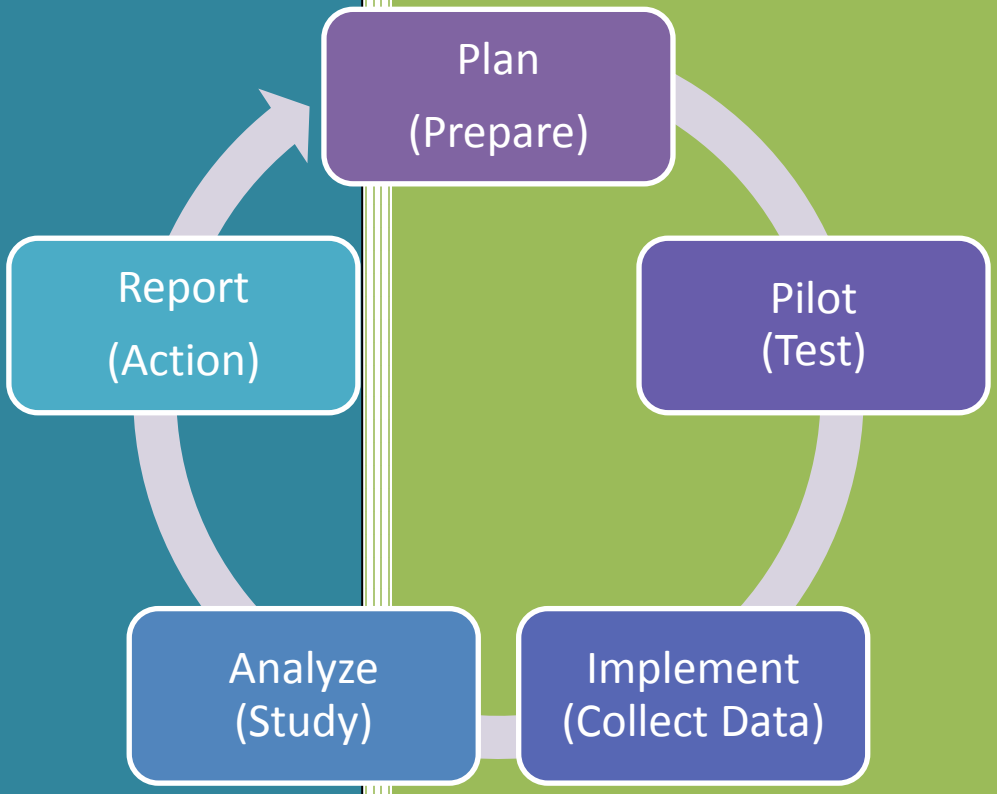
2018

Baltimore City Community College Assessment Guide



Baltimore City Community College (BCCC)
Faculty Senate Student Learning Outcomes Assessment Committee (SLOA)
5/31/2018

Baltimore City Community College (BCCC)

Assessment Guide

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Baltimore City Community College Mission

Baltimore City Community College (BCCC) provides quality, affordable, and accessible educational opportunities with comprehensive programs that meet the professional and personal goals of students while improving communities in the greater Baltimore area.

Baltimore City Community College Vision

Baltimore City Community College (BCCC) is an innovator in providing quality education for a diverse population of students to meet the challenges in an ever-changing competitive workforce and environment.

Baltimore City Community College Culture of Assessment Vision

Through a college-wide culture of assessment, Baltimore City Community College (BCCC) provides a quality education for all who enter our doors. Assessment is by nature a goal-driven, evidence-based, and improvement-oriented process that involves all stakeholders working collaboratively. This ongoing process promotes excellence in teaching and learning by assessing all elements of the educational process. Our culture of assessment provides institutional resources, training, and support. Continual assessment is an integral component of BCCC's commitment to excellence as an institution of higher education.

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BCCC	Baltimore City Community College
CAP	Core Competency Assessment Project
CCSSE	Community College Survey of Student Engagement
COMAR	Code of Maryland Agency Regulations
CWAC	College-wide Assessment Council
FACT	Faculty Assessment Communication Team
IR	Institutional Research
ISLO	Institutional Student Learning Outcomes
LIP	Learning Improvement Plan
LMS	Learning Management System
PLO	Program Learning Outcomes
SEC	Senate Executive Committee
SLO	Student Learning Outcomes
SLOA	Student Learning Outcomes Assessment

Part I: Introduction

The goal of this guide is to clearly document the College's Student Learning Outcomes Assessment processes, while creating a simple and easy to use reference guide.

What's New and What Stays the Same?

In June 2011, BCCC published its first document, *Baltimore City Community College Comprehensive Learning Outcome Assessment – A Practical Guide*, to guide and codify its assessment processes. We have learned much during the intervening years. Some processes worked well, some did not; those that did not are either being revised or replaced.

- Five-year assessment schedules will be maintained.

- Course assessment will continue to be the basis of program assessment and will be completed on the five-year rotation as scheduled and planned on the five-year schedule (previously called the Matrix).

- An emphasis has been placed on the Analysis and Reporting phases of the assessment cycle with more guidelines for discussion and inclusion of the Resource Allocation Form to guide potential levels of intervention and revision and connection of SLOA with institutional assessment.

- Processes will be simplified with the Program Coordinator assuming assessment responsibility for their programs and the General Education Coordinator assuming responsibility for the Core Competencies. All Faculty remain responsible for participating in FACT meetings and completing assessments within their courses.

- The positions of Discipline Liaisons will be eliminated as part of the simplification. Support for assessment will be maintained by the Associate Deans, the Assessment Office and the training function of the SLOA committee and the GE/CC committee.

- Associate Deans will assume a more 'hands-on' approach to assessment and are directly asked to review and discuss all assessment work with Program Coordinators with the goal of expanding discussions and soliciting support for large-scale interventions.

- Documentation is simplified. Guidelines are included in this guide; notes of any assessment discussion should be created, documented and submitted to the Assessment Office.

- Reporting has been simplified. One standard formatting guideline is to be used for the End-of-Cycle Report and a simplified Data Collection Worksheet is supplied to capture data as it

becomes available if needed. Learning Improvement Plans will still need to be created which now also includes the Resource Allocation form if needed.

- Data submission deadlines have been contracted. Assessment data will be due by the 3rd Monday of January for the Fall semester and the 1st Monday of June for the Spring semester.

- All assessment reports, data, and documentation are to be submitted to the Assessment Office as indicated by its staff. This guide does not include database program requirement specifics such as TracDat.

- Annually, one day will be set aside each academic year to discuss, share, and work on assessment matters. Assessment Day will be held each year after grades are submitted while faculty remain on contract.

BCCC's Guiding Principles for Student Learning Outcomes Assessment (SLOA)

Based on a review of multiple resources, BCCC adopted the following eight guiding principles for student learning outcomes assessment:

Principle One: Faculty engagement and active involvement in SLOA development is essential. Faculty members are best suited to develop the educational outcomes for their programs and courses and to determine how to assess the outcomes and use the collected data for development and improvement. Therefore, the responsibility of the faculty is to develop assessment tools and determine the uses of the resulting data.

Principle Two: All appropriate participants at each level of the college, not just select groups or individuals, should be committed to following the process of assessment. All academic departments must be involved. This means including adjunct faculty in discussions and decisions as much as possible.

Principle Three: The results of outcomes assessment should be used to evaluate the effectiveness of academic programs. Faculty must not be penalized on the faculty evaluation for the results obtained from the SLOA process.

Principle Four: College administrators must provide leadership and accountability to the process, as well as enable the assessment process by providing adequate resources, staff, and other forms of support.

Principle Five: Assessment data do not exist in a vacuum and must be analyzed alongside all other factors that may affect achievement of outcomes. Other factors, some that will be out of our control, must be considered during the Analysis phase. Factors such as personal, environmental, organizational, or operational issues can affect the assessment results.

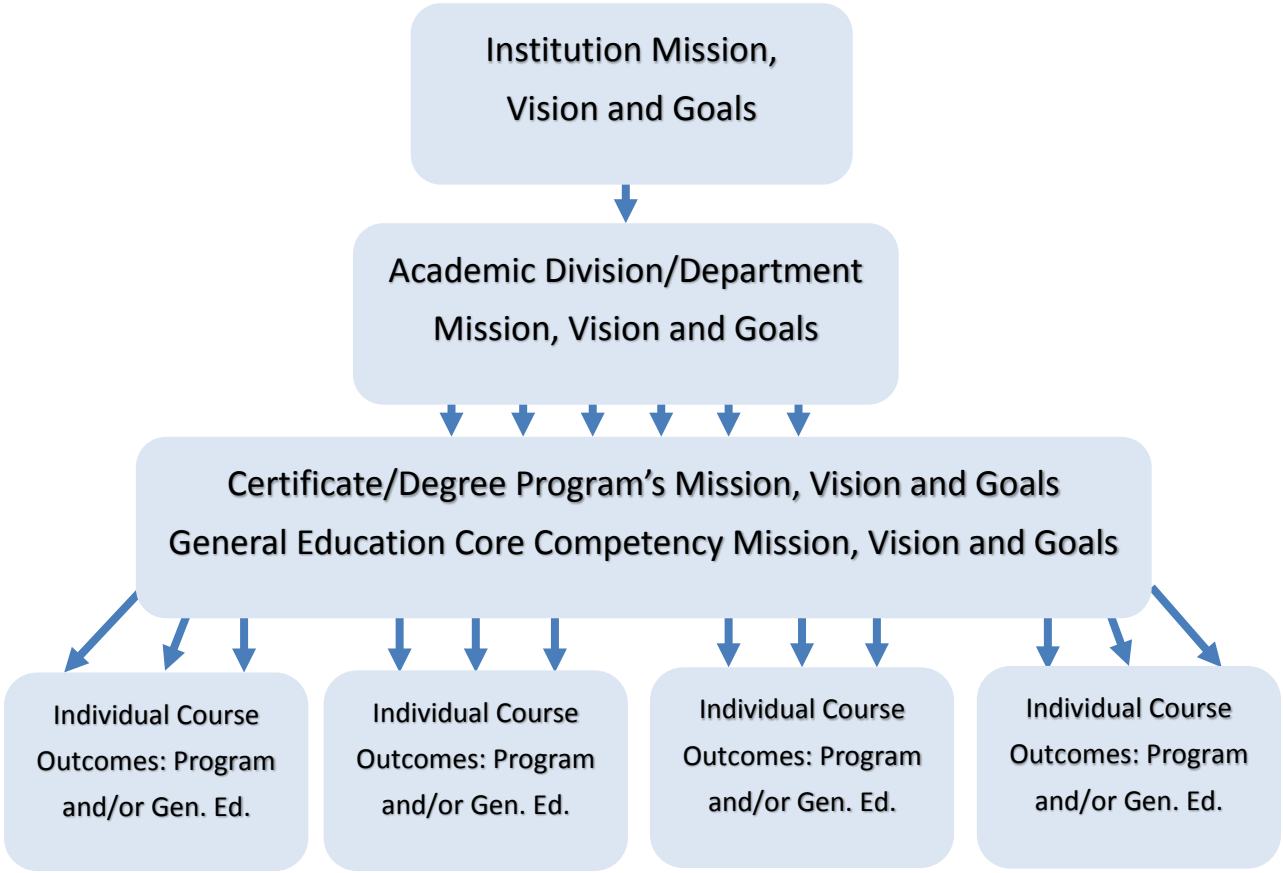
Principle Six: The SLOA process should be as simple and manageable as possible. The process cannot become so complicated that it disrupts the educational experience rather than assessing and improving it.

Principle Seven: All stakeholders at the college should engage in SLOA development and assessment because it is good professional practice that benefits programs and students, not because it is an accreditation requirement. If outcomes assessment is used primarily as a reporting tool, then the process has failed.

Principle Eight: Outcomes assessment must be ongoing and performed on a regular basis in each academic area. It must become an academic habit.

Design of Outcomes and Assessment

Figure 1: Outcomes and Assessment Design



Outcomes assessment is a linked process (**See Figure 1**). This process begins at the institutional level. The mission and vision of the institution is considered the top tier of a foundation that guides the levels that fall below it. From the mission and vision, the institution establishes its goals. An academic division of an institution then develops its mission, vision, and goals by linking to the institutional mission, etc. Each academic division houses many different degree programs of study. These programs, like the institutional and division levels, create a mission and vision as well. These too are grounded in the

institution's mission, vision, and goals as well as the academic division mission. There is a direct correlation between the various levels, as learning flows from the mission of the institution down to the course level and instruction.

