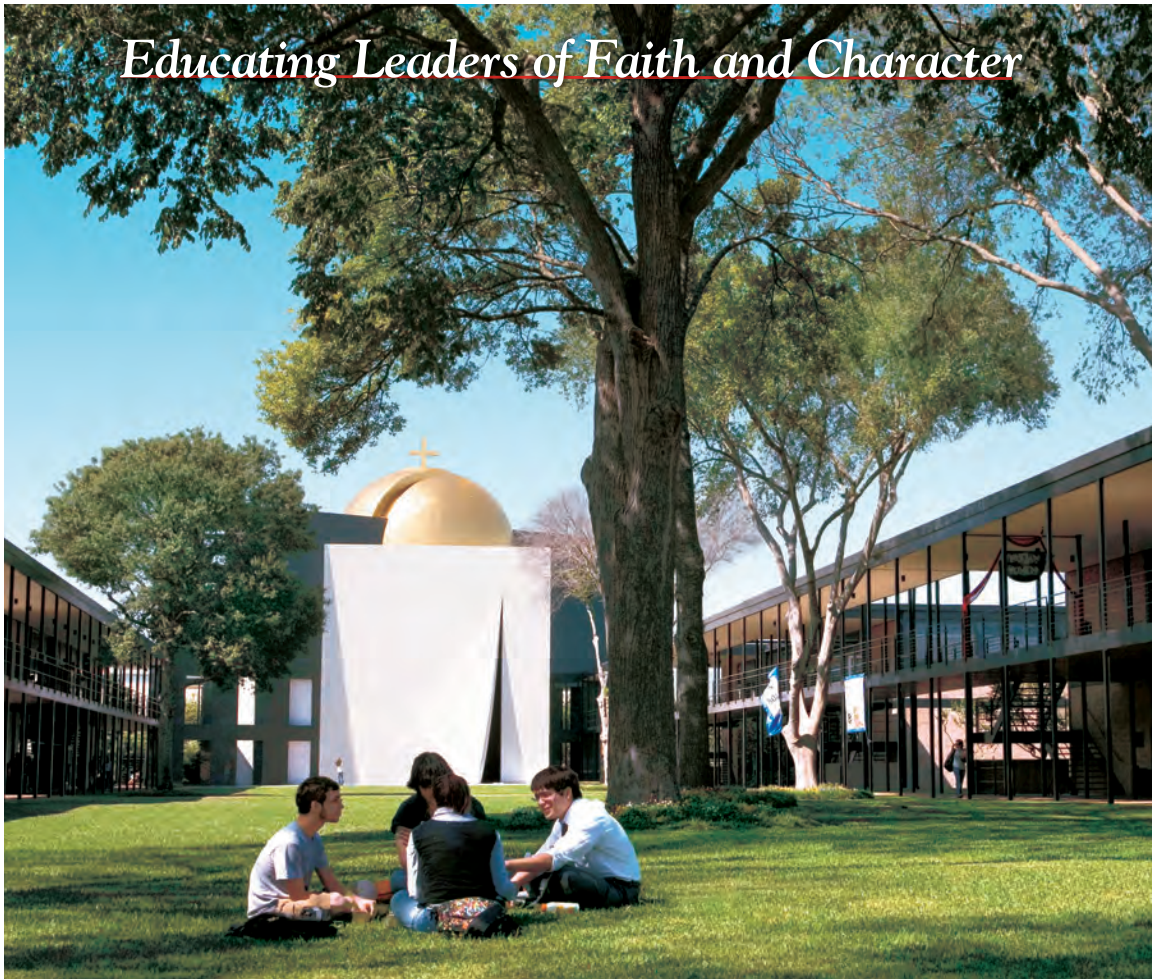




UNIVERSITY OF  
ST. THOMAS

*Educating Leaders of Faith and Character*



**Institutional Effectiveness Handbook**

**2018-19**

## Institutional Effectiveness

This guide provides a framework for understanding, planning, and implementing assessment and Institutional Effectiveness activities. It covers:

- the purpose and benefits of Institutional Effectiveness
- an overview of the iterative planning, implementation, and reporting process
- resources to assist in assessment

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For more information about Institutional Effectiveness and Assessment, refer to the following.

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#### **UST XiTracs homepage**

<https://stthom.xitracs.net/survey/portallogon.jsp>

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#### **Institutional Assessment and Effectiveness Resources**

<http://www.stthom.edu/accreditation>

## What is Institutional Effectiveness?

Institutional Effectiveness (IE) identifies processes that an institution uses to determine how well it's accomplishing its mission. One process contributing to effectiveness is outcomes assessment, an approach for measuring academic, student support, and administrative unit success. For each degree plan or program, faculty establish outcomes (statements that identify what students should be able to do or demonstrate as a result of their studies), gather information to measure the extent to which students achieve the outcomes, and then use the results to make changes in curricula. IE shows how programs continually improve their curricula planning and delivery.

## What are the benefits of Institutional Effectiveness?

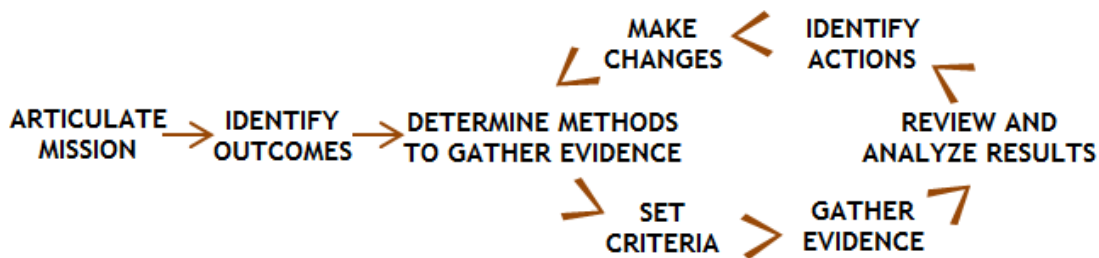
The university must measure what matters and use the results to become more effective. IE capitalizes on using information to make decisions and improve outcomes. This table identifies results of IE efforts for university stakeholders.

Faculty and staff will be able to:	Administrators will be able to:	The institution will be able to:	Students will be able to:
<ul style="list-style-type: none"> <li>• Develop curricula or programs that align with department and university goals</li> <li>• Streamline curriculum/ program development</li> <li>• Determine student or program areas of strength and weakness</li> <li>• Illustrate course or program value to the university</li> <li>• Provide evidence-based feedback to colleagues and students</li> <li>• Contribute to creating a disciplined culture of excellence</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate and allocate resources efficiently based on evidence</li> <li>• Increase effectiveness of providing direction and deciding policy</li> <li>• Track and demonstrate program progress and contribution to the university</li> <li>• Create cohesive and meaningful strategic plans</li> <li>• Identify the degree of topic or activity overlap in courses/programs</li> <li>• Identify the degree of topic or activity reinforcement in courses/programs</li> <li>• Align curricula or services across courses/programs</li> <li>• Support institutional goals</li> <li>• Contribute to creating a disciplined culture of excellence</li> </ul>	<ul style="list-style-type: none"> <li>• Obtain better information to evaluate policies and practices</li> <li>• Draw on evidence to make changes</li> <li>• Use results to seek grant or foundation funding</li> <li>• Demonstrate responsiveness to public needs and concerns</li> <li>• Align learning across the curriculum</li> <li>• Place students appropriately</li> <li>• Generate higher student academic success</li> <li>• Demonstrate how the institution is making a difference</li> <li>• Improve communication with stakeholders</li> <li>• Achieve more thorough curriculum review and revision</li> </ul>	<ul style="list-style-type: none"> <li>• Engage in a more rigorous and coordinated learning experience</li> <li>• Learn more and better</li> <li>• Articulate what they are able to do or demonstrate</li> </ul>

## IE Continuum and the IE Feedback Loop

This continuum illustrates the association between *accountability* and *advancement*. Institutional Effectiveness processes, including dedicated attention to using information to make curricular, programmatic, and operational decisions, will help the university to continuously improve and achieve its mission.

