Academic Program Assessment Manual

Guidelines and Procedures

The University of New Mexico

Forthcoming Review and Approval by:

Office of the Provost

Faculty Senate Standing Committees: Curricula, Graduate, and Undergraduate

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DISCLAIMER

The purpose of the *UNM Academic Program Assessment Manual* is to provide administrators, faculty, staff, and students with the University's procedures, guidelines, and expectations for assessing and reporting annually on student learning. The manual and a full version of the appendices therein can be accessed on the website of the Office of Assessment at http://assessment.unm.edu/.

The content of this manual is adapted in large part from assessment material and resources provided by the University of Central Florida, University of Massachusetts Amherst, and College of Redwoods. To avoid "reinventing the wheel," so to speak, the manual is comprised of information and documents that borrow liberally from texts, articles, and websites associated with the aforementioned institutions as well as scholars and researchers represented by other colleges, universities, and educational organizations.

Consequently, the *UNM Academic Program Assessment Manual* is NOT intended for wide distribution, publication, or citation outside of the UNM community nor should it be sold or posted on any external websites or platforms.

LIST OF APPENDICES

CHAPTER 1: OVERVIEW OF ASSESSMENT

Section 1.1: Introduction

Chapter 1 provides an introduction to the academic program assessment structure at the University of New Mexico (UNM). This chapter presents a brief overview of the definition and purposes of assessment as well as the characteristics of an effective assessment process.

The purpose of Chapter 1 is to:

- Familiarize readers with the assessment process at UNM.
- Distinguish between the various types of assessment in higher education (such as classroom, course, program and institutional assessment).
- Explain the purposes of engaging in program assessment.
- Help readers to appreciate the benefits of engaging in program assessment.
- Reassure readers that assessment is not intended to evaluate individual faculty, staff or students.
- Clarify that program assessment is intended to identify ways of improving student learning.
- Demonstrate that in order to be effective as a mechanism for feedback, assessment has to be both systematic and ongoing.

The key takeaway from Chapter 1 is an understanding that effective academic program assessment is accomplished by examining what are we doing, how well we are doing it, and how we can improve what we are doing.

Section 1.2: What is Institutional Effectiveness?

Institutional Effectiveness is the commitment an organization undertakes to continuously and critically examine its processes and how well it achieves its mission. The University of New Mexico has established an institutional effectiveness infrastructure that spans the program, college, and institutional levels. The Office of Institutional Effectiveness (OIE) is situated within the Academic Affairs Division and primarily oversees and guides the development and maintenance of institutional effectiveness at the institutional level. It encompasses the Office of Assessment (OA), University Accreditation and Academic Program Review (APR) Office, and Office of Institutional Analytics (OIA). However, each college, school, and branch is required to establish a College Assessment Review Committee (CARC), or the equivalent, to oversee and monitor assessment activities, practices, and processes associated with institutional effectiveness at the program and college/school/branch levels. Typically, these committees consist of faculty and staff representatives from several or all of the programs within a college, school, or branch. They act as the governing body of UNM's assessment infrastructure at the college, school, and branch level.

The following definition of institutional effectiveness highlights the University's commitment to promoting and supporting this endeavor:

Each academic program and administrative unit at the University of New Mexico (UNM) is expected to demonstrate its commitment to UNM's students and their academic success through its documented participation in a cyclic process of continuous improvement.

At UNM, our goal is to engage in a cyclic process of continuous improvement through which:

- We determine what outcomes we want;
- We perform;
- We evaluate our performance;
- We identify strengths and weaknesses in our performance;
- We celebrate our successes;
- We examine our weaknesses for opportunities to improve;
- We implement those improvements; and
- Then we begin again.

To accurately optimize our performance, we collect and analyze data annually to inform as well as drive our decisions, improvements, and program reviews. This process aids UNM in ensuring that the mission and purpose of the University are being achieved.

Academic program assessment is crucial for demonstrating institutional effectiveness at UNM. Therefore, the administrators within each college, school, and branch are responsible for consistently collaborating with the Office of Assessment (http://assessment.unm.edu/) to ensure that the appropriate program assessment structures, practices, and resources needed to support and sustain an efficient institutional effectiveness infrastructure within their college, school, or branch are provided to their staff and faculty.

In order to demonstrate the role of the Office of Assessment in overseeing and guiding institutional effectiveness at the institutional level, the Office of Assessment manages the Provost's Committee on Assessment (PCA) which consists of three assessment subcommittees that meet monthly throughout the academic year. The three assessment subcommittees are the: Academic Program (APAS), General Education (GEAS), and Administrative Unit (AUAS). These assessment subcommittees include faculty and staff representatives from each college, school, and branch. The PCA and its subcommittees act as the governing body of UNM's assessment infrastructure at the institutional level. The Office of Assessment also utilizes two institutional rubrics to monitor and evaluate institutional effectiveness in relation to academic programs at UNM.

- *Academic Program Institutional Effectiveness Infrastructure Rubric* is administered annually to evaluate the institutional effectiveness infrastructure and processes of each college, school, and branch (refer to Appendix 1A on p. 9).
- *Academic Program Assessment Maturity Rubric* is administered annually to evaluate the assessment maturity of each academic program as well as determine the overall state of assessment of each college, school, and branch (refer to Appendix 1B on p. 10).

At the program and college levels and in conjunction with the Office of Assessment, deans and/or associate deans also are expected administer the *Academic Program Assessment Maturity Rubric* annually to evaluate the assessment practices of their programs. Then their evaluations are to be used

in developing an annual state of assessment report for their college, school, or branch (refer to Section 7.3 in Chapter 7 on pg. 85 for more information).

An annual reports on the University's institutional effectiveness infrastructure and state of assessment in regard to its academic programs, colleges, schools, and branches are provided to the Provost/Executive Vice President of Academic Affairs, Associate Provost of Curriculum, and Board of Regents by the Office of Assessment at the end of the academic year. Both rubrics as well as the *UNM Academic Program Institutional Effectiveness Infrastructure Annual Report*, and *UNM Academic Program State of Assessment Report* can be accessed on the Office of Assessment's website (http://assessment.unm.edu). Inquiries regarding academic program and administrative unit assessment should be directed to the Office of Assessment (assess@unm.edu).

Section 1.3: University Accreditation

The University of New Mexico, which includes the Health Sciences Center, School of Law, and all branch campuses, is accredited by the Higher Learning Commission (HLC) (https://www.hlcommission.org/). The HLC is one of six regional institutional accrediting agencies in the United States. It accredits degree-granting post-secondary educational institutions in 19 states. The overall mission of the HLC is to serve the common good by assuring and advancing the quality of higher learning. It sets forth criteria and standards that institutions of higher education must meet in order to be accredited. The HLC places a strong value on institutional effectiveness and the continuous improvement of its institutions through assessment.

The Higher Learning Commission's 2015 Resource Guide outlines the procedures associated with institutional compliance and continuous accreditation. The University of New Mexico (UNM) must demonstrate compliance in the HLC's five criteria as well as compliance in standards set forth and mandated by the federal government. Currently, HLC Criteria Three thru Five require assessment information and evidence that demonstrate institutional effectiveness at UNM in relation to its academic programs, administrative units, and the General Education Program. The HLC's 2015 Resource Guide can be access at the following link: http://download.hlcommission.org/ResourceGuide_2015_INF.pdf.

The University Accreditation Office primarily oversees the University's accreditation status and guides the University's reaffirmation process. The University Accreditation Director serves at the liaison between the University and the HLC. Inquiries regarding the HLC and UNM's accreditation should be directed to the University Accreditation and Academic Program Review (APR) Office (accred@unm.edu).

Section 1.4: Introduction to Academic Program Assessment

Assessment is the continuous process of collecting, evaluating, and using information to determine if and how well performance matches learning or service expectations. Assessment and feedback are crucial for helping people learn. It is needed for monitoring and maintaining a quality learning environment as well as for monitoring and providing quality services, activities and programs.

Assessment in higher education can occur on many levels:

- Classroom Assessment usually involves a course instructor evaluating/grading individual students in the classroom.
- Course-Level Assessment focuses on evaluating student learning in a specific course without an emphasis or attention on individual students.
- Core Curriculum Assessment focuses on evaluating student learning in courses associated with the Core Curriculum or General Education Program.
- Academic Program Assessment focuses on evaluating student learning in credential granting academic programs.
- Institutional Assessment focuses on assessing and evaluating campus-wide structures, matters, or concerns.

Assessment in academic programs is centered on student learning outcomes (SLOs). A **student learning outcome** is statement of what a student should be able to know, think and do by the end of a program.

The following questions are commonly used to guide the development of SLOs:

- What should graduates know, be able to do, and value?
- Have the graduates of our institution acquired this learning?
- What are the contributions of the institution and its programs to student growth?
- How can student learning be improved?

Assessment of student learning outcomes (SLOs) is a learner-centered process ensuring that students are learning what we intend for them to learn. It does not evaluate individual student performance nor does it focus on individual faculty or staff performance.

At UNM, all academic programs are expected to document their participation in ongoing assessment as well as to provide evidence of *using* assessment to improve both student learning and the program.

Section 1.5: Purposes and Benefits of Academic Program Assessment

There is considerable evidence that assessment drives student learning and curriculum. Most importantly, our assessment tools tell our students what we consider to be important and make clear our expectations of what the student will do to be successful in the course or program. They will learn what we guide them to learn through our assessments.

Assessment serves institutional effectiveness through its four main purposes. It:

1. Improves programs/services through assessment results that indicate areas for change.
2. Informs students, faculty, staff and other stakeholders of the state of a program/service and its impact.
3. Validates that a program/service is accomplishing what it says it is accomplishing through a demonstration of assessment results.

4. Supports campus-wide decision making processes, strategic planning, academic program review and additional accountability activities such as regional, state, federal, and professional compliance and/or accreditation.

It's not always the assessments, but the changes they lead to, that are important. Change and innovation take courage, but they're also at the heart of the teaching profession. When used properly, assessment benefits both effective teaching and learning. To benefit effective teaching, assessment is commonly used to address the following questions:

- How can I best prepare to teach?
- How can I check my progress and evaluate my efforts?
- How can I check my students' progress and evaluate their efforts?

To *do* assessment for the goal of *doing assessment* and *writing a report* would be a waste of time. Link your assessment practices to compelling, powerful, and consequential processes such as program review or program validation. You can link it to curriculum revisions, distance learning, retention, service learning, and improving student learning and teaching strategies. To benefit learning, assessment helps us:

- Improve services, feedback, guidance, and mentoring to students in order to help them better plan and implement their educational programs.
- Design and improve programs and courses.
- Plan at the program level.
- Identify shared definitions and measurable benchmarks for evaluating student abilities.
- Understand how groups of students experience the college differently and respond appropriately to the needs of all students.
- Align and coordinate courses within and across disciplines.
- Align and coordinate courses and programs with external institutions' requirements as necessary.
- Continuously reflect, refine, and modify teaching and learning practices.

In addition, assessment is needed for developing and maintaining a quality learning environment. Academic programs often center their learning environment(s) in one or more of the following ways:

- Learner-centered – pays careful attention to the knowledge, skills, attitudes, and beliefs that learners bring to the educational setting.
- Knowledge-centered – takes seriously the need to help students become knowledgeable by learning in ways that lead to understanding.
- Assessment-centered – provides opportunities for feedback and revision and what is assessed is congruent with the students' learning goals.
- Community-centered – refers to several aspects of community, including the classroom as community, the University as a community, and the degree to which students, teachers, and administrators feel connected to the larger community of homes, business, states, the nation, and even the world.

By using appropriate assessment techniques, we can encourage our students to raise the bar. Think of assessment itself as the "learning process" where our students and we receive significant feedback to improve both learning and our academic programs.

Section 1.6: Characteristics of an Effective Academic Program Assessment Structure

To develop an effective assessment structure for your program, it is helpful to keep in mind the four main purposes of assessment: improve, inform, validate, and support.

An effective academic program assessment structure should answer the following questions:

1. What are you trying to do?
2. How well are you doing it?
3. Using the answers to the first two questions, how can you improve what you are doing?
4. What and how does the program contribute to the development and growth of its students?
5. How can student learning be improved?

An academic program assessment structure is effective when:

- Assessment is viewed as a comprehensive, systematic and continuous process.
- Assessment is viewed as a means for self-improvement.
- Assessment measures are meaningful.
- Assessment utilizes multiple measures and multiple sources.
- Assessment is used as a management tool.
- Assessment results are valued and are genuinely used to improve programs and processes.
- Assessment is coordinated by one person and reviewed by a committee.
- Assessment involves the participation and input of all faculty and staff.
- Assessment includes students.

It is important to keep in mind that an effective academic program assessment structure is program level, inclusive, and ongoing. It is not based on the efforts of one individual; and it is beneficial and not punitive for the program. The emphasis is on developing and implementing an effective assessment structure for *using* assessment, not just *doing* assessment, to improve student learning and the program.

Section 1.7: Nine Principles of Good Practice for Assessing Student Learning

In 1992, the American Association for Higher Education (AAHE) created a task force to research and develop the following 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 questions can't be fully address 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 public 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.

The nine principles outlined above not only reflect the four main purposes of assessment (i.e., improve, inform, validate, and support) but also highlight how the focus of academic program assessment should not be so much on *doing* assessment inasmuch on *using* assessment efficiently to benefit teaching and learning as well as support and sustain institutional effectiveness,

Section 1.8: Appendices

Appendix 1A

Academic Program Institutional Effectiveness Infrastructure Rubric

Aspect	Element	Goal	Level 0: Not Evident	Level 1: Emerging	Level 2: Proficient	Level 3: Excelling
Design	Assessment Plans	The college/school/branch has adopted a formal assessment plan template for its academic programs and have implemented internal processes for collecting, reviewing, and revising the plans regularly.	There is no evidence that a formal assessment plan template has been adopted or that internal processes have been established for collecting, reviewing, and revising academic program assessment plans.	A formal assessment plan template has been adopted but internal processes for collecting, reviewing, and revising academic program assessment plans are still being discussed or are in the planning stages.	A formal assessment plan template has been adopted and internal processes for collecting, reviewing, and revising academic programs' assessment plan regularly have been established.	A formal assessment plan template has been adopted and internal processes for collecting, reviewing, and revising academic program assessment plans every seven years have been established and communicated publically to faculty, staff, and the UNM community.
	Assessment Reports	The college/school/branch ensures that its academic programs are conducting program level assessment annually and in a manner that is sustainable over the long term.	The college/school/branch cannot document that there is sustainable assessment activity occurring within its academic programs.	The college/school/branch can document that assessment activity is occurring annually within some of its academic program, but assessment practices are either not at the program level and/or not sustainable for the long term.	The college/school/branch can document that program level assessment activity is occurring annually within in several, if not all, of its academic programs. The sustainability of the assessment activity varies across academic programs in how systematically goals/student learning outcomes are assessed over the long term.	The college/school/branch can document that program level assessment activity is occurring annually within in most, if not all, of its academic programs. The sustainability of the assessment activity is consistent across academic programs in how systematically goals/student learning outcomes are assessed over the long term.
	Assessment Review Committee	The college/school/branch has establish a College Assessment Review Committee (CARC), or the equivalent, to govern its assessment processes, practices, documents, and expectations.	There is no evidence that a functioning CARC, or the equivalent, has been established.	The establishment of a CARC, or the equivalent, is being discussed or is in the planning stages.	A CARC, or the equivalent, has been established and is actively involved in collecting, reviewing, and evaluating the assessment plans and annual assessment reports of academic programs throughout the academic year.	A CARC, or the equivalent, has been established and is actively involved in providing assistance and communicating assessment processes, practices, documents, and expectations to its faculty, staff, and the UNM community as well as in collecting, reviewing, and evaluating the assessment plans and annual assessment reports of academic programs throughout the academic year.
	Provost's Committee on Assessment (PCA)	The college/school/branch has designated at least one representative to serve on the PCA which governs the assessment processes, practices, documents, and expectations of colleges/schools/branches and their academic programs at the institutional level.	There is no evidence that a representative has been designated to serve on the PCA.	A representative has been designated to serve on the PCA but (s)he rarely, if at all, attends PCA meetings.	A representative has been designated to serve on the PCA and (s)he attends most PCA meetings. The representative frequently participates in decision-making and the communication of assessment processes, practices, documents, and expectations at the institutional level.	A representative has been designated to serve on the PCA and (s)he attends all PCA meetings. The representative is an active participant and instrumental in decision-making and the communication of assessment processes, practices, documents, and expectations at the institutional level.

Aspect	Element	Goal	Level 0: Not Evident	Level 1: Emerging	Level 2: Proficient	Level 3: Excelling
Implementation	Resources	The college/school/branch has provided adequate financial, human, technical, and/or physical resources to support an effective assessment infrastructure.	There is no evidence that resources have been made available to support assessment.	Resources to support assessment are sparse, inadequate, and/or handled on an *ad hoc* basis.	There is some budgetary support of assessment processes and practices to help academic programs conduct continuous assessment.	A strong commitment has been to support assessment processes and practices by providing all of the necessary resources for academic programs to conduct and maintain continuous assessment.
	Culture	All academic programs in the college/school/branch involve members of their faculty and staff in assessment activities.	The assessment in most or all of the academic programs, if occurring, is done by lone individuals charged with assessment responsibilities.	A few of the academic programs include some of their faculty and staff in assessment planning, data collection, and/or the data analysis.	The majority of the academic programs involve several of their faculty and staff in some aspect of assessment planning, data collection, and/or data analysis.	All of the academic programs involve most or all of their faculty and staff in all aspects of assessment planning, data collection, and data analysis.
	Monitoring	The college/school/branch has provided appropriate documentation annually to demonstrate that appropriate mechanisms are in place to systematically monitor not only the implementation of its academic program assessment plans but also the collection, review, revision, storage, and evaluation of its academic program annual assessment reports..	There is little or no evidence that the college/school/branch has in place or is developing mechanisms to systematically monitor the quality and implementation of assessment activities within and across its academic programs and/or the collection, review, revision, storage, and evaluation of its academic program annual assessment reports.	There is evidence that the college/school/branch is in the planning stages or is developing mechanisms to systematically monitor the quality and implementation of assessment activities within and across its academic programs and/or the collection, review, revision, storage, and evaluation of its academic program annual assessment reports.	Some evidence has been provided by the college/school/branch to demonstrate that it has instituted appropriate mechanisms to systematically monitor the quality and implementation of assessment activities within and across its academic programs including the collection, review, revision, storage, and evaluation of its academic program annual assessment reports.	Substantial evidence has been provided by the college/school/branch to demonstrate that it has instituted effective mechanisms to systematically monitor the quality and implementation of assessment activities within and across its academic programs including the collection, review, revision, storage, and evaluation of its academic program annual assessment reports.
	Communication	The college/school/branch has establish an assessment webpage to inform and communicate to its faculty, staff, and the UNM community the assessment processes, practices, documents, and expectations of the college/school/branch.	There is no evidence that an assessment webpage is being developed.	The development of an assessment webpage is being discussed or is in the planning stages.	An assessment webpage has been established and includes access to several academic program assessment plans and provides general information on assessment processes, practices, documents, and/or expectations for faculty, staff, and the UNM community.	An assessment webpage has been established and includes access to all academic program assessment plans and provides specific and detailed information on assessment processes, practices, documents, and expectations for faculty, staff, and the UNM community.

