program Learning Outcomes Assessment Projects

Faculty are expected to regularly assess student learning in their classes as part of the teaching process. Assessment and evaluation of student learning, as it relates to mastery of program outcomes and student objectives, provides information about the knowledge and skills students will have from participation in the academic program or being in the specific course. Methods used for assessment provide a medium to evaluate the knowledge and skills that result from students meeting course requirements. During the assessment process, faculty reflect on what works well and what does not, then use this information to make changes to improve the student experience. The formal outcomes assessment process makes class assessment activities more systematic and reflective of the excellent work faculty regularly does.

The organization of the assessment project and collaboration among faculty members is a valuable element of the assessment process. Outcomes assessment includes gathering and evaluating data collected on students' performance on one designated assignment to confirm that the learning has occurred. The weaknesses and strengths of the assignment will be illuminated, and it is up to faculty members whether to keep the assignment as is, modify it, or replace it with a more effective means of assessment. Whether new assignments are developed or faculty keep an existing assignment "as-is" is an outcomes assessment best practice. In all cases, information learned from the assessment process must be implemented, thus closing the loop in the process. See the Use of Results: Closing the Loop section in Chapter 1 for more on closing the loop.

Implementing Program Learning Outcomes Assessment Projects

This section guides departments, led by the assessment liaison, in implementing outcomes assessments within the annual cycle. The following six steps are also linked to the assessment form designed to capture the assessment activities and findings.

Step 1: Reflect and report on the findings of prior assessment activities, the lessons learned, and the changes made. This is one way of documenting evidence of closing the loop and tracking progress.

Step 2: Identify the program-specific learning outcome(s) to be assessed and the course(s) in which the assessment will occur. This selection should be based on faculty/departmental deliberation and consensus. This might be a good time to affirm that the outcome(s) is one each student in your program should achieve upon completion of the degree or certificate.

Step 3: Decide on a target outcome(s) and apply appropriate assessment methods that align with that outcome(s).

- Plan a project that answers questions critical to the program and its effectiveness. Choose the SLO(s) that align most closely with the PLO(s) you selected to assess. SLOs are the course-level student learning outcomes stated on each master syllabus. Here is the opportunity to demonstrate how the identified skill or knowledge is presented to students in the program. In this section, consider the results faculty expect to see. For example, does the faculty consider mastery of the PLO(s)/SLO(s) to be 80% of the students earning 90% or higher on the assessment? This is where faculty are encouraged to find consensus on what is deemed as mastery of the skills or knowledge assessed.
- Ensure the project is manageable within the expected one-year time frame. Collaborating with peers, the department head, or the dean on these decisions is strongly encouraged. The

assessment liaison facilitates this process and can solicit assistance from the CIE Fellows or CIE assessment staff as needed.

- Identify the semester(s)/term(s) during which the assessment will occur.
- Describe the population of students, samples, or classes that will be included in the assessment project, e.g., all sections of SOC-101, a sample of sections of BIO-101, or for X number of online and Y number of in-person sections of COM-101. Also include a description of the faculty members participating in the project, e.g., all full-time faculty teaching the sections of SOC-101 in the 2022FA or full-time and part-time faculty teaching WEX-101.
- Finally, state the criteria for success expected, i.e., the expected outcome or the minimum threshold that indicates that learning has occurred (80% of the students earning 90% or higher on the assignment or earned an eight or higher on a 10-point rubric).

Steps 1-3 are captured in Part 1 of the Assessment Form, due at the end of the Fall semester. The divisional dean reviews and approves this submission.

Step 4: Collect and analyze data. Discuss what occurred and the criteria of success that was achieved (in short, did the plan outlined in Step 2 occur as planned?). In this step, note the project's strengths, the assessment tool used, and any other area where this cycle was useful. Consider possible weaknesses of factors that may warrant modifications of the assessment tool, instructional strategy, pedagogy, etc. Share the findings with the department. Faculty are encouraged to collaborate and discuss student achievement status in the program and the strengths and weaknesses of existing assignments/assessments. PLO assessments can lead to the recognition that the curriculum and existing assignments are effective and identify areas in need of improvement. This step is an optimal time to meet with program faculty to discuss perspectives on the data and project and compose recommendations. Furthermore, be sure to consider the implications of the project for future projects. What worked well? What needs some more attention? What changes should be made as an outcome of this cycle?

This feedback loop is essential in all assessment plans and is the beginning of closing the loop process.

Step 5: Submit the final report, including assessment results and recommendations, via Laserfiche using the IR0001—Program Assessment Form (https://lf.bergen.edu/Forms/IR0001). Use the Upload Button to include support documents, samples, and assignments in the submission. See Chapter Four for more information on submitting projects.

Step 6: Once the report has been submitted, departments are encouraged to begin addressing the recommendations and using the results for programmatic improvement or revising objectives or plans, if necessary. See Page 14 for more information on using assessment results and closing the loop.

Summary

Program faculty communicate the programmatic expectations for students by creating course-level Student learning outcomes (SLOs) that reflect and align with Program Learning Outcomes (PLOs). Creating course activities and assignments to align with the learning objectives and program outcomes reflects the best practices of teaching in higher education. Collaborative opportunities that encourage faculty to collect, analyze, and evaluate teaching practices and assessments of learning lead to informed decision-making about improvements in student learning, teaching, curriculum planning, and resource allocation. Faculty collaboratively design projects to collect student artifacts during the assessment process, then move on to evaluate the data. The findings of this process lead

to confirmation that current methods are effective or recognition that changes are needed and a call to action. Using these findings to make improvements is critical to ensuring educational and institutional effectiveness, as is documenting and tracking these changes and related outcomes.

Chapter Three: Review of Programs and Program Options

Bergen Community College is committed to realizing its mission of providing "accessible and transformative programs and services to its diverse community" and "student success, innovation, and inclusivity." The program review process provides an opportunity to examine and capture the strength and viability of the academic programs and certificates consistent with this mission. Like an accreditation self-study, a program review is a periodic evaluation of how well an academic program or certificate accomplishes its stated purpose and addresses students' needs. It also identifies opportunities for improvement, i.e., the actions and resources needed to sustain and improve the program moving forward. The benefits of academic program reviews include but are not limited to:

- Improving program relevance and rigor that helps students stay engaged and leads to higher student retention rates.
- Encouraging systematic collection and review of student learning assessments and effectiveness measures
- Producing more prepared graduates who can take on more advanced courses, pursue further education, and perform well at jobs in their chosen fields.
- Ensuring that program options meet their stated mission and address the strategic directions of the College through their parent program
- Adapting to changing standards within specific disciplines, making it easier to maintain their accreditation.
- Recognizing and celebrating the achievements and successes of students and faculty
- Identifying and addressing concerns and difficulties
- Addressing and fulfilling accreditation requirements

According to Dickeson (2010), a college or university can define a program as "any activity or collection of activities of the institution that consumes resources" (p. 56). For the purposes of this framework, the definition of academic programs expands on Dickeson's to include the combination of courses organized to achieve learning outcomes related to the program offered. These academic programs comprise general education, electives, and required courses that lead to a degree or certificate. Examples of programs are:

1. A group of courses that result in a certificate or degree (e.g., A.S., A.A., A.F.A., A.A.S., CERT, C.O.A.)
2. Courses taken as developmental sequences (e.g., EBS, Developmental Math, or ESL)

Academic Program Review and Program Option Reporting

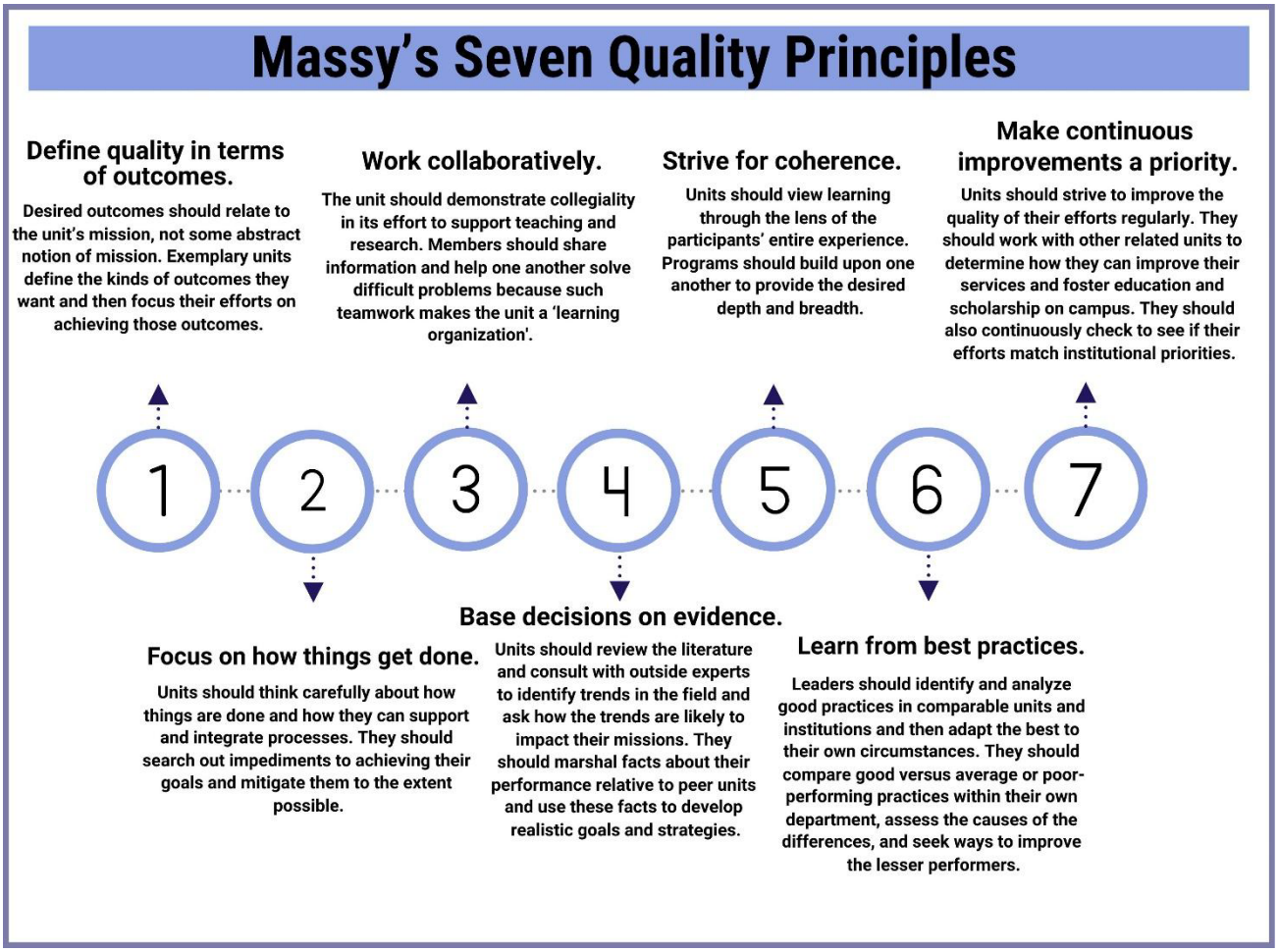
At Bergen, Academic Program Review (PR) and Program Option Reporting (POR) are faculty-driven self-studies. Faculty utilize the PR template for academic programs, while the POR template is designated for program options within larger academic programs. PRs include an in-depth review of all areas of the academic program, with an external evaluation component. In comparison, the POR is an abbreviated review that does not utilize external reviewers. Unless clearly stated, for the rest of this chapter, the term 'program review' will be used to refer to Program Review and Program Option Report.