The IE feedback loop shows the iterative path of improvement. Programs continually work through this cycle to refine curricular planning and delivery.



## Assessment Plan Components

The tables below outline the components included in Institutional Effectiveness (IE) plans.

<b>Academic Unit Assessment Plan Components</b>	
<b>Mission:</b> Plan provides clear and descriptive program purpose aligned with department and institutional missions	
<b>Responsibility and Implementation:</b> Plan identifies, by title, who: crafts outcomes and methods; collects and analyzes data; enters results in XiTracs; reports results; makes decisions based on data; ensures decisions are implemented	
<b>Program Educational Outcomes:</b> Plan identifies at least three achievements or accomplishments that graduates generally attain in first few years after graduation	
<b>Student Learning Outcomes:</b> Plan identifies at least three meaningful, manageable student learning outcomes that:	
	are visible and measurable
	describe what students will be able to do or demonstrate as a result of their studies
	align with and support program educational objectives
<b>Assessment Methods:</b> Each outcome includes at least three methods that:	
	draw from at least two direct data sources*, ideally part of coursework
	describe data source: course name and number, student assignment, or activity
	describe instrument used for scoring or measuring student assignment or activity
<b>Success Criterion/Benchmark:</b> Each method identifies target or minimum performance standard for each assignment (e.g., 75% of students will achieve a 'satisfactory' rating on a rubric)	
<b>Result and Analysis:</b> Each method provides results and analysis, including:	
	qualitative or quantitative data in a narrative summary or table
	a well-reasoned description of conclusions, significance, and impact
<b>Use of Results:</b> Each method has a corresponding action that describes the decisions, changes, or improvements made to curriculum, pedagogy, processes, activities, or the assessment process itself.	

\*Direct data sources measure student performance on tasks, e.g., exams; indirect data sources rely on student opinion, e.g., surveys

<b>Administrative Unit Assessment Plan Components</b>	
<b>Mission:</b> Plan includes clear and descriptive unit purpose aligned with department and institutional missions	
<b>Responsibility and Implementation:</b> Plan identifies, by title, who: crafts outcomes and methods; collects and analyzes data; enters results in XiTracs; reports results to unit staff; makes decisions based on data; ensures that decisions are implemented	
<b>Objectives:</b> Plan identifies at least three goals stating what the unit will achieve	
<b>Outcomes:</b> Plan identifies at least two outcomes that:	
	are visible and measurable
	describe what students and/or unit staff will accomplish
	align with and support unit goals
<b>Assessment Methods:</b> Each objective includes at least three methods that:	
	draw from at least one direct data source*
	describe student and/or unit activity
	identify instrument used for scoring or measuring activity
<b>Success Criterion/Benchmark:</b> Each method identifies target or minimum performance standard for each unit and/or student activity	
<b>Result and Analysis:</b> Each method provides results and analysis, including:	
	qualitative or quantitative data in a narrative summary or table
	a well-reasoned description of conclusions, significance, and impact
<b>Use of Results:</b> Each method has a corresponding action that describes the decisions, changes, or improvements made to programming, processes, activities, operations, or the assessment process, itself.	

\*Direct data sources measure performance on tasks; indirect data sources rely on opinion, e.g., surveys

## Assessment Process Model

This process model outlines the areas of knowledge to consider when developing assessment activities. To produce the most successful and usable results, the best assessments consider and address these areas. While this model is laid out in linear form, it represents a process that is iterative and, ideally, embedded in the system, so that the functions take place as part of day-to-day activities.

Assessment Practices	Participation	Purpose and Alignment	Communication	Competencies or Outcomes	Methods	Results
ASK: What do we need to know about assessment best practices?  ASK: What do we need to know about our discipline?	ASK: What is the context for the assessment, a degree plan or a program?  ASK: Who should be involved in the assessment?	ASK: How do our efforts align with the organization?  ASK: What is the purpose of our assessment?	ASK: How and to whom do we communicate our plan, process, objectives or outcomes, and results?	ASK: What do we want to measure?  ASK: What are the expected levels of competency?	ASK: How do we want to collect, analyze, interpret, and report on data?	ASK: What do we need to know about creating and leading change?  ASK: How are we going to use the results to inform changes?
<b>Consider:</b>	<b>Identify:</b>	<b>Align and Support:</b>	<b>Focus communication:</b>	<b>Identify:</b>	<b>Determine:</b>	<b>Determine how to:</b>
<ul style="list-style-type: none"> <li>• Program outcomes</li> <li>• Program objectives</li> <li>• Best practices use:               <ul style="list-style-type: none"> <li>-measurable &amp; visible methods</li> <li>-valid instruments</li> <li>-analysis, evaluation &amp; interpretation of results</li> <li>-feedback to system</li> <li>-data-based decision making</li> <li>-reflection on changes</li> </ul> </li> <li>• Professional standards</li> </ul>	<ul style="list-style-type: none"> <li>• Context</li> <li>• Champion</li> <li>• Faculty</li> <li>• Stakeholders</li> <li>• Advisory group</li> <li>• Staff</li> <li>• Audience</li> </ul>	<ul style="list-style-type: none"> <li>• Institutional vision</li> <li>• Institutional mission</li> <li>• Institutional goals</li> <li>• Department or program mission</li> <li>• Assessment purpose</li> </ul>	<ul style="list-style-type: none"> <li>• Early and often</li> <li>• Two-way</li> <li>• Inquiry-based</li> <li>• Continual feedback loop</li> <li>• Accuracy</li> <li>• Transparency</li> </ul>	<ul style="list-style-type: none"> <li>• Skills</li> <li>• Knowledge</li> <li>• Behaviors</li> <li>• Abilities</li> </ul>	<ul style="list-style-type: none"> <li>• Direct measures</li> <li>• Indirect measures</li> <li>• Qualitative methods</li> <li>• Quantitative methods</li> <li>• Comprehensive analysis</li> <li>• Concise, clearly written and meaningful reports</li> </ul>	<ul style="list-style-type: none"> <li>• Mobilize leadership</li> <li>• Identify correct change target: course, program, department</li> <li>• Collaborate with those involved in the change</li> <li>• Make decisions based on the results</li> <li>• Communicate the change</li> <li>• Identify and build upon successful change</li> </ul>

