



El Camino College

**Assessment of Learning Committee
(ALC)**

Learning Outcomes & Assessment Handbook

*Creating and Sharing Evidence
of Effective Teaching and Service Practices*

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SECTION 1 – Learning Outcomes and Assessment

El Camino College (ECC) Mission Statement

El Camino College makes a positive difference in people's lives. We provide excellent comprehensive educational programs and services that promote student learning and success in collaboration with our diverse communities.

In pursuit of its mission, El Camino College (ECC) maintains a college-wide focus on continuous improvement in institutional quality and student success. Central to this mission is student learning, which is not restricted to interactions between students and instructors in a classroom. Instead, the entire college works together to support student learning in all of its courses, programs, and services.

The college-wide Assessment of Learning Committee (ALC) strives to improve student success by coordinating assessment planning, developing sustainable methodologies and procedures, providing ongoing training, and promoting authentic communication on campus and with the community.

Assessment of Learning Committee (ALC) Mission Statement

The Assessment of Learning Committee strives to improve student success by coordinating assessment planning, developing sustainable methodologies and procedures, providing ongoing training, and promoting authentic communication on campus and with the community.

The Assessment of Learning Committee represents administrators, faculty, and staff working together to support on-going authentic assessment of student learning outcomes. Assessment of student learning offers the college a vital measure of how effectively it is fulfilling its mission. Assessment results provide evidence upon which to base curricular, planning, and budget decisions which promote increased student success.

The assessment of student learning is at the center of an integrated process of evaluation and planning with the ultimate goal of greater institutional effectiveness -- more students from our diverse communities attaining educational success and achieving their academic goals.

Student Learning Outcomes at ECC

El Camino College continues to demonstrate its long-time commitment to the meaningful assessment of student learning. Although the initial impetus for measuring student learning represented assessment at the course level, outcomes assessment is currently a college-wide

effort which includes the development and assessment of outcomes statements in such areas as student services and administrative services.

The college currently assesses learning outcomes at multiple levels:

- **Course-level Learning Outcomes (SLOs)** reflect *specific knowledge, skills, and other learning* that students are expected to demonstrate with observable evidence after they have completed a **particular course**.
- **Program-level Learning Outcomes (PLOs)** reflect *specific knowledge, skills, and other learning* that students are expected to demonstrate with observable evidence after they have completed a **particular program of study** (e.g., a specified sequence of courses, a specified series of programmed activities).
- **Service Area Outcomes (SAOs)** reflect *specific knowledge, skills, or other learning* that an individual is expected to demonstrate with observable evidence as a function of his or her engagement with a **particular service area** (e.g., financial aid, Counseling, Business Office) beyond the college's academic disciplines.
- **Institution-level Learning Outcomes (ILOs)** reflect a *general set of core competencies* that students are expected to demonstrate with observable evidence as a function of their **overall educational experience** at the college.

Course-Level (SLO) and Program-Level (PLO) Learning Outcomes

El Camino College has identified student learning outcomes for **every course** and for **every program** offered within the academic divisions of the college. These outcomes represent specific knowledge, skills, or other learning that a student will be able to demonstrate upon completion of the course or program. The college maintains alignment grids which represent the relationship between course-level learning outcomes (SLOs) and the program-level learning outcomes (PLOs) with which they align. The grids also represent how each SLO and PLO aligns with the institution-level learning outcomes (ILOs).

The coordination of SLO and PLO assessment occurs at the division level. All course- and program-level student learning outcomes are assessed in accordance with established timelines and protocols which are regularly reviewed and posted on the college website. Checklists for defining SLO and PLO statements can be found in Appendices A and B, respectively.

Service Area Outcomes

Programs offering services to students, staff, and/or faculty at El Camino College have identified service area outcomes (SAOs) which represent what an individual will experience, receive,

and/or demonstrate as a result of the service provided. SAO statements exist for programs within the Student Services and Administrative Services areas of the college. The coordination of SAO assessment occurs at the program level. SAOs align with institution-level learning outcomes and are assessed in accordance with established timelines and protocols which are regularly reviewed and posted on the college website. Additional resources regarding the development and assessment of SAOs can be found in Appendix C.

Institution-Level Learning Outcomes

El Camino College has defined institution-level outcomes (ILOs) which represent a general set of core competencies which students are expected to demonstrate as a function of their overall educational experience. ILOs may be assessed indirectly via measures of the SLOs and PLOs with which they align, or they may be assessed using standardized measures of related core competencies. The Assessment of Learning Committee (ALC) coordinates the assessment of institution-level outcomes. ILOs are assessed in accordance with established timelines and protocols which are regularly reviewed by the ALC and are described in formal assessment reports which are posted on the college website.

ILO #1 – CRITICAL THINKING

Students apply critical, creative and analytical skills to identify and solve problems, analyze information, synthesize and evaluate ideas, and transform existing ideas into new forms.

- Identify vital questions, problems, or issues and evaluate solutions.
- Analyze, compose, and assess the validity of an argument.
- Compute and analyze multiple representations of quantitative information, including graphical, formulaic, numerical, verbal, and visual.

ILO #2 – COMMUNICATION

Students effectively communicate with and respond to varied audiences in written, spoken or signed, and artistic forms.

- Comprehend, analyze, and respond appropriately to oral, written, and visual information. Effectively communicate/express information through speaking, writing, visual, and other appropriate modes of communication/expression.
- Effectively communicate ideas and opinions to a varied audience, including peers, faculty, staff and community.
- Respond to audiences from different arenas either in written, spoken or signed, and artistic forms to express ideas and opinions.

ILO #3 – COMMUNITY AND PERSONAL DEVELOPMENT

Students are productive and engaged members of society, demonstrating personal responsibility, and community and social awareness through their engagement in campus programs and services.

- Engage in on-campus programs and services that utilize campus resources and opportunities to foster community, civic, political, environmental, health and social awareness.
- Demonstrate personal responsibility by identifying, maintaining, and improving physical and mental health and by implementing and evaluating personal, academic, financial, and career goals.
- Seek feedback, analyze and evaluate one's own progress toward goals and be able to find applicable solutions to challenges impeding one's success.

ILO #4 – INFORMATION LITERACY

Students determine an information need and use various media and formats to develop a research strategy and locate, evaluate, document, and use information to accomplish a specific purpose. Students demonstrate an understanding of the legal, social, and ethical aspects related to information use.

- Evaluate and choose credible sources for information.
- Understand when and how to give citations in the format appropriate for their field of study.
- Research data and draw conclusions based on an analysis of that data.

