**Learning Outcomes Assessment Handbook**

# University of Baltimore AY 2015-16

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**ASSESSMENT HANDBOOK**

This Assessment Handbook was developed to provide guidance to faculty and staff. It includes information about the process, structure, and timelines for assessment and helps ensure that all units are following the same timelines and compliance requirements. UBalt has been building a more centralized culture of assessment through collaborations among the Provost’s Office, Deans, and Executive Team and also has streamlined the process for requesting data to be used in assessment and analysis. In addition to this resource, there are forms and other resources available on the [University of Baltimore](http://www.ubalt.edu/institutional_effectiveness/assessment.cfm) [Assessment of Student Learning](http://www.ubalt.edu/institutional_effectiveness/assessment.cfm) webpage. If you have questions, contact the Assessment & Technology Coordinator, [assessment@ubalt.edu](mailto:assessent@ubalt.edu),.

# Assessment for Effective Teaching

Students perform best when they have a clear understanding of what is expected of them and how they can best meet those expectations. Learning outcomes are formal statements that articulate what students should know and be able to do at the end of the course or as a result of instruction. Each academic program at UBalt has a guiding set of student learning outcomes (SLOs). These should be periodically reviewed and updated by faculty. Program-level SLOs inform learning outcomes for each course. These should be communicated clearly to students in the syllabus. Here is an effective format for including learning outcomes on a syllabus:

By the end of this course, successful students should be able to:

* 1. Explain why …
  2. Evaluate the costs and benefits of …
  3. Create an original …
  4. Suggest solutions to …
  5. Identify problems in …
  6. Present an argument for/against …

Regular assessment of the degree to which our students are attaining learning outcomes provides us with evidence of the strengths and weaknesses of our curriculum and our methods of delivering it. Of course, the regional agency that accredits the University of Baltimore, Middle States Commission on Higher Education (MSCHE), requires its member institutions to assess student learning outcomes. However, the ultimate reasons for the assessment of student learning outcomes must be to make our curriculum stronger, to make us more effective teachers, and to help our students learn more effectively.

# Structure and Support for Assessment

**Structure**

Led by the Assistant Provost for Institutional Effectiveness and Associate Provost for Academic Programs in collaboration with the Office of the President, all administrative units and the University Faculty and Staff Senates work collaboratively to enhance student learning, success and overall effective functioning of the institution. Guided by the institution’s Key Performance indicators (KPI’s), the Maryland Performance Accountability Report (MPAR) indicators, data from the Integrated Postsecondary Education Data Systems (IPEDS) and annual financial audits, the university collectively assesses progress and makes recommended changes. Efforts are guided by a Core Assessment Team (CAT), which provides bi-annual updates and recommendations for action to the Executive Team. Figure 1 illustrates the relationship among assessment groups and Table 1 outlines responsibilities.

Figure 1: Core Assessment Team

|  |  |
| --- | --- |
| Core Assessment Team | |
| Academic Core Assessment Team Membership | Administrative Core Assessment Team Membership |
| * Assessment & Technology Coordinator (Chair) * Associate Provost Academic Programs * CAS Associate Dean * MSB Associate Dean * SOL Associate Dean * CPA Associate Dean * UFS representative * CELTT Representative | * Assistant Provost for Institutional Effectiveness * Assessment & Technology Coordinator * Divisional Representatives (appointed by divisional VP’s) * Staff Senate representative |

**Table 1:**

**ACAT and ADCAT Responsibilities**

|  |  |
| --- | --- |
| **Academic Core Assessment Team (ACAT)** | **Administrative Unit Core Assessment Team (ADCAT)** |
| **Primary ACAT Responsibilities**   * Curricular SLO Assessment Plan (Advisory) * General education/Graduation requirements assessment * Accreditation (regional and program specific) * USM program review | **Primary ADCAT Responsibilities**   * Facilitate continuous review process in administrative units * Help assure that admin assessment is linked to the strategic plan and to the assessment of the University learning goals * Member provide support within their divisions in developing assessment plans, reporting findings and action plans |

The two teams converge into a central team, the **Core Assessment Team (CAT),** which meets as a group twice per year to review assessment plans and processes and review assessment results, and to assess the institution with respect to student learning**.** Thus, CAT consists of the members of both the Academic Core Assessment Team (ACAT) and the Administrative Unit (ADCAT). The CAT is led by the Assistant Provost for Institutional Effectiveness and Associate Provost for Academic Programs. In addition the CAT supports program review for academic programs, co-curricular programs, and administrative units to ensure all unit and college level strategic plans align with the University mission and strategic plan. The CAT will report bi-annually to the Executive Team.