## Developing Assessment Plans: Academic Units

Mission Statement	Responsibility and Implementation	Program Educational Outcomes	Student Learning Outcomes	Assessment Methods	Success Criteria/Benchmark	Results	Use of Results
<p>Identify clear and descriptive program purpose aligned with department and institutional missions. The mission describes why the program exists.</p>	<p>Identify, by title, who:</p> <ul style="list-style-type: none"> <li>•crafts outcomes and methods</li> <li>•collects and analyzes data</li> <li>•enters results in XiTracs</li> <li>•reports results</li> <li>•makes decisions based on data</li> <li>•ensures decisions are implemented</li> </ul>	<p>Identify 1 achievements or accomplishments that graduates generally attain within the first few years after graduation.</p> <p>Program outcomes describe career and professional accomplishments that the program prepares graduates to achieve.</p>	<p>Identify at least three meaningful, manageable outcomes that:</p> <ul style="list-style-type: none"> <li>•are visible and measurable</li> <li>•describe what students can do or demonstrate as result of program</li> <li>•align with and support program outcomes</li> </ul> <p>Outcomes describe specific knowledge, abilities, skills, or other desired program-specific attributes that students can demonstrate as a result of being in the program.</p>	<p>Each outcome includes at least two methods that:</p> <ul style="list-style-type: none"> <li>•draw from at least two direct data sources, ideally part of coursework</li> <li>•describe data source: course name &amp; number, assignment</li> <li>•describe instrument used for scoring assignment or activity</li> </ul> <p>Methods describe procedures to collect data, including identifying the assignment and the process for measuring or scoring it.</p>	<p>Each method identifies target or minimum performance standard and percentage of students to achieve it.</p>	<p>Each method provides results and analysis, including:</p> <ul style="list-style-type: none"> <li>•qualitative or quantitative data in a narrative summary or table</li> <li>•a well-reasoned description of conclusions, significance, and impact</li> </ul> <p>Results describe findings, including strengths and weaknesses, and whether program is achieving the intended results.</p>	<p>Each action describes the decision, changes, or improvements that were made to curriculum, pedagogy, processes, activities, or the assessment process itself.</p>
<p>What is our program trying to do? What do we intend to provide for students?</p>	<p>Who should be responsible for and involved in the assessment process?</p>	<p>What role will our graduates play in society after participating in our program?</p>	<p>What will students in our program be able to do or demonstrate as a result of their studies?</p>	<p>What specifically will we measure? How do we want to collect the data?</p>	<p>What level is acceptable as evidence of success?</p>	<p>What are the results? Are we meeting desired level of performance?</p>	<p>How can we improve the student learning experience or program? What changes can we test? How can we identify 'what's next' for our program?</p>

## Developing Assessment Plans: Administrative and Student Support Services Units

Mission Statement	Responsibility and Implementation	Objectives	Expected Outcomes	Assessment Methods	Success Criterion/ Benchmark	Assessment Results	Use of Results
<p>What is our program or unit trying to do? What do we intend to provide for students?</p>	<p>Who should be responsible for and involved in the assessment process?</p>	<p>What roles does our program play at the institution? What role will our graduates play in society after participating in our program?</p>	<p>What do we intend to achieve? What results does our program intend to produce? How does our program contribute to the development of students and/or the institution?</p>	<p>What specifically will we measure? How do we want to collect the data?</p>	<p>What level is acceptable as evidence of success? What is the minimum standard of performance?</p>	<p>What are the results? Are we meeting the desired level of performance?</p>	<p>What decisions, changes, or improvements have we identified based on our results? How have we identified 'what's next' for our program?</p>
		<p><b>Objectives</b> describe what the unit will accomplish in order to meet its mission.</p>	<p><b>Outcomes</b> describe the results or impact that your efforts will produce.</p>	<p><b>Methods</b> describe the evidence you use to evaluate your program.</p>	<p><b>Criteria</b> state the minimum acceptable standard.</p>	<p><b>Results</b> describe findings, including strengths and weaknesses, and whether program is achieving the intended results.</p>	<p><b>Actions</b> reflect the decisions, changes, or improvements made to program, processes, operations, or assessment plan.</p>
<p>Identify clear and descriptive unit or program purpose aligned with department and institutional missions. The mission describes why the program or unit exists.</p>	<p>Identify, by title, who:  <ul style="list-style-type: none"> <li>•crafts objectives and methods</li> <li>•collects and analyzes data</li> <li>•enters results in XiTracs</li> <li>•reports results</li> <li>•makes decisions based on data</li> <li>•ensures decisions are implemented</li> </ul> </p>	<p>Identify objective(s) stating what the unit will achieve.</p>	<p>Identify at least two outcomes that:  <ul style="list-style-type: none"> <li>•are visible and measurable</li> <li>•describe the results that students and/or staff will accomplish</li> <li>•align with and support unit goals</li> </ul> </p>	<p>Each outcome includes at least one method that:  <ul style="list-style-type: none"> <li>•draw from at least one direct data source</li> <li>•describe student and/or unit activity</li> <li>•identify instrument used for evaluating, scoring, or measuring the activity.</li> </ul> </p>	<p>Each method includes a criterion that identifies target or minimum performance standard for each unit and/or student activity.</p>	<p>Each method has a result and analysis, including:  <ul style="list-style-type: none"> <li>•qualitative or quantitative data in a narrative summary or table</li> <li>•a well-reasoned description of conclusions, significance, and impact</li> </ul> </p>	<p>Each action—one for each method and result—identifies decisions, changes, or improvements.</p>



## Using Curriculum Maps for Institutional Effectiveness Planning

Curriculum mapping is a process that supports Institutional Effectiveness by illustrating the integration among your program, courses, and class assignments. A map is a matrix that documents the connection between outcomes (what students will be able to do or demonstrate as a result of their studies) and where the curriculum addresses those outcomes. You can develop maps for any level at the university: course, program, college/school, or institution. When complete, maps become a simple analytic tool for tracking and communicating curriculum content. Think about these strategies as you create your curriculum maps.

- Solicit input from course instructors to make the effort collaborative, complete, and efficient.
- Use existing data first. A map shows you what data you have embedded in a course or program.
- Use maps to help plan data collection. For example, you can use them to decide when and where to teach certain concepts and evaluate student learning.
- Program, department, college/school, and institutional maps can show where it's possible to use the same assessment method across multiple courses or programs, which strengthens alignment among different areas.
- Use maps to provide a review of assessment methods.
- Look across course and program maps to identify curriculum redundancies, inconsistencies, or gaps.
- Use maps to plan where to introduce, reinforce, and test mastery of certain concepts.
- Mapping allows programs, departments, and colleges/schools to streamline curriculum planning.
- Regularly review the maps in order to refine as necessary and reflect changes in goals.

A **course map** helps you establish whether your outcomes are aligned with the class content. It serves as a planning tool for faculty and administrators and is a key part of the curriculum development and assessment planning process.

A course map can help faculty:

- Identify existing sources of data at multiple levels.
- Ensure that all course outcomes are being assessed.
- Identify outcomes that may need additional assessment.
- Identify unnecessary work that can be eliminated because it doesn't support outcomes.
- Demonstrate the relevance of a course to the program, department, or institution.