General Education Philosophy

El Camino College (ECC) recognizes the value of a multidimensional, multicultural, and integrative general education curriculum as the core of the associate degree. Accordingly, ECC has developed a general education curriculum that promotes: critical thinking and analytical skills; clear and precise expression; cultural and artistic sensitivity; personal growth; health; and self-understanding. ECC's general education curriculum is designed for students to develop an understanding of the scientific method and other methods of inquiry regarding human behavior, to foster an appreciation of how societies and social groups operate, and to develop awareness of the ways people throughout the ages have responded to themselves and the world around them in artistic and cultural creations. Outcomes related to general education areas are assessed within the context of institution-level learning outcomes (ILOs) assessment. Data from ILO assessments are aggregated around general education areas for analysis and action-planning related to general education.

Guiding Principles for Student Learning Outcomes Assessment

The Assessment of Learning Committee (ALC) developed a set of guiding principles regarding the assessment of student learning outcomes at El Camino College. Ratified in 2008, the principles continue to guide the process of defining and assessing learning outcomes at the course, program, and institution levels. The principles also emphasize the importance of assessment results with regard to curricular, planning, and budget decisions college-wide.

1. **For any course, program, or service, the personnel directly involved in its delivery are finally responsible for all aspects of its assessment cycles.**

While expected to consult with all stakeholders on campus, the responsible personnel are the best qualified to determine appropriate student learning outcomes, implement effective assessments, report results, and make recommendations for improvements. For each outcome, they are also best equipped to decide when each stage of the cycle is complete.

2. **Broad participation in assessment cycles by administrators, faculty, and staff is a shared responsibility.**

The more personnel that participate in the production and analysis of assessment results, the greater the likelihood that proposed changes will be implemented and sustained.

3. **Student learning outcomes are defined in various ways.**

Student learning outcomes vary tremendously among courses, programs and services; they may be cognitive, affective, or psychomotor. They change over time and are informed by a multitude of factors, including community needs, discipline standards, and previous assessment cycles.

4. **Assessments use various methods and may build upon existing assessments.**

Assessment techniques range widely in style and rigor. Whenever feasible, existing assessment instruments are modified based on results from previous assessments. If possible, new assessment processes replace old ones. Direct measures of student learning are preferred, although indirect measures are used, particularly in areas that indirectly support student learning.

5. **Curricular, planning and budget decisions are informed by assessment results.**

Assessment results provide evidence that allow administrators, faculty and staff to make wise planning and budget decisions. All curricular and program reviews are stronger when they incorporate assessment results in their reports. Faculty members who are responsible for curriculum are required to reflect on assessments and their results as part of periodic self-evaluation. Similarly, Program Review reports focus on SLO, PLO and SAO assessments so that changes can be integrated into planning procedure.

6. **Assessments are used to evaluate and improve student learning.**

Information gleaned from assessment cycles is used primarily to understand the factors affecting student learning and to improve instruction and services. Assessments of student learning outcomes are not used to undermine academic freedom.

7. **Resources are provided for assessment cycles.**

For some assessment cycles, existing resources suffice; for others, additional resources are needed. Administrators, working together with faculty and staff, find the means of conducting meaningful assessment cycles without compromising the quality of instruction, delivery of services or overburdening specific personnel.

Differences Between Learning Outcomes and Course Objectives

Student learning outcomes do not represent a completely new direction in teaching and learning but rather a continuation of a trend that began with “learning objectives.” Although learning outcomes are similar to learning objectives in their focus on the measurable results of student learning, they differ in scope. The main difference between learning outcomes and learning objectives is that learning objectives are discrete, individual tasks or skills that must be accomplished before the larger, broader course outcomes can be achieved.

Learning objectives represent the intent of instruction, often expressed in terms of the *content to be delivered* via curriculum and/or instructional activities. Objectives are generally written to reflect specific subject matter that the instructor intends to cover.

Learning outcomes are *achieved results or consequences* of what an individual has learned (i.e., evidence that learning occurred). Stated learning outcomes reflect the essential and enduring knowledge, skills, and other learning that can be observed and reliably demonstrated as a function of the instructional experience (e.g., course, program).

When defining learning outcomes, focus on what the learner should be able to **do** with what they have learned rather than on specific content that was delivered. How will they demonstrate what they have learned?

- Concretely describe the broadest goals for the learning experience -- ones that require **higher-level thinking** abilities.
- Articulate an expectation that learners will be able to **synthesize** discrete skills or areas of content.
- Be explicit regarding what learners will **produce** or how they will otherwise **apply** their new knowledge (e.g., papers, projects, portfolios, performances, exams).
- Keep in mind how student learning and achievement of the outcome will be **objectively measured and assessed**.

Both learning objectives and learning outcomes can be expressed using concepts and terms outlined in Bloom’s Taxonomy (Appendix D). Appendix E represents additional resources regarding the relationship between learning objectives and learning outcomes.

Assessment Process at ECC

El Camino College (ECC) strives to create a culture in which outcomes assessment continually improves the quality of student learning and overall institutional effectiveness. ECC has a documented process to ensure that learning outcomes assessment works in conjunction with curriculum review, program review, and annual planning. As described earlier, a formal committee structure exists to facilitate ongoing evaluation of student achievement of the stated learning outcomes at the course, program, and institution levels. The Assessment of Learning Committee (ALC) includes representatives from academic and student support programs across the college who regularly meet to ensure that faculty: 1) engage in continuous assessment and data analysis related to learning outcomes, 2) formally report actionable plans to respond to any assessment findings (e.g., student achievement gaps), and 3) strategically link assessment to other college processes (e.g., program review, planning).

ECC’s mission statement, Educational Master Plan, Strategic Initiatives, and institutional goals serve as the foundation for faculty as they collaborate to develop, review, and revise specific learning outcome statements (i.e., SLO, PLO, SAO, ILO). Regulatory guidelines (e.g., state law; regional and programmatic accreditation) and institutional standards inform the timelines that are developed for assessment at each level. As they collaborate to identify appropriate materials and methodology for assessing student learning outcomes (e.g., scoring rubrics), faculty consider discipline-specific “best practices” and culturally responsive assessment strategies. SLO, PLO, and ILO data are collected and analyzed on a continuous basis, and the results are documented in assessment reports which are shared with campus stakeholders accordingly.

A sample assessment cycle can be found in Appendix F. At ECC, the learning outcome assessment cycle is a comprehensive process in which faculty and staff:

- A. Identify a student learning outcome.
- B. Design an assessment instrument.
- C. Design and implement an assessment plan.
- D. Reflect on the results of the assessment and draw conclusions.
- E. Share the results and conclusions with the college community and invite review and comments.

- F. Implement action plan in response to data and recommended changes to improve student learning.
- G. Follow-up on action plan.