### Assessment Management Process

In accordance with the standards for conducting and documenting assessment by the Middle States Commission on Higher Education, the University of Baltimore has expanded its assessment efforts to have all academic programs within the University use Sharepoint to manage assessment. Faculty, department chairs, deans, and administrators should meet regularly to discuss the results and strategies for improvement documented in Sharepoint. Some administrative units may also post their assessment plans and results in Sharepoint. Access to Sharepoint is provided at a variety of levels and requires UBalt password and ID.

Sharepoint is used to collect and manage data in the following areas for each academic program and various administrative units:

* Mission
* Program Student Learning Outcomes or Unit Goals
* Curriculum Map
* Assessment Cycle
* Assessment Findings with action plan
* Close the Loop

Mission and outcomes (whether program SLOs or outcomes for a unit) are generally stable over a 3-year period. But what is happening in terms of each SLO varies by year. One outcome (e.g., one SLO) might be measured for the first time in the cycle, but another SLO may be at a later stage (e.g. assessment findings are being gathered and analyzed. All program SLOs should be reviewed every two years. The data are reviewed periodically by the core assessment teams (ACAT or AdCAT). This ensures that University of Baltimore is continually monitoring, assessing, and improving all programs the University offers.

**Support for Assessment Activities**

Professional development opportunities are available for faculty and staff involved in assessment. Faculty may request 1:1 consultation with the Assessment & Technology coordinator for assistance with UBalt’s assessment site on Sharepoint or to discuss assessment more generally. There are also periodic specialized opportunities through the Center for Excellence in Learning, Teaching and Technology (CELTT). Faculty may also deepen their understanding of assessment through work with school-specific committees, assessment days, or participating in General Education Council.

# The Cycle of Assessment

The assessment cycle is a process for continuously inquiring about how students, staff and faculty are doing. What are students learning? How are students learning? How is a particular service assisting our students? Is student learning supported or supplemented outside the classroom? Are current pedagogical strategies used by faculty effectively? Although all faculty and staff may use some components of the assessment cycle, use of all steps in this cycle results in continuous focus on the use of evidence to create better teaching and learning.

Whether one is assessing learning outcomes for an academic or co-curricular program or for a single course, it is important to remember that assessment is an iterative process, intended to provide useful feedback about what and how well students are learning. When developing an assessment plan, it is essential to think through all four steps of the cycle. Assessment is an ongoing process of planning, doing, checking, and acting.

1. ***Plan***Set Learning Goals. Establish clear, measurable expected student learning outcomes (SLOs); decide and articulate what students should know and/or be able to do when they leave your program or class.
2. ***Assess*** Develop and implement assessment strategies. Ensure students have sufficient opportunities to achieve the outcomes. Design tests, assignments, reports, performances, or other activities that measure the types and qualities of learning expected.
3. ***Analyze*** Review assessment data. Gather, evaluate, and discuss the results of the assessment instruments to see what evidence they provide about student learning.
4. ***Improve*** Create an action plan. Discuss the results and decide how to address any issues raised by the data to improve learning. Then determine if the action helped.
5. ***Close the Loop*** Reflect on assessment and action outcomes.

# Designing Effective Assessment Plans

### Identifying Student Learning Outcomes

As noted above, student learning outcomes are statements indicating the intended knowledge, skills, attitudes, behaviors, or values resulting from a learning activity. When first identifying what knowledge and skills should be included in the student learning outcomes for a course or program, it is important to keep a few parameters in mind.

* ***Limit the number***. Assessment experts recommend assessing no more than 4-6 program-level student learning outcomes within a multiyear cycle. As some outcomes are achieved, new outcomes can be identified. And as programs evolve in response to the changing needs of society and the workplace, new SLOs may be identified that could replace or subsume current SLOs.
* ***Limit the scope***. It is important to operationalize student learning outcomes such that students can demonstrate their knowledge and skills. The demonstration may be a performance on a test, a paper, or some kind of project deliverable. It is important that learning outcomes can be measured individually, and assessment experts recommend using **only one** action verb per student learning outcome. However, two verbs can be used in some cases.
* ***Consider both program needs and broader institutional learning goals.*** It is important to focus on the knowledge, skills, and abilities needed by students at a particular level (e.g., baccalaureate, master’s) and in a particular program of study as well as the contribution the program is making to the broader UB learning goals.
* ***Focus on evidence-based revisions***. Once you’ve shown evidence of ability to achieve basic learning outcomes, develop more focused outcomes to identify areas where you can revise and improve. The goal of assessment is to provide feedback to the program so it can improve student learning. Considering past learning outcomes and the program’s success in achieving those outcomes may suggest ways of focusing new outcomes to provide more information to the program. Programs should hypothesize about areas of weakness and develop outcomes to confirm or deny expectations and identify ways of fixing those weaknesses. Effectively constructed outcomes can help support arguments for additional university support.