Following the creation of a program mission and vision, each program develops goals. The goals broadly define a program's learning outcomes and concepts. The program mission provides the foundation for course level outcomes and assessment. Program outcomes are derived from the program goals. These program learning outcomes should align with program mission and accreditation standards (if applicable). The assessment of the program outcomes focuses on determining whether students have acquired the knowledge, skills, and competencies associated with their program of study. This includes general education core competencies as well as discipline related competencies. It is the student learning outcomes at the course level that drive the program’s outcome assessment. The student learning outcomes at the course level must fit with the program mission, vision, and goals. This design sets the conceptual framework for the outcomes and assessment process explained in this guide.

Quick Start Guide
Roles and Responsibilities

This "Quick Start Guide" (S**ee Figure 2**) is a condensation of common tasks and reports. Please see the remainder of the guide for additional information and guidance.

If you are an adjunct faculty, you are responsible for:

- Implementing assessments determined by the Faculty Assessment Communication Team (FACT).
- Submitting results data as directed no later than the 3rd Monday in January for Fall courses and no later than the 1st Monday in June for Spring courses.
- Participating as you are able in FACT discussions which will determine tools and benchmarks, review data, and create Learning Improvement Plans.

If you are a full-time faculty, but not a course facilitator or program Coordinator, you are responsible for:

- Implementing assessments determined by the FACT.
- Submitting results data as directed no later than the 3rd Monday in January for Fall courses and no later than the 1st Monday in June for Spring courses.
- Participating in FACT discussions which will determine tools, benchmarks, review data, and create Learning Improvement Plans.

If you are a course facilitator, you are responsible for:

- Discussing and integrating across courses the assessments selected by the FACT.
- Assisting in the coordination and submission of results data no later than the 3rd Monday in January for Fall courses and no later than the 1st Monday in June for Spring courses.
- Participating and/or leading FACT discussions which will determine tools, benchmarks, review data, and create Learning Improvement Plans.

If you are a program Coordinator, you are responsible for:

- Discussing and implementing assessments developed with the FACT.
- Setting schedules and timelines. **(See Table 7: Assessment Five-Year Schedule)**
- Preparing and submitting Cycle-End Reports **(See Table 11)**.
- Leading FACT discussions.
- Improving your program using assessment data in conjunction with Advisory Boards and other sources of program data.
- Including course and program assessment data and results in the Program Review process.

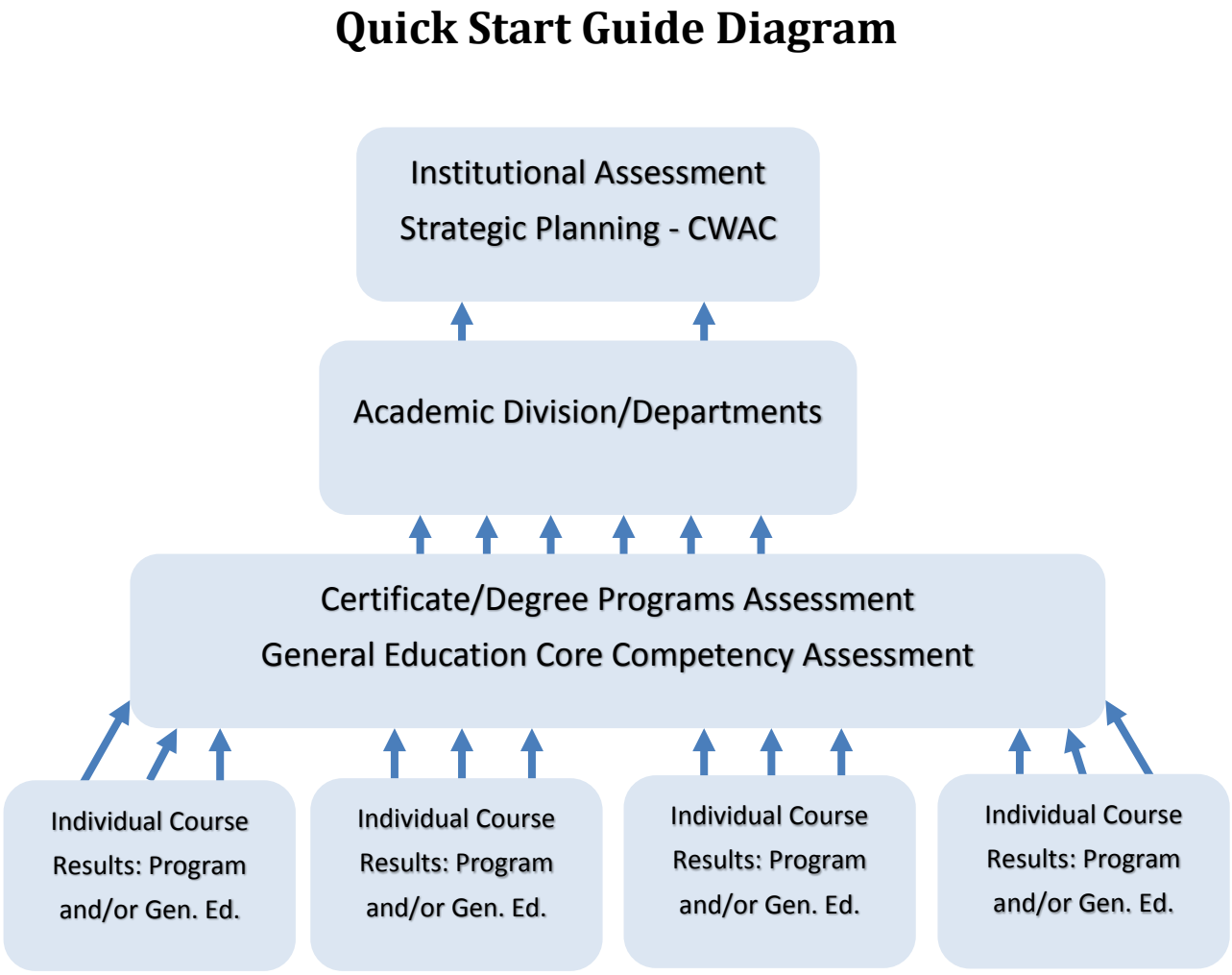
If you are an Associate Dean, you are responsible for:

- Discussing assessments developed with the Program Coordinator.
- Reviewing data and reports prepared by the Program Coordinator.
- Including discussion of assessment processes, data, and reports within your monthly departmental meetings.
- Supporting assessment efforts by developing strategies, assisting changes in processes, and obtaining needed funding.

If you are a Dean, you are responsible for:

- Reviewing data and reports prepared by the Program Coordinator.
- Assisting the Associate Dean and Program Coordinator with resource allocation.
- Ensuring linking assessment results and recommendations to Strategic Planning efforts.

Figure 2. Assessment Data Flow

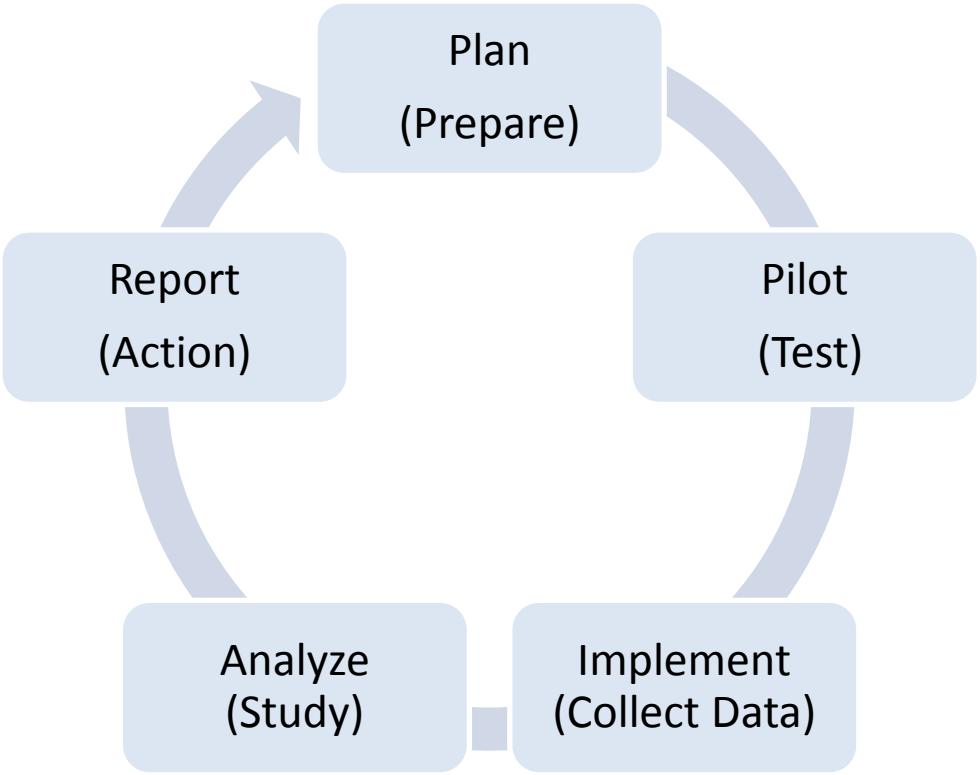


Part II: The Assessment Model and Process

BCCC Assessment Model

The goal of the BCCC Student Learning Assessment Model (**See Figure 3**) is to achieve continuous improvement of credit course offerings and systematic improvement of credit programs by using easily managed processes.

Figure 3. Model Overview



Assessment Model Step #1: Plan (Prepare)

What:

Planning is the process of determining the goals and outcomes for the Institution, Programs, Core Competencies and Courses. It includes determination of assessment materials, benchmarks, measurement tools, curriculum maps, and schedules.

Who:

Program Coordinators are the primary owners of their programs, and the assessment data for program improvement. Creating the Faculty Assessment Communication Teams (FACT) with faculty in their discipline, seeking input from advisory boards and other stakeholders; it is the Program Coordinators who will set up the five-year assessment cycles **(See Table 7)** for the courses within their programs. Institutional assessment of the Core Competencies is determined by the General Education Coordinator working with the General Education/Core Competencies Committee as well as faculty within the general education course offerings. Faculty input is solicited through FACT for all levels of planning.

When:

Planning is the first step in the assessment process. To make an effective, useful, and duplicable process, plans must be developed and documented, submission of assessment planning documents to the Assessment Office is an expectation of Step #1, Planning.

Where:

Student Learning Outcomes are found at all levels of the institution. Planning for their assessment must happen where they are in the institution and then be connected to program and institutional assessment processes.

How:

Each part of the planning step has its own requirements. See the Appendix for examples of each of the sub-parts; i.e. creating mission and goals, curriculum mapping, tools, rubrics, assignments, etc. All materials created during the planning phase, in addition to any recommendations or comments, are to be documented and saved as directed by the Assessment Office.

Outcomes of this step:

The planning step results in the specific assessment tools being identified and modified as necessary. This step also determines any training or other implementation needs. Communication to all members of the FACT must be initiated. The discussions, tools selected, benchmarks and any other materials related to the planning phase are to be saved and submitted to the Assessment Office in the manner directed.

Assessment Model Step #2: Pilot (Test) and Implement (Collect Data)

What:

If the outcome has not been previously assessed, a Pilot phase should be used to determine the appropriateness of the outcomes, tools and benchmarks. A Pilot uses a representative number of all courses to test the assessment processes. Data from the pilot, in addition to any recommendation or comments are to be documented and saved and submitted as directed by the Assessment Office.

Once a Pilot has been completed, the feedback is used to revise the course assessment. The full Implementation of the course assessments will generate data that may be used to improve the course itself, support Program evaluation or the College's Core Competencies assessment.

Who:

Piloting or Implementation of the assessment is completed by faculty within the courses. All teaching faculty are required to participate in the assessment process. All courses are to be assessed, regardless of schedule or methodology. (i.e. 8 week, 12 week, Online)

When:

The Program Coordinator creates the Assessment Cycle – Five-Year Schedule **(See Table 7)** for all program courses. The Assessment Cycle – Five-Year Schedule, must be shared with all members of the teaching faculty.

Where:

Assessment occurs at the course level. All courses are required to participate in the Implementation Phase. Data may be randomized for representation after it is collected.

How:

During the Planning Step, Step #1, assessment tools were identified. These tools should be launched as indicated in the Plan. Implementation decisions are the responsibility of the FACT. Mechanized options which combine assessments with assignments through our Learning Management System (LMS) are to be encouraged as they simplify the implementation, data collection, and facilitates maintenance of the original student data. Results are to be submitted as determined by the FACT, but no later than the 3rd Monday in January for fall courses, or the 1st Monday in June for spring courses.

Outcomes of this step:

The Implementation step results in the actual assessment data generation. This data is to be collected and submitted as determined by the FACT.

Assessment Model Step #3: Analyze (Study)

What:

"The goal of assessment is information-based decision making." (Walvoord, 2010, p. 4). After Step #2 is completed, data has been collected and is ready to be compiled and analyzed.