Three cornerstone beliefs underlie the outcomes assessment process at ECC. The first is that covering material during a course does not necessarily guarantee that students will learn it. Overall completion and retention rates are insufficient ways of measuring student learning. Student learning is evidenced when students *demonstrate* higher learning skills. Another cornerstone belief is that students perform better when they know exactly what is expected of them, including what they will be required to do and how it will be evaluated. *Transparency* is the key effectively defining and assessing learning outcomes. The final belief is that *practice* promotes student learning. Before learning outcomes are assessed, students should have the opportunity to practice the related skills or tasks.

Improving Student Learning

The goal of learning outcomes assessment is to evaluate the extent to which students are achieving the stated learning outcomes at the course, program, and institution levels. Faculty collaborate campus-wide to set specific targets and success standards for student performance at each level of assessment. These learning outcomes are regularly assessed based on established timelines. The results of learning outcomes assessment inform decision-making at various levels of campus operation and may result in curricular and instructional changes, related program review recommendations, and data-driven annual planning requests.

Assessment results are analyzed by faculty to determine whether or not the targets and standards have been met. Faculty submit formal assessment reports which include specific action plans developed to ensure optimal student learning and to increase student success. Action plans may reflect a range of activities designed to address any performance gaps in student learning and/or to enhance the assessment process itself. Recommended actions may include curricular changes to enhance course and/or program scope or rigor; implementation of teaching innovations to address specific barriers to learning; and formal requests for integrated academic support services and/or other student success interventions. Faculty may also recommend that learning outcome statements be revised for clarity or scope or that the success standards and targets be modified to represent higher expectations in terms of student learning.

Templates for updating SLO, PLO, and SAO statements can be found in Appendices G, H, and I respectively. Additional resources exist for sampling (Appendix J) and reporting (Appendix K) related to outcomes assessment and for improving student learning (Appendix L).

El Camino College Planning Process

The assessment of student learning outcomes is an intrinsic part of El Camino College's decision-making with regard to college-wide planning, budget development, and resource allocation. El Camino College's current planning model (Appendix M) demonstrates: 1) the essential connection between learning outcomes assessment and the mission of the College, and 2) how the assessment of learning outcomes integrates with curriculum review, program review, and annual planning. This model provides a framework which guides institutional planning and serves as a foundation for the college's comprehensive master plan. Ongoing formal assessment of course-level (SLOs) and program-level (PLOs) learning outcomes, of service area outcomes (SAOs), and of institution-level learning outcomes (ILOs) is at the center of the college's efforts to ensure institutional effectiveness and student success.

SECTION 2 – *Assessment of Learning Committee (ALC)* *New Member Guide*

Assessment of Learning Committee (ALC) Purpose and Function

The Assessment of Learning Committee (ALC) strives to improve student success by coordinating assessment planning, developing sustainable methodologies and procedures, providing ongoing training, and promoting authentic communication on campus and with the community.

ALC Governance and Composition

As a committee of the Academic Senate, the Assessment of Learning Committee (ALC) is co-chaired by the student learning outcome (SLO) faculty coordinators. ALC membership includes the Associate Dean of Academic Affairs, faculty representatives from each academic division, an academic Dean liaison, as well as representatives from the Academic Senate, the Student Services division, and Institutional Research and Planning (IRP).

The following responsibilities are within the purview of the ALC:

- Developing resources and support materials to guide faculty in the assessment process
- Ensuring compliance with accreditation standards and other regulatory guidelines
- Making decisions regarding assessment coordination and protocols
- Providing oversight for the collection and analysis of course- and program-level assessment data
- Organizing the collection and analysis of institution-level learning outcomes assessment data

ALC Member Roles and Responsibilities

Meetings of the Assessment of Learning Committee (ALC) are generally scheduled on a monthly basis during the Fall and Spring terms of the academic year. Appendix N represents a matrix of the roles and responsibilities of ALC members.

As co-chairs of the Assessment of Learning Committee (ALC), **SLO coordinators** are faculty who are responsible for the overall facilitation of ongoing learning outcomes assessment, the coordination of outcomes assessment training, and the maintenance of the college's assessment-tracking system (i.e., Nuventive). As they oversee all aspects of learning outcome assessment, they compile data and disseminate information to the campus and the

larger community. As faculty leaders, SLO coordinators produce an SLO Coordinators Report each semester and may also make recommendations to the Academic Program Review Committee (APRC) and Academic Senate to influence campus-wide policy and planning.

SLO facilitators provide division-level support for the assessment of course- and program-level student learning outcomes within the division. Among the responsibilities of SLO facilitators are to: meet regularly with campus SLO Coordinators; update division alignment grids and ensure that assessment timelines are observed; facilitate division-level SLO meetings; provide training and assessment support for division faculty, as needed; monitor the assessment-tracking system (e.g., Nuventive) to remain abreast of the completion status of faculty assessment reports; and contribute content for the SLO newsletter and end-of-year report. SLO facilitators represent their divisions at regularly scheduled meetings of the Assessment and Learning Committee (ALC).

General committee members are expected to attend regularly scheduled meetings of the Assessment of Learning Committee (ALC) and to actively engage in the collective work of coordinating learning assessment campus-wide.

Resources for ALC members

Numerous resources are available to orient members of the Assessment of Learning Committee (ALC) to the learning outcomes assessment process at El Camino College, including quality assessment checklists (Appendix O) and assessment follow-up procedures (Appendix P). Also available are various online resources (Appendix Q) and a glossary of terms related to learning outcomes and assessment (Appendix R).

APPENDICES

NEW COURSE FORM: SLO Statement Checklist

El Camino College Course SLO Statement Drafting

(Minimum of 3 SLO Statements)