Appendix 1B

Academic Program Assessment Maturity Rubric

	Evidence of Exemplary Implementation	Evidence of Developed Implementation	Evidence of Emergent Implementation	Evidence not Included	COMMENTS/ FEEDBACK
	3	2	1	0	
Assessment Plan	The program has a fully-articulated, sustainable, one-to-three-year assessment plan that includes at least one program goal and three program SLO statements, describes specifically when and how each SLO will be assessed, includes a thorough process of analysis, and outlines how improvements, based on findings, will be implemented. The plan is posted publicly and has been examined and revised within seven years.	The program has a reasonable one-to-three-year assessment plan assessment plan that includes at least one program goal and three program SLO statements, identifies how each SLO will be assessed and indicate how analysis and implementation of improvements will be conducted. The plan is posted publicly.	Some or no parameters have been established. Assessment plan may still be in the planning/discussion stages. It is under-review or in the pilot stage. A draft of the plan should be posted publicly.	No formal program assessment plan for assessing program learning goal(s) and each program SLO is available and/or posted publicly.	
Measurable Program Student Learning Outcomes	Each targeted SLO statement is clearly measurable, describes how students can demonstrate their learning, and explicitly indicates a level and type of performance or competence (e.g., "Graduates will demonstrate mastery in writing a report in APA style" or "Graduates will demonstrate innovativeness by developing an original product that contributes to biological knowledge.").	Each targeted SLO statement is clearly measureable and describes how students can demonstrate learning (e.g., "Graduates will write reports in APA style" or "Graduates will make original contributions to biological knowledge.").	Some of the targeted SLO statement(s) are not clearly measurable and do not identify what students can do to demonstrate learning. Statements such as "Students understand scientific method" do not specify how understanding can be demonstrated and/or assessed.	Most or all of the targeted SLO statement(s) are unclear, not measurable, and/or inadequate.	
Alignment of Program Learning Goals, Student Learning Outcomes, & UNM Learning Goals	The targeted SLO statement(s) are clearly measurable and explicitly stated, and the SLO(s) are appropriately aligned to the program goal(s) and UNM Learning Goals (K, S, and R).	The targeted SLO statement(s) are appropriately aligned to the program goal(s) and UNM Learning Goals (K, S, and/or R).	Some or all of the targeted SLO statement(s), program learning goal(s), and/or UNM Learning Goals (K, S, and/or R) are inappropriately aligned.	The targeted SLO statement(s) have not been aligned to the program goal(s) and/or UNM Learning Goals (K, S, and/or R).	
Program Assessment Methods (Measures/ Instruments)	Program has reported the use of more than three direct program level assessment measures and at least two indirect program level assessment measures to assess its targeted SLOs. Each targeted SLO is assess using more than one program level assessment measure. Relevant evidence is included.	Program has reported the use of at least two direct program level assessment measures and one indirect program level assessment measure to assess its targeted SLOs. Relevant evidence is included.	Program has reported the use of only one direct and/or indirect program level assessment measure to assess its SLO(s) and/or program reported use of direct and/or indirect assessment measures that are not program level. Relevant evidence is not included.	Reported assessment methods/measures are not clearly identified and/or are inadequately described.	
Data Collection & Analysis	A clear, complete, and succinct analysis, interpretation of and reflection on the assessment results is reported, and it is readily apparent that conclusions were drawn through collaboration and consensus of appropriate stakeholders. Aggregated data is included as evidence.	A clear presentation and interpretation of assessment results is provided for the targeted SLO(s). Aggregated data is included as evidence.	Results are stated very generally or not clearly. Aggregated data is not provided as evidence.	No evidence of data results is provided. No clear analysis of assessment results is reported.	
Implementation of Program Improvements/ Revisions	Specific improvement(s)/change(s) (in assessment process, curriculum, and/or student learning) has been implemented and is clearly responsive to specific needs identified in reported analysis and interpretation of assessment results. Relevant evidence is provided.	Clear and actionable plan(s) for improvement/change (in assessment process, curriculum, and/or student learning) is provided, and for the most part, appear to be appropriate given reported analysis and interpretation of assessment results. Relevant evidence is provided.	Some indication of a need for improvement/change is provided but burden for improvement was placed primarily upon students (students need to do more/be more), or a plan(s) has been reported that is overly broad or generalized. Relevant evidence is not provided.	A plan for improvement of the assessment process, curriculum, and/or student learning is not articulated.	

CHAPTER 2: DEFINING ACADEMIC PROGRAM MISSION AND GOALS

Section 2.1: Introduction

Successful academic program assessment begins with a clear sense of what the program is designed to accomplish. Therefore, understanding and clearly stating what your program is trying to achieve serves as a foundation for an effective assessment structure.

The purpose of Chapter 2 is to:

- Define academic program mission, vision, values, and guiding principles.
- Define academic program goals.
- Clarify that the difference between academic program goals and student learning outcomes.
- Provide guidelines for developing and writing effective academic program mission, vision, values and guiding principles that are specific and distinctive to your program.
- Establish that it is important to define and obtain a consensus on academic program goals.

At UNM, academic programs are not required to provide a mission and vision statement or identify values and guiding principles. However, they are required to communicate and publicize at least one program goal to the UNM community via their website. For programs that offer more than one certificate or degree, they should consider developing more than one program goal in order to clearly distinguish between the certificates or degrees they offer.

The key takeaway from Chapter 2 is guidance in developing your program's mission, vision, values, and guiding principles as well as in identifying your program's goals.

Section 2.2: Mission Statement

The academic program mission is a broad statement of what the program is, what it does, and for whom it does it. It should provide a clear description of the purpose of the program and the learning environment.

Mission statements for academic programs should reflect how the teaching and research efforts of the program are used to enhance student learning. Your mission should be aligned with the mission of your department and/or college, It is also important that your program's mission statement support and endorse the University's institutional mission.

Your academic program's mission statement should reflect how your program contributes to the education and careers of students graduating from your program. As such, your program mission statement should be distinctive and individualized for your program.

The following issues should be considered when developing a mission statement:

- How does your program support the University's mission, core values, and strategic plan?
- How would you describe your program's contribution to the University's mission, core values, and strategic plan?
- What are the strengths and weaknesses of your program?

When developing a mission statement, they should:

- Be short—no more than three sentences.
- Answer why you do what you do, as well as state what you do.
- Be consistent with the University's core purpose and core values.
- Unite, inspire, challenge, and motivate you and your colleagues.

A well-defined mission statement includes the following three details:

1. **State the purpose of the academic program.**
   State the primary purpose of your program, in other words, the primary reason(s) why you perform your main activities or operations (e.g. teaching, research). For example, your purpose might include educating students to prepare them for particular jobs and/or to prepare them for graduate school. In a nutshell, explain why you do what you do.
2. **Indicate the primary functions or activities of the program.**
   Highlight the most important functions, operations, outcomes, and/or offerings of your program.
3. **Indicate who the stakeholders are.**
   Include the primary groups of individuals for whom you are providing your program and those who will benefit from the program and its graduates (e.g., students, faculty, staff, parents, employers, etc.).

The following is a general format that can be used when developing a mission statement:

> The mission of (*name of your program or unit*) is to (*your primary purpose*) by providing (*your primary functions or activities*) to (*your stakeholders*)…. (*Additional clarifying statements*)

The order in which a mission statement is developed may vary from this format, but the aforementioned content (i.e., purpose, primary functions/activities, and stakeholders) should be easily identified.

Examples of academic program mission statements follow:

> **Poor:** The mission of Hypothetical Engineering is to provide a broad engineering education.
> WHY: The statement is very vague and does not distinguish this particular program from other engineering programs. It lacks information about the primary functions of the program and does not identify the stakeholders. Additionally, there is no indication that the program's mission is aligned with UNM's mission.
>
> **Better:** The mission of Hypothetical Engineering is to educate students from diverse backgrounds in the principles of Hypothetical Engineering that will prepare them for both current and future professional challenges in Hypothetical Engineering.
> WHY: This statement is better because it identifies the stakeholders as well as a primary function of the program. However, it still is not a distinctive statement.

Best: The mission of Hypothetical Engineering bachelor's degree program is to educate students from diverse backgrounds in the fundamental skills, knowledge, and practice of Hypothetical Engineering (through courses and an internship) in order to (1) prepare them for Hypothetical Engineering positions in service or manufacturing industries and (2) prepare them for continuing for advanced degrees in Hypothetical Engineering or related disciplines. The program promotes a commitment to continued scholarship and service among graduates and will foster a spirit of innovation. Also, it promotes an environment that is inclusive and diverse.
WHY: This is a very effective mission statement. The mission of the program is very clearly defined.

Keep in mind that the development or revision of an academic program's mission statement should be an inclusive and collaborative endeavor involving faculty, staff, and students. It should be shared with and accessible to the UNM community via the program's website.

At UNM, academic programs are not required to provide a mission statement. However, certain specialized professional accrediting organizations or external stakeholders may request that programs include a mission statement as a requirement for accreditation or funding, respectively. If your academic program is professionally accredited or seeking professional accreditation, please check to determine if a program mission statement is required for accreditation or funding.

Refer to Appendix 2A (p. 20) for a worksheet on writing an effective mission statement and Appendix 2B (p. 21) for a checklist on reviewing mission statements.

Section 2.3: Vision Statement

A vision statement is a short and memorable description of what an academic program will look like if it succeeds in implementing its strategies, and if it achieves its full potential.

A program vision can be very useful in helping guide a department or college in setting goals for its program.

The academic program vision statement attempts to answer the following types of questions:

- What would you like the program to become?
- In what direction(s) would you like the program to move?
- What program outcomes would you like to see in the future?

An example of a vision statement that correlates with the example mission statements provided in in Section 2.2 follows:

> The vision for Hypothetical Engineering is to become one of the top ten programs nationally that is able to attract quality students and place graduates at top engineering firms.

Keep in mind that the development or revision of an academic program's vision statement should be an inclusive and collaborative endeavor involving faculty, staff, and students. It should be shared with and accessible to the UNM community via the program's website.

At UNM, academic programs are not required to provide a vision statement. However, certain specialized professional accrediting organizations or external stakeholders may request that programs include a vision statement as a requirement for accreditation or funding, respectively. If your academic program is professionally accredited or seeking professional accreditation, please check to determine if a program vision statement is required for accreditation or funding.

Refer to Appendix 2C (p. 22) for a worksheet on writing an effective vision statement and Appendix 2D (p. 23) for a checklist on reviewing vision statements.

Section 2.4: Values and Guiding Principles

Values and guiding principles are terms or short statements describing the code of behavior to which an organization or academic program adheres or aspires.

- Value statements indicate what your program supports and represents.
- Guiding principles indicate how you would like your program to operate.

Stating values and guiding principles for an academic program can be very useful in helping guide the department or college in setting goals for its program. The process of thinking about and articulating what your program is trying to accomplish in terms of clearly stated goals greatly enhances the success of program assessment and the development of student learning outcomes.

When developing your values and guiding principles, answer the following questions:

- What values would you like your program or students to uphold?
- How would you like your program or students to operate or behave?

Examples of terms that reflect a program's values are:

- Integrity
- Respect
- Community
- Excellence
- Trust
- Inclusiveness

An example of a value statement follows:

> Integrity, respect, community, and excellence are the core values that hold together our program and guide our conduct, performance, and decisions.

Examples of terms that reflect the guiding principles of a program are:

- Teamwork
- Innovate for excellence
- Plan
- Partner for more effective operations
- Build community among students

An example of a guiding principles statement follows:

> Our program strives to develop partnerships and work in teams to achieve our mission, build community among our students, and innovate to achieve excellence.

Keep in mind that the development or revision of an academic program's values and guiding principles should be an inclusive and collaborative endeavor involving faculty, staff, and students. They should be shared with and accessible to the UNM community via the program's website.

At UNM, academic programs are not required to provide values and guiding principles. However, certain specialized professional accrediting organizations or external stakeholders may request that programs include values and guiding principles as a requirement for accreditation or funding, respectively. If your academic program is professionally accredited or seeking professional accreditation, please check to determine if program values and guiding principles are required for accreditation or funding.

Section 2.5: Goal Statements

Goals are broad statements that describe an academic program's long-term targets or directions of development. They state, in broad terms, what the program wants to accomplish (in terms of student learning) or become over the next several years. Goals provide the basis for decisions about the nature, scope, and relative priorities of various activities in a program. They are used in planning and should help move the program to attain its vision

In other words, academic program goals describe broad learning outcomes and concepts (what you want students to learn) expressed in general terms (e.g., clear communication, problem-solving skills, etc.).

When defining program goals, think of what you want students who complete your program to know, understand, and be able to do when they graduate. They should not be confused with student learning outcomes (SLOs), which are the specific skills, values, and attitudes students should be able to exhibit that reflect the broader program goals.

Developing an effective assessment structure begins with having a clear understanding about what your academic program is trying to achieve. Developing clear program goals serve as the foundation for your program's assessment structure—shaping the kinds of questions you will ask, the assessment methods you will employ, and determining how useful and meaningful your assessment results will be for making programmatic changes.

In order for any academic program assessment to be successful, a consensus must be reached on the goals of the program, including how the goals are addressed in the curriculum, and a mutual understanding of what the program is trying to accomplish. When you have identified your program's goals, you can begin to assess how well these goals are being met.

Also, the general process for writing academic program goals should start with the mission and vision statements for your program. Think about what your program would look like and how it should operate to reach that vision and write down these characteristics.

It is necessary to ensure that agreement is reached on the mission statement before developing program goals. Once you have reached an understanding of the mission of the program and the faculty members are in agreement on what the program is trying to accomplish, you can start writing the program goals.

Identify goals that are strongly related to your program's mission and that will help your program to achieve its vision. The goals of your program should be consistent with those of your department or college, and ultimately with UNM's institutional student learning goals.

The University's goal statement consists of three campus-wide student learning goals. These goals reflect the educational ideals, philosophy, and mission of the University. Therefore, the goals and student learning outcomes of all academic programs must align with the University's student learning goals. UNM's student learning goal statement follows:

> University of New Mexico students will develop the following aptitudes and habits of mind in the course of their general and major study at UNM:
>
> - KNOWLEDGE of human cultures and the natural world, gained through study in the sciences and mathematics, social sciences, humanities, histories, languages and the arts.
>
> - SKILLS, both intellectual and applied, demonstrated in written and oral communication, inquiry and analysis, critical and creative thinking, quantitative literacy, information literacy, performance, teamwork and problem solving.
>
> - RESPONSIBILITY, both personal and social, that will be manifested in civic knowledge and engagement, multicultural knowledge and competence, ethical reasoning and action, and foundations and skills for lifelong learning.

When developing academic program goals, they should:

- Respond to the questions, "What does the program wish to accomplish?" and "What is the program's vision?"
- Be challenging but attainable.
- Be linked clearly to the program's mission statement.
- Be consistent with UNM's educational ideals, philosophy, and mission.
- Be useful to the department or college, as well as to long-range, University-wide planning.
- Describe the expected performance of the student or specific behaviors expected from graduates of the program.

The following is a general format that can be used when developing a goal statement:

> A goal of (*name of your program or unit*) is to (*action verb*) (*students or graduates)* (*modifiers*).

Examples of academic program goals that correlate with the example mission and vision statements and example values and guiding principles provided in the previous sections follow:

> **Poor:** GOAL 1: A goal of Hypothetical Engineering is to teach students engineering principles.
> WHY: This is an inadequate goal statement because the focus is on the teaching rather than on the expected behavior of graduates of the program.
>
> **Better*:*** GOAL 1: A goal of Hypothetical Engineering is to prepare students adequately.
> WHY: This is better than the first example. Although this statement does not specifically explain the expectations of graduates, the focus is on student learning and not the teaching activity.
>
> **Best:** GOAL 1: A goal of Hypothetical Engineering is to prepare students for graduate School.
> GOAL 2: A goal of Hypothetical Engineering is to have students graduate from the program with the necessary skills and knowledge to succeed in the Hypothetical industry.
> GOAL 3: A goal of Hypothetical Engineering is to prepare students to be successful in industry careers associated with the Hypothetical field.
> WHY: These are good examples of program goal statements that include a brief description of the expected actions of graduates from the program

Refrain from identifying too many goals, particularly when first starting out. After generating a list of program goals, the following questions can help to determine whether the list is complete and will be of value to your program:

- Do your goals describe desired aspects of a successful program?
- Are your goals consistent with your mission?
- If you achieve your goals, have you reached your vision?
- Are your goals aligned with your values?

Outlined below are some optional activities that you can do before writing your program goals. They can assist you in articulating and shaping your program's goal statements.

1. **Approach based on the "ideal" student or graduate**
   - Conduct discussions and brainstorming sessions with the faculty. The discussions can focus on topics such as:
   - Describe an "ideal" student at various phases in your program, focusing on the abilities, knowledge, values and attitudes that you feel that this student has either acquired or have been supported as a result of your program. Then ask:

- Cognitive skills: What does the student know?
- Performance skills: What can the student do?
- Affective skills: What does the student think or care about?

- Describe how the students' experiences in the program have contributed to their abilities, knowledge, values and attitudes.
- List the skills and achievements expected of graduates of the program.
- Describe the program alumni in terms of their achievements, such as career accomplishments, lifestyles, and community involvement.

2. **Collect and review current program goals**
   - Review any existing goal or outcome statements such as those from:
     - Catalog descriptions
     - Program review reports
     - Mission and vision statements
     - External agencies
     - Accreditation reports
     - Curriculum Committee reports
   - List five to seven of the most important goals identified in the sources listed above. Prioritize the goals depending on their importance to your program and their universality (i.e., how well they apply to different program tracks, if applicable). Next, determine whether the goal is best described as knowledge, skills, or responsibility. A goal can describe or align with more than one of the three areas (i.e., knowledge, skills, responsibility).

3. **Have faculty complete a goals inventory of their courses**
   - Faculty can complete a goals inventory for the courses they teach. The results of the goals inventory may provide a starting point for defining your program's goals.

4. **Collect and review instructional material**
   - Review course syllabi, assignments, tests and any additional materials. Categorize the instructional materials into several groupings such as:
     - Recall or recognition of factual information.
     - Application and comprehension.
     - Critical thinking and problem solving.

5. **Review other programs' goals**
   - Review the goals and intended outcomes of other programs at the University.
   - Review the goals and intended outcomes of similar programs at other universities.

6. **Use the 25% problem to refine or reduce a set of goal statements**
   - Imagine that you want to reduce your program or course material by 25%. What goals would you keep and which would you discard?

Keep in mind that the development or revision of an academic program's goals should be an inclusive and collaborative endeavor involving faculty, staff, and students. They should be shared with and accessible to the UNM community via the program's website.

At UNM, academic programs are required to provide at least one goal statement.

Refer to Appendix 2E (pp. 24-25) for a worksheet on writing effective academic program goal statements and Appendix 2F (p. 26) for a checklist on reviewing program goal statements.

Section 2.6: Appendices

Appendix 2A

Worksheet for Writing an Academic Program Mission Statement

College/School/Branch: _____
Academic Program: _____
Date Prepared: _____
Participants: _____

Instructions: The purpose of this worksheet is to help you develop your mission statement.

1. What do you do? What are your primary functions and activities?
   - Educate students
   - Conduct research
   - Other _____

2. Why do you do these activities? What is your purpose?
   - To enable students to get jobs or go to graduate school
   - Advance the state of knowledge
   - Other _____

3. For whom do you do them?
   - Students
   - Prospective Employers
   - Other _____

4. Based on your responses in #1 thru #3, use the following format to write your program's mission statement.

   The mission of (*your program*) is to (*your primary purpose*) by providing (*your primary functions or activities*) to (*your stakeholders*)…. (Additional clarifying statements)

Appendix 2B

Checklist for Reviewing an Academic Program Mission Statement

College/School/Branch: _____
Academic Program: _____
Date Prepared: _____
Participants: _____

Instructions: The purpose of this checklist is to help you determine if your program's mission statement is effective and clearly defines the current mission of the program.

- ☐ Is your mission statement no more than three sentences?
- ☐ Is it memorable?
- ☐ Is it distinctive?
- ☐ Does it clearly state the purpose of the program or unit?
- ☐ Does it indicate the primary functions or activities of the program?
- ☐ Does it indicate who the stakeholders are?
- ☐ Does it clearly support or align with the mission of the department, college, and/or institution?

Appendix 2C

Worksheet for Writing an Academic Program Vision Statement

College/School/Branch: _____
Academic Program: _____
Date Prepared: _____
Participants: _____

Instructions: The purpose of this worksheet is to help you develop your vision statement.

1. What would you like your program to become?
   - The best
   - A leader
   - Regionally or nationally recognized
   - Other _____

2. What would you like your program to strive for?
   - Reputation
   - Excellence
   - Other _____

3. What would you like your program to look like in the future?

4. Based on your responses in #1 thru #3, write your program's vision statement.

Appendix 2D

Checklist for Reviewing an Academic Program Vision Statement

College/School/Branch: _____
Academic Program: _____
Date Prepared: _____
Participants: _____

Instructions: The purpose of this checklist is to help you review your program's vision statement.

- ☐ Does it indicate what you would like your program to become or strive for?
- ☐ Does it indicate what your program will look like in the future?
- ☐ Is your vision inspirational?
- ☐ Does it reflects or aligns with your program's mission statement?
- ☐ Will it push your program in a desired direction?