Program Review allows each academic program and program option to self-assess and potentially illuminate areas of the program that can be improved. The PR process allows academic deans, department chairs, and faculty to examine and reflect on critical features of the programs,

options, and certificates under consideration. It is within PR that internal stakeholders can advance Bergen's Strategic Plan and College Mission. The PR also culminates the assessment process by integrating the findings from 4 years of Program Learning Outcomes assessment projects. Building on its prior program review process, the current PR process outlined in this handbook incorporates elements from the Seven Quality Principles, the Massy Model (2003), and the Dickeson Prioritization Model (2009).

With its seven principles, Massy's Model focuses less on quality and more on the assessment process to develop a practical guide for academic program improvement. These quality principles are described in Figure 7 below.

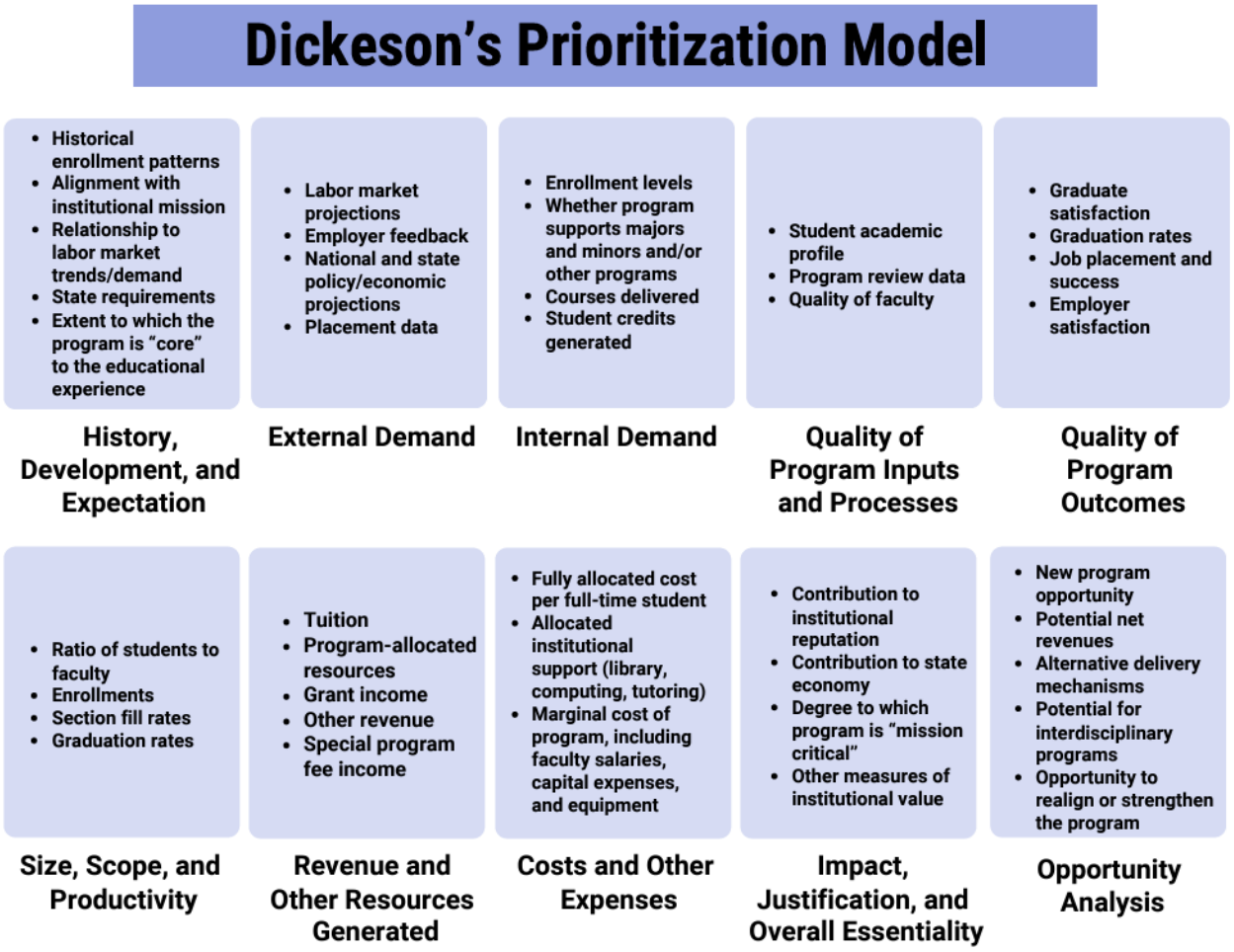
Figure 7: Massy's Seven Quality Principles



Source: Massy, W.F. (2003). *Honoring the trust: Quality and cost containment in higher education*. Anker Publishing.

The Dickeson Prioritization Model focuses on resource allocation to facilitate closing the loop on PR findings. This model includes ten benchmarks for measuring a program's impact and quality. See Figure 8 for a more detailed description of these benchmarks.

Figure 8: Dickeson's Prioritization Model



The following sections provide an overview of the Program Option Report and Program Review cycles and the scope of each report.

The Program Option Report Cycle

As noted above, the Program Option Report (POR) reviews a Program Option. It is designed to be considered and incorporated into the comprehensive program review of the program with which this option is associated. The following sections provide the review cycle for program options, including completing the POR and addressing its findings.

Below are guidelines one might consider following when completing the Program Option Report. These include suggestions for individuals involved in the ongoing process, how to get the additional data, and more. As always, do not hesitate to contact the CIE Fellows and staff, if needed.

The Review

Based on the models mentioned above, the POR includes the following elements:

1. Overview of the Program Option—This section addresses the currency of the option's description and program learning outcomes.

2. Summary of Significant Developments Since the last Program Option Report—This section seeks to capture progress from the previous review and other programmatic changes. It also includes questions about articulation agreements with colleges, universities, and local high schools.
3. Focus on Curriculum—This section addresses the currency of the courses offered, the scope and sequence, teaching innovations, assessment of program learning outcomes, and other relevant issues.
4. Focus on Students—This section focuses on the students enrolled in the program option and how it meets their needs.
5. Focus on Program Options Support: Faculty, Staff, and Support Services—This section encourages reflection on the faculty and staff who lead and support the option and the support services available to enrolled students.
6. Summary — This section focuses on the option's relationship with the affiliated associate degree, recommendations for examining the option currency, and assessment of program learning outcomes.
7. The Action Plan outlines the goals and objectives for programmatic improvements, the responsible parties, resource implications, rationale, and appropriate timelines.

The Review Phases

The Program Option Report (POR) process consists of three phases: the Evaluation Phase, the Implementation Phase, and the Assessment Phase.

Evaluation Phase

- The Center for Institutional Effectiveness, in collaboration with the Vice President of Academic Affairs/Provost (VPAAP) and deans, provides the Program Option Report Schedule listing when programs are expected to participate in the review process. This schedule is subject to change, with changes published at the beginning of the fall semester of each year.
- The Program Option Report writer is usually a faculty member or the department chair affiliated with the program option.
- The Department Chair and Divisional Dean attend the Assessment/Program Review Kick-off Meeting at the beginning of the academic year. This meeting marks the official start of the annual cycle.
- The report writer will complete the full Program Option Report with the assistance of the chair or colleagues in the department or division.
- The Center of Institutional Effectiveness will prepare a standard data packet for each program option under view. Requests for additional data should be submitted using the Center's Data Request Form (https://bergen.edu/about-us/institutional-effectiveness/institutional-research/data-request-form/)
- The report writer analyzes the data provided and collects and analyzes additional data to complete the appropriate sections of the report template.
- Recommendations to change the curriculum, etc., should be based on the findings from the data analysis. These recommendations should inform the goals in the Action Plan section.
- The Evaluation Phase ends with the submission and approval of the completed Program Option Report.

Implementation Phase

- The VPAAP or a designated body reviews the final Program Option Report. The reports are archived if approved, and a copy of the Program Option Report is posted online.

- The final report, including the Action Plan, is presented at a Divisional meeting and a public forum in the Fall semester.
- The Divisional Dean for the program option discusses and addresses the Action Plan with the VPAAP and initiates a plan to address the goals. If the report is not approved, the dean will work with the team chair and department to address all issues and concerns related to the report.
- The Department Chair and faculty will begin implementing curricular changes. In contrast, administrators (Deans, VPAA's office, and others, as necessary) begin to address budgetary and other recommendations mentioned in the report if feasible and supported by the report's findings.
- Deans and Department Chairs will track the implementation of the Action Plan, including documenting all actions taken, resources allocated, and pending needs related to the plan's recommendations. Evidence of this tracking should be maintained in the Dean's and VPAA's offices. It will help demonstrate compliance with Middle States Guidelines concerning the use of evidence to inform curriculum, instruction, and resource allocation. See Page 14, Closing the loop: Use of Assessment Results, for more information.

Assessment Phase

- During the Implementation Phase, faculty will engage in assessment activities outlined in Chapter 2 and according to the published Program Review and Assessment Schedule.
- The results of these assessment activities should also inform recommendations and included in the tracking process described in the Implementation Phase.
- Evidence of these activities and all actions taken, resources allocated, and pending needs must be maintained for consideration and inclusion in the following Program Option Report. This evidence is also vital in demonstrating compliance with Middle States Guidelines concerning using evidence to inform curriculum, instruction, and resource allocation.

The Program Review (PR) Cycle

Program Review (PR) reflects an academic department's self-assessment of the viability of its program(s) and course offerings. It is an opportunity for a program's faculty to create a holistic evaluation of its program goals and student learning outcomes and discover how they align with the college's overall goals and the professional demands of its field of specialization. The four annual cycles of program learning assessments, the contribution of the outside reviewer, and the team organized to develop this project are equally significant components of this review process.

Below are guidelines one might consider following to get the Program Review underway. These include suggestions for building the team needed to complete the process, a timeline, individuals involved in the ongoing process, how to get the additional data, and more. As always, do not hesitate to contact the CIE Fellows and staff if needed.

The Review

Based on Massy's and Dickeson's models mentioned earlier, the Program Review report includes the following elements:

1. Overview of the Program—This section addresses the currency of the program's description and program learning outcomes.
2. Summary of Significant Developments Since the last Program Review—This section seeks to capture progress since the previous review and other programmatic changes that have

occurred since then. It also includes questions about articulation agreements with colleges, universities, and local high schools.

3. Focus on Curriculum—This section addresses the currency of the curriculum and courses offered, the scope and sequence, teaching innovations, assessment of program learning outcomes, and other relevant issues.
4. Focus on Students—This section focuses on the students enrolled in the program, their success rates, and the extent to which the program meets their needs.
5. Focus on Faculty and Staff—This section encourages reflection on the faculty and staff who lead and support the program.
6. Focus on Support Services—This section encourages an examination of the support services available to program students.
7. Focus on Community—This section captures how the department and program engage with the community and partnering institutions.
8. Summary—This section focuses on the recommendations for examining the program currency, and assessment of program learning outcomes.
9. The External Evaluation Report—This report captures the external consultant's evaluation and subsequent recommendations for the program's future, including recommendations for improvements. Select programs, such as Paralegal Studies and Health Profession programs, must adhere to the self-study mandates outlined by their external accreditation agencies. These outside agencies certify that our graduates are prepared to enter their respective professions once they complete Bergen's course of study. For these programs, a separate external evaluation is not required. In these cases, the findings and recommendations from these external agencies may be used to satisfy this component of the program review process.
10. The Action Plan—This plan outlines the goals and objectives leading to programmatic improvements, the responsible parties, resource implications, and appropriate timelines.