Date:	[Click here and select date from the drop-down arrow]	Division: (Check one)	BSS <input type="checkbox"/> BUS <input type="checkbox"/> FA <input type="checkbox"/> HSA <input type="checkbox"/> HUM <input type="checkbox"/> ITEC <input type="checkbox"/> MATH <input type="checkbox"/> NSC <input type="checkbox"/>	
Program:	Click here to enter Program Name.			
Course No.:	Click here to enter Course No.	Course Name:	Click here to enter Course Name.	
Contact Person:	Click here to enter Contact Person.			
SLO No.	SLO Title	SLO Statement	SLO Assessment Timelines (Semester & Year)	SLO-to-PLO Alignment
1	Click here to enter Course SLO #1 Title.	Click here to enter Course SLO #1 Statement.	Click here to enter Assessment Timelines for this SLO. <i>(Enter at least 2 semesters.)</i>	Click here to enter the PLO number(s) that this SLO statement aligns with.*
2	Click here to enter Course SLO #2 Title.	Click here to enter Course SLO #2 Statement.	Click here to enter Assessment Timelines for this SLO. <i>(Enter at least 2 semesters.)</i>	Click here to enter the PLO number(s) that this SLO statement aligns with.*
3	Click here to enter Course SLO #3 Title.	Click here to enter Course SLO #3 Statement.	Click here to enter Assessment Timelines for this SLO. <i>(Enter at least 2 semesters.)</i>	Click here to enter the PLO number(s) that this SLO statement aligns with.*
	If there is an SLO #4, enter 4 on the left column and enter Course SLO #4 Title here. If there is no SLO #4, click here and press the SPACE BAR.	If there is an SLO #4, click here to enter Course SLO #4 Statement. If there is no SLO #4, click here and press the SPACE BAR.	Click here to enter Assessment Timelines for this SLO. <i>(Enter at least 2 semesters.)</i> If there is no SLO #4, click here and press the SPACE BAR.	Click here to enter the PLO number(s) that this SLO statement aligns with.* If there is no SLO #4, click here and press the SPACE BAR.

Note: If more than 4 SLOs are needed (6 is the maximum), please contact Facilitator and Coordinators for an adapted form.

***SLO-to-PLO Alignment:** Enter the PLO number(s) that the SLO aligns with if the SLO is a major focus or an important part of the course/program, if direct instruction or some direct instruction is provided, and if students are evaluated multiple times (and possibly in various ways) throughout the course or are evaluated on the concepts once or twice within the course.
DO NOT align with a PLO if SLO is a minor focus of the course/program and some instruction is given in the area but students are not formally evaluated on the concepts; or if the SLO is minimally or not at all part of the course/program.

- 1) If more than 4 PLOs are needed (6 is the maximum), please contact Facilitator and Coordinators for an adapted form.
- 2) If less than 3 PLOs are provided, it will need to be approved by the PLO Coordinators and Associate Dean of Academic Affairs. Please enter your justification below for consideration.

JUSTIFICATION FOR HAVING LESS THAN 3 PLOs:

Click here to enter justification statement.

Faculty Consulted:	Click here to enter name(s) of faculty members consulted.		
Reviewed & Approved by Facilitator:	Click here to enter Division Facilitator name.	Approval Date:	Click here and select date from the drop-down arrow.
Dean's Approval:	Click here to enter Dean or Associate Dean's name.	Approval Date:	Click here and select date from the drop-down arrow.
Reviewed & Approved by SLO Coordinator:	Click here to enter SLO/PLO Coordinator name.	Approval Date:	Click here and select date from the drop-down arrow.

Guide for Faculty and Facilitator		
<u>Aspects of a Strong SLO Statement:</u>	<u>YES</u>	<u>NO</u>
1. Do all the outcomes address Student Learning?	<input type="checkbox"/>	<input type="checkbox"/>
2. Are the SLOs written as outcomes rather than an objective (does the language indicate an important overarching concept vs. small lessons)?	<input type="checkbox"/>	<input type="checkbox"/>
3. Do the SLOs address one specific outcome or is it too broad in scope?	<input type="checkbox"/>	<input type="checkbox"/>
4. Do the SLOs use active verbs (Bloom's Taxonomy) to describe the outcome?	<input type="checkbox"/>	<input type="checkbox"/>
5. Are the expected outcomes tangible and measurable?	<input type="checkbox"/>	<input type="checkbox"/>
6. Do the statements link to a PLO?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will the students understand the SLO?	<input type="checkbox"/>	<input type="checkbox"/>

This Section For SLO Admin Use Only

New Course entered in Nuventive Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Date entered in Nuventive Improve:	Click here and select date from the drop-down arrow	
SLO No., Title and Statement entered in Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Date entered in Nuventive Improve:	Click here and select date from the drop-down arrow	
SLO Status marked "Active" in Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	SLO Assessment Timelines entered in Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>
New SLO Input Date entered in Nuventive Improve (Input Date is same as Dean's Approval):				YES <input type="checkbox"/>	NO <input type="checkbox"/>
SLO-to-PLO Alignment entered in Nuventive Improve (Mapping):				YES <input type="checkbox"/>	NO <input type="checkbox"/>
ALIGNMENT GRID:					
New Course SLO Statements Added:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	New Course SLO-to-PLO Alignments Added:	YES <input type="checkbox"/>	NO <input type="checkbox"/>
			Alignment Grid Revision Date:	Click here and select date from the drop-down arrow	

NEW PROGRAM FORM: PLO Statement Checklist

**El Camino College
Program PLO Statement Drafting**
(Minimum of 3 PLO Statements)

Date:	[Click here and select date from the drop-down arrow]	Division: (Check one)	BSS <input type="checkbox"/> BUS <input type="checkbox"/> FA <input type="checkbox"/> HSA <input type="checkbox"/> HUM <input type="checkbox"/> ITEC <input type="checkbox"/> MATH <input type="checkbox"/> NSC <input type="checkbox"/>	
Program:	Click here to enter Program Name.			
Contact Person:	Click here to enter Contact Person.			
PLO No.	PLO Title	PLO Statement	PLO Assessment Timelines (Semester & Year)	PLO-to-ILO Alignment
1	Click here to enter PLO #1 Title.	Click here to enter PLO #1 Statement.	Click here to enter Assessment Timelines for this PLO. <i>(Enter at least 2 semesters.)</i>	Click here to enter the ILO number(s) that this PLO statement aligns with.*
2	Click here to enter PLO #2 Title.	Click here to enter PLO #2 Statement.	Click here to enter Assessment Timelines for this PLO. <i>(Enter at least 2 semesters.)</i>	Click here to enter the ILO number(s) that this PLO statement aligns with.*
3	Click here to enter PLO #3 Title.	Click here to enter PLO #3 Statement.	Click here to enter Assessment Timelines for this PLO. <i>(Enter at least 2 semesters.)</i>	Click here to enter the ILO number(s) that this PLO statement aligns with.*
	If there is a PLO #4, enter 4 on the left column and enter PLO #4 Title here. If there is no PLO #4, click here and press the SPACE BAR.	If there is a PLO #4, click here to enter PLO #4 Statement. If there is no PLO #4, click here and press the SPACE BAR.	Click here to enter Assessment Timelines for this PLO. <i>(Enter at least 2 semesters.)</i> If there is no PLO #4, click here and press the SPACE BAR.	Click here to enter the ILO number(s) that this PLO statement aligns with.* If there is no PLO #4, click here and press the SPACE BAR.