A course map can help administrators:

- Assist with curriculum planning.
- Identify courses that directly support program outcomes.
- Inform decisions related to resource allocation.
- Demonstrate the relevance of a course to the college/school or institution.

COURSE OUTCOMES	Supports Program Outcome	Supports Departmental Goals	Supports College/School Mission	Course Level Assessment						
				Exams		Assignments*			Presentations	
				1	2	1	2	3	1	2
1. Students will describe, explain, and demonstrate effective exercise technique.										
2.										
3.										

\* Including papers, homework, journals, etc.

Here are some tips for developing a course map.

1. Identify student learning outcomes and list them in the first column.
  - a. Course outcomes should be included in the syllabus or course description.
2. Create columns for program, department, and college/school levels. You may also want to create a column for the institution level.
  - a. Identify whether course outcomes align with the program, department or college/school.
  - b. Not all course outcomes have to align with another level.
3. Create a column for each data source.
  - a. Document the specific exam/assignment/presentation that relates to the outcome.
  - b. Direct measures of student learning appear here.
4. Review every course-level assessment to determine which course outcomes are being met.
5. For exams and quizzes, identify and document the specific question(s) related to the outcome within this cell. If an entire exam or quiz is measuring a single outcome, just place an 'X' in the cell.
6. A course-level assessment may support multiple course outcomes.
7. Course-level assessments designed to be comprehensive (e.g., final exams) will likely support all outcomes.
8. Rethink requiring a course-level assessment that does not support *any* of your course outcomes.
9. Rethink the value of course outcomes that are never assessed.

A **program map** identifies which courses and program-level assessments support a program's outcomes.

PROGRAM OUTCOMES	Course 1	Course 2	Course 3	Course 4	Course 5	Assessment* 1	Assessment* 2	Assessment* 3
1. Students will be able to conduct original, independent field research.								
2.								
3.								

\* Including exit exams, capstone projects, portfolios, theses, dissertations, final reports, etc.

Here's how to make the most of program maps.

1. Define program outcomes and list them in the first column.
2. Create a column for each course in the program, plus columns for program-level assessments.
3. Identify which courses and assessments support each of the outcomes.
  - a. Identify course-level assessments (exams, assignments, presentations) supporting program outcomes.
4. Rethink the value of offering courses that do not support any of your program outcomes.
5. If no course provides a direct measure for a program outcome, rethink the value of the outcome or consider:
  - a. adding questions to an existing exam
  - b. adding a criterion to an existing assignment rubric
  - c. revising an existing course or developing a new one

You can create college/school and institutional curriculum maps in a similar manner with a focus on identifying courses that provide opportunities to directly measure student learning.

Imagine how quickly you can review curriculum content across your courses by using curriculum maps. You might consider building a map for each core topic; or developing one for lower division courses and another for upper division. The concept of mapping is simple, and the contribution powerful. When you apply curriculum mapping with faculty, you can collectively reflect on questions like the following ones.

- *Do outcomes receive equal attention across the curriculum?*
- *Are all outcomes introduced, reinforced, and then tested for mastery?*

- Do different sections of a course cover the same outcomes equally?
- What changes may be necessary based on your review of outcomes?
- Which outcomes should receive the highest priority?
- What gaps do you see in curriculum content?

The examples below show some ways to use curriculum maps.

**Chemistry B.S. Map**

<b>Chemistry graduates will be able to:</b>	<b>These skills are <i>explicitly taught</i> in the following classes:</b>	<b>These skills are <i>reinforced with practice</i> in the following classes:</b>
Apply correct disciplinary conventions of spelling, punctuation, capitalization, etc. (e.g., not capitalizing “oxygen” in a chemistry paper).	CHEM 3312	CHEM 3324, CHEM 3361, capstone course

## **Gathering Information**

Once your assessment plan provides sufficient detail and direction, you can begin gathering data or information. This may take a semester or a year, depending upon the program. As you collect your evidence, you may want to make adjustments to the plan due to unforeseen changes. Consider your assessment plan as a ‘living’ document and adjust as necessary to continue meeting both your strategic vision and your realities.

### **Collecting Valid Evidence of Student Learning**

Learning is a complex and long-term process—evidence should reflect that by considering lower-level (e.g., memorizing) and higher-level (e.g., synthesizing) student learning activities. Evidence shows what students know and what they can do with what they know. All student work embedded in courses can provide evidence: quizzes, exams, papers, projects, presentations, portfolios, performances. Evidence also can come from extra-curricular activities, like conference presentations.

In order to capture the complexity of learning, employ multiple methods of gathering evidence. For an outcome on communication skills, for example, your evidence might include an exam from one class, a paper from a second class, and an oral presentation from a third. This triangulation also shows that key outcomes appear in multiple places in the program.

The evidence you gather should be credible, applicable to decision making, and relevant. The majority should employ direct measurement, which evaluates actual student products and demonstration of learning. Indirect measures do not reflect actual student learning, but focus, instead, on their perceptions or opinions.

#### **Examples of Direct Measures**

- Ratings of student skills by supervisors
- Scores and pass rates on exams, papers, performances, and presentations
- Scores on portfolios
- Employer ratings of student skills

#### **Examples of Indirect Measures**

- Surveys
- Student participation rates
- Honors, awards, scholarships

## Analyzing the Information

You can begin analyzing the evidence as soon as you obtain it from student assignments or activities or program events. You also may choose to wait until the end of the assessment period in order to consider all of the data at the same time. Data analysis involves:

- identifying patterns in the data by:
  - isolating important findings (analysis)
  - combining sources of information to reach a larger understanding (synthesis)
- making decisions about how to organize, interrelate, compare, and display information, depending on:
  - questions asked
  - types of data available
  - input from stakeholders

Analysis helps others understand the information as you describe general trends and point out similarities and differences. Interpretation relates evidence to the goals and outcomes/objectives they are supposed to measure, explores the relationships among multiple measures, and evaluates the significance of the results. When you make conclusions, you are making meaning out of the results, especially in relation to the expected criteria. Finally, it is important to identify and enact recommendations for action that are based on the evidence. These should be well-reasoned and should factor in available resources, goals, and mission.

Ideally, you will have the opportunity to analyze data as a collaborative activity that involves a variety of faculty and staff and perhaps other stakeholders. Bringing your stakeholders together to discuss the data and provide input strengthens the analysis and increases the chance that the assessment becomes more embedded. As a group, you can answer questions such as these:

- How are assessment activities an expression of leadership practices within the department?
- How are results used for strategic planning?
- How can you use results to impact culture?

Recall that outcomes focus on skills, knowledge, and behaviors, so academic programs can ask questions like the following.

Focusing on skills, you can ask:

- What are the student's strengths and weaknesses?
- Can the student identify connections to and real-world applications of what they're learning?
- Can the student work productively with other students?

Focusing on knowledge, you can ask:

- How well has the student achieved the learning outcome?
- What do students appear to understand easily? What appears difficult for them to grasp?

Focusing on behaviors, ask:

- How well is the student engaging in the classroom? Students learn to work in ways that recognize (and stretch) their present learning styles or preferences.
- Is the student's work improving over time?