Who:

Assisted by the Assessment Office, the Program Coordinator or the General Education Coordinator and/or the Course Facilitator, the initial data is compiled. Results are then discussed with the assessment's FACT. Depending on the program or results, analysis may also extend to other members of the College such as Tutoring or the Library or may reach out to Advisory Boards or articulation partners.

When:

Data collection and analysis should happen as quickly as possible after the assessment has concluded. Within one month of the implemented assessment, data should be drawn, analyzed, and recommendations determined. Learning Improvement Plans (LIPs) should be instituted in the subsequent semester.

Where:

FACT discussions about the results can take place in a separate meeting, department meeting, or as part of Assessment Day at the end of the academic year.

How:

Using the following questions as a guide, discuss each outcome and its data results:

- What does the data say about meeting benchmark expectations?
- What does the data say about your students' preparation for taking the next step in their careers?
- Are there areas where your students are outstanding?
- Do you see weakness in any particular skills, such as research or critical thinking skills?

- What overall key findings can you draw from the results? Are there significant patterns or trends in the data?
    - For instance, for the students who met or exceeded expectations, were there documented circumstances that allowed them to succeed?
    - For students who did not meet expectations, what documented circumstances affected their performance?
    - Did students do better on some elements of the assessment as opposed to others?
    - Based on the key findings, what conclusions can be drawn in regard to what worked well or did not work well in the course or program as reflected by the data?

Outcomes of this step:

The Analyze Step results in recommendations ready for consideration in Step #4, Reporting (Action).

Assessment Model Step #4: Reporting (Action)

What:

Reporting is the final step before we begin the cycle again. It is here that Learning Improvement Plans (LIPs) for outcomes that were not met, are written and put into Action. It is here that the Resource Allocation Matrix may be completed to determine the levels of commitment and change needed to improve the course and student outcomes. Action items may include but are not limited to: Institutional Level requests for funding for additional faculty, modification of classroom or lab space, specialized hardware, creation of new courses, specialized faculty or staff training. At the departmental level action items may include: reallocation of teaching schedules, reallocation of teaching space, curricular revisions or team teaching. Action items at the faculty level may be faculty professional development, faculty rearranging of classroom space as needed, faculty trying new instructional approaches such as 'flipping' the classroom.

Who:

Final Reporting is the responsibility of the Program Coordinator. Reporting out is completed by saving all documents, uploading results and plans to the assessment database as directed by the Assessment Office, and/or creating the Cycle-End Report as appropriate to the assessment.

When:

All steps of the individual course assessment rotation should be completed within two semesters, or as determined by the Program Coordinator and the FACT. All courses and outcomes must be completed within the five-year program assessment cycle. At that time all data, reports, and suggested changes should be completed and submitted as directed by the Assessment Office. An assessment may remain open if the course has not met all of its learning outcomes at the benchmark level. Learning

Improvement Plans (LIPs) should be created, implemented, and the course assessment continue until the benchmark is met.

Where:

The Resource Allocation Matrix **(Table 10)** will help determine where changes need to be implemented, whether at the institution, program, course or classroom level. This form is supplemental to the LIP.

How:

LIPs are put into Action at the course level. The Resource Allocation Matrix is communicated via the Associate Dean to reach appropriate levels of the organization. Timelines for each action are created and shared among all FACT and departmental members. All course assessment materials; data, reports, and notes, are saved for further use in the Cycle-End Reports, and program assessment processes. Course assessment data flows up to the program level to become part of the overall program evaluation function.

Outcomes of this step:

"The End of Assessment is Action" (Walvoord, 2010, p 4). After Step #4 is complete, an entire assessment cycle has been completed and documented. However; this is not the end. Actions in the LIPs are to be put in to place, and the cycle begins again.

Assessment Day Activities and Outcomes

What:

Review collected assessment data and reports, and plan for the next academic year. Training on various topics will be offered.

When:

Assessment Day will be held at the end of the Academic Year, after grades are submitted and within the full-time faculty contract timeframe.

Where:

A variety of classrooms and a larger meeting space such as the Mini Conference Center will be needed to facilitate a day of large groups and smaller working sessions.

Who:

All full-time faculty members, Associate Deans, Deans, Director of Assessment, and, if possible, adjunct faculty are to participate.

Outcomes:

Discussion of course assessment results which leads to:

- Course improvements (Revision to course presentation, revision to course)
- Assessment improvements (Revision to assessment tools, goals, outcomes)
- Completion of forms as determined by Five-Year Schedule
- Completion of ancillary forms; Learning Improvement Plans, Resource Allocation Matrix
- Celebrate successes, learn from each other, support each other

Part III: Developing Institutional Level Outcomes Assessment

General Education-Level Outcomes Assessment

Code of Maryland Agency Regulations (COMAR)

COMAR (13B.02.02.16) states an in-state institution shall provide to its students, within the required curriculum for graduation, a general education that is designed to provide the student with the skills and knowledge necessary to:

(a) Communicate effectively in oral and written English;
(b) Read with comprehension;
(c) Reason abstractly and think critically;
(d) Understand and interpret numerical data;
(e) Understand the scientific method;
(f) Recognize and appreciate cultural diversity;
(g) Understand the nature and value of the fine and performing arts; and
(h) Demonstrate information literacy.

This regulation sets the foundation for the general education requirements at Baltimore City Community College (BCCC).

BCCC's General Education Statement:

BCCC defines general education as educational experiences that enable students to become informed, independent, critical thinkers. Through the diverse curriculum, students acquire knowledge and skills to communicate effectively, reason abstractly, gather/evaluate/interpret numerical data as well as written information, draw conclusions based on evidence, apply knowledge to real world situations, develop an appreciation for social and cultural diversity, value the arts, and become individuals prepared for the lifelong journey of learning and responsible citizenship in their communities, the nation, and the world.

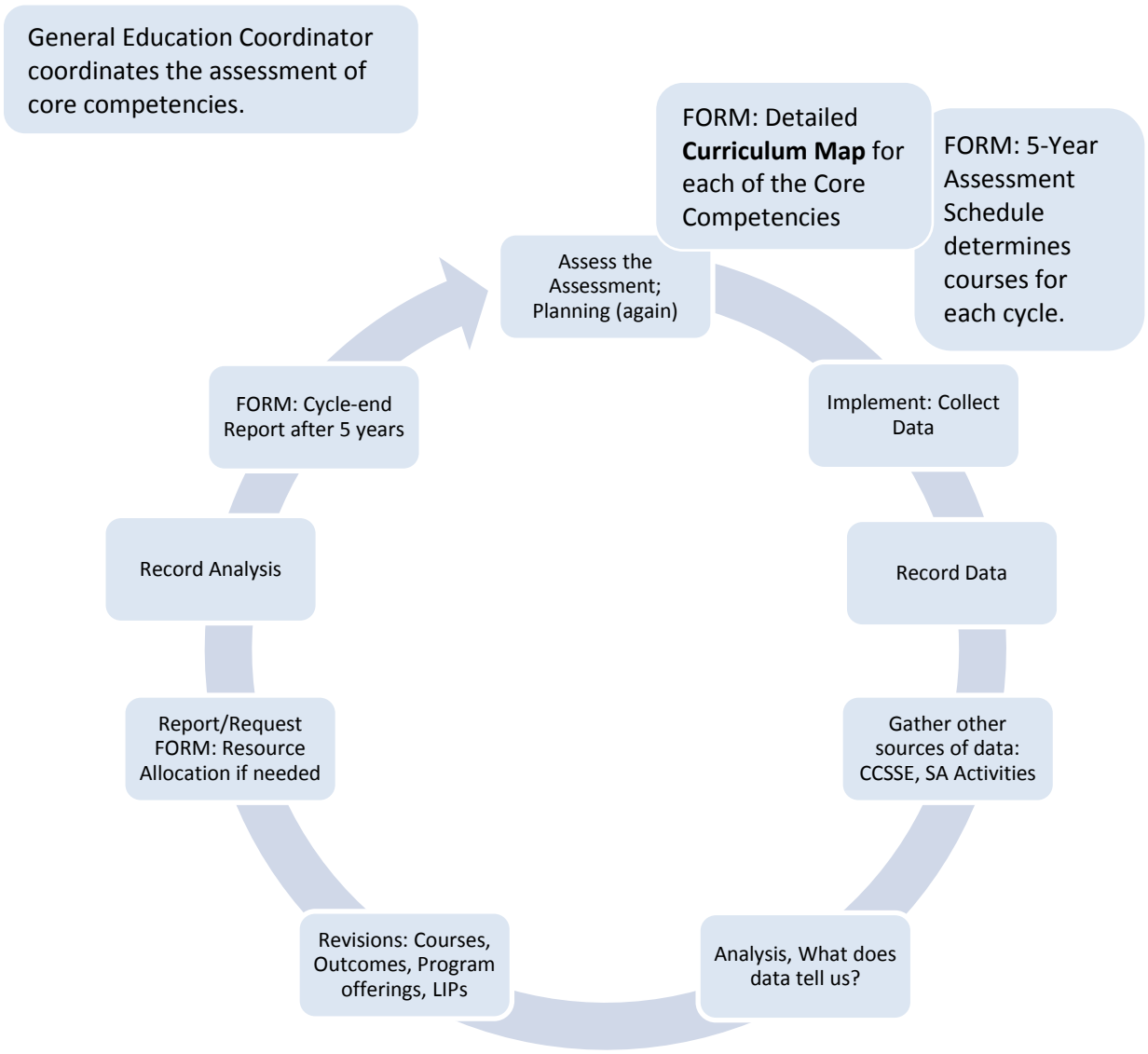
BCCC's Core Competencies

BCCC developed and adopted eight core competencies from the general education curriculum to serve as the Institutional Student Learning Outcomes (ISLO). The core competencies are assessed in a 5-year rotation, facilitated by the General Education Coordinator. Each core competency has separate curriculum maps. (**See Figure 4**). This is combined with other sources, such as the Community College survey of Student Engagement (CCSSE), to conduct the assessment of the core competencies. The results of the outcomes assessment are documented and saved for the Cycle-End Report with recommendations organized by category on the Resource Allocation Form/Matrix. (**Table 10**)

1. Communicate effectively in oral and written English (**Oral & Written Communication**)
2. Reason abstractly and think critically (**Critical Thinking and Scientific Reasoning**)
3. Understand and interpret numerical data (**Numerical Reasoning**)
4. Read with comprehension and draw conclusions based on evidence (**Deductive & Inferential Thinking**)
5. Understand the differences as well as commonalities among people (**Multicultural Diversity**)
6. Understand and utilize skills responsible for living as responsible, ethical, and contributing citizens (**Personal Development & Social Responsibilities**)
7. Reflect upon the arts and the role of the arts in the human experience (**Arts and Aesthetic Awareness**)
8. Identify, locate, and effectively use information from various print and electronic sources (**Information and Computer Literacy**).

It is the assessment of these Core Competencies that indicates the depth and breadth of our graduates' experiences and the success of our General Education Program.

Figure 4. Program Assessment, Core Competency Variation: Course Assessment Data Compiled and Analyzed on 5-year Rotation



Note: CCSSE is the Community College Survey of Student Engagement. It is performed by Institutional Research every two years. The data is collected and reported out nationally, by state, and then by college.

General Education Core Competency End-of-Cycle Reporting

Reporting and Closing the Loop

The General Education Coordinator will be responsible for developing and maintaining a curriculum map that lists the Core Competency's goals and student learning outcomes along with the course(s) in which each competency outcome is introduced, utilized, or students reach proficiency. The General Education Coordinator will also be responsible for assessing the competencies according to a five-year cycle. The Coordinator will generate an end-of-cycle report at the end of year 5. Interim data, FACT minutes, LIP's and any Resource Allocation sheets are to be saved by the Coordinator for use in the end-of-cycle report. The data that is generated during the course-level assessments will serve as the foundation for core competency level assessment. The Coordinator may choose to supplement the course-level data with additional data such as capstone projects, portfolios, licensure exams, employer satisfaction surveys, CCSSE, etc., if applicable. Templates and instructions for the curriculum map (**Table 6**) and assessment reports (**Table 11**) follow.

Part IV: Developing Program-Level Outcomes Assessment

Program-level student learning assessment consists of linking program goals and learning outcomes with the curriculum. This type of linking is referred to as curriculum mapping. Curriculum mapping provides a conceptual model of where within the current curriculum program learning goals and learning outcomes are addressed. Program learning outcomes assessment focuses on determining whether students have acquired the knowledge, skills, and competencies associated with their program of study. This includes general education core competencies as well as disciple related competencies. The data that are generated during the course-level assessments will serve as the foundation for program-level assessment.

Consideration for Program-Level Assessment

Students in academic programs should understand that their curriculum is not just a litany of courses they must complete to receive a degree, but rather a set of coherent and transformational experiences carefully created to provide them with the opportunities to develop the knowledge, skills, and characteristics they will need to become the people they aspire to be. Program-level student learning assessment is key to assisting faculty in answering the question, "Upon completion of the program, how do we know that our students have developed the knowledge and skills to be successful?"