Appendix 2E

Worksheet for Writing Academic Program Goal Statements

College/School/Branch: _____

Academic Program: _____

Date Prepared: _____

Participants: _____

Instructions: After each faculty member has completed this worksheet, arrange a meeting at which you can compare notes and discuss the results. The reason for this exercise is to summarize and articulate one to six program goals that the faculty can agree on.

1. Describe "the perfect student" in your program in terms of his or her knowledge, abilities, values and attitudes. In other words, what should an "ideal" graduate of your program know, do, and think/value? Keep in mind desired short-term and long-term academic and/or professional achievements.

2. Which of the key characteristics from #1 can be directly attributed to your program's curriculum and the student's experience in your program?

3. Based on your response to #2, use the following format to write your program's goal statement(s) what an ideal graduate from your program will be able to know, do, and think/value.

   A goal of (*name of your program or unit*) is to (*action verb*) (*students or graduates)* (*modifiers*).

Appendix 2F

Checklist for Reviewing Academic Program Goal Statements

College/School/Branch: _____

Academic Program: _____

Date Prepared: _____

Participants: _____

Instructions: The purpose of this checklist is to help you determine if the goal statements are appropriate.

- ☐ Are your goals consistent with your program's mission?
- ☐ Are your goals aligned with your program's vision?
- ☐ Are your goals aligned with your program's values and guiding principles?
- ☐ Do your goals describe desired performance or specific behavior of the student/graduate?
- ☐ Are your goals challenging but attainable.
- ☐ Do your goals reflect one or more of the University's student learning goals (i.e., knowledge, skills, and responsibility)?

CHAPTER 3: DEVELOPING STUDENT LEARNING OUTCOMES

Section 3.1: Introduction

Chapter 3 provides an overview and definition of academic program student learning outcomes (SLOs). It includes guidelines for developing clear and precise program SLOs. The chapter also emphasizes the benefits of SLOs in the assessment process for bringing about effective program improvement.

The purpose of Chapter 3 is to:

- Define academic program student learning outcomes (SLOs).
- Establish the importance of and benefits associated with articulating SLOs.
- Establish that SLOs should be specific and distinctive to a program.
- Differentiate between intended and actual outcomes.
- Differentiate between program and course level outcomes.
- Demonstrate how SLOs should be measurable and can be measured by more than one assessment method.
- Emphasize the importance of focusing on a few SLOs that can lead to improvements to the program.
- Provide guidelines for developing, writing, and reviewing academic program SLOs.
- State the benefits of SLOs for program improvement.

At UNM, all academic programs are required to provide at least one goal and three student learning outcomes (SLOs). In accordance with the Higher Learning Commission's Criteria for Accreditation, student learning goals and outcomes should be articulated and differentiated for each undergraduate and graduate degree/certificate program. Therefore, for programs that offer more than one certificate or degree, they must include one or more SLOs that clearly distinguish between the certificates or degrees they offer and student learning. For instance, a program may develop three foundational SLOs for its certificate track with two additional SLOs for designated for its bachelor degree track. The same can be done for a program that offers a master and doctorate degree track. Along with the program's goals, all SLOs should be communicated and publicized to the UNM community via the program's website.

The key takeaway from Chapter 3 is guidance in writing and reviewing your program's student learning outcomes (SLOs).

Section 3.2: Defining Student Learning Outcomes (SLOs)

Student learning outcomes (SLOs) are specific statements that describe the required learning achievements that should be met on the way to attaining the degree and meeting the goals of the program. They can be considered as special types of objectives. An objective is a measurable target with a time limit that must be met on the way to attaining a goal.

Goals are broad statements, while student learning outcomes are precise, specific and clear statements about the intended outcomes of an academic program.

Student learning outcomes (SLOs) describe specific behaviors that a student of your program should demonstrate after having completed the program. They should focus on the expected knowledge, abilities, values and attitudes of a student after the completion your program. In other words, SLOs clearly state what students will be able to know, do, and think by the end of your program.

Student learning outcomes (SLOs) should be derived from your program's goal statements, which in turn should be aligned with your program's mission as well as the University's three student learning goals (i.e., knowledge, skills, and responsibility).

Keep in mind that when developing learning outcomes that there is a clear distinction between intended and actual outcomes.

- Intended outcomes are statements of expectations.
- Actual outcomes indicate the results of the assessment process.

It is important to note that student learning outcomes (SLOs) can be developed at the program and course levels. Program level SLOs provide feedback to the faculty about how well they are meeting not only their program's goals but also the University's student learning goals (i.e., knowledge, skills, and responsibility) (see Section 2.5 on p. 17). However, program level SLOs focus on what students are able to know, do, and think by the end of a program whereas course level SLOs focus on what students are able to know, do, and think by the end of a course. Course level SLOs typically are utilized to measure the impact of general education programs or core curricula.

It also is important to differentiate between course level SLOs and course level instructional objectives. Course level instructional objectives focus on what students are expected to demonstrate or perform by the end of a class or unit of instruction. They help faculty identify and utilize class-by-class instructions, practices and or assignments to measure or address course level SLOs. The following are good examples highlight the differences between program level SLOs, course level SLOs, and course level objectives.

- Example of a program level SLO: By the end of the program, the student will be able to demonstrate effective verbal communication.
- Example of a course level SLO: By the end of the course, student will be able to effectively use verbal and nonverbal cues when presenting.
- Example of a course level instructional objective: By the end of Week 2, student will be able to explain the importance of using volume and pitch when presenting.

Section 3.3: Elements and Attributes of Effective Student Learning Outcomes

Outlined below are nine elements and attributes that you should keep in mind when developing effective student learning outcomes (SLOs). They can assist you in articulating and shaping your program's SLO statements.

1. **SLOs should be aligned with mission statements and goals.**

   SLOs should be derived from the program's goal statement(s) and be clearly aligned with your program's mission, which in turn, should be aligned with UNM's mission.

2. **SLOs should state your program's expected impact on student learning, development, and growth.**

   These expectations should be clearly articulated so that an external audience easily understands them.

3. **SLOs should indicate the level and type of competence that is required of graduates of a program.**
   - Clearly defined SLOs form the foundation for assessing student learning. Therefore, it is imperative to correctly identify, develop and define SLOs.
   - The following information should be included in a well-defined learning outcome statement:
     - The professional areas or fields that are the focus of the assessment.
     - The knowledge, abilities, values, and attitudes that a student in your program is expected to have within that area or field.
     - The depth of the knowledge, abilities, values and attitudes expected of a student in your program.

4. **SLOs should be framed in terms of the academic program.**

   Outcome statements should be framed in terms of the program and not individual courses or students.
   - Example of an outcome framed in terms of an individual course (which should not be used): Students completing the XYZ course in Hypothetical Engineering will earn a B.
     - *Note*: This is too specific to a single course and not the program.
   - Good example of an outcome framed in terms of the program: Graduates from the BSHE program will demonstrate knowledge of engineering fundamentals.

5. **SLOs should be stated simply.**
   - Useful SLOs are clear and simple declarative sentences. Do not join, list, or add elements in one outcome statement that cannot be assessed by a single assessment method.
   - Examples of "bundled" and simple outcome statements are provided below:
     - Example of a "bundled" statement (which should not be used): BSHE graduates will demonstrate knowledge of math, science, and engineering fundamentals, and gain competency in such basic skills as writing reports, communicating research ideas and oral presentations.
       - *Note*: This would likely require two different methods of assessment. Oral presentations would require a different approach than assessing knowledge of mathematics.

- Good example of a simple statement: BSHE graduates will demonstrate knowledge of engineering fundamentals.
    - *Note*: This is a clear-cut statement that can be measured with one assessment.

6. **SLOs should describe intended learning outcomes and not actual outcomes.**

   Student learning outcome statements should describe the abilities, knowledge, values, and attitudes expected of students after completion of the program and NOT the actual results.

   - Example of an intended outcome (which should not be used): BSHE graduates will demonstrate proficiency in more than one computer programming application.
     - *Note:* This statement provides an assumption of what the result will be instead of a defining the expected competency.
   - Good example of an actual outcome: BSHE graduates have demonstrated an 80% proficiency in computer programming applications.
     - *Note*: This statement outlines the desired outcome without a specific measure.

7. **SLO statements should focus on the learning result and not the learning process**.

   Despite the clear distinction between learning result and learning process, they are often confused in student learning outcome statements. Learning outcome statements should be stated such that the focus is on the expected performance of students in terms of their abilities, knowledge, values, and attitudes (known as learning result or product), and NOT on the process of instruction and learning. In other words, the outcome statement should be stated from the student's perspective (client) and not from the provider's perspective (instructor).

   - Example of a statement focusing on learning process (which should not be used): Introduction of computer programming applications.
     - *Note:* The wording of this statement focuses attention on the teaching activity (which in this case is to introduce students to computer programming applications) and not on the intended outcome of the instruction. This is not a student learning outcome.
   - Good example of a statement focusing on learning result or outcome: Demonstrates proficiency in more than one computer programming application.
     - *Note:* The wording of this statement focuses attention on the intended learning result or outcome, that is, what is expected from a student. This is a student learning outcome.

8. **SLO statements should be stated such that the outcome can be measured by more than one assessment method.**

   An outcome statement should not impose restrictions on the type or number of assessment methods that have to be used to evaluate the outcome. Ideally, at least two measures should be identified for each learning outcome statement.

   - Example of an outcome statement that can only be measured by one specific assessment method (which should not be used): Students completing the Hypothetical Engineering program will score at least 95% on a locally-developed Engineering examination.

- *Note:* For this outcome statement only one measure can be used to evaluate the student's performance because this is what is specified in the statement.

- Good example of an outcome statement that can be measured by several assessment methods: Students completing the Hypothetical Engineering program will demonstrate competence in the application of engineering principles.
  - *Note:* Specific assessment methods have not been identified in the outcome statement and thus several measures can be used to evaluate the knowledge that the students have gained as a result of the program.

9. **SLO statements should be distinctive and specific to your program.**

   It can be constructive and beneficial to develop SLOs that distinguish a graduate of your program and that highlight what they have gained specifically from completing your program. At UNM, a distinctive outcome is strongly recommended over a generic outcome. Examples of generic and distinctive outcomes are provided below:

   - Example of a generic program SLO (which should not be used): Students completing the BSHE in Hypothetical Engineering will be practiced in design skills.
   - Good example of a distinctive program SLO**:** BSHE graduates will demonstrate knowledge of math, science, and engineering fundamentals. Specifically, the student will have the ability to: demonstrate general design principles; use fundamental engineering techniques, skills, and tools for engineering practice; and analyze and interpret data to produce meaningful conclusions and recommendations.

Section 3.4: Guidelines and Tips for Writing Student Learning Outcomes

There are many guidelines and tips for writing student learning outcomes (SLOs). When developing academic program SLOs, keep in mind that they should:

- Clearly align with or target relevant program goals.
- Focus on results, not process. Don't address what was taught or presented, but address the observable outcome you expect to see in the student. Think about the knowledge, skills, and attitudes you expect from students who receive a certificate or degree in the program. Be careful when describing attitudes in a learning outcome, as they are hard to assess. Ask yourself if the attitude is crucial to success in your program or class.
- Be written as outcomes rather than general objectives. SLOs should indicate the big picture rather than nuts and bolts. SLOs should address student competency rather than content coverage.
- Be ascertainable and realistic but challenging for both students and faculty.
- Include active verbs in describing expected student performance or behaviors. Active verbs are easier to measure. For instance, if you want students to understand how to correctly use a microscope—using the word "understand" is not measurable. Instead try to imagine the outcome—students will "focus" and "display" an image on the microscope (or describe, classify, distinguish, explain, interpret, compose, perform, demonstrate, etc.).

    - Refer to Appendices 3A, 3B, 3C, and 3D (pp. 37-40) for examples of appropriate observable and measurable actions verbs associated with *Bloom's Cognitive, Affective, Knowledge, and Psychomotor Domains*.
- Be statements that are intended as overarching concepts that should span several courses, not a conglomeration of individual course objectives taken from each syllabus.
- Be measured by more than one means of assessment. It is far better to limit the number of SLOs, conduct successful program assessment, and use assessment results to improve student learning than to collect information that is difficult to produce and is not useful in advancing the goals of the program.
- Be appropriate for the degree or certificate. Do they represent a fundamental result of the program?
- Be written in a language that a student and external stakeholder will understand.

The following are common tips for writing SLOs:

- Make sure the SLO is observable and measurable. "Measurable" doesn't necessarily need to mean that it is quantifiable, precluding qualitative judgments. "Measurable" can include a general judgment of whether students know, think, and can do most of what is intended for them.
- Have a manageable number of SLOs. Three to six SLOs for an academic program is sufficient. Try to pare down the SLOs to those that truly reflect the major skills or knowledge that students will take away from the program.
- When developing your SLOs, keep in mind what student work(s) or product(s) will help you to decide if the expectations have been met.
- A word of caution about assessing the "feel" component. Attitudes may appear easy to assess but they require lots of thought and specificity. Ask yourself if the attitude of the students is necessary for program success. Would it be acceptable if the student didn't have the expected attitude but met the other expectations regarding knowledge, skills and abilities? What is the priority?

In addition to the aforementioned tips, the following are some guiding questions to help you develop SLOs:

- Think about a program graduate. What kind of program experience would allow for the greatest student success?
- As a result of this program:
    - What should this student know or understand?
    - What will this student be able to do?
    - What kind of skills or values will this student possess?

The SMART Model has been popularly useful in writing academic program student learning outcomes (SLOs). This model was initially introduced in 1954 by P.F. Drucker. It clearly reflects the guidelines and tips provided above. The components of the SMART Model are discussed below:

- **Specific**
  - Define student learning outcomes that are specific to your program. Include in clear and definite terms the expected abilities, knowledge, values and attitudes a student who graduates from your program is expected to have.
  - Focus on intended outcomes that are critical to your program.
  - When the data from the assessment process are known, these outcomes should create opportunity to make improvements in the program that is being offered to your students.
- **Measurable**
  - The intended outcome should be one for which it is feasible to collect accurate and reliable data.
  - Consider your available resources (e.g., staff, technology, assessment support, institutional level surveys, etc.) in determining whether the collection of data for each student learning outcome is a reasonable expectation.
  - Include more than one measurement method that can be used to demonstrate that the students in a particular program have achieved the expected outcomes of that program.
- **Aggressive but Attainable**
  - When defining the student learning outcomes and setting targets, use targets that will move you in the direction of your vision, but don't try to "become perfect" all at once.
  - What would the "perfect" program look like in terms of outcomes?
  - What would a "good" program look like in terms of outcomes?
- **Results-oriented and Time-bound**
  - When defining the outcomes, it is important to describe where you would like to be within a specified time period (e.g., 10% improvement in exam scores within one year).
  - Also, determine what standards are expected from students in your program. For some student learning outcomes, you may want 100% of graduates to achieve them. This expectation may be unrealistic for other outcomes.
  - You may want to determine what proportion of your students achieve a specific level (e.g., 80% of graduates pass the written portion of the standardized test on the first attempt).
  - If you have previously measured an outcome, it is helpful to use this as the baseline for setting a target for next year.

As you begin to develop your SLOs based on the tips and guidelines provided above, the following set of questions could be used to help you evaluate your progress:

- Have you indicated whether your outcome is program or course level?
- Does it align with the program's goals?
- Is it central to the program?

- Is it reasonable given the ability of the students?
- Does it explicitly state what the students will be able to think, know, feel, and do as a result of the program?
- Is it measurable
- Is it observable? (i.e., use action verbs)

The following is a general format that can be used when developing a student learning outcome statement:

> By the end of the program, (*students or graduates*) (*will or will be able to*) (*measurable action verb*) (*clearly specify knowledge, skills, values, and/or attitudes that should be exhibited*).

In correlation with the example mission and vision statements and example values and guiding principles provided throughout Chapter 2, the following are two sets of examples of student learning outcomes for the Hypothetical Engineering program:

> ***Example 1***
>
> **Poor:** Students completing the undergraduate program in Hypothetical Engineering will have knowledge of engineering principles.
>
> WHY: This is a weak statement because it does not specify which engineering principles a graduate from the program should know. Also, it does not define what is meant by "have knowledge". Are they supposed to be able to simply define the principles, or be able to apply the principles, etc.?
>
> **Better:** By the end of the program, graduates will be competent in the principles of engineering design, formulating requirements and constraints, following an open-ended decision process involving tradeoffs, and completing a design addressing a hypothetical engineering need.
>
> WHY: This statement is better because it lists the specific areas in Hypothetical Engineering that a student must be competent in. However, it is still vague, as the level of competency is not stated. Are they expected to understand these concepts and how will they apply them?
>
> **Best:** By the end of the program, graduates will be able to apply and demonstrate the principles of engineering design, formulating requirements and constraints, following an open-ended decision process involving tradeoffs, and completing a design addressing a hypothetical engineering need.
>
> WHY: This is a much better student learning outcome statement for two reasons. First, the specific requirements are listed; and second, the level of competency is also stated. A student must be able to apply and to demonstrate the listed engineering principles.

Example 2

Poor: Ph.D. students of Hypothetical Engineering will be successful in their research.

WHY: This statement is very vague and provides no indication of what "successful" means. It does not specify what type or quality of research skills is expected from the student.

Better: Ph.D. students of Hypothetical Engineering will be successful in conducting high-quality research.

WHY: Although the quality of research expected from the doctoral students is identified, there is no indication of specific research capabilities that a student should possess. Therefore, even though it provides more detail than the previous statement, it is still lacking.

Best: Ph.D. graduates of Hypothetical Engineering will be able to conduct high-quality, doctoral research as evidenced by their results of experiments and projects, dissertations, publications, and technical presentations.

WHY: What is expected of a doctoral student in this program is clearly defined and stated, making this an effective student learning outcome statement. The quality of research expected as well as the specific research requirements are articulated in the outcome statement.

Section 3.5: Benefits of Student Learning Outcomes

The following are some of the advantages associated with developing and using student learning outcomes:

- **Program improvement**
  One of the primary purposes of student learning outcomes (SLOs) assessment is to provide feedback to determine how the program can be improved to enhance student learning.

- **Identification of best practices in instruction**
  SLOs can be used by faculty to help them evaluate and improve their teaching. Faculty can share teaching strategies that are more effective in helping students reach student learning outcomes.

- **Course design and revision**
  SLOs can help in the design of new courses in terms of rationalizing the need for a new course and its positioning in the curriculum. Additionally, SLOs can be used by the faculty in the classes that they teach to assist them in developing assignments that include the intended knowledge, abilities, values and attitudes of their program.

- **Curricular assessment and change**
  The use of SLOs can help programs think about their curriculum. A program can "map" or determine in which of its courses each SLO is addressed in order to determine if each outcome is addressed adequately across the curriculum and where gaps exist. Plans can be

made to introduce, reinforce, and assess the important outcomes in the appropriate courses in the curriculum.

- **Communicate instructional intent**
  SLOs can provide a means of communicating expectations to students. Developing clearly defined learning outcomes that are available to students would aid in establishing criteria for grading assignments and tests.

- **Increased awareness of learning (for students)**
  SLOs can help students realize "what they know" and can help them to communicate this knowledge.

- **Common language**
  SLOs can help programs develop a common language that can be shared with faculty, staff, students, the public, and other constituencies. A common language also can facilitate communication among programs and disciplines.

- **Advising tools**
  SLOs can assist the advising process because advisors can communicate to the students the expectations of the program by referring to the expected learning outcomes.

- **Targets for assessment and accreditation**
  Defining statements of learning outcomes is an integral part of the assessment process and also necessary for the accreditation process.

- **Improving promotional materials**
  SLO statements can be presented in promotional materials to attract students and promote a program. At UNM, academic programs are required to publicize SLOs via their website.

It is clear that the development or revision of an academic program's student learning outcomes should be an inclusive and collaborative endeavor involving faculty, staff, and students. They should be shared with and accessible to the UNM community via the program's website.

Refer to Appendices 3A, 3B, 3C, and 3D (pp. 37-40) for examples of appropriate observable and measurable actions verbs associated with *Bloom's Cognitive, Affective, Knowledge, and Psychomotor Domains*.