It seems counter-intuitive that assessment might drive course development, but studies have shown this to be an effective way to promote meaningful dialogue on course content. You can answer questions like:

- How well is the class collectively achieving course's content outcomes?
- Are the assignments helping student achieve expected level of knowledge or skills?
- How well does the course prepare students for subsequent courses?
- With what degree of consistency do different sections of a course achieve similar outcomes?
- How well is the course fulfilling its purpose in a larger curriculum?

Performance looks at how well courses contribute to the educational experience and meet the departmental mission. Ask:

- What are the strengths and weaknesses of courses?
- How well is the course aligned with mission?
- How well does course curriculum support outcomes?

Assessment impacts program improvement and encourages a "big picture" view of the learning experience. You can ask:

- Do program's courses, individually and collectively, contribute to outcomes as planned?
- How well does the program fulfill its purpose in the entire curriculum?

To advance academic quality, study the gaps and overlaps in courses within your program. Ask:

- Are courses organized in a coherent manner to allow for cumulative learning?
- Do outcomes for different courses complement each other?

## Improving Student Learning and the Student Experience

Outcomes assessment is most useful when you are strategic about how to reflect on, report on, and act on results. The greater the amount of information you make available about individual, course, and program efforts, the more valid and reliable the assessment will be.

Merely presenting assessment results does not provide a complete accounting of program achievement or student learning. Further inquiry into the meaning of the results is necessary to drive improvement. Analysis has to be higher-order, that is, with deeper synthesis and meaning making. It's not as simple as knowing the percentage of students who achieved a particular score. Go beyond that to question what the results mean and how that might affect your program. Think about what might explain the data by reflecting on questions such as:

- Do our results tell us what we already know or tell us something new?
- What do we think about what has happened so far?
- Are our targets meaningful?

By reporting results internally and externally, you meet responsibilities to faculty, students, the institution, and the public. Using results internally, or within programs, can improve day-to-day decision making about curriculum. It supports making deliberate, data-based decisions rather than hasty ones. One advantage of this is that more of your decisions will align with mission and goals. Reporting assessment results also will allow you to establish best practices, which will improve student learning in a couple of ways. You can:

- Set standards for your program that will impact the culture. Over time, you'll see that faculty and staff have greater shared understanding about what happens within a program and what needs to happen.
- Build institutional knowledge about what works most successfully in your area. Successes will be documented and become part of the structure.

While it may not be necessary to change a program based on assessment results, keep in mind that external stakeholders such as the Texas Higher Education Coordinating Board or accreditors consistently fault assessment efforts when results are not used to improve curricula or programs. While you may not institute changes in any one year, you will want to use assessment results to make changes and improvements over time for institutional effectiveness. Paying attention to assessment ensures that you continually stretch yourself as a program, department, or unit, looking for the new knowledge or activities on the horizon.

Consider what the data and conclusions indicate about the curricula or program. Also, carefully consider any recommendations that have been made. For instance, what actions can be implemented that will move the program to the next level?

If your program has met some of the standards for each of the outcomes/objectives, you may decide to keep some standards the same, raise others, or select a different outcome/objective altogether. Consistently meeting your standards may indicate a need to consider identifying a different area of your program to study.

Once you make a change and then collect data on the impact of that change, you have completed a cycle of institutional effectiveness. As an iterative process, however, it never ends—it just changes focus over time as program priorities shift.

## Making Changes Based on Evidence

Historically, higher education made changes based on preference or anecdotal evidence, a practice that is diminishing due to an increased focus on transparency and effective use of resources. When institutions use evidence or data to drive decisions, they are more likely to produce the results they intend. They also increase efficiency and maximize resources by becoming more strategic.

There is no one right way to use information for decision making; as long as you're collecting data and using the findings to inform next steps, then you're on the right path. The table below suggests changes you might think about implementing, based on assessment information.

PROGRAM	CURRICULUM	OPERATIONS	ASSESSMENT PLAN OR PROCESS
<p><b>Academic Units</b></p> <ul style="list-style-type: none"> <li>- Consider potential new program direction or purpose</li> <li>- Reflect on alignment between outcome and mission or purpose</li> <li>- Revise course sequencing</li> <li>- Add courses</li> <li>- Remove courses</li> <li>- Adjust admission standards</li> <li>- Modify advising process</li> </ul> <p><b>Student Support Services and Administrative Units</b></p> <ul style="list-style-type: none"> <li>- Consider potential new program direction or purpose</li> <li>- Critically reflect on program outcomes or objectives</li> <li>- Adjust admission standards</li> <li>- Revise activities, events, assignments, or expectations</li> </ul>	<ul style="list-style-type: none"> <li>- Experiment with new teaching techniques</li> <li>- Modify course content</li> <li>- Rework course materials</li> <li>- Add or delete student assignments</li> <li>- Revise student assessment, including graded and non-graded methods</li> <li>- Critically reflect on what type of evidence will provide information on student achievement</li> </ul>	<ul style="list-style-type: none"> <li>- Reconsider the unit's strategic goals</li> <li>- Revise initiatives, events, or assignments</li> <li>- Implement new processes</li> <li>- Abandon outdated processes</li> <li>- Revise expectations</li> <li>- Identify different standards</li> </ul>	<ul style="list-style-type: none"> <li>- Consider potential program direction or goals</li> <li>- Study new objectives or learning outcomes</li> <li>- Select different methods for collecting information</li> <li>- Revise sampling procedure</li> <li>- Adjust criterion/target</li> <li>- Engage different colleagues in discussion of plan or results</li> <li>- Disseminate information through different channels</li> </ul>



## Assessment Rubrics: Academic Programs

Assessment helps faculty develop strategies to review programs, refine curricula, and enhance student learning. This rubric offers a framework for: managing student learning documentation and analysis; gauging strengths and opportunities for change; continually planning, examining, and enriching curricula.

The rubric assumes that the following categories are complete and do not require annual review.

- Mission—Describes program purpose that is aligned with department and institutional missions
- Responsibility and Implementation—Identifies who: writes plan; collects and analyzes data; enters results in XiTracs; reports results; makes decisions based on data; ensures decisions are implemented
- Program Educational Objectives—Identify at least three achievements or accomplishments that graduates generally attain in first few years after graduation

**Part 1: In the space provided, score each of the criteria and briefly explain any needs or next steps.**

ASSESSMENT PLAN CRITERIA	0: ABSENT Provides no evidence of addressing criteria	1: DEVELOPING Provides partial or incorrect evidence	2: ACCEPTABLE Provides minimum required evidence	3: EXEMPLARY Provides extensive, compelling evidence
<b>1. Program Outcomes</b>				
align with and support program outcomes				
identify two <u>visible, measurable</u> student learning outcomes				
describe what students can do or demonstrate as a result of their studies in the program				
<b>2. Assessment Methods</b>				
identify three sources of evidence of student learning				
draw from at least two direct data sources, ideally part of coursework				
identify data source: semester, course name and number, artifact, assignment, or activity				
describe instrument used for scoring or measuring student assignment or activity				
<b>3. Success Criterion/Benchmark:</b> Each method identifies target or minimum performance standard and percentage of students to achieve				
<b>4. Results and Analysis:</b> Describe findings, significance, and impact, even when criterion is met				
<b>5. Use of Results:</b> Describe how results were used to inform changes or identify next steps				
<b>6. Technical</b>				
Correct Assessment Cycle is selected Correct Reporting Cycle is selected Results entered align with correct academic year				

**Part 2:** Institutional Effectiveness (IE) describes how well an institution is accomplishing its mission and engaging in continuous improvement. UST must identify expected outcomes for educational programs; assess whether we achieve these outcomes; and provide evidence of improvement based on analysis of results. IE supports the institution in making and documenting informed and systematic decisions about curricula.