Notes:

- 1) If more than 4 PLOs are needed (6 is the maximum), please contact Facilitator and Coordinators for an adapted form.
- 2) If less than 3 PLOs are provided, it will need to be approved by the PLO Coordinators and Associate Dean of Academic Affairs. Please enter your justification below for consideration.

JUSTIFICATION FOR HAVING LESS THAN 3 PLOs:

Click here to enter justification statement.

Faculty Consulted:	Click here to enter name(s) of faculty members consulted.		
Reviewed & Approved by Facilitator:	Click here to enter Division Facilitator name.	Approval Date:	Click here and select date from the drop-down arrow.
Dean's Approval:	Click here to enter Dean or Associate Dean's name.	Approval Date:	Click here and select date from the drop-down arrow.
Reviewed & Approved by SLO/PLO Coordinator:	Click here to enter SLO/PLO Coordinator name.	Approval Date:	Click here and select date from the drop-down arrow.

Guide for Faculty and Facilitator		
<u><i>Aspects of a Strong PLO Statement:</i></u>	<u>YES</u>	<u>NO</u>
1. Does the outcome address Student Learning?	<input type="checkbox"/>	<input type="checkbox"/>
2. Is the PLO written as an outcome rather than an objective (does the language indicate an important overarching concept vs. small lessons)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Does the PLO address one specific outcome or is it too broad in scope?	<input type="checkbox"/>	<input type="checkbox"/>
4. Does the PLO use active verbs (Bloom's Taxonomy) to describe the outcome?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is the expected outcome tangible and measurable?	<input type="checkbox"/>	<input type="checkbox"/>
6. Do the statements link to An ILO?	<input type="checkbox"/>	<input type="checkbox"/>
7. Will the students understand the PLO?	<input type="checkbox"/>	<input type="checkbox"/>

This Section For PLO Admin Use Only						
New Program entered in Nuventive Improve: If NOT APPLICABLE, check NA box here: NA <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Date entered in Nuventive Improve:	Click here and select date from the drop-down arrow		
PLO No., Title and Statement entered in Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Date entered in Nuventive Improve:	Click here and select date from the drop-down arrow		
PLO Status marked "Active" in Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	PLO Assessment Timelines entered in Improve:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
New PLO Input Date entered in Nuventive Improve (Input Date is same as Dean's Approval):				YES <input type="checkbox"/>	NO <input type="checkbox"/>	
PLO-to-ILO Alignment entered in Nuventive Improve (Mapping):				YES <input type="checkbox"/>	NO <input type="checkbox"/>	
ALIGNMENT GRID:						
Program PLO Statements Added: If NOT APPLICABLE, check NA box here: NA <input type="checkbox"/>	YES <input type="checkbox"/>	NO <input type="checkbox"/>	PLO-to-ILO Alignments Added:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Alignment Grid Revision Date: Click here and select date from the drop-down arrow

What is an SAO?

A Service Area Outcome (SAO) is a statement about what a student or client will experience, receive, or understand as a result of a given service.

SAOs identify what the student services and administrative units intend to accomplish or achieve in support of student learning.

Assessment is the continuous process of collecting, evaluating, and using information to determine if and how well performance matches learning or service expectations. For assessment to be truly effective, it must be authentic, meaningful, reflective, and self-regulated. The purpose of assessment is to use the results, positive or negative, to inform meaningful dialogue about how instruction and instructional and non-instructional services can be modified to provide students the appropriate tools to engage in the learning process and sustain institutional effectiveness

How are SAOs different than SLOs/PLOs?

Student Learning Outcomes (SLOs) are statements about what students will think, know, feel or be able to do as a result of an educational experience. SLOs exist at the course, program (PLOs), and institutional (ILOs) level. Alignment grids demonstrate alignment from the course up through program and institutional levels.

Your department (faculty, managers, and classified staff) has the responsibility for SAOs and thus, has the authority on how they will be designed, developed, and assessed. SAO documentation should include the following:

- list of current outcomes
- methods that will be or were used to measure the outcome
- target/standard for the outcome to be considered successful
- timeline for assessment
- assessment reports, including assessment data, analysis, and planned actions

Service Area Outcome Statements

A SAO statement expresses what a student or client will experience, receive, or understand as a result of a given service.

A client can be anyone receiving a service, including:

- students
- faculty
- staff
- community members

A service can include the following:

- Training sessions
- Development of facilities
- Professional development
- Information sessions or student orientations
- Development of schedules, catalogs, etc.

SAOs are statements that identify client responses to a certain service that your department provides. They identify activities that are critical and central to the unit. Designed and developed by your

department, these statements provide evidence that positive student/client reaction has occurred as a result of a specific service. These statements are very similar to SLOs in that they examine the result of an experience but SAOs deal exclusively with non-instructional services provided to students or other members of the campus community.

Sample SAO: The EOPS program might have the following SAO: “Students who complete their contacts and are eligible for a book voucher have increased success and retention rates compared to students who do not fulfill our requirements.”

Sample SAO: The Outreach & Recruitment office might have the following SAO: “After attending an ECC information session, prospective students will be more knowledgeable regarding ECC programs, services and the steps of enrollment.”

Sample SAO: A Printing Services department might have the following SAO: “Faculty will experience improved access to Printing Services by making it easy to submit print jobs via the web.”

Sample SAO: The Human Resources office might have the following SAO: “Job interview panels trained on diverse behaviors and styles will conduct themselves with increased awareness.”

SAO Assessment

SAOs may be measured in a variety of ways. Perhaps the most common means of assessing SAOs are client surveys or interviews/focus groups. These tools can provide your department with feedback about unit structures, processes, and the client experience. Internal and external data sources may also provide the information needed to determine if the outcome was successful.

Assessment Schedule

Assessment Schedule (Timeline) specifies the time frame in which a plan/course of action will be assessed and who will administer the assessment. The timeline for SAO assessment depends on the number of SAOs for the department, the means of assessment data collection, and availability of department resources. Units do not need to assess all SAOs simultaneously—unless the unit deems such a timeline necessary and realistic given unit resources. Units may alternate the assessment of SAOs over months, quarters, or years. For example, if ECC’s Payroll department identifies six SAOs, the unit may assess two SAOs per year, resulting in a three-year assessment cycle for a given SAO.

SAO Alignment with Strategic Initiatives

SAOs should be aligned with ECC SIs.

How Are SAOs Used?

SAOs are connected to planning. The primary purpose of SAO identification and assessment is continuous improvement. Assessment results should provide a means for refining structures, processes, and strategies to better meet unit objectives or SAOs. After your unit identifies and assesses SAOs, the assessment results should be compiled and discussed with unit staff. The purpose of these discussions is to reflect on outcomes, brainstorm strategies for unit service improvement, and analyze unit objectives or SAOs to determine if adjustment is necessary. Improvements could include increased staff development, equipment purchases, software modifications, and process development. SAO assessment results should also be documented in a formal report.