Refer to Appendix 3E (pp. 41-43) for a worksheet on writing effective student learning outcome (SLO) statements and Appendix 3F (p. 44) for a checklist on reviewing program SLO statements.

Section 3.6: Appendices, Sources, and Additional References

Appendix 3A

Bloom's Cognitive Domain

Definitions	**Knowledge**	**Comprehension**	**Application**	**Analysis**	**Synthesis**	**Evaluation**
Bloom's Definition	Remember previously learned information.	Demonstrate an understanding of the facts.	Apply knowledge to actual situations.	Break down objects or ideas into simpler parts and find evidence to support generalizations.	Compile component ideas into a new whole or propose alternative solutions.	Make and defend judgments based on internal evidence or external criteria.
Verbs	Arrange Define Describe Duplicate Identify Label List Match Memorize Name Order Outline Recognize Relate Recall Repeat Reproduce Select State	Classify Convert Defend Describe Discuss Distinguish Estimate Explain Express Extend Generalized Give example(s) Identify Indicate Infer Locate Paraphrase Predict Recognize Rewrite Review Select Summarize Translate	Apply Change Choose Compute Demonstrate Discover Dramatize Employ Illustrate Interpret Manipulate Modify Operate Practice Predict Prepare Produce Relate Schedule Show Sketch Solve Use Write	Analyze Appraise Breakdown Calculate Categorize Compare Contrast Criticize Diagram Differentiate Discriminate Distinguish Examine Experiment Identify Illustrate Infer Model Outline Point out Question Relate Select Separate Subdivide Test	Arrange Assemble Categorize Collect Combine Comply Compose Construct Create Design Develop Devise Explain Formulate Generate Plan Prepare Rearrange Reconstruct Relate Reorganize Revise Rewrite Set up Summarize Synthesize Tell Write	Appraise Argue Assess Attach Choose Compare Conclude Contrast Defend Describe Discriminate Estimate Evaluate Explain Judge Justify Interpret Relate Predict Rate Select Summarize Support Val

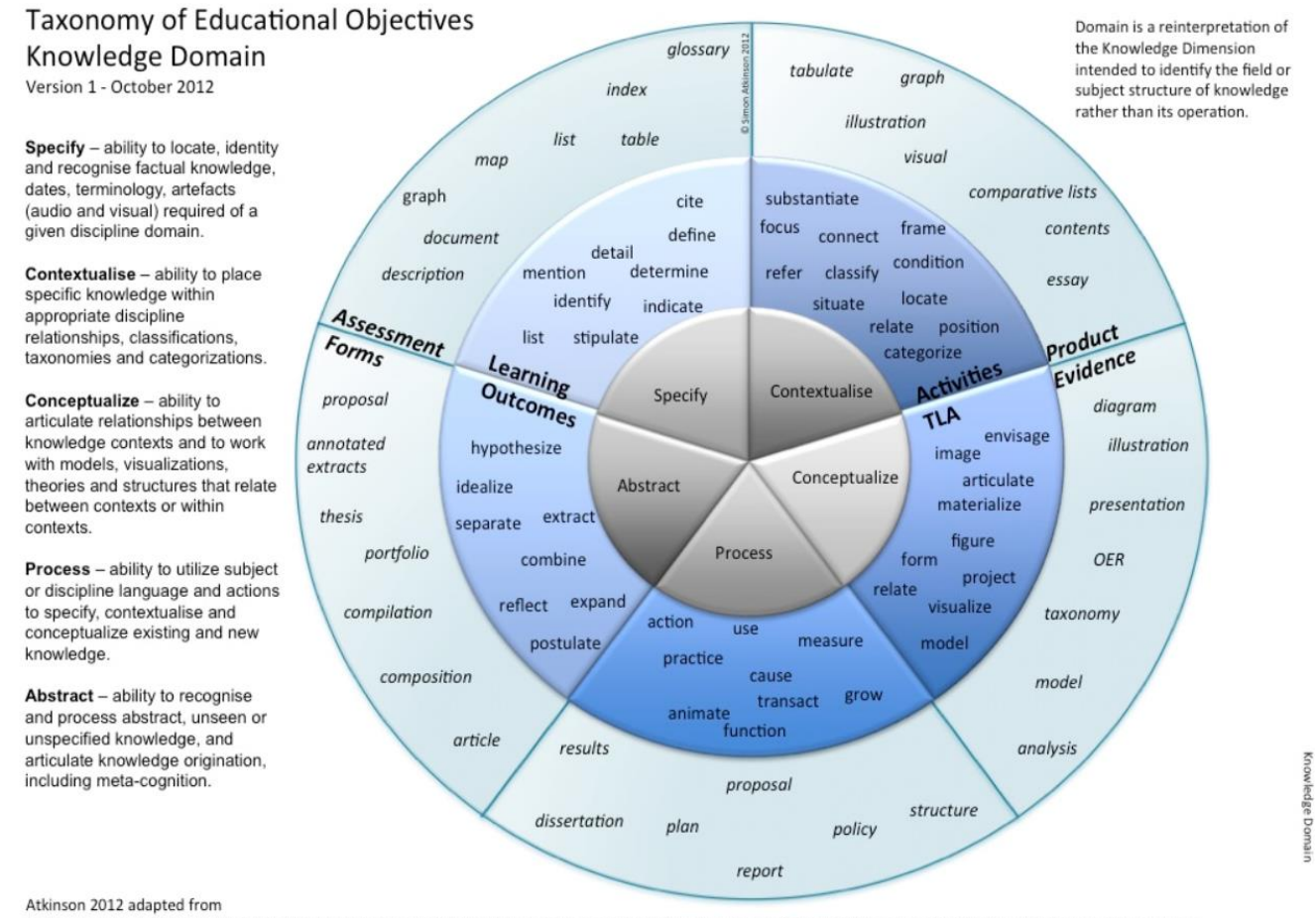
Appendix 3B

Bloom's Affective Domain

Definitions	**Receiving**	**Responding**	**Valuing**	**Organization**	**Internalizing**
Bloom's Definition	Ability to learn from others	Ability to participate responsibly, respectfully and actively as appropriate to the context	Ability to associate personal and collective values with contextual experience and express value judgements	Ability to structure, prioritize and reconcile personal and others' value systems	Ability to articulate one's own values and belief systems and operate consistently within them
Verbs	ask choose follow give hold select show interest	accept responsibility answer assist comply conform enjoy greet help obey perform practice present report select tell	associate with assume responsibility believe in be convinced complete describe differentiate have faith in initiate invite join justify participate propose select share subscribe to work	adhere to alter arrange classify combine defend establish form judgments identify with integrate organize weigh alternatives	act change behavior develop code of develop philosophy influence judge problems/issues listen propose qualify question serve show mature attitude solve verify

Appendix 3C

Bloom's Knowledge Domain



Atkinson 2012 adapted from
Anderson, L W, & Krathwohl D R (eds.) (2001). A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. NY, Longman

Appendix 3D

Bloom's Psychomotor Domain

Imitation	**Manipulation**	**Precision**	**Articulation**	**Naturalization**
Ability to copy, replicate the actions of others following observations	Ability to repeat or reproduce actions to prescribed standard from memory or instructions	Ability to perform actions with expertise and without interventions and the ability to demonstrate and explain actions to others	Ability to adapt existing psychomotor skills in a non-standard way, in different contexts, using alternative tools and instruments to satisfy need	Ability to perform actions in an automatic, intuitive or unconscious way appropriate to the context
Examples: Copying a work of art. Performing a skill while observing a demonstrator.	**Examples**: Being able to perform a skill on one's own after taking lessons or reading about it. Follows instructions to build a model.	**Examples**: Working and reworking something, so it will be "just right." Perform a skill or task without assistance. Demonstrate a task to a beginner.	**Examples**: Combining a series of skills to produce a video that involves music, drama, color, sound, etc. Combining a series of skills or activities to meet a novel requirement.	**Examples**: Maneuvers a car into a tight parallel parking spot. Operates a computer quickly and accurately. Displays competence while playing the piano. Michael Jordan playing basketball or Nancy Lopez hitting a golf ball.
Key Words: copy, follow, mimic, repeat, replicate, reproduce, trace	**Key Words**: act, build, execute, perform	**Key Words**: calibrate, demonstrate, master, perfect	**Key Words**: adapt, constructs, combine, creates, customize, modifies, formulate	**Key Words**: create, design, develop, invent, manage, naturally

Appendix 3E

Worksheet for Identifying and Defining Academic Program Student Learning Outcomes

College/School/Branch: _____

Academic Program: _____

Date Prepared: _____

Participants: _____

Instructions: After each faculty member has completed this worksheet, arrange a meeting at which you can compare notes and discuss the results. The reason for this exercise is to summarize and articulate one to six program student learning outcomes that the faculty can agree on.

1. Identify and list all appropriate program goals.

2. With program goals from #1 in mind, describe the "perfect student" in your program in terms of his or her knowledge, abilities, values and attitudes. Identify key characteristics of what this "ideal" student:
    a. Should know:

    b. Can do:

    c. Should think or value:

3. Which of the key characteristics from #2 can be directly attributed to your program's curriculum and the student's experience in your program?

4. Identify specific program experiences and/or curriculum activities, assignments, etc. that support or reflect the key characteristics, behaviors, or performances outlined in #3.

5. Based on your responses to #3 and #4, use the following format to write a set of student learning outcome statement(s) that highlight the progressive development of your ideal student from the beginning to the end of your program.

   By the end of the program, (*students or graduates*) (*will or will be able to*) (*measurable action verb*) (*clearly specify knowledge, skills, values, and/or attitudes that should be exhibited*).

Appendix 3F

Checklist for Reviewing Student Learning Outcomes

College/School/Branch: _____

Academic Program: _____

Date Prepared: _____

Participants: _____

Instructions: Use the following checklist to ensure that your student learning outcomes are adequately stated.

- **Are the student learning outcome statements:**

  - ☐ Aligned to the program's mission and goal statements?
  - ☐ Address one or more of the University's student learning goals (i.e., knowledge, skills, and responsibility
  - ☐ Distinctive and specific to the program?
  - ☐ Framed in terms of the program rather than individual courses or individual students?
  - ☐ Simply stated so that outcomes requiring different assessment methods are not bundled into one statement?
  - ☐ Focused on the learning results, not the learning process?
  - ☐ Stated so that more than one measurement method could be used?
  - ☐ Measurable and there are available resources for measurement?
  - ☐ Useful to identify areas to improve?

- **Do the student learning outcome statements:**
  - ☐ Include concrete action verbs rather than passive verbs?
  - ☐ Indicate the level and type of competence/skill that is required of graduates of a program?
  - ☐ Describe intended outcomes not actual outcomes?

CHAPTER 4: IDENTIFYING ASSESSMENT METHODS

Section 4.1: Introduction

Selecting the appropriate methods for assessment is an essential step to ensure the success of your academic program's assessment structure. It is important to select assessment methods prudently and ensure that they are good assessors of the effectiveness of your program. A primary objective of assessment is to uncover issues that, when addressed, will lead to improvements.

However, you don't have to measure everything about every student during every course in every term! Be selective and measure only those areas in which you are most interested and/or that are most relevant to meeting the academic needs of current or future student.

Chapter 4 provides guidelines and criteria for selecting appropriate academic program assessment methods. This chapter discusses direct and indirect assessment methods and provides examples of each. It also discusses quantitative and qualitative assessment methods as well how to use an assessment methods matrix to appropriately align and effectively assess student learning outcomes.

The purpose of Chapter 4 is to:

- Provide an overview of assessment methods.
- Present helpful guidelines and criteria for selecting assessment methods.
- Describe challenges to selecting assessment methods.
- Differentiate between direct and indirect assessment methods.
- Differentiate between quantitative and qualitative assessment measures.
- Describe how to use an assessment methods matrix.

The key takeaway from Chapter 4 is guidance in determining the appropriate assessment methods to continuously and effectively measure your program's SLOs.

Section 4.2: Criteria for Selecting Assessment Methods

Before investing time and resources devising and developing new assessment instruments or methods, identify assessment processes already in place and assessment-related data that you are already collecting. It is very helpful to match available information and processes to the academic program's goals and student learning outcomes.

Establishing and discussing criteria and characteristics of assessment methods can be very productive and valuable to the assessment process. Engage faculty in the discussion to ensure that the qualities they consider to be essential, as well as concerns they may have regarding the reliability and validity of the assessment methods, are considered.

Palomba and Banta (1999) introduce six criteria significant for selecting assessment methods. These are summarized below:

1. **Relationship to Assessment Method**
   According to the Department of Education (1998), you should consider the ability of an assessment method to address specific assessment questions, as well as its relevance and utility. Make certain that the selected assessment method satisfy the objectives of the assessment questions. That is, the methods you choose should be able to provide you with information about what you are trying to assess. As an example, while surveys can be a great tool to assess students' perception of a certain process, they are not useful in determining students' knowledge or understanding of a subject.

2. **Reliability**
   A reliable assessment method is one that yields consistent responses over time. The three sources of measurement error described by Cherry and Meyer (1993) include 1) the respondents, 2) the instrument (assessment method), and 3) the administration of the instrument. The method selected should be one that provides dependable, consistent results time after time. The instrument should be unambiguous and should be clearly worded. The time available to complete the instrument should be consistent with its length. The instructions and time allocated for completion should be consistent across the program.

3. **Validity**
   Validity refers to determining whether the selected assessment method is appropriate for measuring what you want to measure. It is often a time-consuming and challenging task to provide evidence supporting the validity of the selected method. According to the Joint Committee on Standards for Educational Evaluation (1993), it is necessary to gather evidence to support the interpretation and appropriateness of a survey or test for a specific purpose. It is also recommended to use multiple data sources. Achieving high-quality assessment requires addressing issues identified by Linn and Baker (1996) and Herman, Aschbacher, and Winters (1992) such as:
   - Does the selected method cover the curriculum objectives?
   - Does it match the desired level of complexity?
   - Can the results be generalized, and to what extent?
   - Will we gain information that will be useful in improving our program?

   Note regarding reliability and validity: Measurement standards indicate that there is a trade-off between reliability and validity. The complexity of a task may increase validity but at the same time will decrease reliability due to a lack of standardization. The key is to select assessment methods that effectively balance the two issues (Wiggins, 1993).

4. **Timeliness and Cost**
   The time and costs involved in assessing programs may be a concern for faculty and administrators. It is necessary to estimate the time required to develop, administer, and evaluate various assessment methods. Angelo and Cross (1993) utilize a rating system of low, medium or high to help faculty select classroom assessment methods. Each method is evaluated on preparation time, students' response time, and analysis time. Each of these factors is given a rating. A similar approach can be used for program assessment methods. Also, evaluating the costs associated with administering assessment methods is imperative. Costs can range from opportunity costs (e.g., faculty working on assessment and not on teaching-related activities or research) to the tangible costs associated with the method (e.g., the financial cost of using and analyzing a nationally developed instrument).

5. **Motivation**
   Assessment methods should be selected with a focus on whether or not they provide value to students and encourage their participation in the assessment effort. Course-embedded assessment methods are highly valuable because they take advantage of current classroom activities. When alumni and employers are the focus of assessment methods, one should select instruments that would elicit their participation without requiring them to come to campus (i.e., surveys, phone interviews, etc.).

6. **Other**
   There are other considerations that are pertinent to selecting an appropriate assessment method. The following is a list of questions to consider:
   - Will the instrument or method provide results that are easy to understand and interpret?
   - Are the fluctuations in the results representative of changes in the program or something else?

Section 4:3: Guidelines for Selecting Assessment Methods

The following guidelines are useful for selecting assessment methods:

- **Assess both the strengths and weaknesses of your program.**
  Select assessment methods accordingly. Exclusively assessing what already works will not provide you with the opportunity to implement changes that result in continuous improvement.

- **Determine if there are already available resources to assist in the collection of data for a specific SLO**.
  Do the data already exist or is a new data collection process going to be required? If new data needs to be collected, determine if the data are difficult or easy to obtain. Consider assessment methods for which data might already exist.

- **Avoid selecting assessment methods that require complex data collection methods.**
  Complex measures are not the key to successful assessment. Instead, consider measures that provide data that are easily interpreted and are not ambiguous. In some cases, it might be highly constructive to start with a pilot test and collect data from a small sample. This will help you determine if the scope of the data collection is feasible in terms of resources and time.

- **Select assessment methods that can be directly controlled by the program.**
  An assessment method that is influenced by external factors beyond the control of the program will yield results that may be meaningless because you may not be able to separate the impact of the program from the effects of those factors.

- **Multiple assessment measures are required.**
  It is insufficient to depend on one assessment measure to assess most or all of your SLOs. Some benefits of using multiple assessment methods to assess SLOs are that different components of a SLO can be targeted using more than one assessment measure. If a

nationally normed measure or standardized test is used, a second measure is not usually required. Ideally, there should be multiple assessment measures for each SLO; this would lead to a high level of accuracy and authority can be achieved.

- **Strive to identify subcomponents of a measurement approach so that you will be able to conduct a deeper analysis.** In other words, include questions on a survey or exam that measure components of an outcome (e.g., quality advising in a program). Specific questions on a questionnaire or items on an exam can be used to assess one or more components of a SLO (e.g., level/degree of satisfaction with the timeliness, accuracy, and completeness of information of advisement).

- **Use a combination of qualitative and quantitative assessment methods to effectively assess SLOs.**
  The selection of assessment methods should reflect the culture of the program. Each type of assessment method selected should be one that provides decision makers with useful information. Use both qualitative and quantitative assessment methods when possible. Examples of qualitative assessment methods include surveys, focus groups, exit interviews, and case studies.

- **Use a combination of passive and active assessment methods.**
  Some assessment methods require direct interaction with the students in an evaluative or instructional setting, while others do not (e.g., information from the student database, student course evaluations, or employer surveys).

- **Capstone courses and senior projects can be an excellent method for directly assessing student learning.** These methods promote interaction between faculty and students and "scholarly inquiry." Additionally, they provide the students an opportunity to demonstrate the ability of absorbing, applying, and integrating experiences and knowledge.

- **When possible, use methods and techniques that you already use for accreditation**.
  Use regional and/or professional accreditation criteria as a basis for designing your assessment structure and selecting assessment methods.

- **Choose assessment methods that will provide useful information.**
  The intended outcome that is being assessed should allow one to make inferences about student progress. Assessing curricular requirements, the achievement of a goal, or the completion of an activity may not provide the type of evidence about student achievement, student support services or teaching practices that would provide opportunities for improvement.
    - *Example of assessment that will not provide useful, useable information:*
      - SLO: Students completing the Hypothetical Engineering program will be able to demonstrate competence in conducting research.
      - Assessment method: 90% of all graduates will successfully complete the Senior Design project.
      - WHY: An element of Senior Design is that students complete a research project. Therefore, using the Senior Design project as an assessment of a student's ability to conduct research does not provide any new information.

        - A better way to assess: It would be more effective to develop a scoring rubric for the design project; and, with the data from the rubric, one would be equipped to analyze components of the design project. The data could then be analyzed and areas of weakness may be identified. These weak areas would then become the focus for improvement.

- **Match the assessment method to the SLO.**
  The importance of matching the assessment method to the student learning outcome cannot be over stated. Successful and useful assessment can be achieved only if you align the assessment method with the outcome that you are trying to assess.
    - *Example of an assessment method that does not match the student learning outcome*:
        - SLO: Students completing the Hypothetical Engineering program will be able to demonstrate competence in engineering principles comparable to graduates of other similar national programs.
        - Assessment method: In a locally-developed test, 95% students will achieve a score of 90.
        - WHY: When comparing graduates of a program to other graduates nationally, using locally developed test as the assessment method is not recommended.
    - *Example of an assessment method that matches the student learning outcome:*
        - SLO: Students completing the Hypothetical Engineering program will be able to demonstrate competence in engineering principles comparable to graduates of other similar national programs.
        - Assessment method: Students will equal or exceed the national average on the FE examination, administered twice a year.
        - WHY: A more appropriate assessment method to compare the achievements of your graduates to the national average is to use a national instrument.

Using the criteria and guidelines provided above for selecting assessment methods for your program does not mean that you will not encounter challenges during this process. Several challenges that are commonly encountered during the process of identifying and designing assessment methods are outlined below:

- **Differences between programs**
  Although several programs fall under one department, it is not necessarily realistic that the programs share the same goals and student learning outcomes. Acknowledge these differences. Some assessment methods may work well for one program and be meaningless for another. When selecting assessment methods, ensure that they are appropriate for the specific outcome that you are assessing.