The Program Review Committee

Create a Program Review Team consisting of an appropriate combination of the following members (4-6 individuals are optimal):

- A Team Chair, typically the department chair, whenever possible. If the department chair is unable to chair the program review, they can nominate a faculty member in consultation with the Divisional Dean and the Vice President of Academic Affairs/Provost (VPAAP)
- Designated faculty and staff from the area are invited to serve on the team by the Team Chair in consultation with the Divisional Dean
- Adjunct faculty or part-time staff, as appropriate, are also invited to serve by the Team Chair in consultation with the Divisional Dean
- Staff from other areas, as appropriate, may be asked to serve by the Team Chair in consultation with the Divisional Dean
- A faculty member from another division, as appropriate, chosen by the Team Chair in consultation with the Divisional Dean
- External Reviewer selected by the Divisional Dean based on recommendations from the Team Chair and approved by the VPAAP
- The Divisional Dean
- Senior Institutional Effectiveness Officer, ex officio
- Vice President of Academic Affairs/Provost, ex officio

The Review Phases

The Program Review consists of the Evaluation, Implementation, and Assessment phases.

Evaluation Phase

- The Center for Institutional Effectiveness, in collaboration with the VPAAP and deans, provides the Program Review Schedule listing when programs are expected to participate in the review process. This schedule is subject to change, with changes published at the beginning of the fall semester of each year.
- Each department will identify a Program Review Chair and a committee as outlined above.
- The team Chair, the Department Chair, and the Divisional Dean attend the Assessment/Program Review Kick-off Meeting at the beginning of the academic year. This meeting marks the official start of the annual cycle.
- The Team Chair will convene the full Program Review Committee meetings and lead and implement a work plan to complete the final Program Review Report.
- The Committee, in consultation with the Divisional Dean, will also identify two potential external evaluators and share this list with the VP of Academic Affairs. (See Section of External Evaluator for more details.) The external review is done by an outside consultant who is an expert in the field, preferably experienced community college colleagues with expertise in academic program review or accreditation.
- The Center of Institutional Effectiveness will prepare a standard data packet for each program under view. Requests for additional data should be submitted using the Center's Data Request Form (https://bergen.edu/about-us/institutional-effectiveness/institutional-research/data-request-form/)
- Led by the Team Chair, the Committee will analyze the data provided and collect and analyze additional data to complete the appropriate sections of the review template.
- The Divisional Dean selects the external reviewer based on recommendations from the Team Chair.
- Once the external reviewer is identified, the Team Chair provides them with the preliminary data and information for review.
- The external reviewer works closely with the faculty/staff and the Team Chair. The reviewer examines a program's information, relevant data and survey results, course outlines, program requirements, etc., and then participates in an on-site visit. This visit must include a classroom observation (to be determined by the program review team in consultation with the Divisional Dean) and meetings with faculty/staff and students.
- In an exit interview, the external reviewer meets with the VPAA, or designee, to offer preliminary recommendations. A final report is generated by the reviewer and submitted as part of the final Program Review Report.
- Draft recommendations to make changes to the program based on findings from the data analysis, the review of the various foci, and recommendations from the external evaluator's report. These recommendations should inform the goals of the action plan.
- The Evaluation Phase ends with the submission and approval of the completed Program Review Report.

Proposed Timeline for Completing the Program Review

Below is a suggested timeline for reviewing a specific program. The Team Chair may modify the number of meetings according to need.

Attend the Program Review/Assessment kick-off meeting.	Early September
Identify a team chair. *(email chair contact info to the CIE Staff)*	End of September
First team meeting to focus on the process by – i.e., divide tasks and responsibilities for completing the process	Early October
Second team meeting to review standard data sets by – i.e., review collected data, recognize data/information needs, etc.	2nd week of November
Third team meeting to review data from other sources and determine if more data is needed by – i.e., outline the first draft of the document (begin analysis of information gathered, preview initial results based on information gathered)	2nd week of December
Fourth team meeting to formulate recommendations and begin writing results by	2nd week of February
Fifth team meeting to prepare the second draft by	2nd week of March
Send the second draft of the report to the outside reviewer, if necessary, and a site visit should be scheduled	1st week of April
Final report completed by	June 1st
Presentation to division	During Fall Semester
Presentation and dissemination at a public forum	During Fall Semester

Implementation Phase

- The Vice President of Academic Affairs/Provost (VPAAP) or a designated body reviews the final Program Review Report. The reports are archived if approved, and a copy of the Program Option Report is posted online.
- The final report, including the Action Plan, is presented at a Divisional meeting and a public forum in the Fall semester.
- The Divisional Dean for the program discusses and addresses the Action Plan with the VPAAP and initiates an Implementation Plan. If the report is not approved, the Dean will work with the Team Chair and department to address all issues and concerns related to the report.
- The department and faculty will begin implementing curricular changes. In contrast, administrators (Deans, VPAA's office, and others, as necessary) begin to address budgetary and other recommendations mentioned in the report if feasible and supported by the report's findings.
- The Dean and Department Chair will track the implementation of the Action Plan, including documenting all actions taken, resources allocated, and pending needs related to the plan's recommendations. Evidence of this tracking should be maintained in the Dean's and VPAA's offices. It will help to demonstrate compliance with Middle States Guidelines concerning the use of evidence to inform curriculum, instruction, and resource allocation. See Page 14, Closing the loop: Use of Assessment Results, for more information.

Assessment Phase

- During the Implementation Phase, faculty will engage in assessment activities outlined in Chapter 2 and according to the published Program Review and Assessment Schedule.
- The results of these assessment activities should also inform recommendations and included in the tracking process described in the Implementation Phase.

- Evidence of these activities and all actions taken, resources allocated, and pending needs must be maintained for consideration and inclusion in the following Program Option Report. This evidence is also vital in demonstrating compliance with Middle States Guidelines concerning using evidence to inform curriculum, instruction, and resource allocation.

The Program Option Report and Program Review Templates

Following the Assessment/Program Review Kick-off Meeting, the Center for Institutional Effectiveness staff emails the appropriate template(s) to the Dean and Department Chair based on the programs and options being reviewed. Once the Program Review Chair or Option Report Writer is identified, the templates are sent to them.

Copies of the templates are also available on the College's portal. See the Center for Institutional Effectiveness Tile.

The External Evaluation

General Instructions for Completing the Evaluator's Report

The external consultant's evaluation and subsequent recommendations are critically important to the Program Review process as they shape the program's direction for the next five years. As a reminder, an external evaluation is not required for programs with specialized accrediting agencies. In these cases, the findings and recommendations from these external agencies may be used to satisfy this component of the program review process. For other programs, the external evaluator's recommendations need to be focused on specific areas of improvement, and each one is supported with a brief rationale.

The following is a suggested outline of the external evaluator's report. The sections and foci of this report may be adjusted depending on the program and scope of the program review.

Section 1- Executive Summary

Please provide a summary of the existing program's significant findings, strengths, weaknesses, and recommendations with rationale for program improvements. Please include general observations on the program and curriculum, quality of student learning and the achievement of Student Learning Outcomes, faculty, students, facilities, and resources, as well as any additional insights or recommendations not articulated in the sections below.

Section 2- Introduction, Mission, and Goals

Please provide general observations and comments on the mission and goals of the program, including**:**

- Appropriateness of admissions and graduation requirements
- The appropriate number of credit hours for the degrees
- Involvement of business and industry and other local employers in establishing goals, objectives, learning outcomes, and curriculum (AAS and career programs)

Section 3- Curriculum

Please provide comments on the curriculum, including**:**

- Whether program goals have been addressed appropriately at the course level
- Appropriateness of prerequisites
- The flow and relationship of courses to one another
- Whether the course content and the program of study are of sufficient intellectual rigor
- Adequateness of the General Education courses in the program. Please comment on the inclusion of diversity, ethical reasoning, critical thinking, and information literacy in the program
- Any suggestions for improvement of the curriculum
- Whether the program provides the students with appropriate opportunities to apply their knowledge and skills (internships, fieldwork, laboratories, assistantships, research, and papers)
- Any strategies that can be implemented in the program to support student success
- Any other ways to ensure consistency in student learning and achievement for various modes of learning (face-to-face, hybrid, and online)

Section 4 - Statistical Data

Based on the provided data on enrollment, retention, transfer, graduation, and placement rates in career programs, please comment on the following:

Students

- How this information can be used to improve the curriculum so that it leads to student success
- How to improve enrollment, retention, and graduation
- Career options, placement, and satisfaction of graduates
- Diversity of student population

Faculty

- Adequacy of faculty to deliver the program (number and qualification of faculty)
- On-going professional development

Facilities and Resources

- Availability and adequacy of the services and institutional support for the learning environment (i.e., tutoring, media, library collection, disabled student support, equipment, computer labs, and service learning) for existing and proposed programs. Please be specific about any current deficiencies or projected needs
- Appropriateness of space for the existing program
- Adequacy of the services for students

External Environment & Demand for the Program

- Current need and demand for this program
- Outlook for the next five years

Section 5-Program Evaluation and Assessment of Course-Level Student Learning Outcomes

(To be completed only if Program Assessment has been completed)

- Feedback/suggestions on any student learning outcome
- Adequacy of student learning assessment
- Appropriateness of changes that have been made in the program as a result of assessment to reflect continuous improvement
- Any suggestions to improve the assessment process
- Value of assessment plan and the impact of assessment on the program

Detailed Recommendations

- Please list recommendations in a bulleted points list (A brief rationale must support each recommendation)

Chapter Four: Submitting Assessment and Program Review Reports

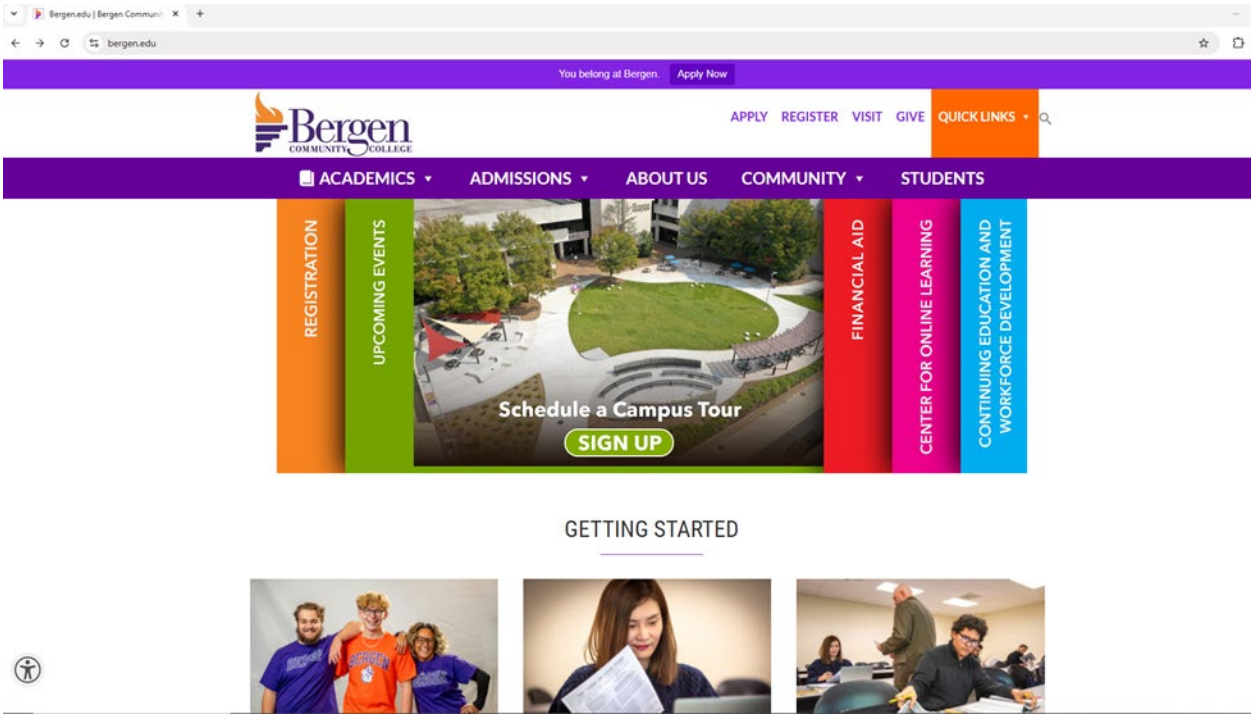
The Center of Institutional Effectiveness has collaborated with Information Technology Services to leverage Laserfiche to facilitate the submission, review, approval, and archiving of the assessment reports. Laserfiche is used across the institution to manage workflow and collect, route, organize, and archive forms and documents.