Bloom's Taxonomy- Objectives and Outcomes

Student learning outcomes should address relevant outcomes for each of these domains but must be appropriate to the course.



Knowledge - Cognitive Domain

Objectives

Basic Knowledge
Higher Level Thinking

Outcomes

More Sophisticated
Critical Thinking

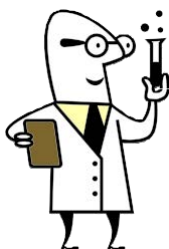


Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Student re-members or recognizes information or specifics as communicated with little personal assimilation.	Student grasps the meaning behind the information and interprets, translates, or comprehends the information.	Student uses information to relate and apply it to a new situation with minimal instructor input.	Student discriminates, organizes, and scrutinizes assumptions in an attempt to identify evidence for a conclusion.	Student creatively applies knowledge and analysis to integrate concepts or construct an overall theory.	Student judges or evaluates information based upon standards and criteria, values and opinions.
Cite Label List Enumerate Identify Imitate Match Name Quote Recall Reproduce State Write	Convert Define Describe Discuss Estimate Explain Generalize Identify Illustrate Locate Paraphrase Restate Summarize	Apply Chart Compute Demonstrate Determine Dramatize Establish Make Manipulate Prepare Project Solve Use	Analyze Compare Contrast Correlate Diagram Dissect Differentiate Distinguish Infer Investigate Limit Outline Separate	Assemble Create Construct Design Develop Formulate Generate Hypothesize Initiate Invent Modify Reframe Synthesize	Access Appraise Conclude Critique Decide Defend Diagnose Evaluate Judge Justify Rank Recommend Support

Skills and Abilities - Psychomotor Domain

Objectives

Basic Knowledge
Basic Skills Level



Outcomes

More Sophisticated Skills
Higher Level Abilities
Critical Understanding of
Performance



Observe	Model	Recognize Standards	Correct	Apply	Coach
Students translate sensory input into physical tasks or activities.	Students are able to replicate a fundamental skill or task.	Students recognize standards or criteria important to perform a skill or task correctly.	Students use standards to evaluate their own performances and make corrections.	Students apply this skill to real life situations.	Students are able to instruct or train others to perform this skill in other situations.
Hear Identify Observe See Smell Taste Touch Watch *Usually no outcomes or objectives written at this level.	Attempt Copy Follow Imitate Mimic Model Reenact Repeat Reproduce Show Try	Check Detect Discriminate Differentiate Distinguish Notice Perceive Recognize Select	Adapt Adjust Alter Change Correct Customize Develop Improve Manipulate Modify Practice Revise	Build Compose Construct Create Design Originate Produce	Demonstrate Exhibit Illustrate Instruct Teach Train

Attitudes - Affective Domain



Objectives

Elementary Values and Behaviors
 Inherited Value System
 Egocentric View

Outcomes

More Highly Developed Attitudes
 Well Thought-Out Value System
 Higher Level Abilities to Identify
 and Articulate Others' Values



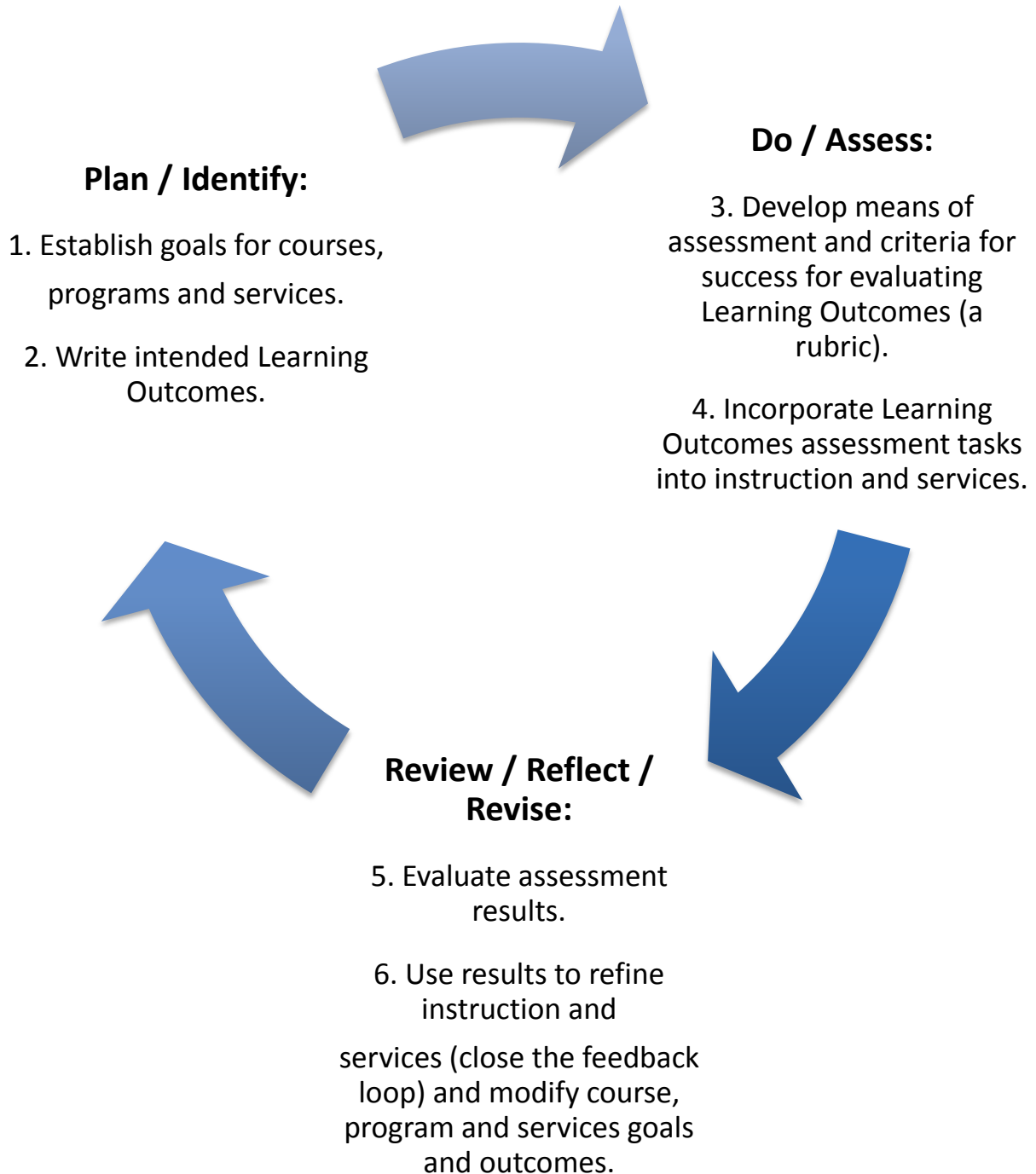
Receiving	Responding	Valuing	Organizing	Characterizing
Students become aware of an attitude, behavior, or value.	Students exhibit a reaction or change as a result of exposure to an attitude, behavior, or value.	Students recognize value and display this through involvement or commitment.	Students determine a new value or behavior as important or a priority.	Students integrate consistent behavior as a naturalized value in spite of discomfort or cost. The value is recognized as a part of the person's character.
Accept Attend Describe Explain Locate Observe Realize Receive Recognize	Behave Comply Cooperate Discuss Examine Follow Model Present Respond Show Studies	Accept Adapt Balance Choose Differentiate Defend Influence Prefer Recognize Seek Value	Adapt Adjust Alter Change Customize Develop Improve Manipulate Modify Practice Revise	Authenticate Characterize Defend Display Embody Habituate Internalize Produce Represent Validate Verify