**Evaluate your institutional effectiveness processes by checking the appropriate box.**

INSTITUTIONAL EFFECTIVENESS COMPONENTS	No	Yes	Unclear
1. Numerous faculty collaborated to establish and communicate annual assessment plan			
2. Faculty closely followed plan to collect relevant data on student learning outcomes			
3. Reporting includes analysis of results, providing reasoning and meaning making on findings			
4. Reporting includes evidence on how assessment results were used to enhance student learning			

**Reflection Questions**

Please answer the following questions, which are intended to support institutional effectiveness planning and enhance information gathering and sharing.

1. How does this year’s assessment extend last year’s results? What did you find most interesting or surprising about results?	
2. How did you use this year’s assessment results to improve student learning or inform curricular decision making?	
3. How did you communicate results to faculty who could use the information to make curricular decisions?	
4. How did you determine whether program changes produced what you intended?	
5. What processes do you have in place to ensure that annual assessment information is used to make curricular decisions?	
6. What curricular changes have you made based on factors other than assessment? What motivated the change?	

## Assessment Rubrics: Administrative and Student Support Services Programs

Assessment helps staff and administrators develop strategies to review and enhance operations and programs. This rubric offers a framework for: managing the process of documenting and analyzing goals; gauging strengths and opportunities for change; continually planning, examining, and enriching operations and programs.

The rubric assumes that the following categories are complete and do not require annual review.

- Mission—Describes program purpose that is aligned with department/division and institutional missions
- Responsibility and Implementation—Identifies who: writes plan; collects and analyzes data; enters results in XiTracs; reports results; makes decisions based on data; ensures decisions are implemented
- Objectives—Identify at least two long term, broad, and unmeasurable achievements you intend to pursue

**Part I: In the space provided, score each of the criteria and briefly explain any needs or next steps.**

ASSESSMENT PLAN CRITERIA	0: ABSENT Provides no evidence of addressing criteria	1: DEVELOPING Provides partial or incorrect evidence	2: ACCEPTABLE Provides minimum required evidence	3: EXEMPLARY Provides extensive, compelling evidence
<b>1. Program Outcomes</b>				
align with and support unit goals				
identify three visible and measurable outcomes				
identify the results or accomplishments that unit staff and/or students will achieve (student learning outcomes)				
<b>2. Assessment Methods</b>				
identify three sources of evidence				
draw from at least one direct data source				
describe student, unit, or program activity or event				
describe instrument used for scoring, evaluating, or measuring activity or event				
<b>3. Success Criterion/Benchmark:</b> Each method identifies target or minimum performance standard for each activity or event				
<b>4. Results and Analysis:</b> Describe findings, significance, and impact, even when criterion is met				
<b>5. Use of Results:</b> Describe how results were used to inform changes or identify next steps				
<b>6. Technical</b>				
Correct Assessment Cycle is selected Correct Reporting Cycle is selected Results entered align with correct academic year				

**Part 2:** Institutional Effectiveness (IE) describes how well an institution is accomplishing its mission and engaging in continuous improvement. UST must identify expected outcomes/objectives for administrative and student support services; assess whether we achieve these objectives; and provide evidence of improvement based on analysis of results. IE supports the institution in making and documenting informed and systematic decisions about programs and operations.

**Evaluate your institutional effectiveness processes by checking the appropriate box.**

INSTITUTIONAL EFFECTIVENESS COMPONENTS	No	Yes	Unclear
1. Numerous staff collaborated to establish and communicate annual assessment plan			
2. Staff closely followed plan to collect relevant data on program outcomes			
3. Reporting includes analysis of results, providing reasoning and meaning making on findings			
4. Reporting includes evidence on how results were used to enhance programming or operations			

**Reflection Questions**

Please answer the following questions, which are intended to support institutional effectiveness planning and enhance information gathering and sharing.

1. How does this year's assessment extend last year's results? What did you find most interesting or surprising about results?	
2. How did you use this year's assessment results to improve operations, services, or the student experience?	
3. How did you communicate results to others who could use the information to make decisions about operations or programs?	
4. How did you determine whether changes produced what you intended?	
5. What processes do you have in place to ensure that annual assessment information is used to make operational or programmatic decisions?	
6. What changes have you made based on factors other than assessment? What motivated the change?	

## XiTracs Capabilities and Functionality

### Capabilities

With XiTracs, schools and units have a flexible way to track assessment of outcomes. XiTracs enhances programs' ability to align objectives/outcomes to the university strategic initiatives, thus furthering the institution's mission. The system also supports faculty and staff in owning, refining and reflecting on objectives/outcomes.

XiTracs allows the input of objectives/outcomes, assessment methods, results, and analysis; it also offers the capacity to upload artifacts such as PDFs.

### Functionality

This table illustrates some of the features that make XiTracs an effective tool for supporting assessment.

Output	Logistics	Institutional Effectiveness
<ul style="list-style-type: none"><li>- Standard reports</li><li>- Ad hoc, individualized reports</li><li>- Progress monitoring</li><li>- Regional accreditation</li><li>- Professional accreditation</li></ul>	<ul style="list-style-type: none"><li>- Calendaring</li><li>- Internal email system</li><li>- Task assignment and tracking</li><li>- Multiple user levels</li><li>- Flexible configurations</li></ul>	<ul style="list-style-type: none"><li>- Curriculum/course-level mapping</li><li>- Alignment of goals, strategic initiatives, institutional mission, etc.</li><li>- Multiple year or longitudinal comparisons</li><li>- Course-level assessment</li><li>- Program-level assessment</li><li>- General education assessment</li><li>- Institutional knowledge</li><li>- Data collection tools</li><li>- Strategic planning</li></ul>

### Access

To access XiTracs, click here: <https://stthom.xitracs.net/survey/portallogon.jsp>. If you do not yet have authorization to use XiTracs, contact Nathan Dugat, Assessment Technology Coordinator Office of Institutional Assessment and Effectiveness, [dugatb@stthom.edu](mailto:dugatb@stthom.edu) or 713.525.3164

## Institutional Effectiveness Glossary

**Accreditation:** The designation that an institution earns indicating that it functions appropriately with respect to its resources, programs, and services. The accrediting association, often comprised of peers, is recognized as the external monitor. Maintaining fully accredited status ensures that the university remains in compliance with federal expectations and continues to receive federal funding.

**Assessment:** AKA outcomes assessment. A systematic, ongoing process to identify, collect, analyze, and report on data that is used to determine program achievement. Results are used for understanding and improving student learning and administrative services and operations.