This chapter provides the basic steps for navigating to Laserfiche and accessing the CIE forms. Please contact the CIE Fellows or staff if you have any questions or encounter any issues accessing or submitting these forms.

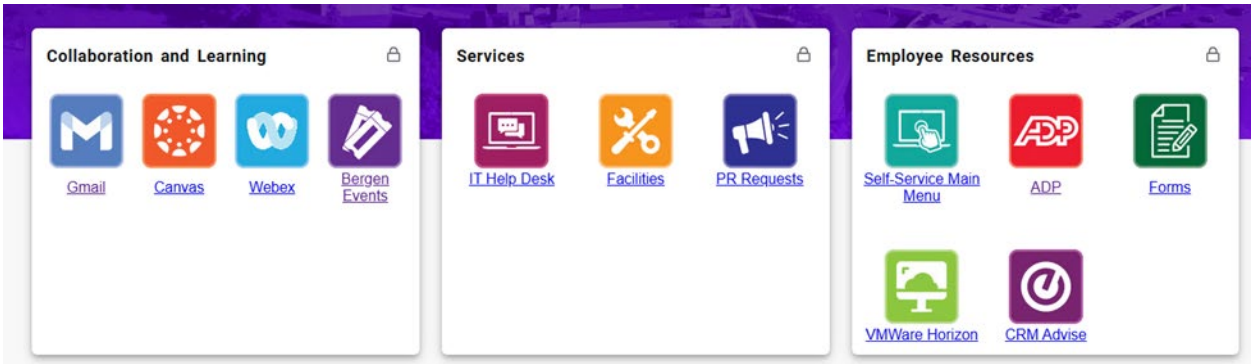
Navigating to Laserfiche Forms

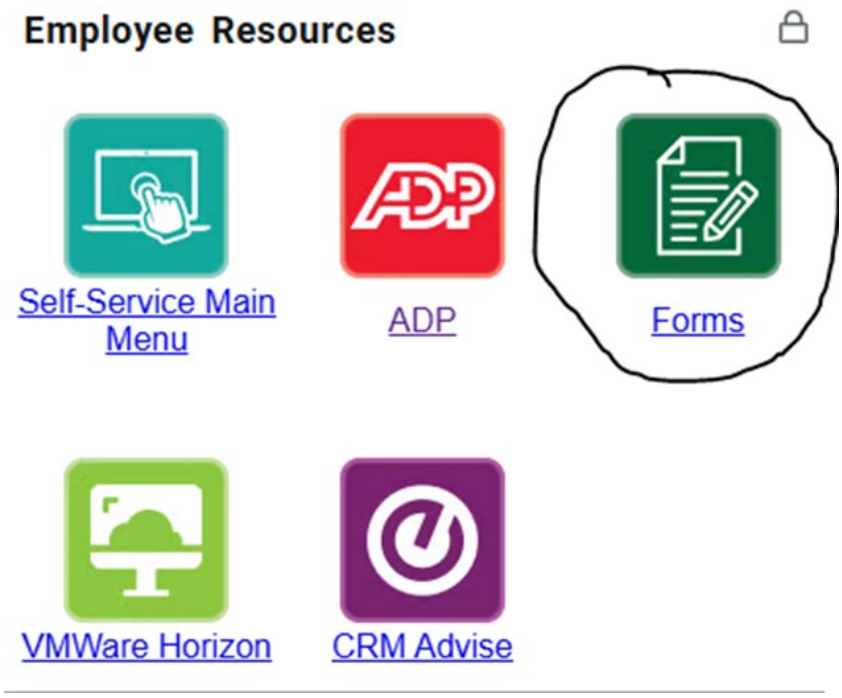
Use the following steps to navigate from the College's page to the Laserfiche forms.

Step 1: Go to Bergen.edu and click MY.BERGEN.EDU from the *Quick Links* menu.

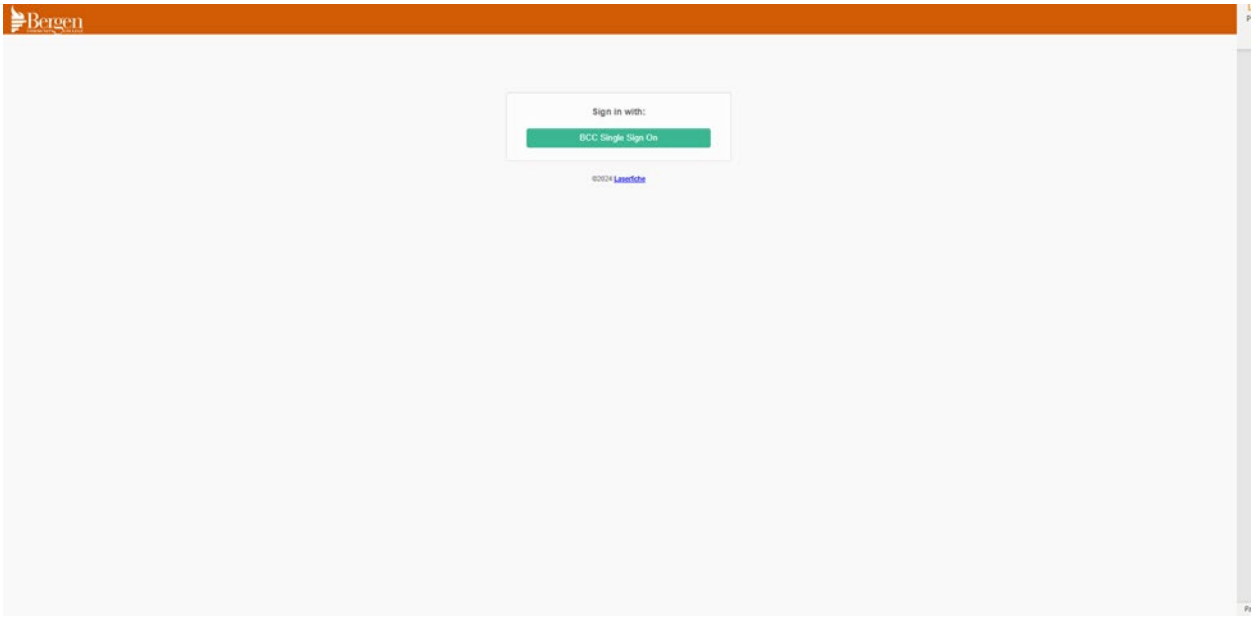


Step 2: From the "Employee Resources" tile, click on "Forms." This will bring you to Laserfiche.

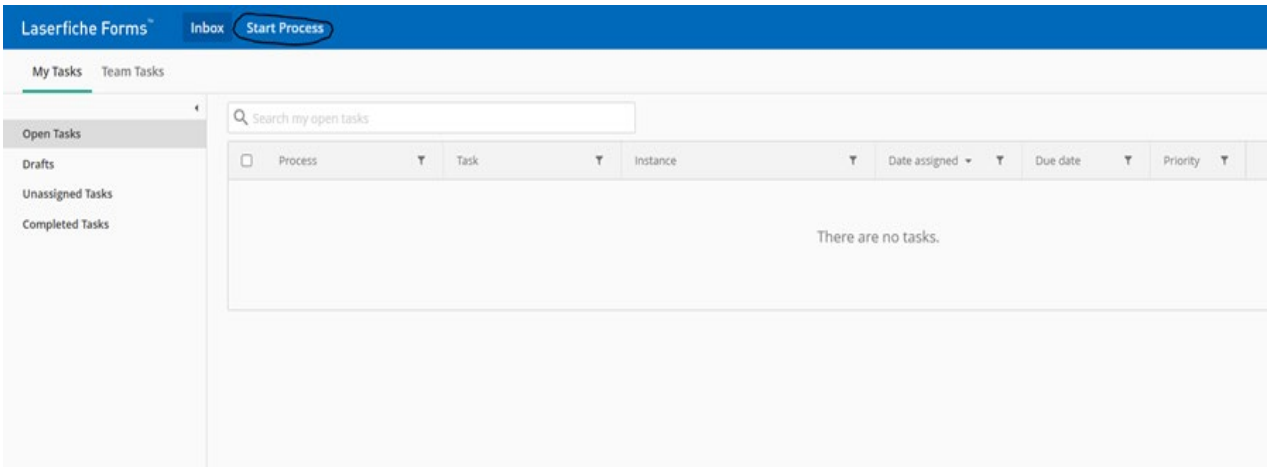




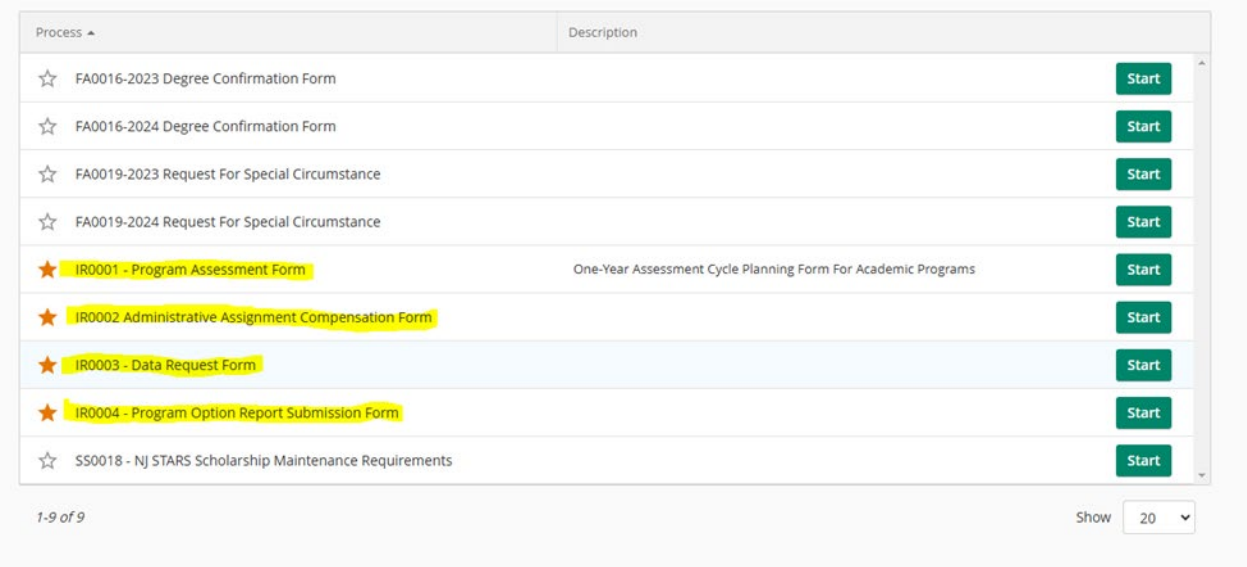
Step 3: Sign into Laserfiche.