Expectations and Requirements for a Program Assessment

In an effort to adhere to the principles of usability, accuracy, truthfulness, sustainability, and cost-effectiveness, the minimum expectations and requirements for completing an outcomes assessment for programs are as follows:

- Consensus: Faculty and the program's advisory board should reach a consensus on the program's mission, vision, goals, and program learning outcomes.
- Selection of program learning outcomes: Faculty must select at least a minimum of two program-level learning outcomes.
- Closing the loop: In an effort to improve the state of the curriculum and student learning, a discussion of results among the users is essential. When expectations are not met, additional action is required to ensure students are making expected gains in their program of study.

Writing the Program Mission Statement

The first step in program assessment is to develop a program mission statement. A mission statement should be in narrative form and broadly state why the program exists. What is the program's purpose and whom does it benefit? How will the program contribute to the education of its graduates? If there are other stakeholders, who are they and how does the program benefit them? What are the program's values? A program mission statement should be distinctive while staying in alignment with the college's mission.

Characteristics of a Mission Statement

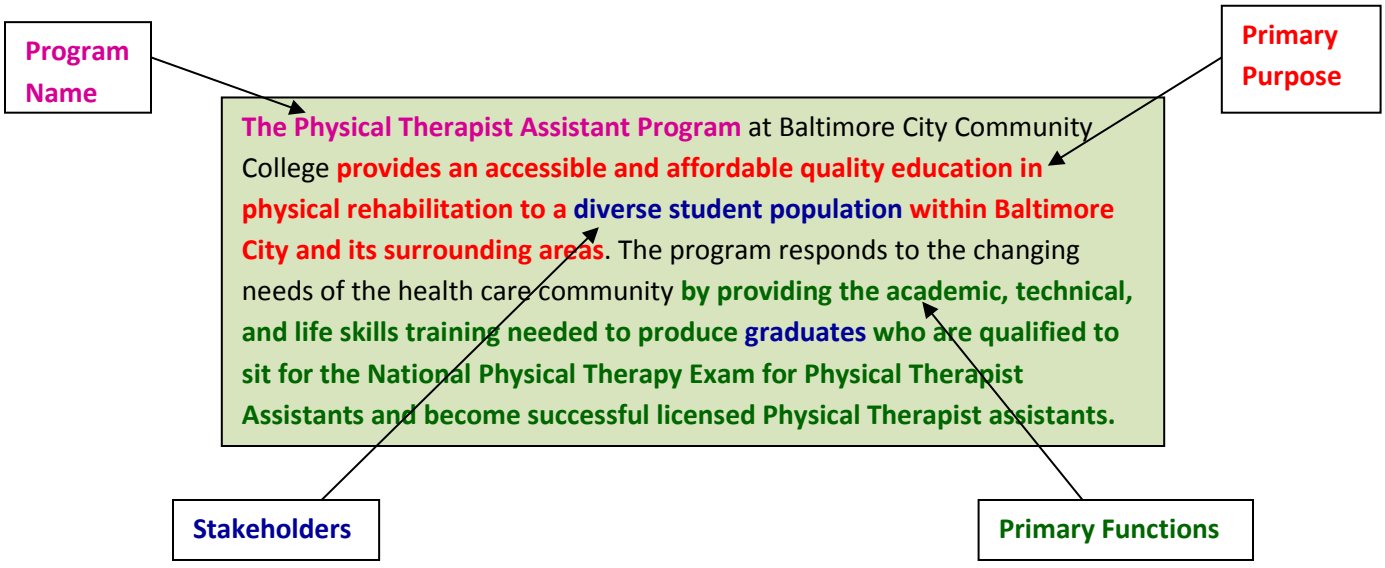
A well-written mission statement supports the mission of the College and is developed with input from all faculty members in the program. In addition, it should:

- Identify the purpose of the program, which should include the primary reasons why you perform your major activities or operations.
- Include the primary functions or activities of the program.
- Identify stakeholders and how they benefit from the program. In addition to students, this component of the statement can include employers, community, etc.

Basic Structure of a Mission Statement

"The mission of [*name of program or unit*] is to [*primary purpose*] by providing [*primary functions or activities*] to [*stakeholders*]." (University of Central Florida, 2008). A checklist can help to ensure you have the proper information to establish an effective mission statement (**See Table 1**).

Figure 5: Program Mission Statement Example



Note: The order of each component may vary from the above format, but should be clearly stated within the mission statement. (University of Central Florida, 2008).

Table 1: Blank Mission Statement Checklist

Mission Statement Checklist

Question	Yes	No
Is the mission statement concise and memorable?		
Is the mission statement distinctive? (If the name of the program were removed, can it stand on its own and distinguish itself from other programs?)		
Does it clearly state the purpose of the program?		
Does it indicate the primary functions or activities of the program?		
Does it identify the key stakeholders?		
Does it support the college's mission?		
Does it reflect the priorities and values of the program?		

If you have any "No" answers above, go back and review and revise the mission statement. Once you have answered "Yes" to all of the questions, the mission statement is complete and you are ready for the next step, writing goals and developing the student learning outcomes for the program.

Adopted and modified from Standford University: “Creating a Mission Statement” and the University of Central Florida: "The Program Assessment Handbook"

Writing the Program Goals

Program goals are intended to be long range outcomes of a program and its curriculum. The goals describe knowledge, skills, and values expected of students when they graduate or complete a program of study and should form a bridge to the mission of the program as well as the mission of the institution. These goals can focus on discipline-specific outcomes related to a program and to general outcomes as well. They answer the question, "What does the program intend to do?" Each program should have three to five program goals. A worksheet (**See Table 2**) has been provided to assist in developing the program goals.

For each program goal, the FACT will then write learning outcomes showing specific learning behaviors that students will demonstrate. A worksheet **(See Table 3)** has been provided to assist in developing these learning outcomes.

Table 2. Program Goals Worksheet Form

Program Goals Worksheet

Each faculty member in a department program should complete a copy of this worksheet. The final product of this exercise should be a list of three to five broad goals that describe what department faculty believe should be characteristic of graduates in the major.

Statement	Faculty Response	Program Goal
What is the college mission statement? (Insert Below)		
What is the program mission statement? (Insert Below)		
A. List any department goals that you know. This information can most likely be found in the course catalog, program brochure, or department mission statement.		I.
B. Describe your ideal student in terms of strengths, skills, knowledge and values, and identify which of these characteristics are the result of the program experience.		II.
C. Keeping this ideal student in mind, ask what the student 1. knows 2. can do 3. cares about	C1. C2. C3.	III.
D. What program experiences can you identify as making the most contribution to producing and supporting the ideal student?		IV.
E. What should every graduate of your program know?		V.

Note: A program goal can vary from one response to another; therefore, the above numbering for the goals may apply to each statement response or may not apply to each individually but may apply to a combination thereof.

Table 3: Program Outcomes Worksheet Form

Writing Program Outcomes

This worksheet may help you and others in FACT develop specific instructional student learning outcomes from the goals you have identified. Have all faculty members complete the following table. Meet as a group to discuss your response and try to reach consensus on desired objectives and outcomes. Remember that an ***outcome*** is the ***specific learning behavior that the student should demonstrate*** in the context of achieving the goal. You may end up with more than one for each goal.

Program Goal **I.**	Learning Outcomes A) B) C)
Program Goal **II.**	Learning Outcomes A) B) C)
Program Goal **III.**	Learning Outcomes A) B) C)

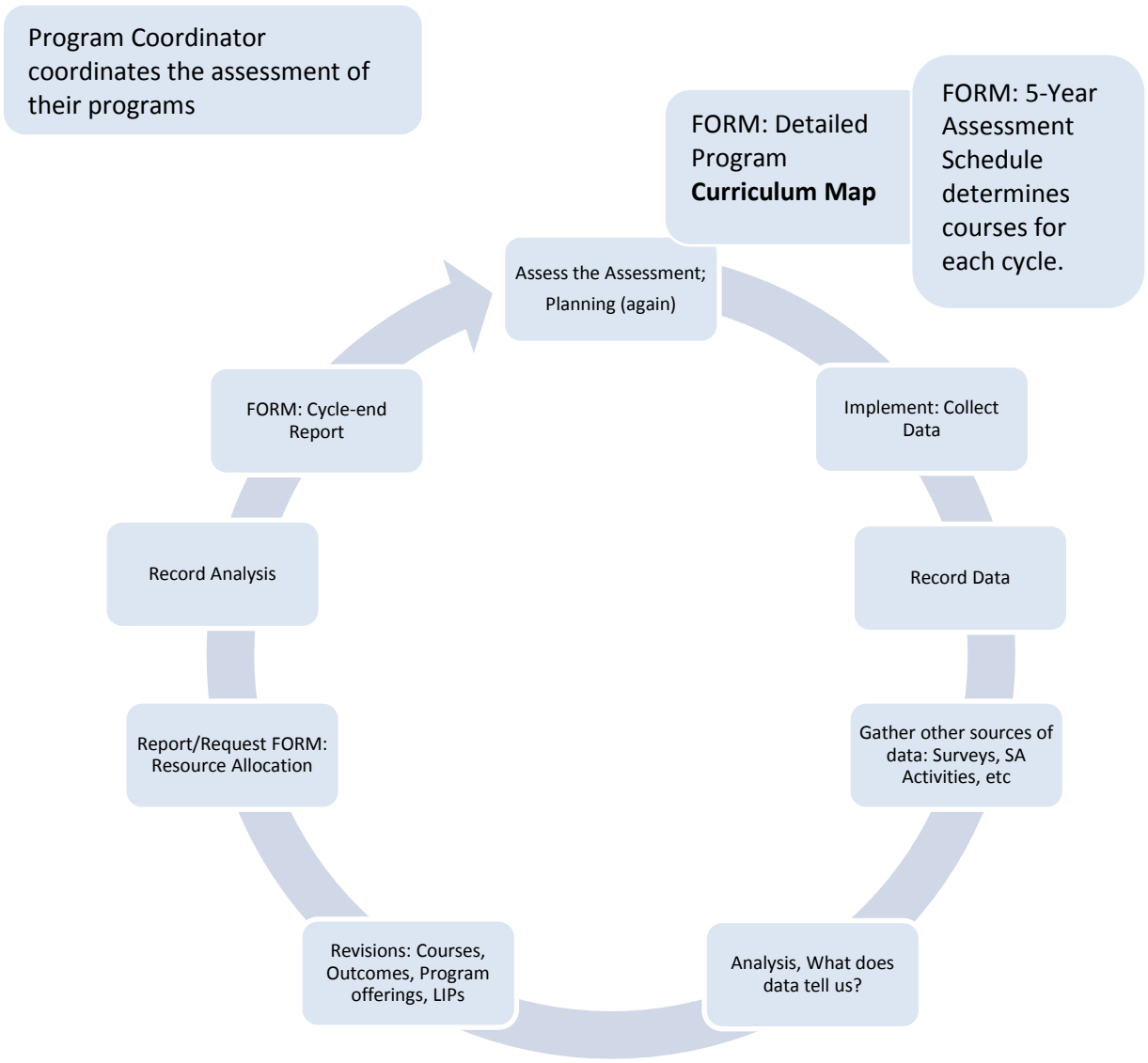
Section Adopted and modified from "Goal Definition Worksheet" and "Objectives Worksheet" of *Program-Based Review and Assessment: Tools and Techniques for Program Improvement*, University of Massachusetts Amherst, 2001

Program End-of-Cycle Reporting

Reporting and Closing the Loop

The Program Coordinator will be responsible for developing and maintaining a curriculum map that lists the program's goals and program-level student learning outcomes along with the course(s) in which each program-level student learning outcome is introduced, utilized, or students reach proficiency. The Program Coordinator will also be responsible for assessing the program according to a five-year cycle. The Program Coordinator will generate an end-of-cycle report at the end of year 5. Interim data, FACT minutes, LIP's and any Resource Allocation sheets are to be saved by the Coordinator for use in the end-of-cycle report. The data that is generated during the course-level assessments will serve as the foundation for program-level assessment. The Program Coordinator may choose to supplement the course-level data with additional data such as capstone projects, portfolios, licensure exams, employer satisfaction surveys, etc., if applicable. Templates and instructions for the curriculum map (**Table 6**) and assessment reports (**Table 11**) follow.

Figure 6. Program Assessment, Program Variation: Course Assessment Data Compiled and Analyzed on 5-year Rotation



Part V: Developing Course-Level Outcomes Assessment

An instructor must have a vision of what it is he or she expects students to know and have a clear understanding of the purpose of outcomes assessment. From there, the instructor can define specific goals and objectives. When thinking about developing outcomes assessment, three questions should be asked: (1) what should students know upon completing the course? (2) what learning activities will assist students in attaining this knowledge? and (3) How is students' success measured? These three questions speak to the pedagogical soundness of a course, and course alignment, in which there is a clear relationship between the course outcomes, teaching and learning activities, and the assessment.