### Writing Student Learning Outcomes



**What are learning outcomes?**

Learning outcomes are statements of what is expected that a student will be able to DO as a result of a learning activity. These statements are typically expressed as knowledge, skills, attitudes, behaviors, or values. The key word is DO and the key need in drafting learning outcomes is to use action verbs that are measurable (e.g., “understanding” is not measurable whereas “create a document that …” is measurable).

### Relationships among outcomes

When designing course, program, and general education outcomes you should always keep sight of the general institutional learning goals when designing course, program, and general education outcomes. All student learning outcomes (SLOs) up and down the chain (i.e., from course learning outcomes to university-level learning outcomes) should work together. To do so, keep in mind the following steps:

* Begin with the broad institutional outcomes expected of all students
* Work backward to design academic program outcomes that coordinate conceptually with the institutional outcomes
* Design course outcomes that will lead to the achievement of both program and institutional outcomes

Note that when the program is delivered, students experience this sequence in reverse. Students first participate in experiences that address lesson outcomes. The learning that results from these experiences accumulates as students proceed through the courses and other experiences in the program. A curriculum should be designed so that it provides a coherent set of experiences leading to the development of desired knowledge and skills – students show increasing levels of sophistication and integration of skills as they progress through the program.

### Keying outcomes to the course level

Learning outcomes for different level courses are usually keyed to the hierarchy of Bloom’s taxonomy. First articulated in 1956, the designations of the levels were updated in 2001. Lower level courses will be looking simply for knowledge or remembering, while the most advanced courses might be looking for synthesis or creativity. Between them are comprehension (understanding), application, analysis, and evaluation. It’s important that a course’s level in the curriculum coordinate with the appropriate cognitive level. Below is a list of action verbs commonly associated with the various levels of the taxonomy. They are not meant to be exhaustive, but are intended to initiate reflection and discussion about program-level student learning outcomes.

**Table 2:**

### Action Verbs Associated with Levels of Bloom’s Taxonomy, Revised

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Knowledge**  (Remember) | **Comprehension**  (Understand) | **Application**  (Apply) | **Analysis**  (Analyze) | **Evaluation (**Evaluate) | **Synthesis**  (Create) |
| define | describe | apply | analyze | appraise | arrange |
| list | discuss | calculate | appraise | assess | assemble |
| name | explain | demonstrate | classify | choose | collect |
| recall | express | dramatize | contrast | contrast | compose |
| record | depict | employ | debate | defend | construct |
| relate | locate | illustrate | diagram | estimate | create |
| underline | paraphrase | interpret | differentiate | evaluate | design |
| label | recognize | operate | distinguish | judge | formulate |
| quote | report | practice | examine | justify | integrate |
| locate | restate | schedule | experiment | measure | manage |
| match | review | sketch | question | rate | organize |
| cite | summarize | solve | test | revise | plan |
| reproduce | translate | use |  | score | prepare |
| identify |  |  |  | select | propose |
| state |  |  |  |  |  |

**Why use learning outcomes?**

Learning outcomes help instructors be precise. They can

* help students learn more effectively. Students know where they stand and the curriculum is made more open to them.
* make it clear what students can hope to gain from following a particular course or lecture.
* help instructors to design their materials more effectively by acting as a template.
* help instructors select the appropriate teaching strategy.
* help instructors more precisely tell their colleagues what a particular activity is designed to achieve.
* assist in setting examinations based on the materials delivered.
* ensure that appropriate assessment strategies are employed.

Learning outcomes are particularly important where materials and learning activities are produced by many people in order to be used by others, such as general education or university- wide writing courses. By stating what you expect students to be able to do, you can help colleagues better judge an assignment’s appropriateness to its circumstances and consider how to change it to meet their own local needs.

A learning objective should include an action verb that identifies an observable action students take in response to overarching student learning goals.