- **Time Constraints**
  When developing and using a new assessment method, start small and test it. That way if it turns out that it is not a meaningful assessment instrument you will have not wasted valuable time.

- **Feedback**
  Encourage faculty involvement and feedback by discussing assessment methods with them. Faculty involvement is critical to the success of assessment. Feedback can be through group or individual discussion, e-mail communication, or other means.

- **Matching the assessment method to the goal or intended outcome**
  Develop and write your program goals and intended outcome statements before selecting assessment methods. Do not develop an assessment instrument and then try to fit an intended outcome to it.

Section 4.4: Direct and Indirect Assessment Methods

Traditionally, assessment methods have been categorized as either direct or indirect. These two classifications are based on the distinction between assessing student learning outcomes (SLOs) and student experience.

- Direct assessment methods of learning specifically measure the competence of students in the program.
- Indirect assessment methods differ in that they are concerned with students' experiences, opinions, or perceptions, rather than their knowledge and skills.

Despite their differences, both of these assessment methods rely on the participation and feedback of various constituencies (e.g., students, employers, internships, supervisors, etc.).

At UNM, all academic programs are required to utilize multiple program level direct assessment methods and at least one indirect assessment method.

Direct Assessment Methods

Direct assessment methods includes methods that evaluate student learning on the following levels:

- Cognitive Skills: What does the student know?
- Performance Skills: What can the student do?
- Affective Skills: What does the student think or care about?

Based on the purpose of the assessment, the assessment methods are classified in terms of what is being assessed. Direct assessment methods are classified by two categories: 1) Curriculum/Course-Related and 2) Examination/Test. The curriculum/course-related category mainly consists of assessment measures that are performance-based. The examination/test category encompasses standardized, local, and licensure assessment instruments. The following is a list of direct assessment approaches commonly used to measure student learning:

1. Curriculum/Course-Related Assessment Methods
    - Performance-Based
        - Capstone course assignments or projects
        - Case studies, hypothetical situation responses
        - Course-embedded questions

        - Portfolios
        - Rubrics
        - Research papers
        - Performance appraisal of in-class exercises
        - Videotape or audiotape evaluation
        - Expert evaluation
    - Other
        - Observations in class by evaluator who is not the teacher
        - Peer evaluation of practical skills using rubric
        - Clinical practice or internship skill assessment
2. Examination/Test Assessment Methods
    - Standardized Examinations and Tests
        - National Test
        - State Test
    - Local Examinations and Tests
        - Local tests
        - Pre-test/Post-test
        - Test embedded questions/items across all sections of a course
    - Certification/Licensure Exams

A brief summary is provided below for some of the direct assessments listed above:

- **Classroom Assessment**
  Often designed for individual faculty who wish to improve their teaching of a specific course but can also be used on the program level by selecting an assessment to be administered in all sections of a course(s). Program level classroom assessment can include a variety of assignments or approaches to evaluate student learning and learning processes (e.g., final exams, research papers, project/poster presentations, essays, etc.)

- **Portfolios**
  Evaluation of a collection of students' work in designated courses is used as a means of assessing student learning outcomes. Evaluation can occur periodically as students develop and progress in the program and/or at the end of the program (e.g., capstone course or project).

- **Embedded Questions**
  Questions related to an academic program's student learning outcomes can be embedded within course assignments or exams. For example, all sections of the "research methods" course(s) could include a question or set of questions relating to your program's SLOs. Faculty grade the exams as usual and then separate and aggregate the exam questions that are linked to the program's SLOs for analysis. The findings are reported as an aggregate of the data collected from all sections of the course(s). Embedded questions also can be used to develop program level quizzes or final exams that are administered in all sections on a course within one or more semesters.

- **Direct Observations**
  Observations of any behavior such as student presentations or students working in the lab can be used for assessment. Observations can be recorded as a narrative or in a highly structured format, using a checklist or rubric; and they should be focused on specific program SLOs. Direct observations can be conducted by the instructor, peers, and/or expert evaluators. As a program level assessment measure, it is imperative that the process or protocol for recording observations is structured and consistent regardless of the context; and that the format or instrument for evaluating what is observed is objective and standard regardless of the evaluator/observer.

- **Rubrics**
  Rubrics can be used to evaluate or score any product or performance such as essays, portfolios, recitals, oral exams, etc. A detailed scoring rubric that delineates criteria used to discriminate among levels is developed and used for scoring. Ideally, two raters are used to review each product and a third rater is used to resolve discrepancies.

- **Videotape or Audiotape Evaluations**
  Videotapes and audiotapes have been used by faculty as a kind of pre-test/post-test assessment of student skills and knowledge. Disciplines, such as theatre, music, art, and communication which have experienced difficulty in using some of the other direct assessment methods have had significant success in utilizing videotapes and audiotapes as assessment tools. Evaluations can be recorded as a narrative or in a highly structured format, using a checklist or rubric.

- **Commercially Produced or Standardized Tests**
  Commercially generated or standardized tests are used to measure student competencies under controlled conditions. Tests are developed and measured nationally to determine the level of learning that students have acquired in specific fields of study. For example, nationally standardized multiple-choice tests are widely used and assist programs in determining programmatic strengths and weaknesses when compared to other programs and national data.

- **Locally Developed Exit Exams**
  Faculty can create and administer an objective exam for graduating students that is aligned with the program's SLOs. Performance expectations should be delineated prior to obtaining results.

- **Pre-Test/Post-Test Evaluations**
  Pre-test/Post-test assessment is a method used by programs where locally developed tests and examinations are administered at the beginning and at the end of course(s) or program. These test results enable faculty to monitor student progression and learning throughout prescribed periods of time. The results are often useful for determining which skills and knowledge deficiencies exist and identify where development occurred.

Refer to Appendix 4A (pp. 58-59) for further elaboration on types of direct assessment measures commonly associated with capstone courses and case studies, simulations, and hypothetical situations (including advantages and disadvantages).

Indirect Assessment Methods

Indirect assessment methods consist of methods that allow students or others to report on what students have learned. In other words, the methods are used to evaluate the "perception" of student learning on the following levels:

- Cognitive skills: What does the student report (perceive) that s/he knows?
- Performance skills: What does the student report (perceive) that s/he can do?
- Affective skills: What does the student report (perceive) as important?

Indirect assessment methods usually involve the administration of a survey instrument. Surveys can be an important tool in understanding student's academic needs and their perception of their educational experience. Additionally, surveys can be used to determine students' satisfaction with the services offered at the University as well as program-specific services such as advising, etc. However, keep in mind that surveys are used to gather data regarding the perceptions of individuals about personal experiences. In most instances, this method does not provide direct evidence of knowledge, skills and abilities. As a result, indirect assessment methods are not sufficient by themselves; they should be supplemented with direct assessment methods.

The following is a list of indirect assessment approaches commonly used to measure perceptions regarding student learning:

- Surveys
    - National Surveys
    - Institutional Surveys (administered by the institution)
    - Local Surveys (administered by a party outside of the program)
        - Alumni surveys
        - Employer/Supervisor surveys
        - Advising surveys
    - Program Surveys (administered by the program)
        - Exit interviews/surveys
        - Alumni surveys
        - Satisfaction surveys
- Others
    - Focus Groups
    - Structured Interviews
    - Advisory Committees
    - Institutional Data
    - Student Logs

A brief summary is provided below for some of the indirect assessments listed above:

- **Alumni Surveys**
  Surveying of alumni is a useful assessment tool for generating data about student preparation for professional work, program satisfaction, and curriculum relevancy. As an assessment

supplement, alumni surveying provides programs with a variety of information that can be highlight in relation to the program's SLOs.

- **Employer/Supervisor Surveys**
  Employer/supervisor surveys can provide information about the curriculum, programs, and students that other forms of assessment cannot produce. Through surveys, programs traditionally seek employer/supervisor satisfaction levels with the abilities and skills of recent graduates. Employers/Supervisors also assess programmatic characteristics and program SLOs by addressing the success of students in a continuously evolving job market.

- **Student Exit Interviews/Surveys**
  Students leaving the program are interviewed or surveyed to obtain feedback. Data obtained can address strengths and weaknesses of the program and/or assess relevant concepts, theories or skills associated with the program's SLOs.

- **Focus Groups**
  Individuals that are users of the program or that benefit from the academic preparation made possible as a result of completing the program (e.g., employers, alumni, faculty, parents, etc.) can provide important qualitative data that can be used to identify strengths and weaknesses within the program.

- **Advisory Committees**
  Individuals who are experts in the field can assess student preparedness and curriculum content. This method of assessment provides a current and relevant level of analysis that is beneficial to the development of the program's curriculum as well as the assessment of students' knowledge, skills and attitudes.

- **Structured Interviews**
  One-on-one structured interviews with students, faculty, employers and alumni conducted by a trained interviewer can provide useful information. This information can be used to identify strengths and weaknesses within the program.

- **Student Logs**
  A log that reflects the amount of time a student spends studying or involved in specific activities can provide important data that can be used to identify opportunities for improvement. This can be managed electronically in a spreadsheet by individuals and combined into a group for assessment purposes.

- **Institutional Data**
  Institutional level data such as retention rates, graduation rates, demographics, time-to-graduation, and enrollment in graduate level programs by former graduates of your program can provide useful information regarding the strengths and weaknesses of a program.

Although most frequently used direct and indirect assessment methods have been discussed in this section, there may be others that you are using. The key thing is for you to understand how, why, and/or when an assessment method is considered direct or indirect.

Section 4.5: Quantitative and Qualitative Assessment Measures

Data collected through assessment measures can be qualitative or quantitative. Quantitative data use numbers (or can be converted to numbers for data analysis); whereas qualitative data use words and are generally reported as a narrative. For quantitative data, the same information is usually collected from each participant in exactly the same way, and different responses are translated into a series of numbers. Qualitative data emphasize flexibility in data collection and focus on understanding processes and events, rather than precisely measuring them. For these reasons, a combination of both types is suggested. Quantitative data are generally assumed to be more objective; whereas qualitative data might provide richer information about recurrent themes and trends. Each type has unique advantages.

These distinctions can easily be seen in questionnaires or surveys with closed-ended (quantitative) versus open-ended (qualitative) questions.

Closed-ended questions limit the responses a person can make and either use a number scale in the question or later translate responses into numbers. Results from closed-ended questions can be reported as average scores on each question (including standard deviations or range of scores to help reviewers to get a more complete picture), and these results can easily be presented in tables and graphs.

> *Example of a closed-ended question:* How well did your program prepare you for a career in engineering? (Circle one number on the scale below.)
>
> | Not at all | Somewhat | Moderately | A great deal |
> |---|---|---|---|
> | 0 | 1 | 2 | 3 |

Open-ended questions allow people to give any answer they wish and to go into greater detail; but they are more difficult to analyze and report objectively (although computer analysis programs are becoming available for qualitative data). Typically, for open-ended questions, various types of answers can be described in a narrative or frequencies of responses containing the same or similar themes can be counted (preferably by multiple raters) and reported as simple frequencies or percentages. It is usually not as helpful (even though readers find it interesting) to report all responses verbatim. It is better if the data summary and interpretation come from the program itself, rather than having readers or reviewers try to interpret the meaning of a long list of open-ended survey comments.

> *Example of an open-ended question:* Describe how well your program prepared you for a career in engineering?

Quantitative data often is associated with direct assessment methods whereas qualitative data tend to be associated with indirect assessment methods. However, as discussed above, these associations can be misleading. For instance, an open-ended question on a final exam that involves students completing a task, such as listing and describing the steps of the Socrates scientific method, is a direct assessment of student learning. Although the student's response is qualitative, it is an observable and measurable reflection of the student's knowledge and ability to complete the task.

The key is to strategically select multiple academic program assessment methods that yield quantitative and qualitative data that are both valuable and supplementary of each other.

Section 4.6: Assessment Matrices

Assessment matrices offer a visualization of an academic program's assessment structure across its courses. An assessment matrix is a useful tool that will help you link your current program assessment efforts to the program's mission, goals, and student learning outcomes. It can be used to identify or highlight any gaps or issues with your program's assessment practices. As a result, assessment matrices help to ensure that a program's overall assessment structure is comprehensive, cohesive, and coherent.

Assessment matrices can be developed at the program level (with a focus on the comprehensive assessment of the program's goals and student learning outcomes) as well as at the course level (with a focus on linking and course level instructional objectives with course level outcomes). At the program level, an assessment matrix could be created with a focus on mapping or aligning the program's goals and student learning outcomes to the University's student learning goals. It also can be used to link program student learning outcomes to specific courses and/or assessment measures. At the course level, an assessment matrix could be designed to align course level student learning outcomes with specific course level instructional objectives. Two examples of assessment matrices are presented below.

Example 1

In the first matrix, the four assessment methods that will be used to measure the three student learning outcomes (SLOs) are identified and categorized as being either direct (an evaluation of student's abilities, skills, and knowledge) or indirect (a reflection of students' perceptions of learning or academic experience). You can design a similar assessment matrix by listing all the SLOs vertically and the assessment methods horizontally. Then indicate which assessment method targets each listed SLO. Provide additional details in the matrix by specifying which SLOs are directly or indirectly assessed.

SLOs	Graduating Senior Exit Survey	Capstone Course Project	Portfolio	Focus Group
Indicate moderate satisfaction with advising process	Indirect			Indirect
Apply and demonstrate the principles of engineering design, formulating requirements and constraints, following an open-ended decision process involving tradeoffs, and completing a design addressing a hypothetical engineering need		Direct	Direct	Indirect
Demonstrate proficiency in oral and written communication skills		Direct	Direct	Indirect

Example 2

Another configuration that can be used in the assessment matrix is to link intended program outcomes with the curriculum. List all the intended program outcomes vertically and the courses or program requirements horizontally. Then indicate which course addresses each listed outcome. This matrix provides more details such as the degree to which a SLO is addressed in a particular course. For example, it specifies which SLO was introduced, emphasized, used, or assessed during each course.

SLOs	Course 1234	Course 2345	Course 3456	Capstone Course
Indicate moderate satisfaction with advising process	Introduced	Emphasized	Emphasized & Used	Assessed
Apply and demonstrate the principles of engineering design, formulating requirements and constraints, following an open-ended decision process involving tradeoffs, and completing a design addressing a hypothetical engineering need		Introduced	Used	Assessed
Demonstrate proficiency in oral and written communication skills		Introduced	Assessed	Emphasized & Assessed

Once your program's goals and student learning outcomes (SLOs) are developed, selecting appropriate assessment methods that directly and indirectly assess student learning and learning processes is instrumental in not only implementing an effective academic program assessment structure but also demonstrating institutional effectiveness. Identifying and selecting program assessment methods should be a collaborative and strategic endeavor that involves several faculty, staff, and students.

At UNM, academic programs are expected to provide blank copies (when available) of assessment measures with their annual assessment report as accompanying evidence.

Refer to Appendix 4B (on pp. 60-61) for a preliminary checklist on identifying your program's assessment needs.

Section 4.7: Appendices

Appendix 4A

Types of Direct Assessment Methods

The following is an extended discussion from Section 4.4 of direct assessment methods associated with capstone courses and case studies, simulations, and hypothetical situations. A description, in addition to the advantages and disadvantages associated with these methods, is presented in this appendix.

Capstone Course Assignments or Projects
Capstone course assignments or projects can be useful tools for program level assessment. The assessment of important program student learning outcomes can be integrated into a capstone course or project. Assessments structured into the capstone experience can include one or more of the following: comprehensive exams, integrative papers or projects, research projects, reflective essays, and presentations. Capstone courses or projects are typically discipline-based and may be designated as a "senior seminar" or an "assessment course." Graduates from a program demonstrate their competence (e.g., knowledge, skills, etc.) in several areas and their ability to synthesize their learning in the program with a product or performance. Projects are generally judged by a panel using pre-specified scoring rubrics for the purpose of identifying strength and weaknesses in student learning as well as determining opportunities to improve the program.

Example: A panel of faculty members acts as evaluators of performances by music students, theatre students, etc., using a rubric that focuses on the important performance criteria and the quality of each. This method of assessment provides the student a chance to demonstrate the ability of absorbing and integrating their experiences and knowledge.

Advantages:

- Capstone courses can provide an ideal data collection opportunity because seniors are accessible.
- These courses are typically small in size to maximize the faculty-student interaction.
- Program level assessments administered in these courses can provide an opportunity to motivate students through the program's curriculum.
- These courses can provide quality data that permit meaningful reflection on the program.
- Seniors generally at the end of the program's curriculum and can better reflect on their learning experience and the curriculum.
- Students get feedback on their accomplishments and student responsibility is encouraged.
- These courses can be used for both student evaluation (assess seniors' overall ability and knowledge gained from the program) and program evaluation (annual, continuous evaluation of curriculum from student feedback).
- These courses support program coherence.
- They provide an opportunity to create localize assessment instruments (i.e., rubrics) that can be used in conjunction with other assessment methods, such as standardized tests and surveys.
- Many faculty are engaged in planning the topics and the design of the capstone experience.
- Capstone assignments and projects allow for flexible course content.

Disadvantages

- Successfully completing the capstone course may be a requirement for graduation which may generate some anxiety for both faculty and students. For instance, student performance may be impaired due to "high stakes" of the project.

- High costs often are associated with capstone courses because of the small class size required to maximize the faculty-student interaction.

Considerations

- Ensure that the course assignments or projects accurately represent the program requirements and relevant program SLOs.
- The use of checkpoints is recommended to prevent difficulties, especially towards the end, which may affect a student's graduation.
- To ensure that the assessments are program level, maintain the curriculum and evaluation of assignments across all sections of the course.
- Ensure that students understand and value the importance of the capstone experience and take it seriously.
- Design the capstone course or project to also assess the program's curriculum, goals, and student learning outcomes.

Case Studies, Simulations, and Hypothetical Situations

A case study is a focused, systematic examination of one instance of a phenomenon such as an event, program, process, or person. Typically, case studies involve a collection of qualitative and/or quantitative data such as critical analysis, research, observations, surveys, and interviews for an in-depth study of the phenomenon. Students can conduct case studies and/or respond to hypothetical situations.

Advantages

- Student work of both a quantitative and/or qualitative nature can be assessed.
- Useful when a program's student learning outcome includes components that involve comprehensively studying and understanding a phenomenon of particular interest to the field.
- Provides an opportunity for students to apply learned knowledge and skills in context.

Disadvantages

- Tend to be expensive, labor-intensive, and time-consuming, which can be prohibitive within a course.

Considerations

- Single or multiple cases (a collective case study) may be investigated.
- Different approaches may be used such as a highly structured approach or an unstructured process depending on the focus of the assessment measure.

Appendix 4B

Preliminary Checklist for Identifying Program Assessment Needs

College/School/Branch: _____

Academic Program: _____

Date Prepared: _____

Participants: _____

Instructions: Use the following checklist is to help you identify and determine your program assessment needs.

1. What are you assessing?
   - ☐ Undergraduate program
   - ☐ Graduate program
   - ☐ Track
   - ☐ Minor program
   - ☐ General Education program
   - ☐ Other _____

2. Why are you assessing?
   - ☐ For internal purposes (e.g. program review, etc.)
     - ☐ Good management
     - ☐ Quality motivation
     - ☐ Institutional Effectiveness
     - ☐ Knowing where you are
     - ☐ Knowing where you have been
     - ☐ Knowing what is possible and how to get there
     - ☐ Other _____
   - ☐ For external purposes
     - ☐ Regional and program level accreditation
     - ☐ Apply for an award (e.g. Baldridge Award)
     - ☐ Other _____

3. What do you want to know?
   - ☐ Discipline-specific knowledge
   - ☐ Competency skills
   - ☐ Technology skills
   - ☐ Critical thinking skills
   - ☐ Communication skills
   - ☐ Attitudes
   - ☐ Success of graduates
   - ☐ Other _____

4. From whom will you collect the data?
   - □ New students
   - □ Current students
   - □ Graduating students
   - □ Alumni
   - □ Faculty
   - □ Employers of graduates
   - □ Other _____

5. Who will see the results?
   - □ Department
   - □ Deans and administrators
   - □ Advisory committees
   - □ Review committees
   - □ Accrediting bodies
   - □ Students
   - □ Alumni
   - □ Other universities
   - □ Other _____

6. How will the data be used?
   - □ Internal program review
   - □ Accreditation review
   - □ Curriculum review
   - □ Committee report
   - □ Career services
   - □ Recruiting and marketing
   - □ Other _____

7. How often will you collect the data?
   - □ One-time projects
   - □ Each semester
   - □ Each year
   - □ Each assessment cycle
   - □ Other _____

8. Who will collect the data?
   - □ Individual faculty
   - □ The department
   - □ The college
   - □ The university
   - □ Other _____

CHAPTER 5: DEVELOPING ASSESSMENT PLAN

Section 5.1: Introduction

The assessment plan serves as a blueprint of the program's assessment structure. It outlines a program's practices, intentions, and process for demonstrating institutional effectiveness. Chapter 5 provides an overview of the purpose of an assessment plan including how it is used to support and maintain a continuous assessment cycle. More importantly, this chapter also includes guidelines and tips for developing an academic program assessment plan.