The key to a meaningful assessment process is the sense of fairness and equitable opportunities to demonstrate learning. To this end, assessment needs to match what is taught, comprise multiple measures of assessment, and provide students multiple experiences to become familiar with the methods of assessment chosen.

Guidelines for Writing Student-Learning Outcomes Assessment (SLOA)

The Middle States Commission on Higher Education (MSCHE) views student learning goals or outcomes as a basis for what qualities or attributes will characterize students after they have completed a course, program, or college.

Considerations Appropriate for Course Student Learning Outcomes (SLOs)

There are many resources available for assisting faculty with setting goals and creating student learning outcomes that revolve around leading questions (Stufflebeam, 2001) and inventories of

teaching goals (Angelo & Cross, 1993). Leading questions can serve as the catalyst for developing student learning outcomes. Some questions to start the brainstorming process are the following:

- What are the most important things a student will gain from completing the course?
- How will information from student learning outcomes assessment be used to improve student learning?
- How do the knowledge, skills, and competencies of people in the course differ from those in other discipline courses?

After considering these questions, you many begin to write 3-7 Student Learning Outcomes (SLO). All SLOs should be defined in action terms (i.e. analyze, interpret, synthesize, etc.). Using Bloom's Taxonomy **(Appendix A)**, think about what students should be able to do and how they might demonstrate it. Please note that Bloom's taxonomy is a guide for measurable verbs created by Benjamin Bloom to help describe and classify observable knowledge, skills, attitudes, behaviors, and abilities. The theory is based upon the idea that there are levels of observable actions that indicate something is happening in the brain (cognitive activity.) By creating learning objectives using measurable verbs, you indicate explicitly what the student must do to demonstrate learning. Please note that the list in Appendix A is not all inclusive. For example, there may be verbs that are unique to a discipline, not found on the list, which may still be appropriate if they meet the 3M criteria below (Baltimore City Community College, n.d.):

- Meaningful: How does the outcome support the program goals and program outcomes?
- Manageable: what is needed to foster the achievement of the outcome? Is the outcome realistic?

- Measurable: How will you know if the outcome is achieved? What is the assessment method?

Identifying Appropriate Course SLOs

There are three questions for determining if the course-level SLOs are appropriate:

- How should SLOs relate to instructional objectives?
    - Objectives represent the individual components of the course while SLOs represent the result of those components. Objectives are the stepping stones. SLOs are the destination or what the student takes away from the course.
- How should SLOs relate to course content?
    - To the extent possible, the SLOs should reflect all the major concepts of the course content.
- What level of difficulty is appropriate for SLOs?
    - The level of difficulty or level of critical thinking indicated in a course's SLOs should reflect the level of the course. For example, basic skills or developmental courses would be more likely to include recall or skill-based outcomes while 200-level course SLOs should reflect a higher level of analysis and critical thinking (Fullerton College SLOA Committee, 2017).

Format and Examples of Written SLOs

General Format: Students will be able to: (verb + _____).

Accounting

- Describe and interpret the key components of an Audit Plan.
- Develop and write an internal control training report for a company.

Art

- Distinguish between the following documents: a screening report, a film review and an analytical essay.
- Prepare clay bodies and glazes from raw material recipe formulas.

Biology

- Describe the structure and function of human systems (e.g. the respiratory, digestive, nervous, excretory, musculo-skeletal, and reproductive systems).
- Compare and contrast the structures of eukaryotic (plant and animal) and prokaryotic (bacteria and archaea) cells.

Business Administration

- Identify the elements required to create a contract.
- Interpret the dividend yield per share for common stocks.

Dental Hygiene

- Differentiate between various types of clefts found in the oral cavity.
- Expose a diagnostic full mouth series of radiographs on a patient.

Developmental English

- Write essays with clear controlling ideas and reader-centered content and organization.
- Create and maintain an appropriately developed portfolio or ePortfolio of course work.

English

- Create well organized essays that consist of a thesis, body paragraphs, conclusions and works cited/reference sources.
- Use MLA or APA documentation to create a works cited or reference page(s).

Mathematics

- Demonstrate the ability to summarize univariate data, descriptively and numerically.
- Construct confidence intervals for the mean of an unknown population, using sample data.

Music

- Compare the music of the masters from the 17th, 18th, 19th, and 20th centuries.
- Analyze chord progressions in a simple musical composition.

Physical Therapy Assistant

- Identify and palpate major muscles and bony prominences
- Select appropriate stretching exercise to address the specific impairments

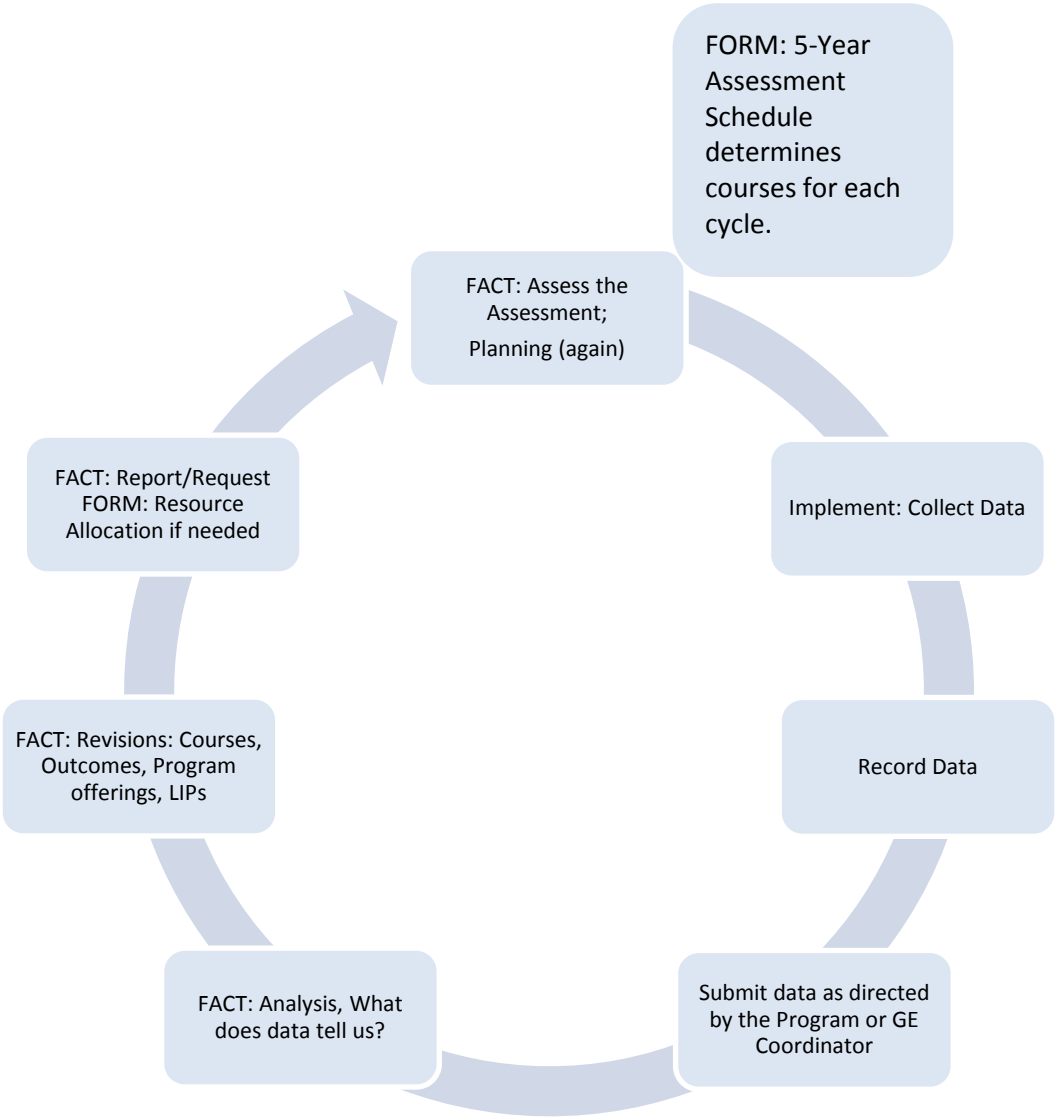
Psychology

- Apply the concepts and theories that are the foundations of the field of Psychology to behavioral phenomenon.
- Identify behaviors in a child that might indicate developmental challenges ("red flags").

Teacher Education Transfer

- Describe five strategies that create positive learning environments and well-managed classrooms.
- Identify characteristics of the at-risk learner that hinder student performance.

Figure 7. Course Level Assessment



Part VI: How to: Methods and Strategies

Learning and Teaching Activities

The key to achieving a learning goal lies within teaching and learning activities that align with the learning outcome. The concept of alignment conveys the idea that critical course components such as supported student-learning activities should work together to ensure that students achieve the desired learning outcomes. For instance, when addressing informational and computer literacy, where the learning outcome relates to students being able to write a research paper, one must have supported student learning activities that actually teach how to write a research paper (e.g., how to utilize databases, identify relevant information for use, write exercises that focus on prose and organizational development, and compose multiple draft revisions).

Examples of Written SLOs and Activities

Student Learning Outcome: Students will be able to write a research paper in APA style using relevant secondary sources.

Supported Student Learning Activity

Teaching Activity: Instruct students on the use of various informational databases, search strategies, and Boolean logic, by using in-class demonstrations on how to navigate through the databases, on the use of search engines, and on formatting an APA research paper and its references.

Learning Activity: First, use a library exercise that provides students with practice using Boolean logic in various research databases as well as identifying relevant sources, and second, provide practice with textual samples for writing and formatting an APA research paper.

Selecting an Assessment Strategy

There are several assessment strategies to use for assessing student learning outcomes. These strategies all come with their own unique strengths and weaknesses. The 2002 American Psychological Association (APA) Board of Educational Affairs Task Force on Psychology Major Competencies developed a matrix identifying those strategies (Pusateri, Halonen, Hill, McCarthy, 2009). It is summarized below (**Table 4**).

Table 4: Overview of Assessment Methods

Type of Assessment Strategy	Examples
Course Data	• Objective Tests (e.g., multiple choice, true-false, fill-in-the-blank) • Essay Tests • Embedded Questions and/or Assignments • Classroom Assessment Techniques (e.g., one-minute papers, course focus groups, free writing)
Individual Project/Performance Assessment	• Written Products (e.g., term papers, lab reports, critiques) • New Oral Presentations (e.g., speeches, role plays) • Graphic Tests and Displays • Poster Presentations • Structural/Situational Assessments
Summative Performance Assessment	• Standardized Tests • Locally-Developed Exams • Capstone Experiences • Internships/Professional Applications • Portfolios • Assessment Center Methods (e.g., in-baskets, guided problem-solving) • Case or Longitudinal Studies
Self-Assessment/Reflection	• Student Journals or Self-Critiques
Collaboration	• Research Teams & Group Projects (e.g., written and oral) • On-Line Group Activities (e.g., maintaining print record of interactions in chat room or other internet-based contact)
Interviews and Surveys (Attitude Measurement)	• Satisfaction Measures (e.g. seniors, alumni, employers, graduate school advisors, parents) • Performance Reviews (e.g., alumni, employers, graduate school advisors) • Exit Interviews • Focus Groups • Follow-up Alumni Interviews • External Examiner Interviews (exit interviews conducted by objectives, external expert)

American Psychological Association Education Directorate (Pusateri, et al., 2009)

Formative Versus Summative Assessment Methods

All assessment methods will fall into one of two types: formative and/or summative. A well-balanced assessment contains both types of assessments.

The main purpose of formative assessment is to gather information or feedback that the instructor can use to make ongoing adjustments to teaching to meet student needs. For example, if the instructor finds that the majority of the students are have trouble grasping material in a particular area, a review assignment can be arranged. This type of assessment also gives feedback to the students so they can monitor their progress and make adjustments as well. Formative assessment can be graded assignments or non-graded assignments. Some examples of formative assessment would be periodic quizzes, lab assignments, a written summary of the main points from a lecture, an outline for a paper, or proficiencies that can be repeated after receiving feedback. Formative assessment methods are "low stake" assignments that, if graded, have a lower weight assigned to them. (Carnegie Mellon University, n.d.).

The main purpose of summative assessment is to provide a cumulative grade. It usually occurs at the end of a module or unit or at the end of a course or program. More traditional types of summative assessment would be mid-term or final examinations. Some other examples of summative assessment as follows: a final project, a senior recital, a product produced by a student, a reflective writing assignment, a cap stone assignment or test, or portfolios consisting of a variety of assignments (Carnegie Mellon University, n.d.; University of South Florida, n.d.; Fenton & Watkins, 2008).