A summary of the guidelines to keep in mind when developing student learning outcomes for your program is as follows:

1. Focus on outcomes that are essential and respond to program needs and institutional learning goals.
2. Include in clear and definite terms the knowledge, abilities, values, attitudes, and habits of mind a graduate of your program is expected to have.
3. Confirm that it is possible to collect accurate and reliable data for the outcomes (i.e., is measurable).
4. Consider available resources when developing outcomes.
5. Include more than one measure that can be used to demonstrate that the students in a particular program have achieved the expected outcomes of the program.
6. Address how the students’ experience in the program contributed to their knowledge, abilities, values and attitudes.
7. State the outcome so that assessments of the outcome can be used to identify areas to improve.

### What comes next?

Once you have written your learning outcomes, the next logical step is to design an assessment method to test whether students have achieved the outcomes. Only after the learning outcome is designed can one really say what forms of learning materials and activities are needed to assist student learning. Clearly, your suggested assessment questions should attempt to test whether or not the intended outcomes you specified have been achieved.

### Curriculum Mapping



A program’s curriculum should be aligned systematically with the program’s learning outcomes. Alignment involves This clarifyies the relationship between what students do in their courses and what faculty expect them to learn. Analyzing the alignment of a curriculum with program learning outcomes allows program directors to identify gaps which can lead to curricular changes that improve student learning opportunities. The same activity can go on at the institutional level.

Mapping shows you where courses in a program’s in your curriculum your courses are addressing each program learning outcome. Students should be provided several learning opportunities for each outcome, and your curriculum should include places where skills are introduced (I), practiced (P), and finally mastered (M). Constructing a map makes it possible to identify where within the curriculum these learning outcomes are addressed. In other words, it provides a means to determine whether your outcomes are aligned with the curriculum

All curricula – including thoughtful reflection on what individual courses contain – should be developed within the context of the program learning outcomes. In turn, programs should broadly reflect the goals and mission of the college and university.

Curriculum mapping helps identify which courses are responsible for particular outcomes. It also provides a way for faculty to be certain that the curriculum offers the courses in a rational sequence. The curriculum should be organized so that knowledge and skills for each program learning outcome are first Introduced, then Practiced, and finally Mastered.

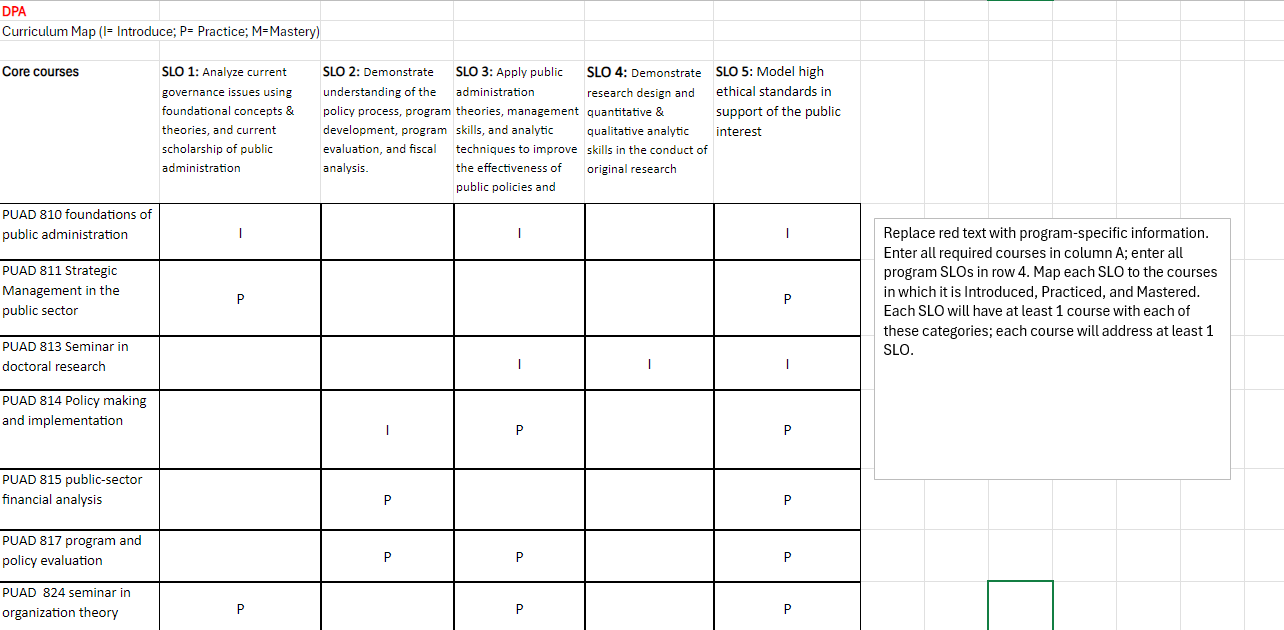
Think about the following as you map your curriculum:

* Are key program goals introduced, practiced, and mastered at varying levels of courses?
* Does the program offer appropriate redundancy in learning opportunities?
* Do course learning outcomes coordinate with program learning outcomes?
* Are there opportunities for students to organize, synthesize, and integrate what they are learning across the curriculum?
* Are courses appropriately preparing students for careers or graduate school?