The purpose of Chapter 5 is to:

- Illustrate that in order to effectively bring about improvement, assessment should be a continuous process.
- Establish that program assessment plans should be manageable, meaningful and sustainable.
- Clarify that in order to develop an appropriate program assessment plan, it is essential to identify the needs of the program.
- Explain that an effective program assessment plan should be based on the program's mission, goals, and student learning outcomes.
- Provide guidelines and ideas for developing a plan for program assessment.
- Divide the process of developing a program assessment plan into practical steps.

At UNM, each academic program is required to develop a program assessment plan. Programs are accountable for distinguishing between and providing information in their assessment plan(s) on the student learning outcomes (SLOs) associated with each certificate and/or degree they offer. The assessment plan must be reviewed and approved at the college level by the College Assessment Review Committee (CARC), or the equivalent, associated with your program. Every seven years, academic program assessment plans have to be reviewed and revised, as needed, at the program level and then resubmitted for approval at the college level. All UNM colleges, schools, and branches are responsible for communicating and publicizing to the UNM community the program assessment plan of every academic program associated with them on their website.

The key takeaway from Chapter 5 is an understanding of the significance of developing an academic program assessment plan to implementing and sustaining an effective program assessment structure.

Section 5.2: Overview of an Assessment Plan

Assessment plans should describe what is expected from graduates of your program, or from students as they progress through your program. Furthermore, the program assessment plan should be based on the needs of your program. Therefore, an essential initial step for creating an assessment plan for your program is identifying the needs of your program. Part of this process involves developing the mission and goals of your program.

As discussed in Section 1.5 from Chapter 1, the four main purposes of program assessment is to improve, inform, validate, and/or support your program. Remembering the purposes of assessment will help you to develop an appropriate and effective program assessment plan.

Program assessment should be an ongoing process leading towards improvement. However, in order to improve, you need to know where you are today and where you would like to go in the future. This requires determining your program's mission and goals (see Chapter 2). It also requires creating program student learning outcomes (see Chapter 3) and selecting appropriate program assessment methods (see Chapter 4) for determining the progress of your program.

- Program Mission- The purpose of your program.
- Program Vision- Where you would like to go.
- Program Goals- The steps required for getting to where you would like to be.
- Student Learning Outcomes: What you need to accomplish for each step in order to get there.
- Assessment Methods: How to determine how well you are currently doing.

The creation of an assessment plan allows for a systematic approach to improvement. By developing and systematically measuring specific outcomes, you can generate the kinds of results that can effectively inform your program on specific ways to improve.

Section 5.3: The Continuous Assessment Cycle

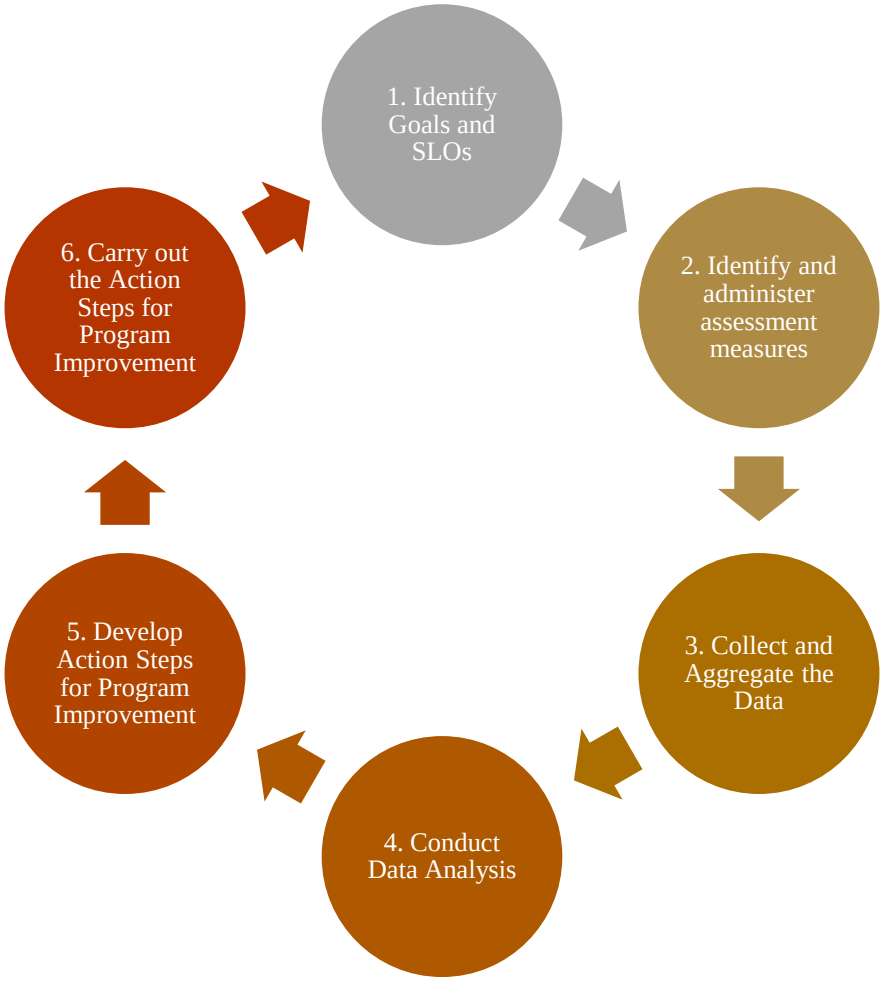
The process of assessment must remain a continuous process in order to bring about meaningful change. Assessment enables each program to evaluate its current and future goals and needs, and then to plan strategies to serve its students. Continuous improvement builds on existing efforts to improve student learning. Thus, it is imperative to continue dialogue and revise assessment efforts as necessary to ensure that student needs are being met. At UNM, every seven years, academic programs are required to review and revise, as needed, their assessment plan and then resubmit it for approval at the college level.

As you make adjustments based on your results, continued assessment will allow you to see if these adjustments bring about the desired improvements. A critical part of an effective assessment process involves regularly re-examining program goals and student learning outcomes (SLOs). Remember to align your SLOs in your program's assessment plan to the related to program mission and goal as well as the University's student learning goals.

Remember to continually ask these questions as you develop your program assessment plan:

1. What are you trying to do?
2. How well are you doing it?
3. How can you improve what you are doing?
4. What and how does your program contribute to the development and growth of its students?
5. How can student learning be improved?

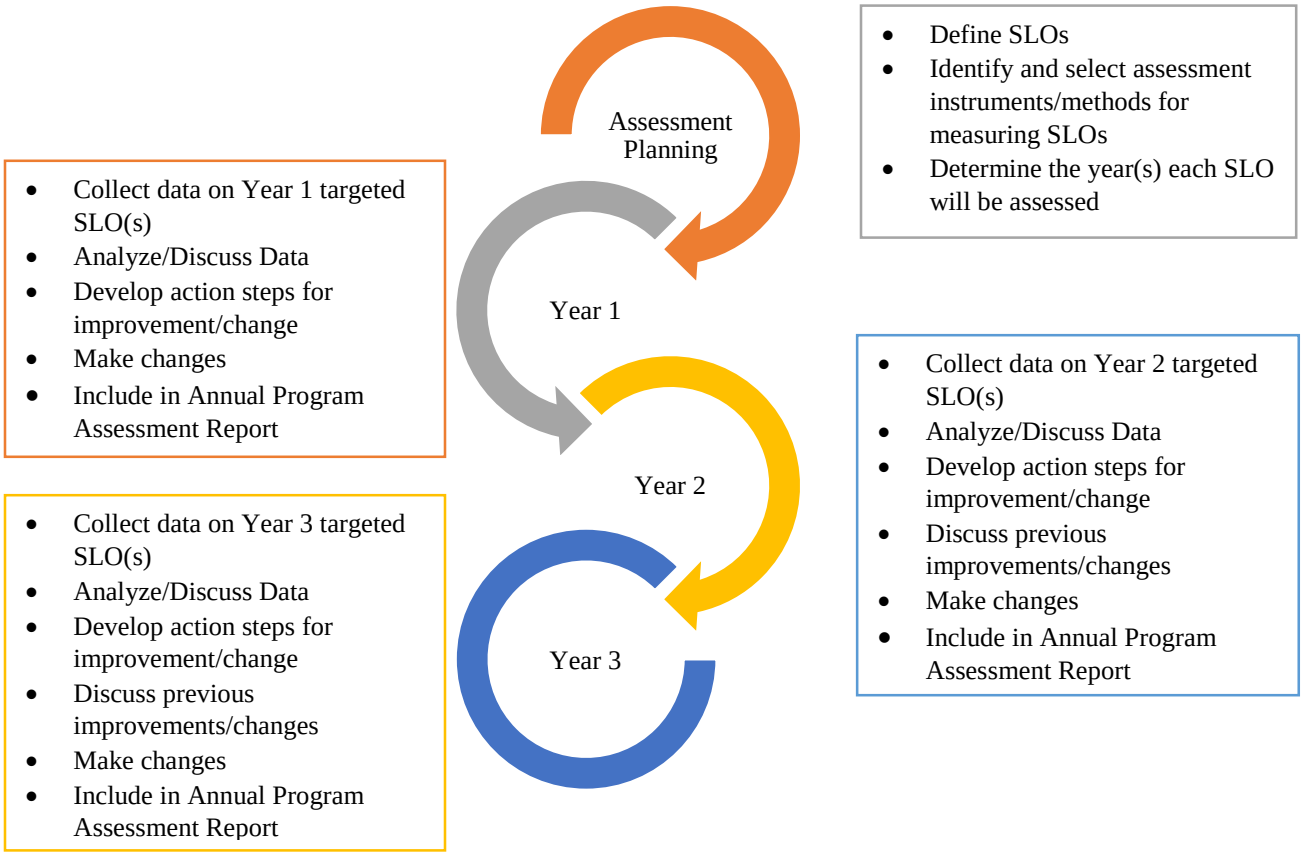
The following diagram outlines the six steps of an assessment cycle process:



Completing all six steps of the assessment cycle process is frequently referred to as "closing the loop." As you move through the assessment process, it is imperative that you provide accompanying evidence each year to document your assessment efforts, particularly during Steps 2, 3, 4, and 6 of the assessment cycle. Regularly revise your program goals, SLOs, needs, and resources based on the results of your assessment efforts and subsequent discussions.

At UNM, academic programs are required to complete and report on the six steps of the assessment cycle process every academic year. However, the University does not require academic programs to assess all of their goals and SLOs in one assessment cycle. Programs have the option of developing an assessment plan that spans one, two, or three assessment cycles—meaning that all of the program's goals and SLOs will be assessed and reported on at least once within a one, two, or three-year timeframe.

The following diagram offers a visualization of what the continuous assessment practices of a program assessment plan based on a three-year assessment cycle may look like:



In order to be effective, a program assessment plan must be meaningful, manageable, and sustainable.

Assessment must be continuous in order to effectively lead to improvement. However, it is difficult to carry on assessment year after year if it is not both manageable and sustainable. Embedding your assessment within your courses can help assessment be manageable. Assessment is also more manageable if it involves the participation and input of all faculty and staff, rather than if one person has to do it all!

Furthermore, creating a specific assessment plan that anyone could follow allows assessment to be sustained year after year, in spite of changes in faculty and staff. If only one person knows about and carries out the assessment plan, assessment can come to a halt when that person leaves, leaving others to start the assessment process again from the beginning.

In addition, if assessment is not meaningful to your program, nobody be motivated to carry it out. Assessment purely for the sake of assessment is a waste of time and resources. It will not generate the kinds of valuable results that can inform you on how to make effective changes that lead to improvements. Basing your assessment plan on your program's mission, vision, or goals can help assessment to be meaningful and to bring about the insights that are specific to your program's needs.

Section 5.4: Guidelines and Tips for Writing an Assessment Plan

Assessment plan should be written in such a way that anyone would be able to follow through with it, in case the original authors are no longer involved in the project. There may be expected or unexpected changes in the individuals that work in a program, and instead of starting the assessment process from the beginning when someone leaves, a clear assessment plan will serve as a blueprint for anyone to continue.

Your program assessment plan should include the following:

- What means of assessment will you employ?
- Who will you assess? Consider the course, class sections, activity, workshop, term, etc.
- How do you expect your students to fare? Establish a minimum score for success and indicate the number (e.g. percentage, fraction, actual number) of students who you expect to meet the minimum score.
- How will you collect the evidence?
- When will you collect your evidence?
- Who will be responsible for the administration of the assessment?
- Who will be responsible for the evaluation of the data collected?
- If you have conducted assessment in the past, do you have any previous data to use as a marker for comparison?
- How do you plan to use the results?

In order for results to be useful, the assessment tools must possess both validity and reliability (see Chapter 4 on p. 46). Validity is the degree to which the assessment measures what it was intended to measure. Reliability is the consistency of the assessment.

Consider the following questions when developing your assessment plan:

- How will you know if and how well you have accomplished you objective? What can the student do to demonstrate that they have met the SLO?
- Do you have existing assignments that will offer students an opportunity to address the expectation set in you SLO?

Refer to Appendix 5A (pp. 68-72) for the UNM Academic Program Assessment Plan Template and Appendix 5B (pp. 73-76) for the College of Arts and Sciences Academic Program Assessment Plan Template. The assessment plan template for the College of Arts and Sciences (COAS) is an approved alternative version of the University's assessment plan template. Only academic programs associated with the College of Arts and Sciences are permitted to use the Appendix 5B.

An alternative version of the University's program assessment plan template may be submitted by a CARC, or the equivalent, for review and approval by the Office of Assessment. All alternative version of the University's program assessment plan template must be reviewed and approved by the

Office of Assessment prior to implementation. Starting in the Fall of 2015, all new and revised program assessment plans should adhere to the template provided in Appendix 5A or the approved alternative version developed by your program's CARC, or the equivalent.

At UNM, all current program assessment plans should be reviewed and approved every seven years and posted on the website of programs' college, school, or branch. It is the responsibility of the College Assessment Review Committees (CARCs), or the equivalent, to monitor this request and ensure that it is integrated into the institutional effectiveness infrastructure of their college, school, or branch.

Section 5.5: Appendices

Appendix 5A

Template
Academic Programs
Assessment Plan
University of New Mexico

Instructions:

This template is a suggested guideline for creating assessment plans to assess academic program-level student learning outcomes. An assessment plan can span one, two, or three assessment cycles. Alternative formats (e.g., those used by specialized accreditors) may be acceptable; please check first with the Office of Assessment.*

Assessment plans should include clear differentiations between degrees (i.e., concentration, certificate, bachelor, master's, and/or doctoral).

Assessment plans should be reviewed and approved at the college/school/branch level by the College Assessment Review Committee (CARC) or the equivalent.

All assessment plans should be made available to students and the broader UNM community for review via the website of the college/school/branch.

*If you have any questions, please contact the Office of Assessment at assess@unm.edu or 277-4130.

Please delete this cover page before submitting.

Template
Academic Programs
Assessment Plan
The University of New Mexico

A. College, Department and Date

1. College: *[Insert College/School/Branch Campus Name]*

2. Department: *[Insert Department Name]*

3. Date: *[Insert current date]*

B. Academic Program of Study*

[Insert Degree or Certificate level, and name of program. Example: B.S. Anthropology]

C. Contact Person(s) for the Assessment Plan

[Insert each person's name, title, e-mail address]

D. Broad Program Goals & Measurable Student Learning Outcomes (SLOs)

[List below:]

1. Broad Program Learning Goal(s) for this Degree/Certificate Program
   A.
   B.
   C.
   (etc.)

2. List of Student Learning Outcomes (SLOs) for this Degree/Certificate Program
   A.1.
   (etc.)
   B.1.
   (etc.)

* Academic Program of Study is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

E. Assessment of Student Learning Plan

All programs are expected to measure student learning outcomes annually and to measure all program student learning outcomes at least once over one, two, or three assessment cycles. Each unit determines which of its student learning outcomes to assess during an assessment cycle. Describe the program's one, two, or three year plan for assessing program-level student learning outcomes by addressing 1 thru 4 below.

1. Student Learning Outcomes Matrix

[Insert all student learning outcomes that will be assessed by the unit over the next one, two, or three assessment cycles.

Relationship to UNM Student Learning Goals (insert the program's SLOs and check all that apply):

University of New Mexico Student Learning Goals				
Program SLOs	Knowledge	Skills	Responsibility	Program SLO is conceptually different from university goals.
[SLO text] *[e.g., A.1 The student will be able to communicate effectively in writing.]*				

2. How will learning outcomes be assessed? (*Address Ai thru Aiii individually or complete the table below*)

A. What:

i. *For each SLO, briefly describe the means of assessment, i.e., what samples of evidence of learning will be gathered or measures used to assess students' accomplishment of the learning outcomes in the three- year plan?*

ii. *Indicate whether each measure is **direct** or **indirect**. If you are unsure, then write "Unsure of measurement type." There is an expectation that **most of the assessment methods/measures will be direct** measures of student learning with at least 1-2 indirect assessment methods/measures.*

iii. *Briefly describe the **criteria for success** related to each direct or indirect means of assessment. What is the program's performance target (e.g., is an "acceptable or better" performance by 60% of students on a given measure acceptable to the*

program faculty)? If scoring rubrics are used to define qualitative criteria and measure performance, attach them to the plan as they are available.

Assessing Student Learning Goals			
Program SLOs	Assessment Measures	Direct or Indirect	Criteria for Success
[SLO text] *[e.g., A.1 The student will be able to communicate effectively in writing.]*			

B. Who: State explicitly whether the program's assessment will include evidence from all students in the program or a sample. Address the validity of any proposed sample of students. [**NOTE:** *Although one size does not fit all and it does depend on the assessment method, sampling should not be taken lightly. Best practices indicate that sampling approx. 20% of a course's student population (or student enrollment) is valid and reliable if the number exceeds 99. Otherwise, a valid rationale has to be provided for samples that are less than 20% of the course's student population.*]

3. When will learning outcomes be assessed? When and in what forum will the results of the assessment be discussed?

[Briefly describe the timeframe over which your unit will conduct the assessment of learning outcomes selected for the one, two, or three year plan and/or complete the following table. For example, provide a layout of the semesters or years (e.g., 2014-2015, 2014-2016, and 2014-2017), list which outcomes will be assessed, and which semester/year the results will be discussed and used to improve student learning (e.g., discussed with program faculty, interdepartmental faculty, advisory boards, students, etc.)]

Program SLOs	Year/Semester Year
	Year 1, Summer 20??
	Year 1, Fall 20??
	Year 1, Spring 20??
	Year 2, Summer 20??
	Year 2, Fall 20??
	Year 2, Spring 20??
	Year 3, Summer 20??
	Year 3, Fall 20??
	Year 3, Spring 20??

4. What is the unit's process to analyze/interpret assessment data and use results to improve student learning?

Briefly describe:

1. *Who will participate in the assessment process (the gathering of evidence, the analysis/interpretation, recommendations).*
2. *What is the process for considering the implications of assessment/data for change:*

   a. to assessment mechanisms themselves,

   b. to curriculum design,

   c. to pedagogy

   …in the interest of improving student learning.