The differences between formative and summative assessment can sometimes be confusing. When formative assessment methods are given grades that are incorporated into the final course grade, they may seem to cross the line. Summative methods can also be used formatively, when

the results are used by students and instructors to help guide their efforts or activities for another course (Carnegie Mellon University, n.d.). If one remembers to keep the main purposes of the two types of assessment in mind and to use a variety of methods, it is not necessary to be concerned with the subtle differences.

Direct Versus Indirect Assessment Methods

Direct assessment of student learning includes course assignments that directly assess student learning and all the methods previously discussed under subsection "Formative versus Summative Assessment Methods." Assignments such as quizzes, examinations, lab assignments, portfolios, capstone assignments or examination, and written assignments, to name a few, are examples of direct assessment (Rodriguez, Barboza, Dager, & McMaugh, 2013).

Indirect assessment methods are administered outside of the classroom or course and used to complement direct methods of assessment. These types of assessments are used to identify learning outcomes that students are expected to achieve, to develop a systematic assessment program to evaluate previous learning and follow student progress through a sequence of courses, and to create a system of review for each discipline to include faculty and all appropriate stakeholders. The reviews and results of this type of assessment can be used to revise curricula. Some examples of indirect assessment are syllabus analysis for courses with several sections taught by different instructors, successful course progression, and transfer success by discipline, job placement rates, student surveys, employer surveys, alumni surveys, student focus groups, accreditation reviews, and feedback from advisory boards (Rodriguez, Barboza, Dager, & McMaugh, 2013). Utilizing the Middle States Commission on Higher Education's (2007) examples of direct and indirect measures may help you to note what is applicable to course, program, and institutional levels (**See Table 5**).

Table 5: Examples of Direct and Indirect Measures of Student Learning

	Direct Measures	Indirect Measures
Course	• Course and homework assignments • Examinations and quizzes • Standardized tests • Term papers and reports • Observations of field work, internship performance, service learning, or • clinical experiences • Research projects • Class discussion participation • Rubric (a criterion-based rating scale) scores for writing, oral presentations, and performances • Artistic performances and products • Grades that are based on explicit criteria related to clear learning goals	• Course evaluations • Test blueprints (outlines of the concepts and skills covered on tests) • Percent of class time spent active learning • Number of student hours spent on homework • Number of student hours spent at intellectual or cultural activities related to the course • Grades that are not based on explicit criteria related to clear learning goals
Program	• Capstone projects, senior theses, exhibits, or performances • Pass rates or scores on licensure, certification, or subject area tests • Student publications or conference presentations • Employer and internship supervisor ratings of students' performance	• Focus group interviews with students, faculty members, or employers • Registration or course enrollment information • Department or program review data • Job placement • Employer or alumni surveys • Proportion of upper-level courses compared to the same program at other institutions • Graduate school placement rates
Institutional	• Performance on tests of writing, critical thinking, or general knowledge • Rubric (criterion-based rating scale) scores for class assignments in General Education, interdisciplinary core courses, or other courses required of all students • Performance on achievement tests • Explicit self-reflections on what students have learned related to institutional programs such as service learning (e.g., asking students to name the three most important things they have learned in a program).	• Locally-developed, commercial, or national surveys of student perception or self-report of activities (e.g., National Survey of Student Engagement) • Transcript studies that examine patterns and trends of course selection and grading • Annual reports including institutional benchmarks, such as graduation and retention rates, grade point averages of graduates, etc.

Middle States Commission on Higher Education (MSCHE), 2007

Part VII: How to: Forms and Formats

This section contains examples of key documents and form formats that may be used in the assessment process. They are presented here as guidelines for faculty and staff, representing primary information that must be collected and saved.

Curriculum Map – Instructions

Goals are assigned Roman numerals.

Please keep the following in mind when drafting program goals:

- Program goals are broad statements that describe the long-term program targets or directions of development. They state in broad terms what the program is designed to accomplish in terms of student outcomes.
- Program goals should support the college's mission statement.
- They should contain domain titles and description statements.

Examples of program goals are as follows:

- Biotechnology Program
    - Cognitive Knowledge: Provide education that leads to comprehensive understanding of the principles and practices of biotechnology.
- Dental Hygiene Program
    - Dental Hygiene Knowledge and Skills: To provide education that leads to comprehensive understanding of the principles and practices of Dental Hygiene.
- Engineering Transfer Program
    - Mathematics Skills: Provide students with a strong foundation in mathematics.
- Physical Therapy Assistant Program
    - Professional Transition: Graduates will develop the academic, technical, and life skills necessary to gain entry-level employment in the community as licensed Physical Therapist Assistants.

Program student learning outcomes are assigned capital letters.

Please keep the following in mind when drafting program-level student learning outcomes:

- Program-level student learning outcomes should be measurable.
    - Refer to Bloom's Taxonomy in **Appendix A** for a list of acceptable measurable verbs.
- Program-level student learning outcomes should relate to the program goals.

Examples of program-level student learning outcomes (that relate to the goals listed above):

- Biotechnology Program
    - Define and solve problems using the scientific method in biotechnology or related fields independently and/or collaboratively in a team.
- Dental Hygiene Program
    - Identify anatomical abnormalities of bone, soft tissue and teeth.
- Engineering Transfer Program
    - Evaluate indefinite and definite integrals.
- Physical Therapy Assistant Program
    - Identify the activities necessary for acquiring and maintaining licensure and continuing competence.

Fill in the appropriate boxes with I, U, or P. More than one identifier may be appropriate for some outcomes within a course, such as U and P.

- Introduced - The competency is introduced to students in this course (Knowledge and skills are introduced and taught).
- Utilized - The competency is utilized by students in this course (Learners still need guidance and feedback as they practice using the knowledge and skills).
- Proficient - The students gain or demonstrate proficiency in this course (Learners are able to independently apply the knowledge and skill).

Table 6. Sample Program-Level Curriculum Map

Curriculum Map - Example

Program Name: Engineering Transfer
School / Department: BSTEM / Math & Engineering
Program Coordinator: Jane Doe & John Smith
Last Updated: May 6, 2015

Program Goals	Program Student Learning Outcomes	Program Courses									
		EGN 101	EGN 102	EGN 201	PHY 203	PHY 204	MAT 140	MAT 141	MAT 210	MAT 211	
Goal I: **Mathematics Skills** **Provide students with a strong foundation in mathematics**	Outcome A: **Find the derivative of a function**						**P**				
	Outcome B: **Evaluate indefinite and definite integrals**						**I**	**P**			
	Outcome C: **Differentiate and integrate multi-variable functions**								**U**		
	Outcome D: **Solve first and second order, ordinary differential equations**									**U**	
Goal II:	Outcome A:										
	Outcome B:										
	Outcome C:										
Goal III:	Outcome A:										
	Outcome B:										
	Outcome C:										
Goal IV:	Outcome A:										
	Outcome B:										
	Outcome C:										
Goal V:	Outcome A:										
	Outcome B:										
	Outcome C:										

Program Student Learning Outcomes Assessment Cycle

Five Year Schedule - Instructions

Each assessment cycle is five years. During this five-year period, all outcomes for a program must be assessed. Using the curriculum mapping developed for the program, the faculty will lay out the five-year assessment cycle on the Five-Year Schedule form. Outcomes will be assessed over two semesters.

The Five-Year Schedule (formally The Matrix) is a recommended format for planning an assessment cycle **(Table 7)**; however, exceptions can be made based on individual program needs with input from the assessment office.

In the top rows, enter the following:

- The assessment year.
- The semesters for each assessment year.
- The program goals/outcomes that will be assessed for each year.

In the columns, enter the following:

- Column one (Courses) – list all the courses for the program.
- Column two (Program Outcomes) – enter the program goals/outcomes that each course outcome will assess based on the curriculum mapping. If a course addresses more than one program goal/outcome, the course can be listed more than once.
- Column three (Course Outcomes) – enter the number of the course outcome (s) that will be assessed for the program goal/outcome in column two.
- Yearly assessment columns – enter “Plan-Pilot” in the semester that the assessment plan and/or the pilot for the course outcome(s) will take place. Then enter “I-A-R” (Implementation, Analysis, and Report) in the next semester column. Please note that if an outcome is not met, a Learning Improvement Plan (LIP – **Table 9**) is written and “I-R-A” will be added to the five-year schedule in the semester that the LIP for the course outcome will be assessed. The LIP and the I-R-A steps will be repeated until the outcome is met even if it is runs into the next assessment year.

In the rows at the bottom of the form, enter the planned activities for each step. There is also an area for miscellaneous notes.

Table 7: Completed Five-Year Assessment Schedule

Program Student Learning Outcomes Assessment Cycle – Five Year Schedule 2017-2022 (2nd Cycle)

Engineering Transfer – M023 - 494001 – CIP Code (Program Coordinator: Jane Doe/John Smith)

BSTEM – M&E

Course	Program Outcomes	Course Outcomes	Year 1 Fall 2017	Year 1 Spring 2018	Year 2 Fall 2018	Year 2 Spring 2019	Year 3 Fall 2019	Year 3 Spring 2020	Year 4 Fall 2020	Year 4 Spring 2021	Year 5 Fall 2021	Year 5 Spring 2022
			I-A, I-B		I-C, I-D		II-A, II-B		III-A, III-B, III-C			
MAT 140	I-A & B	1, 2, & 3	Plan-Pilot	I-A-R								
MAT 140	I-C & D	4 & 5			Plan-Pilot	I-A-R	I-A-R I-C, 5					
MAT 141	I-B	1, 3, & 5	Plan-Pilot	I-A-R								
MAT 141	I-C	2 & 4			Plan-Pilot	I-A-R						
MAT 210	I-C	All			Plan-Pilot	I-A-R						
MAT 211	I-D	All			Plan-Pilot	I-A-R						
PHY 203	II-A	All				Plan-Pilot	I-A-R					
PHY 204	II-B	All					Plan-Pilot	I-A-R				
EGN 101	II-A	All					Plan-Pilot	I-A-R				
EGN 102	II-B	All					Plan-Pilot	I-A-R				
EGN 201	III-C	All							Plan-Pilot	I-A-R		
CSC 108	III-A	1,3, & 4							Plan-Pilot	I-A-R	LIP I-A-R	
CSC 108	III-B	2 & 5							Plan-Pilot	I-A-R	LIP I-A-R	LIP I-A-R

Step	**What to do during this step (*Academic Changes or Program Adjustments…*) Steps: Plan, Pilot – Implementation, Analyses, and Report (I-A-R)**
Plan	Develop assessment instruments and scoring tools (i.e., rubrics). New capstone course and grading rubric are being developed. The program is also being accredited and the SLOAs will change accordingly. Enter the above information into **TracDat**.
Pilot	Pilot testing outcome's assessment activity - assess the efficacy and efficiency of the assessment instruments and scoring tools if necessary.
Implement	Collect data as described in the Plan and Pilot steps. Organize the data and adjust for academic changes and need.
Analyses	Analyze the data and discuss academic changes and decisions in the FACT.
Report	Complete the data entry in "Results" of **TracDat**. If the benchmark criterion is not met, enter LIP (LIP is called "Actions" in TracDat) in **TracDat**.
Closing the Loop	Implement the LIP and report the results in the "Follow-Up" of **TracDat**. The quiz results will be cross referenced with results from those students who came to open labs and the quiz review session.
Prepare Evidence	Prepare documentation (data, rubrics) related to the implementation of the LIP and Implement step.
Notes	

Course Student Learning Outcomes Assessment Data Collections Worksheet - Instructions

An integral part of this process is to engage faculty members of various programs in discussion of the assessment results and planned improvements where needed. This optional worksheet provides an easy way to collect your assessment results for discussion and future reporting requirements.

Course Outcomes Column

Fill in the Course Outcomes for a course. Use only one outcome per cell/row. If the column does not have enough rows to accommodate the number of outcomes you may have for a course, add additional rows.

Assessment Instrument Column

Next, fill in the box next to the outcome with the instrument or tool the students will use and what you expect the students to accomplish. The measurement strategy should be clearly described in sufficient detail. The tools or instruments must be related to the learning outcome.

Number of Students Evaluated, Number of Students Who Met the Outcome, and Percent of Students Who Met the Outcome Columns

Enter the number of students who were evaluated in the next column, and then add the number of those students in the next column who were successful on the outcome. Finally, provide the percentage of students who were assessed that met the outcome.