Think about the following as you create your curriculum map:

* What conclusions can you draw about priorities, emphasis, and learning?
* What knowledge/skill is taught in each course? Are certain elements over-covered, under- covered?
* Would co-curriculars enrich any of your areas?

A template for curriculum mapping is provided in Sharepoint. and an example is provided below.



After mapping, review your curriculum to make sure there is a coherent plan of study. A program is not a collection of courses, but is meant to provide a coherent program of study to meet SLOs.

### Measuring Student Learning Outcomes



Programs should address the following questions when considering how to measure student learning:

* Who will be measured? Programs do not need to measure each student each year. Random samples of students can be used. Some programs assess students in a senior capstone course. Assessing students in selected courses is also possible. Students should be assessed after they have been exposed to the content matter described in the learning outcomes. Often, assessment occurs during the last semester or two of the student’s career, but assessment can take place at any time. If a pre-test/post-test measurement design is used, students should be assessed before and after completion of learning outcome content.
* When? Data about student learning should be gathered at least annually.
* By whom? Colleges should specify that a particular person or committee be charged with assessment duties. When using embedded assessment (i.e., assessment measure is part of the regular course assignments), course instructors can be charged with gathering data. Assessment is most useful when results are analyzed, discussed, and implemented by as wide a group as possible.
* How? The table below describes some of the various assessment measures that can be used. Multiple measures are not necessary for each outcome, but the program should use more than a single measure throughout its assessment plan

|  |  |  |  |
| --- | --- | --- | --- |
| Measure | Description | Advantages | Disadvantages |
| Portfolio Review | An evaluator or evaluators evaluate a collection of student work. Uses rubric. | Evaluates longitudinal work of students | * Time-consuming * Requires diligence * Difficult to score |
| Objective Exam | Use of a multiple- choice/true-false exam to measure student learning; may include pre-test/post- test design. | * Tests actual knowledge. * Can be used to measure improvement. | * Difficult or expensive to design. * Difficult to test all students. |
| Embedded Assessment | Use of an in-class graded or ungraded activity or assignment as a way of measuring student learning. Uses rubric. | * Unobtrusive * Easily administered and scored | * Limited in scope |
| Student Interviews | Asking students direct questions about their learning and experiences in the program. May use a rubric. | * Can probe knowledge and affective responses | * Difficult to score * Time-consuming * Possibility for bias in student answers |
| Surveys | Asking questions of faculty, employers or alums about student learning. | * Easy to administer * Easy to score | * Difficult to determine causality * Difficult to design valid instruments * Possibility for bias in the answers |
| Indirect Measures | Other measures including scores on placement tests, national awards and honors, etc. | * Compares your students to national averages and other schools | * Not directly tied to student learning outcomes * Comparisons may not be available |

Academic program quality depends on gathering appropriate data about or evidence of student learning. Middle States requires that program-level assessment include at least two measures of assessment, one of which must be a direct measure of student learning.

* Direct measures provide evidence that actual learning has occurred and is in the form of a product or performance (e.g., exams, projects, or performances graded with rubrics).
* Indirect measures are signs that students are probably learning, but exactly what or how much they are learning can be less clear. (e.g., number of hours students study, course evaluations, student satisfaction surveys).

Examples of direct and indirect assessment measures, along with additional information on them, can be found at the end of this handbook under Other Resources, “More on Direct and Indirect Measures.”

You must select assessment measures that can provide evidence about the learning outcomes you are evaluating. Before you begin your assessment you should decide on what is a minimally acceptable performance standard. With your colleagues, articulate what constitutes unacceptable, acceptable, and exemplary performance for each assessment measure. These standards can vary, as minimally accepted work is often connected to what the student is expected to do when she becomes a graduate. You would probably expect nursing students, for instance, to know how to draw blood 100% of the time, whereas English students probably would have a little more leeway in minimal expectations for interpretations of Shakespeare.

Think about the following as you compose your learning outcomes:

* What assessment measures can you easily put in place without disrupting a faculty member’s classroom activities or a student’s work?
* What evaluation tools does the program already have in place, what knowledge or skills are they evaluating, and do they provide useful information about the program goals?
* Are you using both direct and indirect measures? Every outcome must be evaluated by at least one direct measure. Remember – direct measures can include a wide variety of possibilities.
* What do you not know now about your outcomes that you wish you did know? How can you design a measure that addresses that question?