**Assessment instrument:** A tool used to evaluate assignments, activities, artifacts, or events that support outcomes or objectives. These can be measurement tools such as standardized tests, locally designed examinations, rubrics, exit interviews, or student, alumni, or staff surveys.

**Assessment plan:** A document that outlines and describes assessment activities, including identifying learning outcomes or program objectives, methods, and criteria. The plan should include enough detail that anyone could read it and know exactly what to do to implement the plan. The plan should be reviewed frequently and revised any time new learning or operational goals are identified. Generally, programs update assessment plans early each academic year and submit results, analyses, and action plans by the following fall.

**Assessment responsibility:** Identifies who is responsible and accountable for each step in the assessment process, including who crafts outcomes and methods, collects and analyzes data, enters results in XiTracs, reports results, makes decisions based on data, and ensures decisions are implemented.

**Close the loop:** The phrase indicates the ability to demonstrate—through a cycle of collecting, analyzing, and reporting on data—continuous improvement of curricular, programmatic, or operational efforts. It calls for using assessment results to improve programs.

**Criterion:** Identifies the target or minimum performance standard. For academic units, it states the percentage of students who will achieve the acceptable score. For administrative units, the criterion establishes a target in terms of a number or percentage.

**Culture of assessment:** An institutional characteristic that shows evidence for valuing and engaging in assessment for ongoing improvement.

**Direct data source:** Student work or artifact used to determine whether they have demonstrated what instructors want them to learn. They are evaluated for student performance or proficiency. Among the direct methods most commonly used are:

- embedded questions in examinations or quizzes
- observations
- portfolios
- standardized or local examinations
- student writing (e.g. essays or papers)

**Effectiveness:** The degree to which programs, events, or activities achieve intended results. Effectiveness indicates how well the curriculum, program, and even the university achieve their purpose.

**Embedded assessment:** Denotes a way to gather effectiveness information that is built into regular activities. When assessment is embedded, it is routine, unobtrusive, and an ongoing part of the teaching-learning or operational process.

**Evaluation of results:** The process of interpreting or making meaning about the data. The evaluation compares the results to the intentions and explains how they correlate.

**Feedback:** Providing assessment results and analysis to interested constituents in order to increase transparency. Information can be communicated to students, faculty, staff, administrators, and outside stakeholders.

**Formative assessment:** A study conducted during the operation of a program to provide information and increase understanding that is useful for improving program implementation. It involves gathering and interpreting evidence of performance at least once prior to the end of the program.

**Goal:** A broad, un-measurable statement about what the program is trying to accomplish to meet its mission.

**Indirect data source:** Information that reflects student opinion or perception rather than knowledge, skills, or abilities. Indirect data sources cannot be evaluated for learning, but are a source of information. Indirect data sources include:

- exit interviews
- focus groups
- participation rates
- surveys

**Input:** The variables that represent the time, energy, or other resource put into a process, program, activity, or event.

**Institutional Effectiveness (IE):** The term used to describe how well an institution is accomplishing its mission and how it engages in continuous improvement. It focuses largely on SACSCOC Comprehensive Standard 3.3.1 that states: The institution identifies expected outcomes for its educational programs and its administrative and education support services; assesses whether it achieves these outcomes; and provides evidence of improvement based on analysis of those results.

**Instrument:** An assessment tool that is used for the purpose of collecting data, such as an exam or an interview protocol.

**Method:** Describes the procedures used to collect data for assessing a program, including identifying the assignment or activity and the process for measuring or scoring it.

**Mission statement:** Explains why a program or department exists and identifies its purpose. It articulates the organization's essential nature, its values, and its work, and should be aligned with institutional mission.

**Objective measure:** A score, grade, or evaluation that relies on a consistent, valid, and pre-determined range. It does not depend on a subjective opinion.

**Output:** The impact, product, or result that occurs as a consequence of a program, event, or activity.

**Peer assessment:** The process of evaluating or assessing the work of one's peers.

**Program Outcomes:**

**Educational Program Outcome:** Describes the expected accomplishments or achievements of graduates within the first few years after their graduation. Program Outcomes should support the mission of the program and institution.

**Student Learning Outcome:** The specific, measurable knowledge, skill, or ability that students should be able to demonstrate as a result of their studies.

**Expected Outcome:** Identifies results or outcome that an administrative or student support services program is trying to achieve. Objectives are specific, measurable, achievable, realistic, and time-bound (SMART).

**Program review:** An in-depth process of reviewing most aspects of a program, including operational, financial, programmatic, and academic inputs, outputs, and outcomes.

**Qualitative data:** Non-numeric information such as conversation, text, audio, or video.

**Quantitative data:** Numeric information including quantities, percentages, and statistics.

**Results:** Report the qualitative or quantitative findings of the data collection in text or table format. Results convey whether the outcomes or objectives were achieved at desired levels of performance.

**Rubric:** A systematic, relatively objective scoring guideline used to evaluate student performance (e.g., papers, speeches, exams, portfolios) using a detailed description of performance standards. When students are made aware of rubrics prior to instruction and assessment, they know the level of performance expected and are more motivated to reach those standards.

**Sample:** A defined subset of the population chosen based on 1) its ability to provide information; 2) its representativeness of the population under study; 3) factors related to the feasibility of data gathering, such as cost, time, participant accessibility, or other logistical concerns.

**Self assessment:** The process of evaluating or reflecting on one's own learning and development.

**Southern Association of Colleges and Schools–Commission on Colleges (SACS COC):** This is the accrediting agency of higher education institutions in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

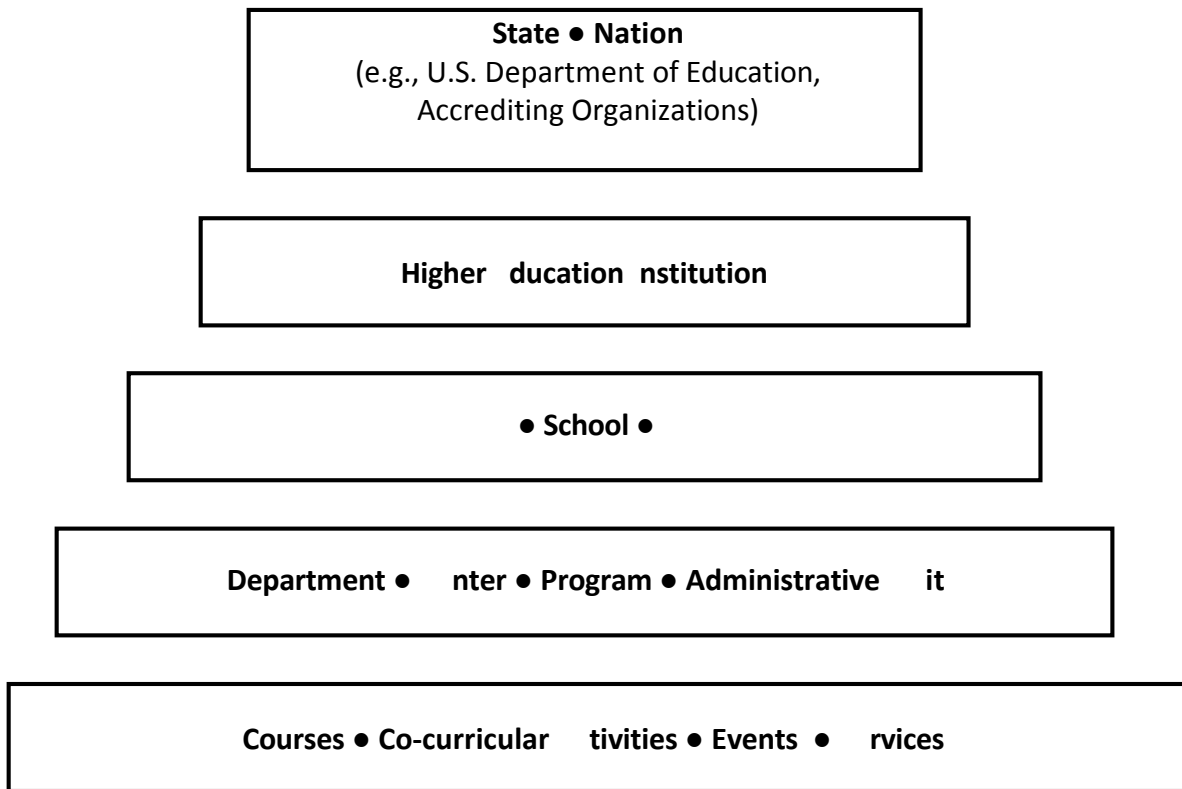
**Standard of Performance:** A specific expectation of student performance that shows progress toward a criterion.