Table 8. Sample Course SLOA Data Collection Worksheet

Course Student Learning Outcomes Assessment Data Collection Worksheet

Course: PSY 104 Aligned with Program: A&S Transfer - Psychology

Aligned with General Education Discipline: Social and Behavioral Sciences

Core Competencies measured: Information and Computer Literacy; Effective Communication

Prepared by: Jane Doe Date: 3/18/14

Semester Course Offered: Fall Year: _____

Course Outcomes:	Assessment Instrument	# Students	# Who Meet	% Who Meet
Students will be able to identify and use appropriate, relevant resources from textbook and electronic sources from a research database.	**Students will write a Developmental Assessment Paper using research sources to support their observations and achieve at least a grade of 75%.**	17	8	47%
Students will be able to write a multiple-page document that meets college-level academic standards for style, grammar, mechanics, and format.	**Students will write a Developmental Assessment Paper using research sources to support their observations.**	17	5	29%
Students will use the concepts, language, and major theories to account for psychological developmental phenomena.	**Students will conduct an interview and apply principles and concepts of Development Psychology to explain their subject's lifespan development. Students will write a multiple-page paper using research sources to support their observations.**	17	12	71%

Original student data should be kept within the department or maintained electronically in the College's LMS or data storage program.

Resource Allocation Worksheet – Instructions

The purpose of the BCCC Resource Allocation Worksheet is to tie specific recommendations to improve Student Learning Outcomes to the resources necessary for course or program revision.

The Worksheet is a matrix with three levels of actions:

- Actions to be taken by individuals at the individual faculty or staff level.
- Actions to be taken by groups of faculty or staff at a departmental or program level.
- Actions to be taken at an institutional level requiring support from the administration or curriculum committees.

The three levels are then categorized across the top by type of intervention and should be completed as needed:

- Human: requiring hiring, training, or additional time.
- Financial: requiring funding to be allocated to the project.
- Physical: interventions requiring a reallocation of classroom space.
- Technological: interventions requiring specialized hardware, which should be purchased or upgraded.
- Curricular: creation or revision of courses.
- Instructional: inclusion of new materials or approaches in teaching the material.

Some improvement plans may touch on multiple categories, i.e. Financial resources for a Technological Plan, or may require coordination between multiple levels, i.e. Curricular revisions that are developed through all three levels.

Using your Learning Improvement Plan (**Table 9)**, complete the matrix as part of your assessment process. This form will be submitted to your Associate Dean and Dean for inclusion in college-wide resource allocations as appropriate.

Table 9. LIP Format

Program Goal				
Measurable Student Learning Outcome (SLO)				
Course SLO				
Assessment Instrument *Describe*				
Benchmark Criteria *Describe*				
Results *Check Appropriate Result* *Describe: Include number of students assessed (n = XXX)*	☐	Learning Outcome Achieved	☐	Learning Outcome **NOT** Achieved
Action *Check No Action **or** Key Date*	☐	No Action Required	☐	Action Required (LIP Below) LIP Implementation Date:
Learning Improvement Plan *Describe*	Additional information or timelines:			

Table 10: Sample BCCC Resource Allocation Form

School of BSTEM: Engineering Transfer Program

	Human	Financial	Physical	Technological	Curricular	Instructional
(Institutional Level) Actions to be considered by Administration, Curriculum Committees, etc.	A full time contractual faculty member was hired summer '13, when the contract expires it is recommended that the contract convert to PIN to support increased enrollment. Hire two physics tutors to assist with both Eng'r and Robotics students.	Long-term funding for new full-time faculty, PIN, employee. Funding for two new tutors.	Modification of existing classroom space to become technical lab.	Purchase of specialized hardware and software for new lab.	Creation of new course to incorporate additional skills recommended by advisory board. Program revision to incorporate new course.	Faculty training on incorporating new materials and skills into course presentation.
(Departmental, Unit, and Program level) Actions to be considered by Staff and Faculty	Departmental level training plans	Department works together to re-allocate teaching schedules to incorporate new course loads without requesting additional funds.	Department works together to re-allocate teaching space among current space allocations.	Department works together to determine technological requirements anticipating increase in student learning outcomes results.	Department works together to discuss curricular revisions that may increase student learning outcomes results. Upon departmental approval these would be moved up to 'institutional' for official revision and adoption.	Department works together to discuss and formulate instructional strategies that might be employed to improve outcomes. This might include team teaching or cross training within the department.

(Faculty, Staff, etc. level) Actions to be taken by Individuals	**Individual faculty determines need for professional development to remain current with profession.**	**Individuals work at the departmental or institutional level to impact financial decisions.**	**Individual faculty moves class room furniture into revised patterns. i.e. circling tables, grouping tables into working groups.**	**Individual faculty locates easily assimilated technology for course; i.e. Use of College iPads, YouTube videos, Apps in Canvas.**	**Individual faculty cannot make substantive changes to courses, but can assess if changes in course presentation, timing, support tools or other curricular interventions might improve student learning outcomes results.**	**Individual faculty assesses instructional approach and determines new approach that might improve outcomes. i.e. "Flip" the class time.**

The purpose of this matrix is to link outcomes assessment Action Plans and Learning Improvement Plans to college resource allocations.

End-of-Cycle Assessment Report – Instructions

- End-of-Cycle reports bring together all Methods, Results and Actions initiated or planned during the five-year assessment cycle. Data collected during the five-year assessment cycle will be used to create the End-of-Cycle report at the five-year mark.
- In the "Program Student Learning Outcome" column, enter the program goals and program student learning outcomes. These should be copied from the curriculum map.
- In the "Assessment Method" column, describe the sources of any data that will be used to assess the outcome. This may include course-level assessment data (if so, list which courses and semesters), capstone projects, portfolios, licensure exams, etc.
- In the "Results" column, summarize the data that was collected. Include benchmark criteria and sample sizes.
- In the "Use of Results/Action" column, compare the results to those of previous assessment cycles, especially in those areas where program improvement plans were developed. Comment on any trends that are observed. Describe any academic decisions that were/are being made based on the results. If the results are unsatisfactory (meaning the benchmark criteria were not met), then include a program-level learning improvement plan in this column. A program-level learning improvement plan lists a set of action steps that will be taken to improve the student learning outcome results in the future.
- Examples of action steps that may be a part of a program-level learning improvement plan include but are not limited to the following:
    - Revise the program curriculum to add/delete courses and/or assignments from courses in the program.
    - Schedule courses for shorter/longer periods more/less days per week.
    - Engage second year students to mentor/tutor first year students.
    - Adopt new textbooks for courses in the program.
    - Provide professional development for faculty teaching in the program.

Table 11: Sample Program End-of-Cycle Assessment Report

End-of-Cycle Assessment Report - Example

Program name: Engineering Transfer
Program Coordinator: Jane Doe & John Smith
Date: May 6, 2015

End-of-Cycle report:

Program Student Learning Outcome	Assessment Method(s)	Results	Use of Results/Actions
Goal I: Mathematics Skills Provide students with a strong foundation in mathematics Outcome A: Find the derivative of a function	10 questions asking the students to find the derivative of various functions were embedded in the final exams of every section of MAT 140 taught between Fall 2010 – Fall 2014. The questions varied slightly every semester, but they were always considered to be of the same level of difficulty and they tested the same concepts. • One question asked the students to find the derivative of a third degree polynomial. • One question required the students to use the product rule. • One question asked the students to use the quotient rule. • …	Benchmark: It is desired that 70% of the students will earn at least 70% of the points for these questions. Students meeting the benchmark: Fall 2010: 42 out of 78 (53.8%) Spring 2011: 51 out of 83 (61.4%) … Spring 2014: 63 out of 86 (73.3%) Fall 2014: 65 out of 90 (72.2%)	When the mid-cycle report was written in May 2013, the benchmark criteria were not being met. Based on the data that was available at that time, the FACT decided to take the following actions: • Adopt a new textbook that gives more emphasis to derivatives in Fall 2013. • Host a professional development workshop prior to the Spring 2014 semester for faculty in the math department to learn best practices related to teaching derivatives in a college calculus class. • … The actions appear to have made a positive difference. By Spring 2014 the benchmark were being met. The benchmark was met again in Fall 2014. The FACT will continue to monitor the course-level assessment data to see if this trend continues.

Goal I: Outcome B:			
Goal I: Outcome C:			
Goal II: Outcome A:			

...

Goal V: Outcome C:			

Part VIII
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Part IX: Appendix

Appendix A: Blooms Taxonomy

Bloom's Taxonomy Breakdown:
Examples, Verbs, and Activities from Bloom's Taxonomy

Level of Taxonomy	Definition	Teacher Question	Student Example	Verbs			Activities	
EVALUATION Highest level of thinking/learning 	Judging the values of ideas, materials and methods by developing and applying standards and criteria. Accepting or rejecting things based on criteria.	Can the student create a new product or point of view?	Examples: Award the contract to the best proposal. Decide which candidate would be the best president.	argue assemble assess award choose compare conclude construct create criteria criticize debate decide deduce defend	design determine develop discriminate estimate evaluate formulate infer judge justify measure predict prioritize probe rank	rate recommend referee reject revise score select appraise support tell why validate value write	conclusion debate editorial evaluation investigation opinion panel judgment	recommendation report scale survey verdict
SYNTHESIS 	Putting together constituent elements or parts to form a whole requiring original, creative thinking. Communicating in a unique way. Developing a plan or proposing a set of operations.	Can the student justify a stand or decision?	Examples: Create a study plan for completing a term of study. Develop a way to teach the concept of "adjectives".	act appraise argue arrange assemble blend collect combine compile forecast compose concoct construct create defend derive design develop	devise formulate generalize generate hypothesize improve infer invent judge manage modify organize originate imagine plan predict select support	prediction prepare pretend produce propose reorganize revise role-play set up show suppose systematize write	advertisement poem blueprint cartoon collage design event film formula goal hypercard stack invention machine media product new game	newspaper painting pantomime plan play product project radio solution song story video
ANALYSIS 	Breaking information down into its constituent elements. Uncovering the unique characteristics of something.	Can the student distinguish between the different parts?	Examples: Inspect a house for poor workmanship. Simplify "ballet" to its basic moves.	analyze appraise arrange calculate categorize classify compare contract contrast criticize debate deduce detect diagram differentiate	discover discriminate dissect distinguish examine experiment group inquire inspect interpret inventory investigate order question	organize point out point out probe question relate research scrutinize separate sequence sift solve survey test	abstract category chart checklist conclusion database diagram graph illustration inventory	investigation list mobile outline plan questionnaire report spreadsheet summary survey

Bloom's Taxonomy Breakdown:
Examples, Verbs, and Activities from Bloom's Taxonomy

Level of Taxonomy	Definition	Teacher Question	Student Example	Verbs			Activities	
APPLICATION 	Using methods, concepts, principles and theories in new situations. Using what he/she knows from a variety of areas to find solutions to problems.	Can the student use the information in a new way?	Examples: Solve a multiplication problem. Use the clothes you are wearing to develop a plan to stay afloat for several hours.	adapt apply calculate change choose collection compute construct demonstrate dramatize draw employ exhibit	experiment illustrate interpret interview list make manipulate operate paint practice practice prepare	produce record relate schedule sequence show sketch solve teach translate translate use write	demonstration diagram diary diorama experiment illustration interview journal lesson map model performance	photograph poster prediction presentation product puzzle relate report scrapbook sculpture simulation
COMPREHENSION 	Understanding of information given. Communicating an idea or thing in a new of different form. Qualifying ideas in relation to one's own experience. (interpretation)	Can the student explain ideas or concepts?	Examples: Explain the formula for the area of a triangle. Explain the levels of Bloom's Taxonomy.	account for annotate ask calculate classify convert describe discuss examples of expand upon explain	express give give main idea identify identify interpret locate locate observe outline	paraphrase recognize report research restate retell review select summarize tell translate	collection debate definition dramatization example explanation label list	outline quiz recitation reproduction show & tell story problems summary test
KNOWLEDGE  Lowest level of thinking/learning	Recalling or recognizing specific information. Remembering an idea, phenomenon, or a fact in somewhat the same form in which he/she learned it.	Can the student recall or remember the information?	Examples: List the levels in Bloom's Taxonomy. Recite a poem.	choose cite define describe distinguish duplicate give example group know label	list listen locate match memorize name quote recall recite	record relate repeat reproduce review select show sort state underline	definition fact label list quiz	reproduction test workbook worksheet