3. *How, when, and to whom will recommendations be communicated?*

Appendix 5B

Template
Academic Program
Assessment of Student Learning Plan
College of Arts and Sciences
University of New Mexico

Instructions:

This template is a suggested guideline for creating three-year plans to assess academic program-level student learning outcomes. The order and format of the information does *not* need to follow the template exactly. Alternative formats (e.g., those used by specialized accreditors) may be acceptable; please check first Arts and Sciences Assessment Coordinator. Regardless of whether you complete the template or use an approved alternate format, the six key sets of questions (D1-D2 and E1-E3) do need to be addressed in the three-year assessment plan.

Please transmit Degree Program Assessment Plans electronically at assessmentas@unm.edu and include everything, including appendices, in one file.

Please delete this cover page before submitting.

*If you have any questions, please contact the Arts and Sciences Assessment Coordinator at assessmentas@unm.edu.

Academic Program
Plan for Assessment of Student Learning Outcomes
College of Arts and Sciences
The University of New Mexico

A. College, Department and Date

1. College: *[Insert College/School/Branch Campus Name]*

2. Department: *[Insert Department Name]*

3. Date: *[Insert current date]*

B. Academic Program of Study*

[Insert Degree or Certificate level, and name of program. Example: B.S. Anthropology]

C. Contact Person(s) for the Assessment Plan

[Insert each person's name, title, e-mail address]

D. Broad Program Goals & Measurable Student Learning Outcomes

☐ *[Attach Cover Sheet for Student Learning Outcomes and associated materials.]*

OR

[List below:]

1. Broad Program Learning Goals for this Degree/Certificate Program
   A.

   B.

   C.

   etc.

2. List of Student Learning Outcomes (SLOs) for this Degree/Certificate Program [Your program should have at least 3 and these should be aligned with the program Goals (as indicated by A, B, C, etc.) and UNM's broad learning goals]
   A.1.

   UNM Goals (___ Knowledge ___ Skills ___ Responsibility)

* Academic Program of Study is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

A.2

UNM Goals (___ Knowledge ___ Skills ___ Responsibility)

B.1.

UNM Goals (___ Knowledge ___ Skills ___ Responsibility)

B.2

UNM Goals (___ Knowledge ___ Skills ___ Responsibility)

E. Assessment of Student Learning Three-Year Plan

All programs are expected to measure some outcomes and report annually and to measure all program outcomes at least once over a three-year review cycle.

1. Timeline for Assessment

In the table below, briefly describe the timeframe over which your unit will conduct the assessment of learning outcomes selected for the three-year plan. List when outcomes will be assessed and which semester/year the results will be discussed and used to improve student learning (e.g., discussed with program faculty, interdepartmental faculty, advisory boards, students, etc.)

Year/Semester	Assessment Activities
Year 1, Fall	
Year 1, Spring	
Year 2, Fall	
Year 2, Spring	
Year 3, Fall	
Year 3, Spring	

2. How will learning outcomes be assessed?

A. What:

i. *For each SLO, briefly describe the means of assessment, i.e., what samples of evidence of learning will be gathered or measures used to assess students' accomplishment of the learning outcomes in the three- year plan?*

ii. *Indicate whether each measure is **direct** or **indirect**. If you are unsure, contact assessmentas@unm.edu for clarification. You should have **both direct and indirect measures** and at least **half of the assessment methods/measures program wide will be direct** measures of student learning.*

iii. *Briefly describe the **criteria for success** related to each direct or indirect measures of assessment. What is the program's performance target (e.g., is an "acceptable or better" performance by 60% of students on a given measure acceptable to the program faculty)? If scoring rubrics are used to define qualitative criteria and measure performance, include them as appendices.*

B. Who: State explicitly whether the program's assessment will include evidence from all students in the program or a sample. Address the validity of any proposed sample of students. Please note that you are recommended to sample all students in your program; however, sampling approx. 20% of the student population is acceptable if the course's total student population (or student enrollment) exceeds 99 in an academic year. A valid explanation should be provided for samples that are less than 20% of the total student population.

3. What is the unit's process to analyze/interpret assessment data and use results to improve student learning?

Briefly describe:

1. *who will participate in the assessment process (the gathering of evidence, the analysis/interpretation, recommendations).*
2. *the process for consideration of the implications of assessment for change:*

   a. to assessment mechanisms themselves,

   b. to curriculum design,

   c. to pedagogy

   …in the interest of improving student learning.

3. How, when, and to whom will recommendations be communicated?

CHAPTER 6: COLLECTING, ANALYZING, AND USING ASSESSMENT RESULTS

Section 6.1: Introduction

After developing the program mission, goals, and student learning outcomes and selecting the program assessment methods, the next steps of the assessment cycle process involve collecting, aggregating, and analyzing the program data. In order for assessment to lead to effective program improvement, results from assessment need to be carefully collected, aggregated, analyzed, and discussed in program faculty meetings. From these discussions, you can create a plan to implement changes to your program. You also can formulate changes to the program assessment plan to more effectively gather relevant, valuable, and usable data to inform future program changes.

Purpose of Chapter 6 is to:

- Discuss the importance the data collection and summary process in sustaining a continuous assessment cycle.
- Discuss the importance of data analysis for leading to recommendations for program changes.
- Guidelines on how to use your data results in a way that leads to program improvement.
- Establish the importance of creating an action plan to implement changes based on data results.
- Explain how to continue the assessment cycle through implementing and monitoring changes.
- Present guidelines on data analysis and developing an action plan for program improvement.
- Provide ideas for improving your assessment plan to better facilitate program improvement.

Academic program assessment is often perceived and approached as a punitive endeavor, especially when student learning outcomes are not met. At UNM, the emphasis is on ensuring that academic programs are participating in and completing the six steps of the assessment cycle process. The onus is on *addressing* weaknesses and strengths for program improvement and maximization, respectively. However, before a program is able to address any weaknesses or highlight its strengths, it must first go through the first four steps of the assessment cycle process to identify them.

The key takeaway from Chapter 6 is an understanding of practices and processes associated with collecting, analyzing, and using data results in academic program assessment structure to effectively "close the loop."

Section 6.2: Collecting and Aggregating Assessment Results

This step sounds easy but is the one where most assessment efforts stall. Many academic programs are able to develop student learning outcomes (SLOs) and accompanying assessment

plans but have difficulty administering the assessment and collecting the data at the program level. The first assessment cycle is usually the hardest to complete and continue because it competes with many other responsibilities and priorities.

It is imperative that a strategic process and structure for collecting and storing program assessment data is established at the program level. Often data collection is overlooked and/or relegated to a faculty or staff with the expectation to "round up" or "chase down" program faculty for as much data as possible. It will help to discuss this challenge and brainstorm possible maneuvers during the formation of the program assessment plan. Some helpful tips are:

- Have SLOs as a standing item on program meeting agendas.
- Designate a time to complete and/or review the assessment plan (i.e., program retreats).
- Designate an individual to be the assessment coordinator who is responsible for reminding program faculty, staff, and students when important dates regarding program assessment are approaching.

The evidence collected from your assessment methods should be aggregated or summarized clearly and concisely.

You may choose to categorize your collected data based on what was assessed. If you have assessed SLOs clearly, you can organize your results into categories that both match your outcome and allow you to identify areas for change, such as student learning, program processes, and curriculum. In each category, review and summarize the data from each assessment approach per outcome.

The following are some guidelines for reviewing aggregated data:

- Does the aggregation of the program data clearly express the means of assessment (assessment methods) and criteria for success stated in the assessment plan?
- Have you reported the actual results for the expected level of success (including percentages, fractions, actual numbers, etc.)?
- Have you highlighted any key findings?

At UNM, academic programs are expected to provide aggregated program data (in tabular and/or narrative format) with their annual assessment report as accompanying evidence.

Section 6.3: Analyzing Assessment Results

Conducting an analysis of program data not only provides information to put in program assessment reports, but more importantly, it shows areas for program improvement. Program data results provide the basis for an action plan regarding what changes to make in your program to increase student learning and success.

When analyzing and summarizing the data, refer to your assessment plan and examine the actual student performance with what was expected. How do they compare?

Some questions to ask when studying program data follow:

- What skills (or portions of skills) did students universally understand?
- What were the most common errors students made?
- What did the students not grasp at all?
- Are there other findings that exist that you did not expect?
- What were you most surprised by?
- Were there any trends, patterns, or themes that emerged from the program data?

Using aggregated program data and data analysis to create an action plan is an essential step in creating program improvement.

In order for the program assessment results to be used to improve your program, effective communication of the results is necessary. Schedule and conduct a meeting with program faculty and staff to discuss the assessment results and the data summary. This step is the most vital, because this is the time when faculty can examine the findings, see areas for improvement, and brainstorm ideas and methods to address those areas. The purpose of this meeting is to stimulate meaningful dialogue and initiate change.

Guiding questions for facilitating program meetings on assessment results could include the following:

- Were you satisfied with the student performance?
- Are changes or improvements necessary?
- Based on the data analysis and summary, how would you modify your teaching to better address student needs?
- What could be done to improve student learning? What elements of the teaching and learning process should be added, deleted, or modified to increase student success?
- Evaluate the assessment plan. What did you think of the SLO(s) there were assessed? Do any of the SLOs need to be revised? Does the criteria for success need to be changed?
- Should the SLO(s) be assessed biannually, annually, etc.?

Once adequate discussion has taken place, determine the plan of action to make necessary revisions or changes. When documenting your action plan, consider the following:

- Does your plan for change align with the findings from the assessment effort?
- What does your program plan to do as a result of the findings?
- Who will be responsible to make the change?

- When will the change take place?
- Who will be responsible for tracking and documenting the implementation of the change?

At UNM, academic programs are expected to provide meeting agendas and minutes, etc. with their annual assessment report as accompanying evidence of program data being shared and discuss at the program level.

Section 6.4: Using Assessment Results

Assessment results may be used to change or improve a program through a closer alignment of course offerings with the requirements of the workforce or the restructuring of course sequencing. The following is a brief summary of some of the ways you can use your results.

- **Student Learning**
  Data from assessment measures associated with program SLOs permit you to compare actual student performance with intended student performance. You will then be able to identify areas of strength and weakness for students. Determining weak areas allows a program to target those areas for improvement. Faculty can be certain that the knowledge, skills, or values that are intended are adequately addressed in the program courses students take as they progress through the program.

  Note: You can develop an assessment matrix from Section 4.6 in Chapter 4 (p. 56) to help you with this step.
  - *Use of data from direct assessments of SLOs*
    - Cognitive: What does the student know versus what the program intends for the student to know?
    - Performance and skills: What can the student do versus what the program expects the student to be able to do?
    - Affective: What does the student care about versus what the program intends for the student to care about?
  - *Use of data from indirect assessments of SLOs*
    - Cognitive: What does the student report that she knows (i.e., her perception of her knowledge, understanding, etc.)? Does it match what you planned students' perception to be of the discipline or a specific aspect of the discipline?
    - Performance and skills: What does the student report that he can do (i.e., his perception of his ability or skills)? Does it match what you intended students in your program to do?
    - Affective skills: How does the student respond to questions dealing with program impact on the student's values? Does it match your intended values and beliefs?
- **Program Processes**
  Data from assessment measures associated with processes related to the program provide information that can be used to improve how the program is functioning and what it does to facilitate students' progress toward graduation.

- *Use of data from direct assessment measures of program processes*
  Data collected from measures for academic administrative support services provided by or associated with the program enable it to improve areas of support (e.g., advising, computer assistance, tutoring).
- *Use of data from indirect assessment measures (student perception) of program processes*
  Data collected about how students perceive support services administered by academic support services provided by or associated with the program identify areas of concern or weakness (e.g., advising, curriculum, preparing for graduate school).

- **Curriculum**
  Data from assessment measures that target the program curriculum can be used to check the alignment of the curriculum with program student learning outcomes (such as an assessment matrix). Assessment mapping can be done as an extension of curriculum mapping to determine within which courses specific SLOs are assessed.
  - *Use of data to evaluate curriculum mapping*
    When using program data to inform curriculum mapping, compare the results with your curriculum map to determine if the SLOs were addressed. If they were not addressed, determine in which program course(s) they should be.
  - *Use of data to evaluate assessment mapping*
    Your data may reveal that you were not assessing outcomes in the right way or at the right time in the curriculum. Assessment mapping allows faculty to ensure that SLOs that target the curriculum are being assessed well and at the optimum time(s).

The intent of program assessment is not only to identify weaknesses and then to implement changes in an effort to improve the program but also to identify strengths in order to maximize and sustain the program. Therefore the focus should be not so much on *identifying* weaknesses but on *addressing* weaknesses. Changes could impact several aspects of the program: curriculum, staffing, facilities, internal processes, and intended student learning outcomes.

The following categories are areas, within the program academic environment, where you may choose to implement changes to improve your program:

- **Changes to Curriculum**
  - changes in pedagogical practices
  - revision or enforcement of prerequisites
  - revision of course sequence
  - revision of course content
  - addition of course(s)
  - deletion of course(s)
- **Changes to Academic Processes**
  - modification of frequency or schedule of course offerings
  - improvements of technology
  - changes in personnel

- implementation of additional training
- other implemented or planned change
- revision of advising standards or processes
- revision of admission criteria

Assessment results may also be used to improve the program assessment methods.

Review all of the information obtained from the assessment process and determine how the results of this examination will affect your next assessment cycle or be used to re-evaluate the program assessment plan, including the program's SLOs and methods of assessment.

In some instances, the data collected from your first cycle of assessment might not helpful for developing recommendations and action plans. In these cases, it is strongly recommended to re-examine your assessment plan to find areas for improving the efficacy and usability of your assessment efforts. This could include:

- revision of SLOs
- revision of measurement methods
- changes of data collection methods
- revision of assessment methods
- the collection of and analysis of additional data and information

At this point in the continuous improvement cycle, the planned changes should be implemented. In some cases, the changes are easy to implement, while in other instances, the proposed changes will have to be implemented over a period of time or through a series of steps.

The implemented changes should be monitored to determine whether or not the changes made have the desired effect(s).

One way of achieving this is to use the same assessment plan as used in the previous assessment cycle and compare the actual data to the intended data. Any gaps should be studied carefully to determine the underlying cause. You can also include in your action plan specific steps for comparing future data with current data.

In situations where the student learning outcome(s) has been met, the action might be to continue monitoring the outcome(s) to ensure quality and sustainability. Alternatively, you can develop another student learning outcome to assess.

Consider who all of the stakeholders are when developing program assessment reports based on collected data. Individuals often involved in program assessment include university leaders, faculty, students, parents, accrediting bodies, and the community at large. Discuss which data are relevant to each group.

At UNM, academic programs are required to document, with accompanying evidence, collected and aggregated data, data analysis, and program improvements annually in their program

assessment report. Information regarding the assessment reporting structure at UNM is outlined in Chapter 7.

CHAPTER 7: REPORTING ON ACADEMIC PROGRAM ASSESSMENT

Section 7.1: Introduction

Chapter 7 provides an overview of the assessment reporting process and procedures at UNM at the program, college, and institutional levels. The College Assessment Review Committee (CARC), or the equivalent, and the Academic Program Assessment Subcommittee (APAS) of the Provost's Assessment Committee (PCA) are instrumental in ensuring that the institutional effectiveness infrastructure at UNM in relation to academic programs is efficient and sustainable.

The purpose of Chapter 7 is to:

- Provide an overview of UNM's assessment reporting process.
- Discuss the assessment reporting process at the program, college, and institutional levels.
- Provide guidelines and deadlines for reviewing and evaluating academic program assessment reports.

At UNM, all academic programs are responsible for submitting an academic program assessment report annually. The Office of Assessment primarily oversees and monitors the academic program assessment reporting process. Please contact the Office of Assessment at assess@unm.edu if you have any questions.

The key takeaway from Chapter 7 is an understanding of procedures and processes associated with collecting, reviewing, and evaluating academic program assessment reports annually.

Section 7.2: Program Level Annual Assessment Reporting Process

The UNM academic program assessment reporting structure begins at the program level. All academic programs at UNM are required to develop and submit an annual academic program assessment report. The *Annual Academic Program Assessment Report* documents how each program has completed the six steps of the assessment cycle throughout the academic year. The academic program assessment cycle at UNM begins in the summer and ends in the spring—spanning the summer, fall, and spring semesters. The assessment cycle timeline also is the same as the academic year timeline at UNM.

Keep in mind that programs are expected to report only on the student learning outcomes (SLOs) that were measured during the previous academic year or the most recently completed assessment cycle. Each program is responsible for designating a team or person to write and submit its annual assessment report.

Annual program assessment reports are due starting on October 1st for initial review and feedback by College Assessment Review Committees (CARCs), or the equivalent (refer to Section 1.2 in Chapter 1 for more information on the role of CARCs).

After an initial review of the program assessment report has been completed and all feedback have been addressed, a final draft should be submitted to your program's CARC, or the

equivalent. Contact the chair of your program's CARC for a specific dates regarding the initial review and final submission of your program's annual assessment report.

Refer to Appendix 7A (p. 87-91) for the UNM Academic Program Assessment Report Template. Refer to Appendix 7B, 7C, and 7D for approved alternative versions of the University's assessment report template. Appendix 7B (p. 92-98) includes the College of Arts and Sciences Academic Program Assessment Report Template. Appendix 7C (p. 99-101) includes the School of Engineering Academic Program Assessment Report Template. Appendix 7D (p. 102-109) includes the Los Alamos Branch Academic Program Assessment Report Template. Only academic programs associated with the aforementioned college, school, or branch are permitted to use Appendices 7B, 7C, or 7D.

An alternative version of the University's program assessment report template may be submitted by a CARC, or the equivalent, for review and approval by the Office of Assessment. All alternative versions of the University's program assessment report template must be reviewed and approved by the Office of Assessment prior to implementation. Starting in the Fall of 2015, all annual program assessment reports should adhere to the template provided in Appendix 7A or the approved alternative version developed by your program's CARC, or the equivalent.

Section 7.3: College Level Assessment Reporting Process

The initial review of academic program assessment reports at the college level are conducted annually by CARCs, or the equivalent.

All program assessment reports are reviewed for feedback by a CARC, or the equivalent, during the time period from October to early December. With the exception of the Valencia Branch, all CARCs, or the equivalent, should use the *Academic Program Assessment Maturity Rubric* (refer to Appendix 1B on p. 10) to initially review and provide feedback on program assessment reports. Annual assessment reports provided by academic programs associated with the Valencia Branch will be reviewed for feedback based on the rubric included in Appendix 7E (p. 110).

All CARCs, or the equivalent, are in charge of collecting and storing the annual program assessment reports for their college, school, or branch as well as for ensuring that the collected reports are made accessible to the Office of Assessment (via Outlook OneDrive, Dropbox, TK20, etc.) by December 23rd or before the start of the University's winter break.

After the program assessment reports are reviewed and finalized, they then are evaluated and scored by (or under the guidance of) the deans and/or associated deans of the colleges, schools, and branches using the *Academic Program Assessment Maturity Rubric*. These scores are recorded in a *Maturity Rubric Scoring Excel Template* that includes a list of the programs for each college, school, and branch. The deans and/or associate deans are responsible to developing a state of assessment report for their college, school, or branch based on their programs' assessment maturity scores. This report is due no later than January 31st, and a copy should be emailed to the Office of Assessment at assess@unm.edu. Refer to Appendix 7F (p. 111) for the college level State of Assessment Report Template.

Section 7.4: University Level Assessment Reporting Process

In conjunction with CARCs, the Office of Assessment (OA) also evaluates and scores program assessment reports annually. It is imperative that CARCs collaborate with the Office of Assessment to ensure that their collected program assessment reports are accessible (via Outlook OneDrive, Dropbox, TK20, etc.) by December 23rd or before the start of the University's winter break.

All accessible program assessment reports are evaluated and scored by the Office of Assessment using the *Academic Program Assessment Maturity Rubric* (refer to Appendix 1B on p. 10) during the time period from February to May. These scores are recorded in a *Maturity Rubric Scoring Excel Template* which includes a comprehensive list of the programs for each college, school, and branch. The excel template for each college, school, and branch can be accessed on the OA's website at http://assessment.unm.edu. The program assessment maturity scores and college level state of assessment report provided by the deans and/or associated deans are consolidated with the program assessment maturity scores and feedback provided by the Office of Assessment and then used to develop an institutional level state of assessment report.