Step 4: This will bring you to your Laserfiche Forms. Click on "Start Process" in the upper left corner.



Step 5: In the search bar enter "IR" and click enter. This will bring up four IR forms: *Program Assessment Form*, *Administrative Assignment Compensation Form*, *Data Request Form*, and *Program Option Report Form*.

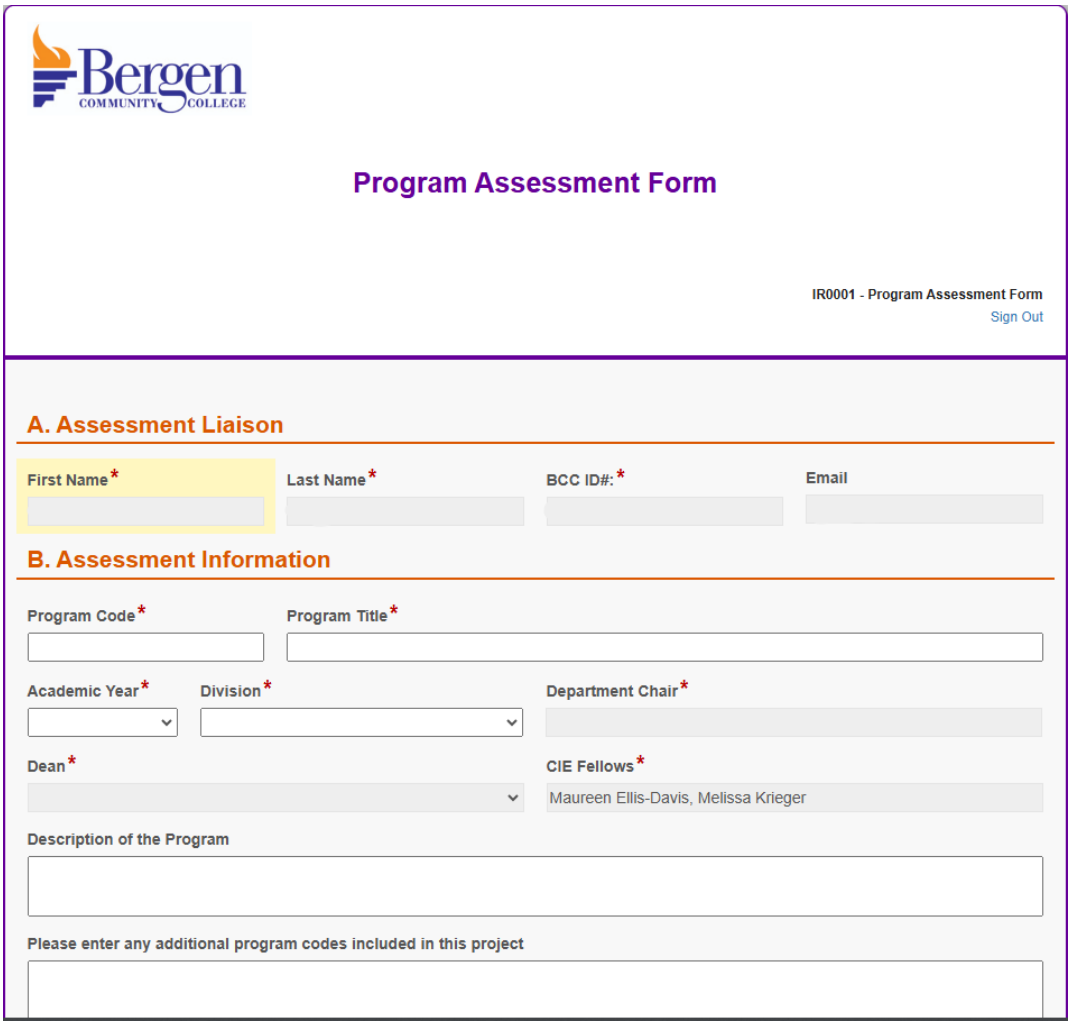


Description of Assessment Forms

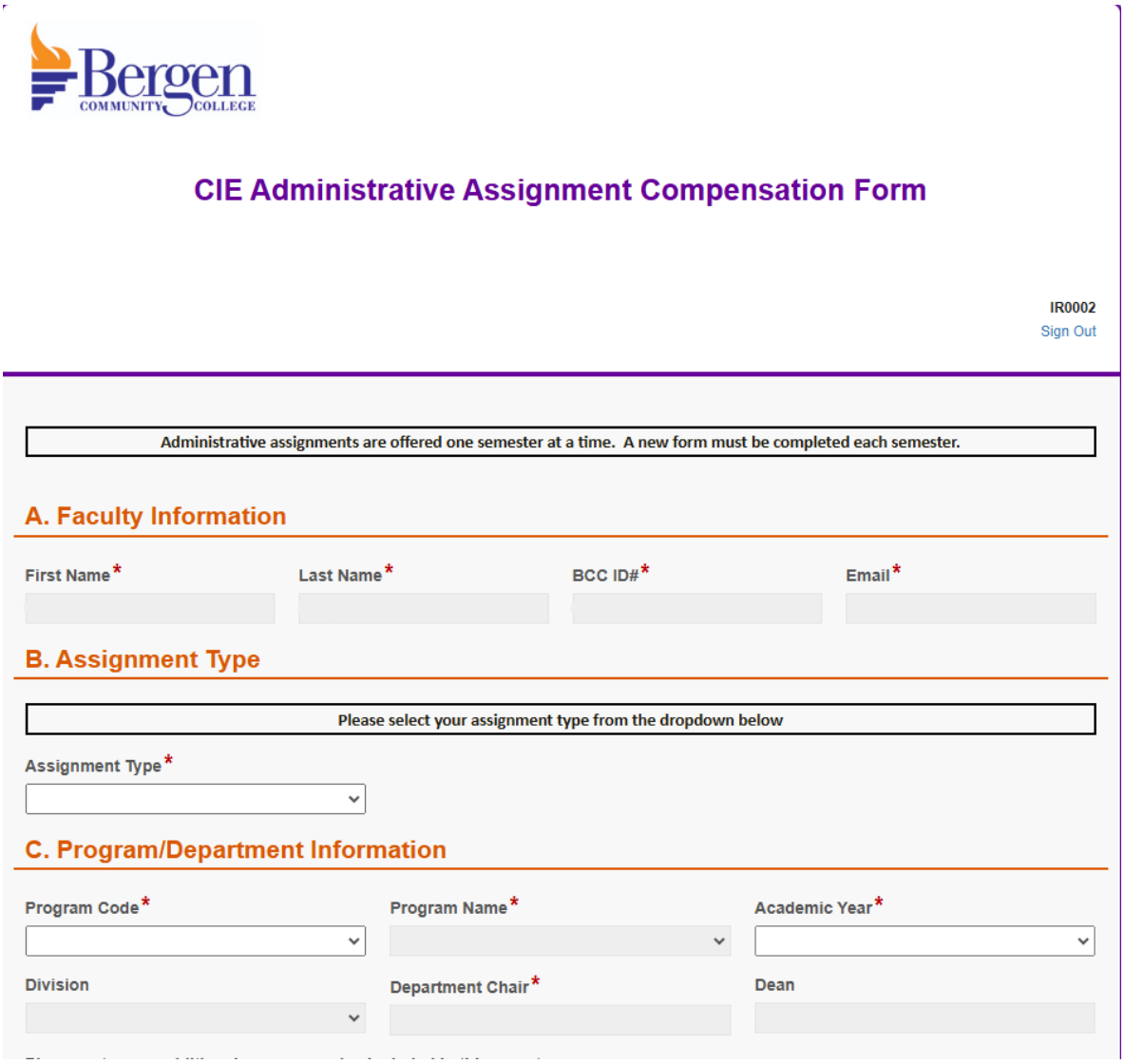
IR0001- Program Assessment Form: Use this form to initiate the annual assessment project. Submitting this form marks the completion of Part 1 of the form, which will be reviewed and approved by the Dean. Once Part 2 is released, the initiator receives an email notification to complete the assessment report.

Please complete all sections of Part 2 of the form to aid in reviewing, approving, and inventorying assessment reports. If necessary, copy and paste the response from Word. This step helps maximize the tracking and reporting functions built into Laserfiche.

Use the upload button to upload any supporting documents. Save documents as PDFs before uploading approved documents, where the liaison can upload their program assessment.



IR0002- Administrative Assignment Compensation Form: Assessment liaisons, Program Review Chairs, and Program Option Report Writers must use this form to submit for compensation. Use the Assignment Type drop-down in Part B of the form to select your role.



Bergen Community College

CIE Administrative Assignment Compensation Form

IR0002
Sign Out

Administrative assignments are offered one semester at a time. A new form must be completed each semester.