**Subjective measure:** A score, grade, or evaluation that relies on opinion or judgment.

**Summative assessment:** A study aimed at understanding and improving learning, understanding, or performance at the completion of program activities. It involves gathering and interpreting evidence of performance at the end of a program and is used to help make decisions about program continuation, termination, expansion, or adoption.



## APPENDIX A: Levels of Assessment in Higher Education



## APPENDIX B: Nine Principles of Good Practice for Assessing Student Learning

- 1. The assessment of student learning begins with educational values.** Assessment is not an end in itself but a vehicle for educational improvement. Its effective practice, then, begins with and enacts a vision of the kinds of learning we most value for students and strive to help them achieve. Educational values should drive not only *what* we choose to assess but also *how* we do so. Where questions about educational mission and values are skipped over, assessment threatens to be an exercise in measuring what's easy, rather than a process of improving what we really care about.
- 2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.** Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom. Assessment should reflect these understandings by employing a diverse array of methods, including those that call for actual performance, using them over time so as to reveal change, growth, and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning, and therefore firmer bases for improving our students' educational experience.
- 3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.** Assessment is a goal-oriented process. It entails comparing educational performance with educational purposes and expectations—those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' own goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.
- 4. Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.** Information about outcomes is of high importance; where students "end up" matters greatly. But to improve outcomes, we need to know about student experience along the way—about the curricula, teaching, and kind of student effort that lead to particular outcomes. Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.
- 5. Assessment works best when it is ongoing not episodic.** Assessment is a process whose power is cumulative. Though isolated, "one-shot" assessment can be better than none, improvement is best fostered when assessment entails a linked series of activities undertaken over time. This may mean tracking the process of individual students, or of cohorts of students; it may mean collecting the same examples of student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.
- 6. Assessment fosters wider improvement when representatives from across the educational community are involved.** Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty play an especially important role, but assessment's questions can't be fully addressed without participation by student-affairs educators, librarians, administrators, and

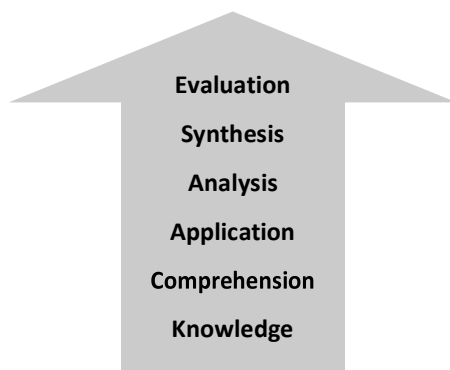
students. Assessment may also involve individuals from beyond the campus (alumni/ae, trustees, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Thus understood, assessment is not a task for small groups of experts but a collaborative activity; its aim is wider, better-informed attention to student learning by all parties with a stake in its improvement.

7. **Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.** Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This implies assessment approaches that produce evidence that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.
8. **Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.** Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and worked at. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision making, and avidly sought.
9. **Through assessment, educators meet responsibilities to students and to the public.** There is a compelling public stake in education. As educators, we have a responsibility to the publics that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation—to ourselves, our students, and society—is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.

Originally on the American Association for Higher Education (AAHE) website at:  
<http://www.aahe.org/assessment/principle.htm>

## APPENDIX C: Using Bloom's Taxonomy

Higher level cognitive skills



Lower level cognitive skills

<b>Knowledge:</b> Recognizes students' ability to use rote memorization and recall certain facts.	<i>Action verbs to help write outcomes or exam questions for this domain:</i> cite, define, identify, label, list, match, name, recognize, reproduce, select, state
<b>Comprehension:</b> Involves students' ability to read course content, understand and interpret important information and put other's ideas into their own words.	<i>Action verbs to help write objectives or exam questions for this domain:</i> classify, convert, describe, distinguish between, explain, extend, give examples, illustrate, interpret, paraphrase, summarize, translate
<b>Application:</b> Students take new concepts and apply them to another situation.	<i>Action verbs to help write objectives or exam questions for this domain:</i> apply, arrange, compute, construct, demonstrate, discover, modify, operate, predict, prepare, produce, relate, show, solve, use
<b>Analysis:</b> Students have the ability to take new information and break it down into parts to differentiate between them.	<i>Action verbs to help write objectives or exam questions for this domain:</i> analyze, associate, determine, diagram, differentiate, discriminate, distinguish, estimate, infer, order, outline, point out, separate, subdivide
<b>Synthesis:</b> Students are able to take various pieces of information and form a whole creating a pattern where one did not previously exist.	<i>Action verbs to help write objectives or exam questions for this domain:</i> combine, compile, compose, construct, create, design, develop, devise, formulate, integrate, modify, organize, plan, propose, rearrange, reorganize, revise, rewrite, tell, write
<b>Evaluation:</b> Involves students' ability to look at someone else's ideas or principles and see the worth of the work and the value of the conclusions.	<i>Action verbs to help write objectives or exam questions for this domain:</i> appraise, assess, compare, conclude, contrast, criticize, discriminate, evaluate, judge, justify, support, weigh

The students will <i>list</i> at least three characteristics peculiar to the Cubist movement.	Knowledge
The students will <i>summarize</i> the main events of a story in grammatically correct English.	Comprehension
The students will <i>multiply</i> fractions in class with 90 percent accuracy.	Application
Students will <i>discriminate</i> among a list of possible steps to determine which one(s) would lead to increased reliability for a test.	Analysis
After studying the current economic policies of the United States, student groups will <i>design</i> their own goals for fiscal and monetary policies.	Synthesis
Given any research study, students will <i>evaluate</i> the appropriateness of the conclusions reached based on the data presented.	Evaluation