### Reviewing Assessment Findings

Understanding what your assessment data are telling you can sometimes be difficult. It’s important that the measures you are using directly address the outcomes you are trying to assess. To make sure your data are valid they should be relevant, accurate, and representative. If your measures yield these types of data they will probably be useful to you in making further curricular decisions.

Once you have a good dataset you can proceed to interpreting the evidence you’ve collected. Consider what the data are telling you about how well your students are achieving the learning outcomes you’ve set. Do your findings seem to make sense? If not, try to figure out where the glitch is occurring. Collected evidence should indicate to you where students are having difficulties and where there might be problem areas in the curricular information you thought your program was delivering. Once you’ve been able to see all the data together you will be able to make decisions about what additional information you need to move forward, including both better assessment methodologies and program/curricular improvements.

An essential activity at this step is to share the data with others in your program. All review and decisions about programmatic revisions should be done cooperatively with faculty who teach in the program.

**Creating an Action Plan**

Data collection matters little unless the data are shared at the program and/or institutional levels and used to improve learning, planning, and teaching. The data need to be used to reevaluate and/or revise the curriculum or individual courses to be sure that program learning outcomes are being achieved. Improving student learning, “closing the loop,” is the proper objective of assessment.

How will you use the evidence? Program faculty should be a part of any discussion about the evidence gathered using assessment. Once the data are gathered, a programmatic conversation should help direct any actions taken in response to what the evidence shows. If a change in course material or curriculum is indicated these actions should be entered in your action plan and a timeline should be developed for implementing recommended changes.

### Closing the Loop



If you’ve identified curriculum that needs to be revised, what stage is that in? If you’ve identified new resources that are needed, are they being obtained? Once the actions you’ve recommended are actually achieved, review the results alongside the curriculum map. Does it need revision? Do SLOs need revision? Review the program structure and goals to develop the next assessment plan. In short, they become part of your next assessment cycle.

# What to Assess

Each program should assess either 1) at least two program student learning outcomes each academic year; or, 2) assess all program SLOs over a two-year period. Please indicate your chosen assessment cycle in the ‘assessment cycle’ document. Do not wait until the last minute to do all your assessment work as meaningful analysis and reflection take time. Associate Deans are responsible for making sure that assessments are completed on time and that assessment materials are uploaded into Sharepoint properly.

# Institutional Assessment Timeline

All academic programs are expected to conduct assessments of at least two program SLOs every academic year, or to assess all program SLOs over a 2-year period. A complete SLO assessment report (including **assessment findings** and **action plans**) must be entered into Sharepoint no later than July 1.

# Other Resources

### Writing a Mission Statement



The foundation for an assessment planning process is a shared, clearly articulated mission statement. Aligned mission statements are mutually supportive. A mission statement is a brief (90 words, maximum) statement that identifies the purpose of your program, who is served, and how they are served. A mission statement is clear and concise. Program level mission statements should be aligned with schools or divisions as well as the university mission.

**General Program Mission Statement Template**

The mission of the [*degree program*] is to [*primary purpose*]for [*stakeholder*] opportunities ] .by [*primary functions, including examples of student learning*]

**Sample Mission Statement**

*The mission of the Biology B.S. degree program is to prepare students for employment in various biology-related areas and/or for advanced degrees in biology and other related fields. The program curriculum provides students with instruction in the fundamental concepts, knowledge, and laboratory/field techniques of the life sciences, and offers hands-on learning opportunities ranging from small-group problem solving exercises to practice in formal laboratory methods to the conducting of field-based research projects in the greater Baltimore area.*

**Checklist for a Mission Statement**

* Is the statement clear and concise (ideally no more than 90 words)?
* Is it distinctive (i.e., setting your program apart from those offered elsewhere)?
* Does it clearly state the purpose of the program?
* Does it indicate the primary stakeholders?
* Does it support the missions of the school/division, the college, and the university?
* Does it reflect the program’s priorities and values?

(Based on material from the University of Central Florida, [UCF Academic Program Assessment](https://oeas.ucf.edu/doc/acad_assess_handbook.pdf) [Handbook](https://oeas.ucf.edu/doc/acad_assess_handbook.pdf),” 2008.)