A. Faculty Information

First Name* Last Name* BCC ID#* Email*

B. Assignment Type

Please select your assignment type from the dropdown below

Assignment Type*

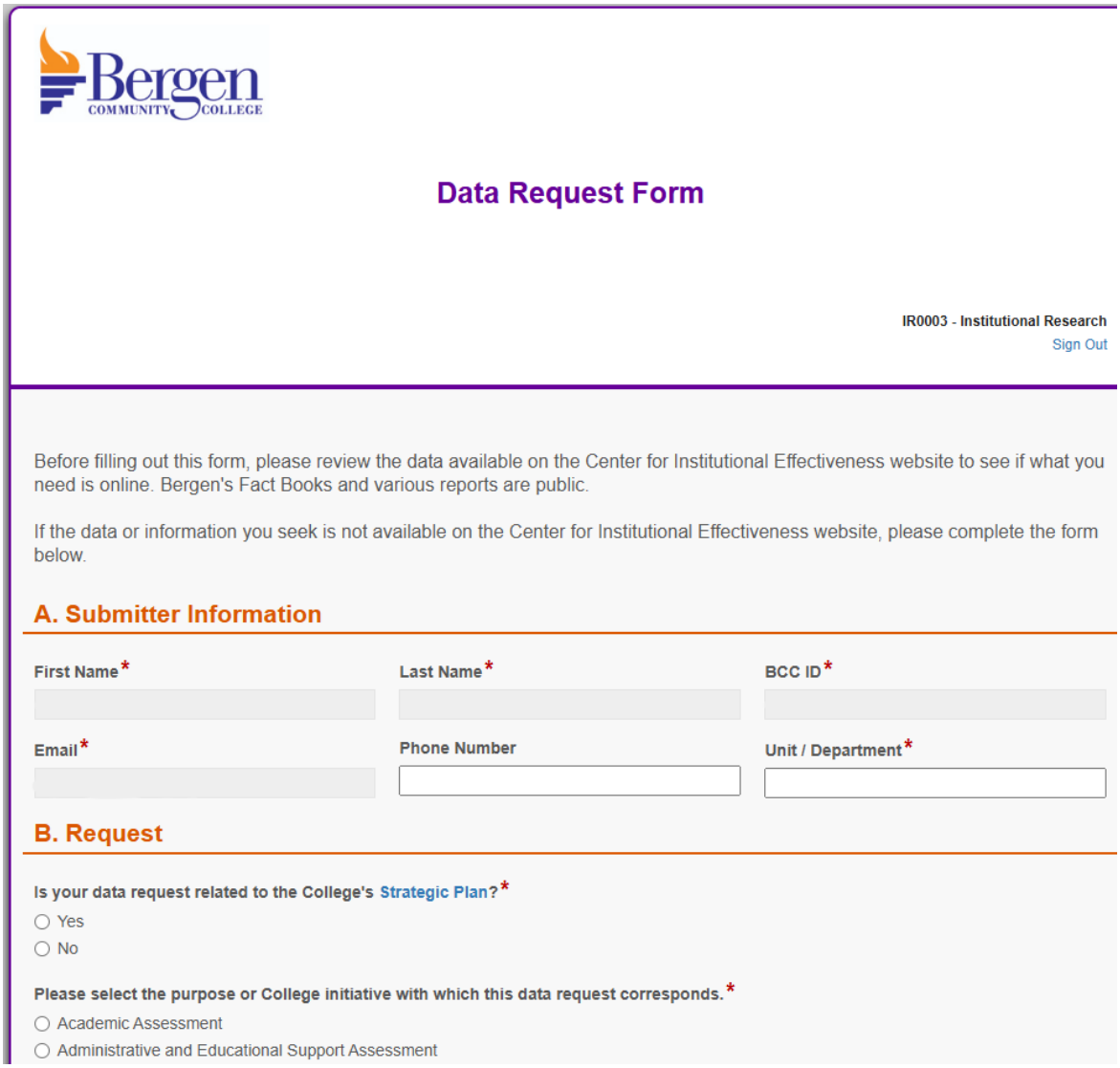
C. Program/Department Information

Program Code* Program Name* Academic Year*

Division Department Chair* Dean

Please note that compensation for the assessment liaison role is paid by term and should be requested as such. Compensation for program reviews and option reports is paid after they are approved by the Vice President of Academic Affairs/Provost.

IR0003- Data Request Form: Use this form to request additional data from the Center for Institutional Effectiveness.



Bergen Community College

Data Request Form

IR0003 - Institutional Research
Sign Out

Before filling out this form, please review the data available on the Center for Institutional Effectiveness website to see if what you need is online. Bergen's Fact Books and various reports are public.

If the data or information you seek is not available on the Center for Institutional Effectiveness website, please complete the form below.

A. Submitter Information

First Name* | Last Name* | BCC ID*

Email* | Phone Number | Unit / Department*

B. Request

Is your data request related to the College's Strategic Plan?*
- Yes
- No

Please select the purpose or College initiative with which this data request corresponds.*
- Academic Assessment
- Administrative and Educational Support Assessment

IR0004- Program Option Report Submission Form: Use this form to submit the final Program Review Report or Program Option Report.

Use the upload button to upload supporting documents, including the external evaluator's report, if applicable.

Save documents as PDFs before uploading approved, where the liaison can upload their program assessment.

Resources

Links to Center for Institutional Effectiveness Forms

1. For the Program Option Report Submission Form: (https://lf.bergen.edu/Forms/IR0004).
2. For the Data Request Form: (https://bergen.edu/about-us/institutional-effectiveness/institutional-research/data-request-form/)
3. For the Program Assessment Form:(https://lf.bergen.edu/Forms/IR0001).
4. For the Compensation for Assessment and Program Review: (https://lf.bergen.edu/Forms/IR0002)
5. For the Assessment and Program Review Cycle: (https://bergen.edu/about-us/institutional-effectiveness/assessment/).

Assessment Resources

Astin, A. W., Banta, T. W., Cross, K. P., El-Khawas, E., Ewell, P. T.,; Hutchings, P., Marchese, T. J., McClenney, K. M.; Mentkowski, M., Miller, M. A.; Moran, E. T., and Wright, B. D. *Making a difference in student learning: Assessment as a core strategy*. http://www.fctel.uncc.edu/pedagogy/assessment/9Principles.html (one of many sites with this document).

Authentic Assessments: https://sites.google.com/view/case-for-authenticassessmement/what-is-it?authuser=0

For Curriculum Mapping Learning: A Toolkit: (https://www.learningoutcomesassessment.org/wpcontent/uploads/2019/02/MappingLearning.pdf)

Bloom Taxonomies

Bloom, B., (1956). Anderson, L. W., & Krathwohl, D. R., 2001; and Krathwohl, D. R., (2002), Bloom's Taxonomy and Revisions, adapted from: https://teaching.cornell.edu/teaching-resources/designing-your-course/setting-learning-outcomes

Bloom Taxonomies: Cornell University
https://teaching.cornell.edu/resource/blooms-taxonomy

Bloom Taxonomies: Vanderbilt University
https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

Bloom's Wheel: Bloom's Taxonomy & Matching Assessment Types:
https://drive.google.com/file/d/1LXj6kFNTmn0Opn2wqkTjlEspvfaFgVCE/view?usp=sharing

References

Anderson, L. W. and Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.* Allyn & Bacon.

Astin, A. W. (1996). How "good" is your institution's retention rate? *Research in Higher Education*, 38(6), 647–658.

Bloom, B. S. and Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals, by a committee of college and university examiners.* Handbook I: Cognitive Domain. Boston, MA (Pearson Education Group) https://doi.org/10.1207/s15430421tip4104_2

Dickeson, R. C. (2010). Prioritizing academic programs and services: reallocating resources to achieve strategic balance (Revised and updated, Ser. The Jossey-Bass higher and adult education series). Jossey-Bass.

Fink, L. D. (2013). Creating significant learning experiences: an integrated approach to designing college courses (Revised and updated edition). San Francisco: Jossey-Bass.

Hutchings, P., Ewell, P., and Banta, T. (2012). *AAHEA principles of good practice: Aging nicely.* Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment https://www.learningoutcomesassessment.org/wp-content/uploads/2019/08/Viewpoint-Hutchings-EwellBanta.pdf

Institutional Effectiveness Planning. (2024). The Society for College and University Planning. https://www.scup.org/planning-type/institutional-effectiveness-planning/

Jankowski, N. A., Timmer, J. D., Kinzie, J., and Kuh, G. (2018). *Assessment that matters: Trending towards practices that document authentic student learning.* National Institute for Learning Outcomes Assessment. https://files.eric.ed.gov/fulltext/ED590514.pdf

Krathwohl, D. R. (2002). *A revision of Bloom's taxonomy in theory into practice*. 4*(14).* Autumn, 2002. Ohio State University.

Massy, W.F. (2003). *Honoring the trust: Quality and cost containment in higher education*. Anker Publishing.

Appendices

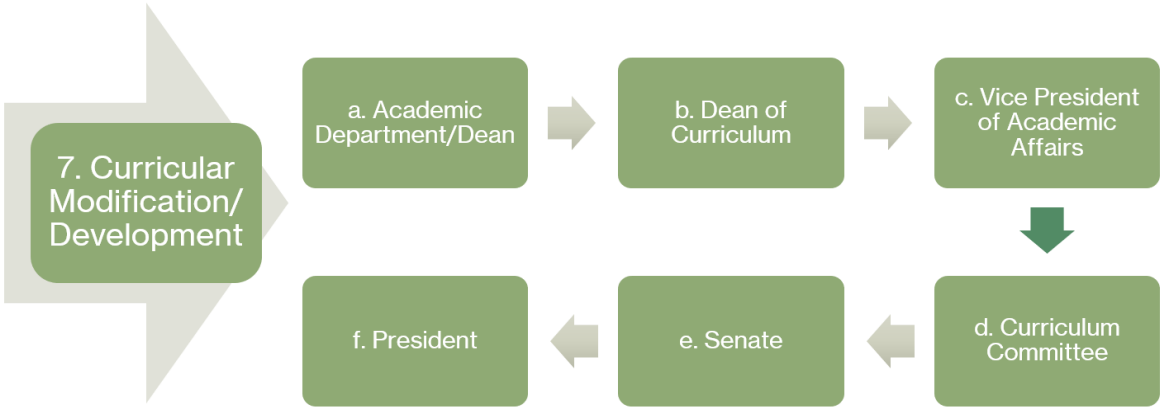
Appendix A: Addressing Assessment and Program Review Results and Recommendations

The following seven maps show the suggested flow chart for addressing assessment and program review results and recommendations. These maps include the six prioritization or action phases each category of recommendations may take to ensure full consideration. These maps also include the party(ies) and group(s) that should provide input or approval. This workflow is subject to change depending on priorities, needs, and institutional adjustments.

ACADEMIC RECOMMENDATIONS #1-6 MAP

Recommendation	Phase 1: Initiators	Phase 2: Divisional Prioritization	Phase 3: Vice President of Academic Affairs	Phase 4: Budget Development	Phase 5: Executive/Dept Sponsors	Phase 6: Final Approvers (if applicable)
1. Human Resources Needs	Academic Department/Dean	Program Review Chair, Department Chair/Coordinator, Dean, and AVP	AVP/Dean	Inclusion in budget request	Human Resources + Finance	President/Executive Team
2. Technology/ Equipment/Space Needs	Academic Department/Dean	Program Review Chair, Department Chair/Coordinator, Dean, and AVP	AVP/Dean	Inclusion in budget request	ITS + Facilities	President/Executive Team
3. Student Support Services Needs	Academic Department/Dean	Program Review Chair, Department Chair/Coordinator, Dean, and AVP	AVP/Dean	Inclusion in budget request	Student Affairs	President/Executive Team
4. Pedagogical Changes	Academic Department/Dean	If applicable	If applicable	If applicable	If applicable	If applicable
5. Professional Development	Academic Department/Dean	Program Review Chair, Department Chair/Coordinator, Dean, and AVP	AVP/Dean	If applicable	If applicable	If applicable
6. Other	Academic Department/Dean	If applicable	If applicable	If applicable	If applicable	If applicable

ACADEMIC RECOMMENDATION #7 MAP



Appendix B: Description of the Nine Principles of Good Practice for Assessing Student Learning

Nine Principles of Good Practice for Assessing Student Learning

1. The assessment of student learning begins with educational values. Assessment is not an end in itself but a vehicle for educational improvement. Its effective practice then begins with enacting a vision of the kinds of learning we most value for students and strive to help them achieve. Educational values should drive not only what we choose to assess but also how we do so. Where questions about the educational mission and values are skipped over, assessment threatens to be an exercise in measuring what is easy rather than a process of improving what we really care about.

2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time. Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but also values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom. Assessment should reflect these understandings by employing a diverse array of methods, including those that call for actual performance, and using them over time to reveal change, growth, and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning and, therefore, firmer bases for improving our students' educational experience.

3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes. Assessment is a goal-oriented process. It entails comparing educational performance with educational purposes and expectations -- those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for focused and useful assessment.

4. Assessment requires attention to outcomes but also equally to the experiences that lead to those outcomes. Information about outcomes is of high importance; where students "end up" matters greatly. However, to improve outcomes, we need to know about student experience along the way-about the curricula, teaching, and student effort that led to particular outcomes. Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.