Appendix B: Glossary of Assessment Terms

Glossary of Assessment Terms

Accountability:	The demand by a community (public officials, employers, and taxpayers) for school officials to prove that money invested in education has led to measurable learning.
Achievement Test:	Standardized test designed to measure the amount of knowledge and/or skill a person has acquired. Such testing evaluates the test-taker's learning in comparison with a standard or norm.
Alignment:	Alignment is the process of analyzing how explicit criteria line up or build upon one another within a particular learning pathway. When dealing with outcomes and assessment, it is important to determine that course outcomes align or match up with program outcomes; that institutional outcomes align with the college mission and vision.
Alternative Assessment:	Used to describe alternatives to traditional, standardized, norm- or criterion-referenced traditional paper and pencil testing. Portfolios and instructor observation of students are also alternative forms of assessment.
Analytic Scoring:	Evaluating student work across multiple areas of performance rather than from an overall impression (see: holistic scoring). In analytic scoring, individual scores for each area are scored and reported.
Artifact:	An assessment artifact is a student-produced product or performance used as evidence for assessment.
Assessment Activities (methods):	Mechanisms by which achievement of an outcome is determined. Examples include surveys, interviews, standardized tests, portfolios, juried performances, research data from outside sources, peer review, etc.
Assessment Cycle:	The assessment cycle refers the completion of all four steps of the assessment process.
Assessment for accountability:	This involves the summative assessment of units or individuals to satisfy external stakeholders.
Assessment for improvement:	This type of assessment feeds directly, and often immediately, back into revision of the course, program, service or institution to improve student learning, programs, or services. Assessment for improvement can be formative and/or summative.
Assessment:	The process of observing learning; describing, collecting, recording, scoring, and interpreting information about courses/programs/services undertaken for the purpose of improving the institution, services, programs, and student learning and development. Note: Assessment is not and should not be associated with evaluation. The object of analysis is the program, activity or service, not the individual. Assessment is about improving, not judging the performance of a faculty or staff member.
Authentic Assessment:	Involves asking students to demonstrate the behavior the learning is intended to produce. Rather than choosing from a set of responses, students are asked to accomplish a task or to solve problems.
Benchmark:	A description of a specific level of expected performance. Benchmarks

	for student learning are often represented by samples of student work.
Bloom's Taxonomy:	Bloom's Taxonomy is an example of one of several classification methodologies used to describe increasing complexity or intellectual sophistication: 1. Knowledge: Recalling or remembering information without necessarily understanding it. Includes behaviors such as describing, listing, identifying, and labeling. 2. Comprehension: Understanding learned material and includes behaviors such as explaining, discussing, and interpreting. 3. Application: The ability to put ideas and concepts to work in solving problems. It includes behaviors such as demonstrating, showing, and making use of information. 4. Analysis: Breaking down information into its component parts to see interrelationships and ideas. Related behaviors include differentiating, comparing, and categorizing. 5. Synthesis: The ability to put parts together to form something original. It involves using creativity to compose or design something new. 6. Evaluation: Judging the value of evidence based on definite criteria. Behaviors related to evaluation include: concluding, criticizing, prioritizing, and recommending. (Bloom, 1956)
Capstone Experience:	Holistic activities designed to assess students' knowledge, skills, and problem-solving abilities using concepts learned at the end of the program.
Classroom Embedded Assessment:	Activities used by an individual instructor to determine if students are meeting the outcomes in a single class meeting or a small number of consecutive class meetings. The instructor evaluates the results to decide if changes are needed to help improve student learning.
Closing the Loop:	Closing the loop refers to the use of assessment results to improve student learning through collegial dialog informed by the results ice or instructional learning outcome assessment. It is part of the continuous cycle of collecting assessment results, evaluating them, using the evaluations to identify actions that will improve student learning, implementing those actions, and then cycling back to collecting assessment results, etc.
Cohort:	A group of individuals whose progress is tracked by examining identified measurements at specified points in time.
Competencies:	Knowledge, skills, or behavior that a student can perform or demonstrate.
Competency Test:	A test used to determine if a student has met established minimum standards of skills and knowledge.
Continuous Improvement:	Continuous improvement reflects an on-going, cyclical process to identify evidence and implement incremental changes to improve student learning.
Core Competencies:	Core competencies are the integration of knowledge, skills, and attitudes in complex ways that require multiple elements of learning which are

	acquired during a student's course of study at an institution. Statements regarding core competencies speak to the intended results of student learning experiences across courses, programs, and degrees.
Course Assessment:	This assessment evaluates the curriculum as designed, taught, and learned. It involves the collection of data aimed at measuring successful learning in the individual course and improving instruction with the ultimate goal towards improving learning and pedagogical practice.
Course Embedded Assessment:	Activities selected by faculty members, who teach a course, to determine if students are meeting the learning outcomes for that given course. The results of the assessments should be used to decide if changes in the course are needed to help improve student learning.
Course-embedded Assessment:	Assessment methods that are integrated into the teaching-learning process as part of the coursework.
Criteria:	Measures or characteristics that are used to determine or verify student knowledge, attitudes and performance.
Criterion-Referenced Assessment:	Assessment comparing an individual's performance to a specific learning outcome or performance standard and not to the performance of other students.
Culture of evidence:	The phrase "culture of evidence" refers to an institutional culture that supports and integrates research, data analysis, evaluation, and planned change as a result of assessment to inform decision-making (Pacheco, 1999). A culture of evidence is characterized by the generation, analysis and valuing of quantitative and qualitative data in decision making.
Curriculum Mapping:	The process for documenting the link between course learning outcomes and program goals and outcomes.
Curriculum-embedded or Course-embedded Assessment:	Assessment that occurs simultaneously with learning and as a natural part of the teaching-learning process. These would include activities such as projects, portfolios and assignments. The assessments occur in the classroom setting, where tasks or tests are developed from the curriculum or instructional materials.
Cutoff Score:	Minimum score used to determine the performance level needed to pass a competency test.
Dimensions:	Desired knowledge, attitudes or skills to be measured in an assessment as represented in a scoring rubric.
Direct assessment of learning:	Assessment activities that gather evidence of student knowledge and skills based upon student performance, rather than perception.
Direct data:	Direct data provide evidence of student knowledge, skills, or attitudes for the specific domain in question and actually measuring student learning, not perceptions of learning or secondary evidence of learning, such as a degree or certificate. For instance, a math test directly
Educational Objectives:	Objectives that describe the knowledge, skills, abilities, or attitudes students are expected to acquire as a result of completing the academic program. Objectives in this sense are sometimes treated as synonymous with outcomes.

Embedded assessment:	Embedded assessment occurs within the regular class or curricular activity. Class assignments linked to student learning outcomes through primary trait analysis serve as grading and assessment instruments (i.e., common test questions, CATs, projects or writing assignments). Specific questions can be embedded on exams in classes across courses, departments, programs, or the institution.
Evaluation of Faculty & Staff:	A process where employee performance is measured at an institution.
Evaluation:	The use of qualitative and quantitative descriptions to judge individual, course, program and institutional effectiveness. Depending on the level, evaluation information is used for making decisions about individual performance review, student grades and course, program and institutional changes for improvement.
Evidence:	Evidence is artifacts or objects produced that demonstrate and support conclusions, including data, portfolios showing growth, as opposed to intuition, belief, or anecdotes.
External assessment:	This uses criteria (i.e. rubric) or an instrument developed by an external source and is usually summative, quantitative, and standardized.
Formative Assessment:	Specific assessments identifying what individuals know or are able to do and not do when a given learning task. This is a specific focus of student learning assessment within a course.
Goals:	These are the general aims or purposes of a program and its curriculum, stated in broad terms. Goals should be supported by more specific outcomes (including learning outcomes) that are observable.
Grades:	Grades are the faculty evaluation of a student's performance in a class as a whole. Grades represent an overall assessment of student class work, which sometimes involves factors unrelated to specific outcomes or student knowledge, values or abilities.
Holistic Scoring:	Evaluation of student work in which the score is based on an overall scoring of student performance, rather than on scoring components of the work individually
Indirect Measure of Learning Outcomes:	Assessment of learning that gathers reflection about the learning or secondary evidence of its existence. In the case of indirect measures, a recorder (usually a student or instructor) reports the perception of how well a given learning outcome has been achieved.
Institutional Assessment:	Processes identified by members of an institution to determine the ability of the institution to meet its Mission and Strategic Goals.
Institutional Student Learning Outcomes:	Institutional Learning Outcomes are the knowledge, skills, and abilities a student is expected to leave an institution with as a result of a student's total experience.
Item Analysis:	Each item on a test is analyzed to determine the proportions of students selecting each answer. This process is used to evaluate student strengths and weaknesses and may indicate problems with the test's validity and possible bias.
Learning	Measurable statements that describe specific student behaviors that

Outcomes:	provide of evidence acquisition of desired knowledge, skills, or attitudes. Outcomes are sometimes treated as synonymous with objectives.
Likert Scale:	The Likert scale assigns a numerical value to responses in order to quantify subjective data. The responses are usually along a continuum such as responses of strongly disagree, disagree, agree, or strongly agree and are assigned values such as 1 to 4.
Locally developed assessment:	Activities and instruments that are developed by an institution's faculty based on their teaching approaches, students, and course learning outcomes.
Norm Group:	A group of individuals selected randomly by an assessment developer to be used in determining a range of scores and establish percentiles of performance for the assessment.
Norm:	A distribution of scores obtained from a norm group. The norm is the median of scores or performance of the students in that group, where half of the scores will fall above the norm and half below the norm.
Norm-Referenced Assessment:	An assessment where student performance or performances are compared to a norm group.
Objective Test:	A test for which the scoring procedure is completely specified and not subjective, enabling agreement of the correct answer among different scorers.
Objectives:	Objectives (teaching objectives) are small steps that lead toward a goal, for instance the discrete course content that faculty cover within a discipline. Objectives are usually more numerous and create a framework for the overarching student learning outcomes which address synthesizing, evaluating and analyzing many of the objectives.
Outcome (Student Learning):	Descriptions of what a student should be able to know, think, or do when they have completed a course or program.
Pedagogy:	Pedagogy is the art and science of how something is taught and how students learn it.
Performance Criteria or Standards:	Specific descriptions of what individuals must do to demonstrate proficiency at a defined level.
Performance-based Assessment:	Direct observation and rating of an individual’s performance of an educational objective. The assessment may be conducted over a period of time and usually includes the use of a rubric or scoring guide to provide for objectivity. A test of the ability to apply knowledge in a real-life setting is an example of performance-based assessment.
Portfolio Assessment:	Reviewers assess student work on meeting outcomes by use of a portfolio and established criteria of performance. Each item in the portfolio may be individually scored, or a holistic scoring process may be used to present an overall impression of the student's collected work.
Portfolio:	A collection of work, usually drawn from students' classroom work. Portfolios can be designed to assess student progress, effort, and/or

	achievement, and encourage students to reflect on their learning.
Program Assessment:	Processes identified by faculty of an academic program to measure identified outcomes as a result of participation in the program. The results of the assessments should be used to decide if changes are needed to improve the program. PREC, Program Review and Evaluation Committee.
Program:	A "Program" is defined as a cohesive set of courses that result in a certificate or degree.
Qualitative assessment:	Provides data that is analyzed by interpretive criteria and does not lend itself to be analyzed by quantitative methods.
Quantitative assessment:	Provides data that can be analyzed using quantitative methods.
Rating Scale:	Qualities of a performance on an assessment that is based on descriptive words or phrases that indicate levels of achievement.
Reliability:	The measure of consistency for an assessment indicating that the assessment yields similar results over time when applied to similar populations in similar circumstances. Reliability provides an indication of the consistency of scores over time and across raters and different items that measure the same thing.
Rubric:	A scoring guide that defines the criteria of how an assignment or task will be assessed. A rubric typically provides an explicit description of performance characteristics corresponding to a point on a rating scale.
Sampling:	Method to obtain information about characteristics of a population by examining a smaller, randomly chosen selection (the sample) of the group members. If conducted correctly, sampling results will be representative of the population as a whole.
Standardization:	Procedures for designing, administering, and scoring an assessment in an effort to assure that all students are assessed under the same conditions and scores are not influenced by extraneous conditions.
Standardized Test:	An objective test that is given and scored in a uniform manner, often with scores being norm-referenced. Standardized tests are often accompanied by guidelines for administration and scoring in an effort to reduce influence on the results.
Student Learning Outcomes (SLO):	Student learning outcomes (SLOs) are the specific observable or measurable results that are expected subsequent to a learning experience.
Student Learning Outcomes Assessment (SLOA):	The systematic collection, examination, and interpretation of qualitative and quantitative data about student learning and the use of that information to document and to improve student learning. Note: Assessment is not synonymous with evaluation. The object of analysis of assessment results is about improving learning and the results should never be used for judging the performance of a faculty or staff member.
Subjective Assessment:	An assessment where the impression or opinion of the assessor contributes to the determination of the score or evaluation of performance.

Summative Assessment:	Provides a summary at the culmination of a course, unit, or program.
Validity:	The extent to which an assessment measures what it is designed to measure and that the results are used to make appropriate and accurate inferences. An assessment cannot be valid if it is not reliable.
Value added:	The increase in learning that occurs during a course, program, or activity. This can either focus on the individual student (how much better a student does something at the end than at the beginning) or on a cohort of students.

Glossary compiled using:

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