The *UNM Academic Program State of Assessment Report* is an annual report that is provided to the Provost/Executive Vice President of Academic Affairs, Associate Provost of Curriculum, and Board of Regents. This report can be accessed on the OA's website at http://assessment.unm.edu.

Section 7.5: Appendices

Appendix 7A

UNM Academic Program Assessment Report Template

Introduction: The following template provides the guidelines for annually recording the assessment of student learning outcomes for academic degree and certificate programs at UNM. Alternative formats (e.g., those used by specialized accreditors) may be acceptable as long as the assessment information requested in this template is provided. If you have any questions, please contact the Office of Assessment at assess@unm.edu or (505) 277-4130.

All academic programs should have an assessment plan and process that: 1) reflects the six steps of a continuous assessment cycle (refer to the "Annual Assessment Cycle Process" diagram for guidance) and 2) includes at least: one program goal, three student learning outcomes (SLOs), and four key program assessment measures (three direct/one indirect measures). The program's goal(s), SLOs, and key program assessment measures should span (or reflect) students' learning, development, and progression from the beginning to the end of the program.

Overview of Annual Program Report Template: The template is divided into two parts.

Part I

The first part of the template serves as the cover page. Please provide all of the information requested for the cover page.

Part II

The second part of the template requires information on the program's goal(s), student learning outcomes, assessment measures, data results and analysis, and recommendations for program improvement and/or changes. Each program goal is followed by a table with seven columns. For each program goal, list in the table the SLOs that target or are align with the goal. Then include the assessment information for each student learning outcome(s) listed in the table. After completing the table, explain how each SLO was met, partially met, or not met. If needed, for additional goals, copy and paste the goal-table format onto a separate page.

Brief description of the seven columns:

Student Learning Outcomes (SLOs)	**UNM Student Learning Goals (Knowledge, Skills, and/or Responsibility)**	**Assessment Measures incl. Measure Type (Direct or Indirect)***	**Performance Benchmark/ Objective**	**Data Results***	**Data Analysis***	**Recommendations for Improvement/ Changes***
For each row in the table, provide a SLO. If needed, add more rows. A SLO may be targeted by or aligned with more than one program goal. If using a 2- or 3-year assessment cycle, only list the SLOs that are being assessed during the relevant assessment period. If a program awards more than one degree (i.e., B.S., M.A. etc.), the SLOs for graduate and undergraduate must be different and graduate degrees must be different (Master ≠ Doctorate).	State which UNM goal the SLO targets or aligns with; if relevant, more than one UNM SLO goal may be listed	Provide a description of the assessment instrument used to measure the SLO; include the course(s) (i.e., Course: PRO 540) and the semester(s) the assessment is administered in AND if it is a direct or indirect measure; if needed, go to the next row AND/OR add more rows if more than one assessment measure is used to assess the SLO (i.e., Measure 1, Measure 2, etc.)	State the program's "criteria for success" or performance benchmark target for successfully meeting the SLO (i.e., At least 70% of the students will pass the assessment with a score of 70 or higher.)	State whether the performance benchmark was met, not met, or exceeded AND the total number of students assessed—must have at least TWO iterations of data for each assessment measure (i.e., Out of the 111 students assessed, 86% of the students passed the assessment with a score of 70 or higher for the 1st iteration and 25 out of 30 students passed with a score of 70 or higher for the 2nd iteration.)	Describe weaknesses and/or strengths in students' learning/performance based on the data results (i.e., Even though the benchmark was met, 40% of the students struggled with Question 5 which focused on…)	Describe any improvements and/or changes to be made to the course, assessment, syllabus, program etc. to address weaknesses and/or sustain/capitalized on strengths outlined in the "Data Analysis" column (i.e., It seems that the language in Question 5 was confusing to students, so it will be changed. A revised assessment will be provided as evidence.)

NOTE: An asterisk (*) denotes that relevant data/evidence must be included for that column (refer to the "Annual Assessment Cycle Process" diagram for guidance). Evidence associated with program improvements/changes that are actually made or implemented have to be provided the next academic year/assessment period.

Part I: Cover Page
UNM Academic Programs Assessment Report Template
Record for Assessment of Student Learning Outcomes
The University of New Mexico

Title of Degree or Certificate Program	**Degree Level** *(Certificate, Associate, Bachelors, Master's, etc.)*

Name of Academic Department (if relevant):

Name of College/School/Branch:

Academic Year/Assessment Period:

Submitted By (include email address):

Date Submitted to College/School/Branch for Review:

Date Reviewed by College Assessment and Review Committee (CARC) or the equivalent:

State whether ALL of the program's student learning outcomes (SLOs) are targeted/assessed/measured within one year, two years, OR three years:

If the program's SLO's are targeted/assessed/measured within two years or three years, please state whether this assessment record focuses on SLOs from the first year, second year, or third year:

Describe the actions and/or improvements that were implemented during the previous reporting period (provide relevant evidence):

Part II: Assessment Report

Program Goal #1:

Student Learning Outcomes	UNM Student Learning Goals (Knowledge, Skills, and/or Responsibility)	Assessment Measures incl. Measure Type (Direct or Indirect)*	Performance Benchmark	Data Results*	Data Analysis*	Recommendations for Improvement/ Changes*

Based on the data results and analysis provided for the student learning outcome(s) listed in the table above, for EACH student learning outcome, please state if the outcome was met, partially met, or not met. Briefly explain why:

Program Goal #2:

Student Learning Outcomes	UNM Student Learning Goals (Knowledge, Skills, and/or Responsibility)	Assessment Measures incl. Measure Type (Direct or Indirect)*	Performance Benchmark	Data Results*	Data Analysis*	Recommendations for Improvement/ Changes*

Based on the data results and analysis provided for the student learning outcome(s) listed in the table above, for EACH student learning outcome, please state if the outcome was met, partially met, or not met. Briefly explain why:

Program Goal #3:

Student Learning Outcomes	UNM Student Learning Goals (Knowledge, Skills, and/or Responsibility)	Assessment Measures incl. Measure Type (Direct or Indirect)*	Performance Benchmark	Data Results*	Data Analysis*	Recommendations for Improvement/ Changes*

Based on the data results and analysis provided for the student learning outcome(s) listed in the table above, for EACH student learning outcome, please state if the outcome was met, partially met, or not met. Briefly explain why:

Appendix 7B

Program Reporting Template
College of Arts and Sciences
University of New Mexico

Note: Please delete this and any other explanatory page(s) before submitting the report.

Introduction: The following template provides the guidelines for annually reporting the assessment of student learning outcomes for academic degree and certificate programs in the College of Arts and Sciences at UNM.

All academic programs should have an assessment plan and process that: 1) reflects the six steps of a continuous assessment cycle (refer to the "Annual Assessment Cycle Process" diagram for guidance) and 2) includes at least one program goal, three student learning outcomes (SLOs), and three key program assessment measures (there should be both indirect and direct measures).

Note: Every SLO does not need to be assessed every year; however, over a three-year period, every SLOs should be assessed.

The template is divided into two parts.

Part I

The first part serves as the cover page. Please provide all of the information requested.

Part II

The second part of the template asks for information on the program's assessed goal(s), student learning outcomes, assessment measures, results and analysis, and recommendations for program improvement and/or changes.

NOTE: Please delete this page as well as the report body explanatory page. In addition to completing the body of the report, please include the requested information in each Appendix at the end.

Degree/Certificate Program Assessment Report

The University of New Mexico

Part I: Cover Page

Name of Degree or Certificate Program	**Degree Level** *(Certificate, Associate, Bachelors, Master's, etc.)*

Name of Academic Department (if not a standalone program):

Name of College/School/Branch:

Academic Year/Assessment Period:

Submitted By (include email address):

Date Submitted to College/School/Branch for Review:

Date Reviewed by College Assessment and Review Committee (CARC) or the equivalent:

State whether ALL of the program's student learning outcomes (SLOs) are assessed over one year, two years, OR three years:

If the program's SLO's are targeted/assessed/measured within two years or three years, please state whether this assessment record focuses on SLOs from the first year, second year, or third year of your assessment cycle:

Describe the program changes that were implemented during this reporting period in response to the previous period's assessment results. Please include evidence of implemented changes in an appendix:

Describe any revisions to your assessment process that you made for this reporting cycle and/or plan to make for future reporting cycles:

Part II: Report Body

This page explains what should go in each section of the Report Body. Please complete your reporting on the subsequent pages and delete this explanatory page before submitting the report. You should complete this section for each of the SLOs assessed for the academic year you are reporting on. If you assessed three SLOs, you will complete this section three times. It is okay if there is some overlap between the sections.

Program Goal	**SLO**	**UNM Student Learning Goals**
List the program goal to which the SLO being assessed is connected to. Paste the whole text here instead of just listing a number.	List the SLO being assessed in this section. It should align with the program goal in the first column. Paste the whole text here instead of just listing a number.	Mark the UNM goal or goals this SLO aligns with. __Knowledge __Skills __Responsibility

Assessment Measures: Provide a description of the assessment instrument(s) used to measure this SLO. Please state the semester(s) the assessment instrument(s) was/were administered and if each is a direct or indirect assessment.

Performance Benchmark: State the program's "criteria for success" or performance benchmark target for successfully meeting the SLO.

Sampled Population: Describe the sampled population, including the total number of students and classes assessed.

Results: Describe how the performance benchmark was met or not met.

Analysis/Faculty Discussion: Describe the process of analysis, including any faculty discussion that took place around the results. Describe weaknesses and/or strengths in students' learning/performance based on the results. Please include evidence of faculty discussion in an appendix, such as minutes from a meeting.

Recommendations for Improvement/Changes: Describe improvements and changes to the program that address weaknesses or capitalize on strengths mentioned in the analysis.

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
		___ Knowledge ___ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Performance Benchmark:

Sampled Population:

Results:

Analysis/Faculty Discussion:

Recommendations for Improvement/Changes:

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
		___ Knowledge ___ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Performance Benchmark:

Results:

Analysis/Faculty Discussion:

Recommendations for Improvement/Changes:

Part II: Report Body

Program Goal	**SLO**	**UNM Student Learning Goals**
		___ Knowledge ___ Skills ___ Responsibility

Assessment Measures (including whether they were direct or indirect):

Performance Benchmark:

Results:

Analysis/Faculty Discussion:

Recommendations for Improvement/Changes:

Appendices

Appendix 1 – Evidence of changes in response to previous assessment results

Appendix 2 – Assessment instruments

Appendix 3 – Evidence of faculty discussion (e.g. meeting minutes)

Appendix 7C

School of Engineering
Annual Program Report of Assessment of Student Learning Outcomes
Part I: Cover Page

Title of Degree or Certificate Program	**Degree Level** *(Certificate, Associate, Bachelors, Master's, etc.)*

Name of Academic Department:

Name of College/School/Branch: School of Engineering

Academic Year/Assessment Period:

Submitted By (include email address):

Date Submitted to College/School/Branch for Review:

Date Reviewed by College Assessment and Review Committee (CARC) or the equivalent:

State whether ALL of the program's student learning outcomes (SLOs) are targeted/assessed/measured within one year, two years, OR three years:

If the program's SLO's are targeted/assessed/measured within two years or three years, please state whether this assessment record focuses on SLOs from the first year, second year, or third year:

NOTE: Please make sure that all relevant data/evidence are submitted with the final draft of this annual program assessment record. Refer to the "Annual Assessment Cycle Process" diagram for guidance.

Part II: Assessment Report

What Student Learning Outcomes were assessed during this reporting period? List in the table below.

For each SLO, indicate in the table how the SLO was assessed, briefly indicate what results were obtained, what analysis of the data indicated with regard to student learning, and what recommendations have been made regarding the program curriculum.

Student Learning Outcome	UNM Student Learning Goals (Knowledge, Skills, and/or Responsibility)	Assessment Measures incl. Measure Type (Direct or Indirect)*	Performance Benchmark	Results	Analysis	Recommendations for Improvement/ Changes*
			N/A			
			N/A			
			N/A			
			N/A			
			N/A			
			N/A			

Indicate where your assessment plan and the full set of assessment data from this year for this program can be accessed.

Based on the results and analysis provided for the student learning outcome(s) listed in the table above, for EACH student learning outcome, please state if the outcome was met, partially met, or not met. Briefly explain why:

Based on this year's assessment, what suggestions do you have for changes to the assessment process or the SLOs for your program?

Describe any changes to the assessment plan or the SLOs that are in progress based on this year's or previous year's assessment. Please include evidence of implemented changes in an appendix:

List what groups (committees, faculty meetings, department leadership, etc.) within your program reviewed the assessment results either from the current year, or from previous years, during the current academic year. Please include evidence of faculty discussion in an appendix, such as minutes from a meeting.

Describe any curricular or course changes that are currently in progress based either on this year's assessment, or on previous year's assessment results. Please include evidence in an appendix, such as revised syllabi and/or minutes from a meeting.

Appendix 7D

Los Alamos Branch Annual Academic Program Assessment Report Template

Expand the table below as needed for your program. Please enter only those goals and outcomes that you are assessing for the academic year. You should assess all goals and outcomes within your assessment cycle.

Academic Program Annual Assessment Report (F14-Sp15)			**Date Submitted**	Enter here	
Department	Enter here		**Degree/Type**	Enter here	
Contact Person (name, title, email)	Enter here			**Date reviewed by CARC**	Do not fill out
Program's Assessment Plan (assessment of all SLOs) spans 1, 2, or 3 Assessment Cycles?	Enter here	**What year in the Assessment Cycle (i.e., 1st, 2nd, or 3rd)?**		Describe here	
Action Plan from Previous Assessment Year: **Describe the actions and/or plan revisions that were implemented during this reporting period in response to the previous period's assessment results (e.g. what was implemented during F13-Sp14 as result of F12-Sp13's reporting period?) Documentation required: Include documents such as updated syllabi, textbook changes, emails, meeting agendas, etc.**					

Program Goal	Enter program goal here		
Program SLO (Assessed)	Enter SLO here		
Measures of SLO			
Measure #1 (# of iterations taught) Documentation required: Attach a blank copy of the assessment measured			
Direct or Indirect			
Criteria for Success			
Total number of students assessed		**Total number of students that scored acceptable or better**	
Measure 1 Results An aggregation of the collected data should be described and/or attached for the data results section			
Results			
The student learning outcome was	Met	Partially Met	Not Met
Findings			
If less than Met, program should plan further action to improve performance	Further Action Planned	Further Action Unnecessary	

Analysis: After reviewing the results, what analysis could be derived?	
What strengths were displayed through the assessment of your measure?	
What weaknesses were displayed through the assessments of your measures?	
Participants in Analysis phase	
Recommendations	
Based on the results and analysis, what recommendations will be made to better achieve the desired outcome?	
Participants in Recommendations phase	

Program Goal	Enter program goal here			
Program SLO (Assessed)	Enter SLO here			
Measures of SLO				
Measure #1 (# of iterations taught) Documentation required: Attach a blank copy of the assessment measured				
Direct or Indirect				
Criteria for Success				
Total number of students assessed		**Total number of students that scored acceptable or better**		
Measure 1 Results An aggregation of the collected data should be described and/or attached for the data results section				
Results				
The student learning outcome was	Met	Partially Met	Not Met	
Findings				
If less than Met, program should plan further action to improve performance	Further Action Planned	Further Action Unnecessary		

Analysis: After reviewing the results, what analysis could be derived?	
What strengths were displayed through the assessment of your measure?	
What weaknesses were displayed through the assessments of your measures?	
Participants in Analysis phase	
Recommendations	
Based on the results and analysis, what recommendations will be made to better achieve the desired outcome?	
Participants in Recommendations phase	

Program Goal	Enter program goal here		
Program SLO (Assessed)	Enter SLO here		
Measures of SLO			
Measure #1 (# of iterations taught) Documentation required: Attach a blank copy of the assessment measured			
Direct or Indirect			
Criteria for Success			
Total number of students assessed		**Total number of students that scored acceptable or better**	
Measure 1 Results An aggregation of the collected data should be described and/or attached for the data results section			
Results			
The student learning outcome was	Met	Partially Met	Not Met
Findings			
If less than Met, program should plan further action to improve performance	Further Action Planned	Further Action Unnecessary	

Analysis: After reviewing the results, what analysis could be derived?	
What strengths were displayed through the assessment of your measure?	
What weaknesses were displayed through the assessments of your measures?	
Participants in Analysis phase	
Recommendations	
Based on the results and analysis, what recommendations will be made to better achieve the desired outcome?	
Participants in Recommendations phase	

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?	
7. What other changes, if any, have you made as a result of this program assessment?	

Appendix 7E

Valencia Branch Annual Academic Program Assessment Report Review Rubric

Department: UNM Valencia Campus

Program Level & Title: _____

An Academic Program is defined as an approved course of study leading to a certificate or degree reflected on a UNM transcript. A graduate-level program of study typically includes a capstone experience (e.g. thesis, dissertation, professional paper or project, comprehensive exam, etc.).

Assessment Plan Elements	Very Good 3	Acceptable 2	Developing 1	Undeveloped 0	Score
Program Learning Goals	All broad learning goals define what the program strives to accomplish academically, align with college/ school/campus and university learning goals, and are sufficiently important to be supported by multiple SLOs.	Broad learning goals are stated in terms of what the program strives to accomplish academically in its graduates; align with college & university goals, and are supported by at least one SLO.	Stated program learning goals may not be stated in terms of what the program strives to do; some or all goals lack SLOs.	Program learning goals may be implied, but are not enumerated.	
Student Learning Outcomes (SLOs)	Multiple SLOs are clearly stated in terms of what a graduate will know, be able to do, or value, are explicitly linked to both program and UNM Learning Goals, and are clearly measurable.	At least two SLOs explicitly linked to broad learning goals and UNM Learning Goals are stated but with some lack of clarity or measurability.	SLOs are stated; their alignment with learning goals is at least suggested; but may not be stated in terms of what a graduate must know, be able to do, or value.	SLOs are absent or if present do not align with a broad learning goals are not stated in terms of what a graduate must know, be able to do, or value.	
Multiple assessment measures	Multiple assessment measures—at least one of which is direct—are identified for each outcome and align well with the SLO.	At least one direct assessment measure is identified for each outcome and aligns well with the SLO.	Assessment measures are identified for some outcomes, a/o one or more measures does not align well with the SLO.	Assessment measures are not identified or inadequately described.	
Target Population	The assessed target population or representative sampling method is clearly identified and valid.			It is unclear which or how many students participated in the assessment.	
Criteria for Success	For every measure faculty have clearly articulated what constitutes an acceptable level of performance by the student as well as a performance benchmark for the program. The scoring rubric is included along with high and low performance examples of student work.	Faculty have articulated what constitutes acceptable student **and** program performance but have not included the scoring scale/rubric **or** high and low performance samples.	Faculty have articulated what constitutes acceptable student **or** program performance, but not both. "Acceptable" performance is not contexted by a descriptive scale or rubric.	Standards for student and program performance are not articulated.	

Appendix 7F

State of Assessment Report Template

[PLACE Name of College/School/Branch HERE] State of Assessment Report

[PLACE Academic Year HERE] Assessment Period

Instructions: Each academic year, Deans and/or Associate Deans are responsible for 1) evaluating and scoring the assessment maturity of their programs (*Maturity Rubric Scoring Excel Template*) and 2) using the scores to develop a state of assessment report for their college/school/branch (*State of Assessment Report Template*).

Overview: Provide a brief overview (approx. 3-6 sentences) of the college/school/branch by addressing questions like the following:

- How would you generally describe the culture of continuous assessment in your college/school/branch (i.e., challenges, weaknesses, strengths, and/or improvements)?
- What structure(s) and/or processes does your college/school/branch have or plan to implement to monitor, support, and maintain a culture of continuous assessment (i.e., quarterly meetings, CARC, professional development workshops, etc.)
- The college/school/branch consists of how many active departments and programs?

Academic Program Maturity Rubric Scoring and Evaluation

Provide a description of your college/school/branch's state of assessment by addressing questions like the following:

- Bases on the maturity scores of the programs, how would you describe the overall state of assessment for your college/school/branch?
- What college/school/branch level plans are in place to advance/improve the maturity of your programs' assessment practices for the 2014-2015 assessment period?

NOTE: Please provide the completed *Maturity Rubric Scoring Excel Template* for your college/school/branch with this report. Email the report and template to Neke Mitchell at asssess@unm.edu.

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