5. Assessment works best when it is ongoing, not episodic. Assessment is a process whose power is cumulative. Though isolated, a "one-shot" assessment can be better than none, and improvement is best fostered when assessment entails a linked series of activities undertaken over time. This may mean tracking the process of individual students or cohorts of students; it may mean collecting the same examples of student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

6. Assessment fosters wider improvement when representatives from across the educational community are involved. Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty play an especially important role, but assessment questions can only be fully addressed with participation by student-affairs educators, librarians, administrators, and students. Assessment may also involve individuals from beyond the campus (alums/ae, trustees, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Tood, assessment is not a task for small groups of experts but a collaborative activity; its aim is to provide wider, better-informed attention to student learning by all parties with a stake in its improvement.

7. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about. Assessment recognizes the value of information in the process of improvement. However, to be useful, information must be connected to issues or questions that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.

8. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change. Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and addressed. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision-making and is avidly sought.

9. Through assessment, educators meet responsibilities to students and to the public. There is a compelling public stake in education. As educators, we have a responsibility to the public that supports or depends on us to provide information about the ways in which our students meet goals and expectations. Nevertheless, that responsibility goes beyond the reporting of such information; our deeper obligation -- to ourselves, our students, and society -- is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.

Authors: Alexander W. Astin; Trudy W. Banta; K. Patricia Cross; Elaine El-Khawas; Peter T. Ewell; Pat Hutchings; Theodore J. Marchese; Kay M. McClenney; Marcia Mentkowski; Margaret A. Miller; E. Thomas, Moran; Barbara D. Wright

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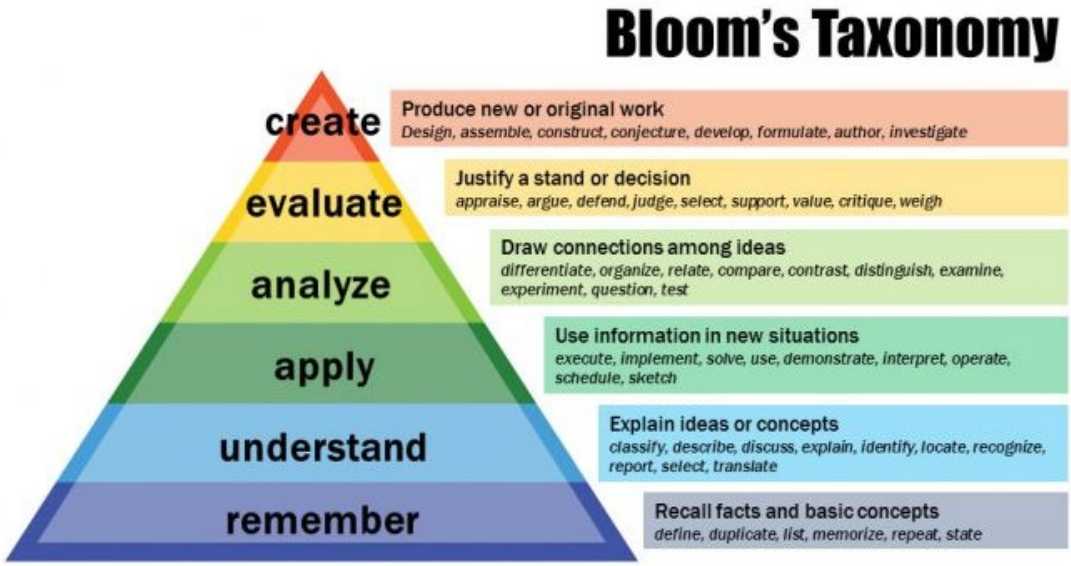
Information provided by: The Higher Learning Commission: American Association for Higher Education; *Making a Difference in Student Learning: Assessment as a Core Strategy*. http://www.fctel.uncc.edu/pedagogy/assessment/9Principles.html (one of many sites with this document)

Appendix C: Bloom's Taxonomy and Revisions

(Bloom,1956; Anderson, L.W., & Krathwohl, D.R., 2001; Krathwohl, D.R., 2002 with revisions included)
Adapted from: **https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/**



Bloom's Taxonomy Verbs

Category	Definition	Verbs		
Remember	Retrieving relevant knowledge from long-term memory.	• Arrange • Choose • Cite • Copy • Define • Describe • Draw • List • Identify • Indicate • Label	• Locate • Match • Memorize • Name • Order • Outline • Quote • Read • Recall • Recite • Recognize	• Record • Relate • Repeat • Reproduce • Review • Select • State • Tabulate • Tell • Underline • Write
Understand	Determining meaning.	• Articulate • Associate • Characterize • Cite • Clarify • Classify • Compare • Contrast • Convert • Defend • Demonstrate • Describe • Differentiate • Discuss • Distinguish • Estimate	• Extend • Extrapolate • Generalize • Give • Give examples • Identify • Illustrate • Indicate • Infer • Interpolate • Interpret • Locate • Match • Observe • Organize	• Relate • Report • Represent • Restate • Review • Rewrite • Select • Summarize • Tell • Translate • Paraphrase • Predict • Recognize • Express • Explain
Apply	Carrying out or using a procedure in a given situation.	• Act • Adapt • Apply • Back • Back up • Calculate • Change • Choose • Classify • Complete • Compute • Construct • Demonstrate • Develop • Discover	• Dramatize • Employ • Experiment • Explain • Generalize • Identify • Illustrate • Implement • Interpret • Interview • Manipulate • Modify • Operate • Organize • Paint	• Practice • Predict • Prepare • Produce • Relate • Schedule • Select • Show • Simulate • Sketch • Solve • Translate • Use • Utilize • Write

Bloom's Taxonomy Verbs

Category	Definition	Verbs		
Analyze	Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.	• Analyze • Appraise • Break • Break down • Calculate • Categorize • Classify • Compare • Conclude • Contrast • Correlate • criticize • Identify • Illustrate • Infer • Inspect	• Debate • Deduce • Detect • Diagnose • Diagram • Differentiate • Discover • Discriminate • Dissect • Distinguish • Divide • evaluate • Examine • Experiment • Figure • Group	• Inventory • Investigate • Order • organize • Outline • Point out • Predict • Prioritize • Question • Relate • Select • Separate • Solve • Subdivide • Survey • Test
Evaluate	Making judgments based on criteria and standards.	• Appraise • Argue • Arrange • Assess • Attach • Choose • Compare • Conclude • Contrast • Core • Counsel • Create • Criticize • Critique • Decide	• Defend • Describe • Design • Determine • Discriminate • Estimate • Evaluate • Explain • Grade • Invent • Judge • Manage • Mediate • Prepare • Weigh	• Probe • Rate • Rearrange • Reconcile • Release • Rewrite • Select • Set up • Supervise • Synthesize • Test • Value • Verify

Bloom's Taxonomy Verbs

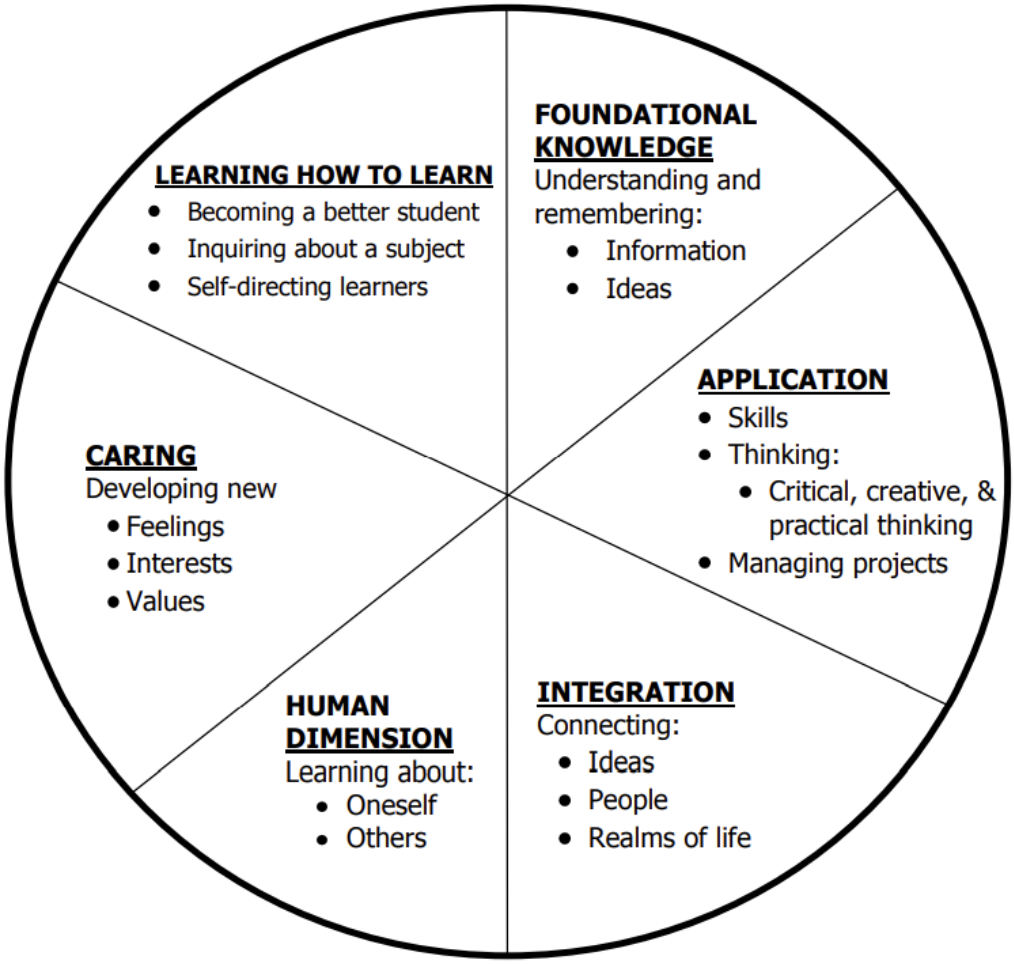
Category	Definition	Verbs		
Create	Putting elements together to form a novel, coherent whole or make an original product.	• Arrange • Assemble • Categorize • Choose • Collect • Combine • Compile • Compose • Construct • Create • Design • Develop • Devise • Estimate • Evaluate • Explain • Facilitate	• Formulate • Generalize • Generate • Hypothesize • Improve • Integrate • Invent • Make • Manage • Modify • Organize • Originate • Plan • Predict • Prepare • Produce • Propose	• Rate • Rearrange • Reconstruct • Relate • Reorganize • Revise • Rewrite • Role-play • Set up • Specify • Summarize • Synthesize • Tell • Tell why • Write

Adapted from Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives. New York: Longman.