### More on Direct and Indirect Measures



Assessment takes many forms. Direct and indirect evidence of student learning offer insight into the outcomes of the students’ educational experiences. Both are helpful in providing evidence of student learning. Similarly both quantitative and qualitative evidence add value to the assessment process. Below is what MSCHE has to say about the value of formative and summative assessment.

*“Formative assessment is ongoing assessment that is intended to improve an individual student’s performance, student learning outcomes at the course or program level, or overall institutional effectiveness. By its nature, formative assessment is used internally, primarily by those responsible for teaching a course or developing a program.*

*Ideally, formative assessment allows a professor, professional staff member, or program director to act quickly to adjust the contents or approach of a course or program. For example a faculty member might revise his or her next unit after reviewing students’ performance on an examination at the end of the first unit rather than simply forging ahead with the pre-designated contents of the courses.*

*In contrast, summative assessment occurs at the end of a unit, course, or program. The purposes of this type of assessment are to determine whether or not overall goals have been achieved and to provide information on performance for an individual student or statistics about a course or program for internal or external accountability purposes.*

*Grades are the most common form of summative assessment.”*

(MSCHE, Student Learning Assessment, 2007)

### Sample direct and indirect measures at the course and program level:

|  |  |  |
| --- | --- | --- |
|  | Direct Measure | Indirect Measure |
| Course Level | * Course and homework * Examination & quizzes * Standardized tests * Term papers & reports * Presentations * Research projects * Class discussion * Case study analysis * Rubric * Artistic performance | * Course evaluations * Hours of service learning * Student hours doing homework * Number of student hours at out-of-class cultural events |
| Program Level | * Capstone projects * Pass rates or scores on licensure, certification * Student publication * Internship supervisor ratings | * Focus group interviews * Course enrollment info * Job placement * Dept. or program review * Alumni surveys * Student perception survey |

### Evidence-based Changes – Closing the Loop



Whatever it is that one learns through the assessment process, one must use this evidence to do something. Nothing is worth assessing if you don’t use the results. Some entities call this “continuous improvement.” or “closing the loop.” It is simply worth noting that repeating the steps is beneficial to improving student learning. Thus, the assessment must be acted upon and repeated:

Plan

1. identifying what you want students to do, or for your program to accomplish,
2. designing ways in which this learning opportunity happens,

Assess

1. gathering evidence – both direct and indirect,

Analyze

1. analyzing the results,
2. making sense of the results,

Improve

1. doing something with what you learned, and
2. Start again at step one

# Templates —COMBINE WITH VII AND RENAME TO TEMPLATES & RESOURCES

Links to the additional resources listed below can be found on the [Institutional Effectiveness](http://www.ubalt.edu/institutional_effectiveness/assessment.cfm) webpage under Assessment, “Assessment Handbook.” These useful tools include sample worksheets and guidelines for planning assessments.

* *Bloom’s taxonomy* of action verbs for SLOs
* *Assessment Plan worksheet* (Use this worksheet to plan your annual program assessments prior to entering the information into SharePoint.)
* *Assessment Report worksheet* (Use this worksheet to plan your annual program report prior to entering the information into SharePoint.)
* *Curriculum Mapping worksheet* (Use this worksheet for curriculum mapping prior to entering the information into SharePoint.)
* *Dos and Don’ts of writing SLOs —*
* *Course Embedded Assessment —*
* *AAC&U VALUE Rubrics* (often used to assess cross-disciplinary intellectual and practical skills)

# Glossary of Commonly Used Assessment Terms

### Action plan:

What you plan (or hope) to do as a result of your assessment plan findings. Your action plan can be as expansive as a complete curriculum overhaul or as small as a tweak to a section of a course. It might include needing new equipment or additional faculty.

### Assessment findings (assessment results):

What is learned about the efficacy of a course or a program with respect to students’ attainment of particular learning outcomes?

### Assessment plan:

An outline of a program’s student learning outcomes, assessment methods used to collect evidence related to the attainment of each outcome, and the intervals at which the evidence is collected and reviewed.

### Benchmark:

A point of reference for measurement; a standard of achievement against which to evaluate or judge one’s own performance. A program can use its own past performance data as a baseline benchmark against which to compare future data/performance. Additionally, data from another (comparable, exemplary) program can be used as a target benchmark.