Goals, Outcomes, and Objectives

Goals	Outcomes	Objectives
<p>A goal is a broad statement of intent or vision that often must be measured indirectly. Curricular and program-related goals are usually found in general catalog descriptions.</p>	<p>Student learning outcomes are characterized by explicit reference to what a student will be able to produce or otherwise deliver in order to evidence that learning has occurred. Learning outcomes are often stated in course syllabi, course outlines of record, and/or detailed program descriptions. Assessments of learning outcomes may be used as evidence that the goals of a course or program have been met.</p>	<p>Course objectives are small steps toward achieving a particular outcome, generally reflecting specific knowledge, skills, or attitudes. Considered independently, assessments of each objective do not serve as evidence that stated goals have been achieved. Objectives are often expressed as behaviorally measurable competencies in syllabi and/or course outlines of record.</p>

	Objectives	Outcomes
Scope	Breadth of content and/or skills to engage and explain specific subject matter	Integrated learning and application of new skills beyond the context in which they were learned
Emphasis	Details of course content and activities which constitute the curriculum	Student outputs which evidence higher-level thinking skills and synthesis based on instructional content and activities
Statement	Objectives can be numerous, specific, and detailed to direct the daily instructional activities and material	Learning outcomes are limited in number (e.g., 3-5 statements) to facilitate the assessment and improvement of integrated learning

Outcomes Assessment Cycle



SLO STATEMENT CHANGE FORM

Date:	[Click here and select date from the drop-down arrow]		
Division/Program:	Click here to enter Division & Program Name.		
Contact Person:	Click here to enter Contact Person.		
Course No.:	Click here to enter Course No.	Course Name:	Click here to enter Course Name.
Existing SLO No(s). <i>[Enter in box below]</i>	Existing SLO Statement(s) <i>[Enter in box below]</i>		
Click here to enter SLO number(s) being changed. <i>Put a space in between each SLO statement, if more than one is changing.</i>	Click here to enter the current SLO Statement being changed. <i>Put a space in between each SLO statement, if more than one is changing.</i>		
SLO No(s) / SLO Title(s) <i>[Enter in box below]</i>	REVISED SLO Statement(s) <i>[Enter in box below]</i>	REVISED SLO Assessment Timelines (Semester & Year)	REVISED SLO-to-PLO Alignment
Click here to enter the SLO number(s) being changed and the REVISED/NEW SLO Title. <i>Put a space in between each SLO No. & Title, if more than one SLO statement is changing.</i>	Click here to enter REVISED/NEW SLO Statement. <i>Put a space in between each SLO Statement, if more than one SLO statement is changing.</i>	Click here to enter the NEW SLO Assessment Timelines for each SLO (if more than one SLO Statement has changed). <i>Enter at least 2 semesters for each SLO.</i>	Click here to enter the PLO number(s) that each new SLO statement aligns with. (EVEN if it has not changed.)
Faculty Consulted:	Click here to enter name(s) of faculty members consulted.		
Facilitator Approval:	Click here to Division Facilitator name.	Approval Date:	Click here and select date from the drop-down arrow.
Coordinator Approval:	Click here to enter SLO/PLO Coordinator name.	Approval Date:	Click here and select date from the drop-down arrow.
Dean's Approval:	Click here to enter Dean or Associate Dean's name.	Approval Date:	Click here and select date from the drop-down arrow.

This Section For SLO Admin Use Only:		
Revised SLO Title and Statement entered in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	Date entered in TracDat:	Click here and select date from the drop-down arrow
Revised SLO Status marked "Active" in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	Revised Assessment Timelines entered in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Revised SLO Input Date entered in TracDat (Input Date is same as Dean's Approval of Revised SLO Statement):		YES <input type="checkbox"/> NO <input type="checkbox"/>
Revised SLO Statements & Alignments revised in Alignment Grid: Statements YES <input type="checkbox"/> NO <input type="checkbox"/> Alignments (If Applicable): YES <input type="checkbox"/> NO <input type="checkbox"/>		
Alignment Grid Revision Date:	Click here and select date from the drop-down arrow	
Old SLO Statement re-numbered with preceding "0":		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old SLO Status marked 'Inactive' in TracDat:		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old SLO Inactive Date entered in TracDat (Inactive Date is same as Dean's Approval of Revised SLO Statement):		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old SLO Statement moved to bottom of SLO list:		YES <input type="checkbox"/> NO <input type="checkbox"/>

PLO STATEMENT CHANGE FORM

Date:	[Click here and select date from the drop-down arrow]		
Division/Program:	Click here to enter Division & Program Name.		
Contact Person:	Click here to enter Contact Person.		
Existing PLO No(s). <i>[Enter in box below]</i>	Existing PLO Statement(s) <i>[Enter in box below]</i>		
Click here to enter PLO number(s) being changed. <i>Put a space in between each PLO statement, if more than one is changing.</i>	Click here to enter the current PLO Statement that is being changed. <i>Put a space in between each PLO statement, if more than one is changing.</i>		
PLO No(s) / PLO Title(s) <i>[Enter in box below]</i>	REVISED PLO Statement(s) <i>[Enter in box below]</i>	REVISED PLO Assessment Timelines (Semester & Year)	PLO-to-ILO Alignment
Click here to enter the PLO number(s) being changed and the REVISED/NEW PLO Title. <i>Put a space in between each PLO No. & Title, if more than one PLO statement is changing.</i>	Click here to enter REVISED/NEW PLO Statement. <i>Put a space in between each PLO Statement, if more than one PLO statement is changing.</i>	Click here to enter the Assessment Timelines for each PLO that has changed). <i>Enter at least 2 semesters for each PLO.</i>	Click here to enter the ILO number(s) that each revised PLO statement aligns with. (Even if it has not changed.)
Faculty Consulted:	Click here to enter name(s) of faculty members consulted.		
Facilitator Approval:	Click here to Division Facilitator name.	Approval Date:	Click here and select date from the drop-down arrow.
Coordinator Approval:	Click here to enter SLO/PLO Coordinator name.	Approval Date:	Click here and select date from the drop-down arrow.
Dean's Approval:	Click here to enter Dean or Associate Dean's name.	Approval Date:	Click here and select date from the drop-down arrow.