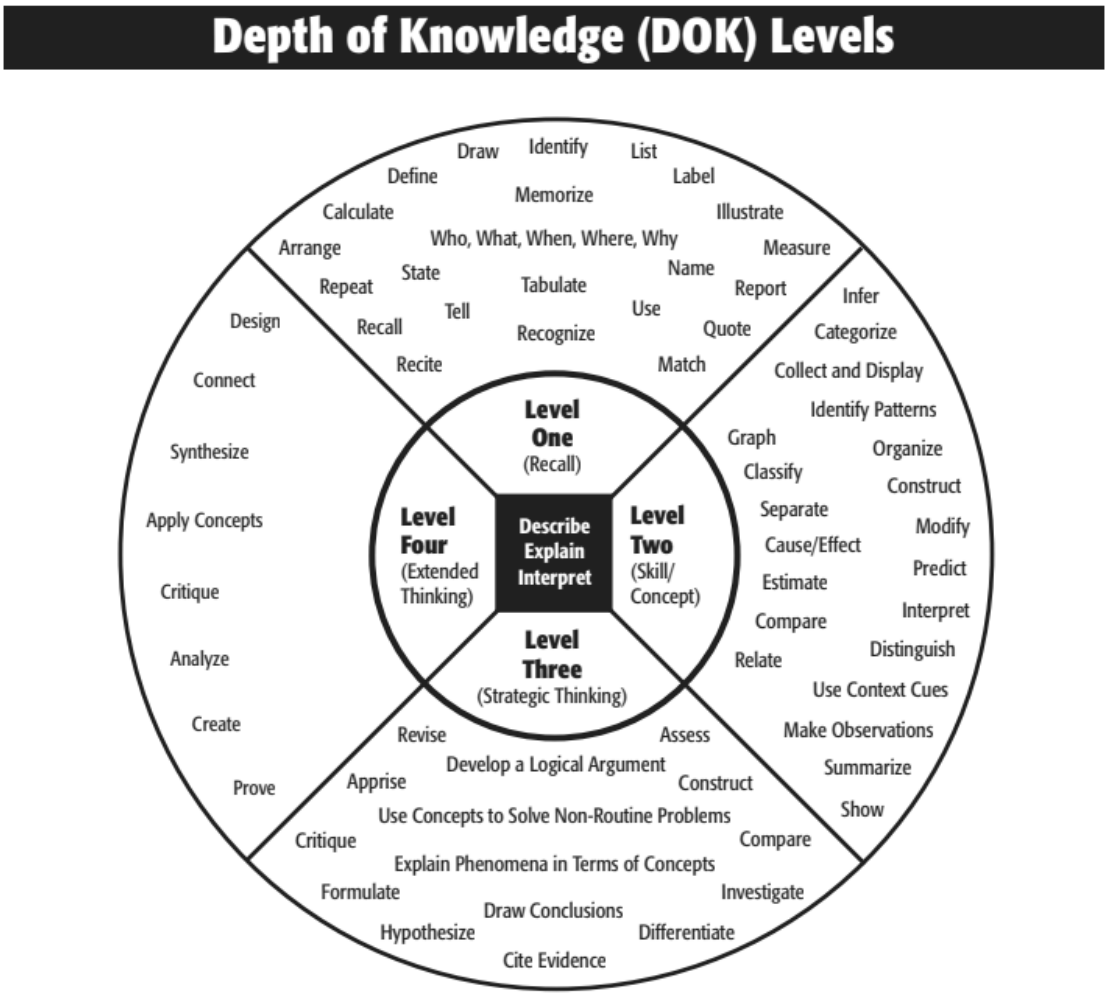
Appendix D: A Taxonomy of Significant Learning

Significant Learning Taxonomy

(Fink, 2013)



Appendix E: Depth of Knowledge Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <http://www.wcer.wisc.edu/WAT/index.aspx>.

Appendix F: Types of Classroom Learning Assessments

Types of Classroom Learning Assessments

When choosing an assessment approach for a Program Learning Outcomes Assessment (PLOA) project, faculty must determine the type of information they are interested in examining for the project. Are faculty:

- interested in measuring students' individual mastery of one foundational concept or skill?
- focused on learning information about the cumulative performance of all students?
- targeting the effectiveness of a particular teaching method?
- interested in making changes to the course curriculum?

Once faculty members decide on what they are interested in learning about student learning, they select the course, choose the PLOs/SLOs to be assessed, and then choose an assessment method. Below is a sample of types of assessment methods:

Traditional Assessment

Traditional exam methods provide faculty members with information about whether or not students remember information presented in the course. Some examples are exams and quizzes, which provide feedback to faculty about whether or not students can recall information presented (McAllister & Guidice, 2012). Examples of traditional close-ended assessment strategies are multiple choice or true/false exams. In contrast, another type of traditional assessment, which allows for open-ended responses, is short answer or essay exams. Choosing between closed-ended or open-ended exam types involves a review of the Program Learning Outcomes and Student learning outcomes to be assessed.

Regardless of the type of traditional assessment faculty choose, it is important first to determine what they want students to master as a result of the concepts and skills presented in the course. If faculty are interested in learning whether students remembered a concept, then multiple choice or true/false is appropriate. However, if faculty want to learn if students remember, understand, and can apply the concept in a practical way, then an open-ended assessment, such as a short answer or essay exam, is the appropriate choice. Before an assessment strategy is considered, it is necessary to decide what faculty wants to know about student learning.

Authentic Assessments

Authentic assessment requires students to demonstrate their understanding using higher-order thinking and complex problem-solving skills. Grant Wiggins first coined the term "Authentic Assessment" in 1989 when he asked us to consider the value of authentic assessment as it is:

- realistic
- requires judgment and innovation
- asks the student to "do" the subject
- replicates or simulates the contexts in which adults are "tested" in the workplace, in civic life, and in personal life
- assesses the student's ability to efficiently and effectively use a repertoire of knowledge and skills to negotiate a complex task

- allows appropriate opportunities to rehearse, practice, consult resources, and get feedback on and refine performances and products.

Source: https://sites.google.com/view/case-for-authenticassessmement/what-is-it?authuser=0

Below is a list of Authentic Assessment Methods to consider for PLOA projects:
· **Portfolio or e-Portfolio Project:** A collection of a student's previous assignments from earlier in the semester, collected and presented to highlight achievement and demonstrate improvement over time. While not necessarily content-specific, portfolios also showcase student's communication, technological, creativity, and organizational skills. These characteristics are often aligned with the learning outcomes of the program and course-level student objectives.
· **Focus on one Task or Activity**: An assignment or activity designed to portray students' mastery of targeted learning objectives through practical applications of concepts presented in the course. Interviews, role-play demonstrations, or writing a summary of a concept in their own words can be assessed as evidence of learning.
· **Develop a Student Self-Assessment**: Create a self-assessment questionnaire for students to evaluate their own performance on student learning outcomes.
· **Use a Variety of Writing Samples:** Students can be asked to create narrative or expository essays as evidence of learning within a variety of disciplines, even in the STEM areas. Asking students to summarize a textbook chapter or to keep a journal or log related to concepts presented are viable writing samples for assessment, allowing faculty to assess content along with academic writing skills.
· Collaborative Projects/Presentations: Students work with other students to create a multimedia project, then organize presentations to showcase their communication skills, both verbal and written. Technology and interpersonal skills will also be portrayed for assessment purposes.
· **Experiments/Demonstrations:** Student documents a series of experiments, illustrates a procedure, performs the necessary steps to complete a task, and documents the results of the actions.
· **Constructed-Response Items:** Student responds in writing to open-ended questions.
· **Student Observations:** Observation of students' class participation, interaction and collaboration with peers, and response to instructional materials is a practical assessment strategy. Field notes of observations can be evaluated, and program outcomes and course objectives can be assessed.

Source: Adapted from https://sites.google.com/view/case-for-authenticassessmement/how-do-you-do-it?authuser=0

Formative Assessment

Formative assessment focuses on gathering information about student learning to inform instruction (Bulunuz et al., 2014). Program Learning Outcomes Assessment (PLOA) is an authentic means for gathering evidence of students' mastery of learning objectives. Everyday learning activities that occur in classrooms can yield much information about students' understanding of what is being taught. A project that focuses on this type of low-stakes form of assessment can occur in the beginning or early middle of the semester, so the information learned can inform instructors if students are prepared for more formal, traditional assessments, such as the summative assessments described above. Formative assessment is an "informative" assessment, as it provides faculty members with information on how students are doing in the course while there is still time in the semester to alter teaching methods, pace of instruction, etc. Students benefit from authentic assessments, as grades and feedback on these assessments reveal whether more effort is needed by the student, including the need to work with a tutor, devote more time to readings, meet with their professors during office

hours, etc. Students have the chance to identify their strengths and work on their weaknesses before it is too late in the semester.

There are authentic formal and informal approaches to formative assessment. Some examples of formal assessment methods are a rough draft essay to prepare for a midterm essay assignment, an outline to prepare a presentation project, or a paragraph describing an upcoming final research project. Any course assignments that students submit throughout the semester can be considered formal, authentic, formative assessments. These assignments can yield insightful PLOA projects that portray evidence of students' higher thinking skills.

In addition, informal formative assessment is effective in revealing what students understand in the course. Informal strategies to assess learning can occur during class time and rely on observation and instructors' expectations of what students should be able to demonstrate given the curriculum presented. Some examples of informal formative assessment strategies are students creating a concept map to represent their understanding of a lecture topic, observations and recording of students' participation in peer discussions, or any short written or verbal activity. Examples of the latter activities can be as informal as students' responses to "What was the muddiest point of today's class?", "What was one thing you learned?" or asking students to write a few sentences to identify the main points of a class discussion.

Summative Assessment

Summative assessment is typically utilized to evaluate students' performance on a cumulative, midterm, or final project. Traditionally, the grades on these assessments are used to determine students' final grades at a higher percentage than formative assessments. Before choosing summative assessment methods, faculty should consider the skills that are to be assessed. Here are some examples of formal summative assessments of both traditional and authentic assessment types: Case studies, analyses of scholarly articles, research papers, essays, fieldwork/reports/journals, structured projects, group projects, verbal/electronic presentations, portfolios, and short answer, essay, and multiple-choice exams. Each assessment method targets varying skills; for example, presentations assess verbal, written, technology, and communication skills, while a group project assesses all of these skills with the addition of collaboration. Another example is that multiple-choice exams assess retention and comprehension skills, while an analysis of a scholarly article assesses comprehension, critical thinking, and written communication.

Comparing Traditional and Authentic Assessments

When comparing traditional with authentic assessment practices, Bloom's Taxonomy and the evidence-based theories of student development previewed above point to authentic assessment as a more effective way to account for students' diverse learning levels and skills. With this in mind, a faculty member may find that they already use authentic assessments, as these strategies to measure student learning are integrated into learning activities that already take place at the course level. Authentic assessment activities include, but are not limited to, essays, research projects, interviews, portfolios, case studies, experiential learning activities, special projects, group work, role play, and student presentations. Ultimately, the choice to use an existing assessment method or to create a new assessment method is up to the faculty.

Summary

Summative assessments that take place at the end of the semester inform faculty whether the assessment or curriculum should be altered in future semesters, dependent on overall students' performance. Instructors should consider authentic, informal, and formative assessment projects if they want to learn whether students are prepared for upcoming cumulative higher-stakes summative assessments, such as midterm and final projects/exams. Traditional and authentic summative assessments are both effective methods for faculty to determine students' learning. However, it is important for faculty to decide on what skills and concepts will be assessed. Faculty should first consider Bloom's Taxonomy, Krathwohl, and Fink's Taxonomies of Learning Objectives and the SLOs/PLOs of the specific course to be assessed and then choose an assessment method to utilize for their PLOA project.

Providing Rubrics as a Best Practice for Assessment

Regardless of the assessment strategy faculty decides to use, objectivity in grading can be maintained through the development and use of assignment-specific scoring guides or rubrics. Providing a written description of each course assignment, complemented by a scoring guide or rubric. Rubrics provide guidance for students toward understanding the assignment requirements and the instructor's expectations. The scoring guide or rubric is used by faculty to grade and assess student performance objectively according to task-specific criteria. Point-specific designations and descriptions are included in each assignment-specific assessment tool. Expected behaviors, skills, and knowledge are elements to include for grading. Scoring guides and rubrics provide students with scaffolding for what they must do to earn the stated grade. Assignment-specific scoring guides or rubrics lead to objective grading.