### Bloom’s Taxonomy of Cognitive Objectives, revised:

Six levels arranged in order of increasing complexity (1=low, 6=high)):

1. *Knowledge (remember)* Recalling or remembering information without necessarily understanding it. Includes behaviors such as describing, listing, identifying, and labeling.
2. *Comprehension (understand)* Understanding learned material. Includes behaviors such as explaining, discussing, and interpreting.
3. *Application (apply)* 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 (analyze)* Breaking down information into its component parts to see interrelationships and ideas. Related behaviors include differentiating, comparing, and categorizing.
5. *Evaluation (evaluate)* Judging the value of evidence based on definite criteria. Behaviors related to evaluation include: concluding, criticizing, prioritizing, and recommending.
6. *Synthesis (create)* The ability to put parts together to form something original. It involves using creativity to compose or design something new.

### Course learning outcomes (commonly referred to as SLOs):

Describe what a course strives to provide its students. Course learning outcomes focus on the *inputs* (course components, activities, assignments, etc.) that are intended to facilitate student learning.

### Curriculum map:

Evaluation of curriculum in relation to intended learning outcomes and goals. Good mapping ensures that students are receiving appropriate instruction at appropriate points in their progression through a curriculum and enables the program/department to identify gaps in the curriculum and provide an overview of program accomplishments.

### Curriculum mapping indicators:

Each program outcome should appear in multiple courses with one of three levels of concentration indicated as follows.

1. *Introduced (I):* The points (generally specific courses) in a curriculum at which students are introduced to particular program learning outcomes. Outcomes may be introduced in more than one course, and more than one outcome may be introduced in a given course.
2. *Practiced (P):* The points (generally specific courses) in a curriculum at which students practice particular program learning outcomes that previously have been introduced. Students should have the opportunity to practice outcomes in more than one course.
3. *Mastered (M):* The points (generally specific courses) in a curriculum at which students should be able to demonstrate mastery of particular program learning outcomes. Students may have the opportunity to demonstrate mastery of outcomes in more than one course.

### Direct assessments:

Directly evaluate student work (e.g., exams, papers, projects, musical performances, art exhibitions, etc.) by requiring students to display their knowledge and skills in direct response to a set of guidelines or assignments.

### Formative assessments:

Conducted during the life of a major, course, or academic program with the purpose of providing feedback that can be used to modify, shape, or improve the major, course, or academic program.

### Goals (in general):

Very broad statements noting what universities and programs hope their students will be able to achieve (e.g. “To establish a foundation for lifelong learning, personal development and social responsibility”). These statements may not be measurable in themselves (e.g. understanding/appreciation/development/etc.), but they provide guidance for program development and the identification of measurable student learning outcomes.

### Indirect assessments:

Primarily reflective in nature and include self-reporting by students and alumni of their opinions and impressions of a program, course, or other educational experience, and their opinions on the value of their education in the development of their careers.

### Learning outcomes:

Observable, measurable ways in which students should be able to demonstrate their understanding/appreciation/development/etc. after successfully completing a course or a program of study (e.g., “Students will be able to evaluate the implications of accepted ethical standards and current legal thought on the behavior of xxx professionals in the workplace.”). SLOs focus solely on the *output* from learning opportunities – student knowledge, behavior, and habits of mind.

*(NOTE: Learning outcomes are known by many names: Student Learning Outcomes, SLOs, Program Learning Outcomes, and Course Learning Outcomes.)*

### Measure:

Methods and instruments used to collect evidence of the extent to which students demonstrate the desired behaviors.

### Mission statement:

A brief (90 words, maximum) statement that identifies the purpose of a program, department, or other institutional unit, who is served, and how they are served. A mission statement is clear, concise, and contributes to assessment. Program level mission statements should be aligned with schools or divisions as well as with the university mission.

### Rubric:

Written and shared set of standards for consistent judgment of a performance/product/ assignment/etc., containing specific characteristics that are arranged in levels indicating the degree to which performance standards have been met.

### Standards:

Programmatically agreed upon values used to measure the quality of student performance, instructional methods, curriculum, etc.

### Summative assessments:

Conducted after a major, course, or academic program has concluded to make comparisons with a pre-determined, targeted standard of performance.

### Target (criterion):

Desired level of student performance on a particular learning outcome, stated explicitly in an assessment report, and set before assessment of course or program learning outcomes is conducted.

**References**

Allen, M.J. (2004). Assessing Academic Programs in Higher Education. Bolton, MA: Anker Publishing.

Anderson, L.W. & Karthwohl, D. R. (2001) *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Angelo, T.A & Cross, K.P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers*, 2nd Ed., San Francisco, CA: Jossey-Bass, Inc.

Bloom, B.S. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals.* Handbook I: Cognitive Domain. White Plains, N.Y.: Longman.

MSCHE (2007). *Student Learning Assessment: Options and Resources*. Philadelphia, PA: Middle States Commission on Higher Education.