This Section For PLO Admin Use Only:		
Revised PLO Title and Statement entered in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	Date entered in TracDat:	Click here and select date from the drop-down arrow
Revised PLO Status marked "Active" in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	Revised Assessment Timelines entered in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Revised PLO Input Date entered in TracDat (Input Date is same as Dean's Approval of Revised PLO Statement):		YES <input type="checkbox"/> NO <input type="checkbox"/>
Revised PLO Statements & Alignments revised in Alignment Grid: Statements YES <input type="checkbox"/> NO <input type="checkbox"/> Alignments (If Applicable): YES <input type="checkbox"/> NO <input type="checkbox"/>		
Alignment Grid Revision Date:	Click here and select date from the drop-down arrow	
Old PLO Statement re-numbered with preceding "0":		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old PLO Status marked 'Inactive' in TracDat:		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old PLO Inactive Date entered in TracDat (Inactive Date is same as Dean's Approval of Revised PLO Statement):		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old PLO Statement moved to bottom of PLO list		YES <input type="checkbox"/> NO <input type="checkbox"/>

SAO STATEMENT CHANGE FORM

Date:	[Click here and select date from the drop-down arrow]		
Division/Program:	Click here to enter Division & Program Name.		
Contact Person:	Click here to enter Contact Person.		
Course No.:	Click here to enter Course No.	Course Name:	Click here to enter Course Name.
Existing SAO No(s). <i>[Enter in box below]</i>	Existing SAO Statement(s) <i>[Enter in box below]</i>		
Click here to enter SLO number(s) being changed. <i>Put a space in between each SAO statement, if more than one is changing.</i>	Click here to enter the current SLO Statement being changed. <i>Put a space in between each SAO statement, if more than one is changing.</i>		
SAO No(s) / SAO Title(s) <i>[Enter in box below]</i>	REVISED SAO Statement(s) <i>[Enter in box below]</i>	REVISED SAO Assessment Timelines (Semester & Year)	REVISED SAO-to-PLO Alignment
Click here to enter the SLO number(s) being changed and the REVISED/NEW SLO Title. <i>Put a space in between each SAO No. & Title, if more than one SAO statement is changing.</i>	Click here to enter REVISED/NEW SLO Statement. <i>Put a space in between each SAO Statement, if more than one SAO statement is changing.</i>	Click here to enter the NEW SLO Assessment Timelines for each SLO (if more than one SLO Statement has changed). <i>Enter at least 2 semesters for each SAO.</i>	Click here to enter the PLO number(s) that each new SLO statement aligns with. (EVEN if it has not changed.)
Faculty Consulted:	Click here to enter name(s) of faculty members consulted.		
Facilitator Approval:	Click here to Division Facilitator name.	Approval Date:	Click here and select date from the drop-down arrow.
Coordinator Approval:	Click here to enter SLO/PLO Coordinator name.	Approval Date:	Click here and select date from the drop-down arrow.
Dean's Approval:	Click here to enter Dean or Associate Dean's name.	Approval Date:	Click here and select date from the drop-down arrow.

This Section For SAO Admin Use Only:

Revised SAO Title and Statement entered in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	Date entered in TracDat:	Click here and select date from the drop-down arrow
Revised SAO Status marked "Active" in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	Revised Assessment Timelines entered in TracDat: YES <input type="checkbox"/> NO <input type="checkbox"/>	
Revised SAO Input Date entered in TracDat (Input Date is same as Dean's Approval of Revised SAO Statement):		YES <input type="checkbox"/> NO <input type="checkbox"/>
Revised SAO Statements & Alignments revised in Alignment Grid: Statements YES <input type="checkbox"/> NO <input type="checkbox"/>		Alignments (If Applicable): YES <input type="checkbox"/> NO <input type="checkbox"/>
Alignment Grid Revision Date:	Click here and select date from the drop-down arrow	
Old SAO Statement re-numbered with preceding "0":	YES <input type="checkbox"/> NO <input type="checkbox"/>	
Old SAO Status marked 'Inactive' in TracDat:	YES <input type="checkbox"/> NO <input type="checkbox"/>	
Old SAO Inactive Date entered in TracDat (Inactive Date is same as Dean's Approval of Revised SAO Statement):		YES <input type="checkbox"/> NO <input type="checkbox"/>
Old SAO Statement moved to bottom of SAO list:	YES <input type="checkbox"/> NO <input type="checkbox"/>	

DRAFT

Sampling for the Assessment of Student Learning Outcomes

Prepared by the Office of Institutional Research & Planning

Below is an overview of key sampling concepts along with several recommendations for those seeking to assess Student Learning Outcomes (SLOs, PLOs) or Service Area Outcomes (SAOs). It is unlikely that there is one right answer to the sample size or technique that should be used, but we hope that these recommendations and notes for consideration will guide you as you conduct your assessments.

Census vs. Sampling

Assessing the entire population is called a **census**, whereas assessing a smaller subset of the population is called a **sample**.

Key considerations

When deciding whether to conduct a census or collect a sample, or when deciding how large your sample should be, there are several key items to consider.

1. **Class or program sizes** – If the program or course has a small number of students, it may be best to conduct a census. However, if there are a large number of students in the target population, a sample may be best.
2. **Length and complexity of artifacts** – If the artifact assessed is relatively short or easy to score, then it may be feasible for a larger number of students to be assessed. However, assessing some artifacts may be more time consuming due to length, necessity to norm grading scales, other factors, or some combination thereof.
3. **Size of the faculty panel reviewing artifacts** – The number of faculty members reviewing artifacts can have a large impact on the number of students that can feasibly be assessed. If the artifact is short and easy to assess, then fewer faculty members would be needed to assess a large number of students.

Sample size recommendations

In general, when attempting to obtain an accurate estimate of a population, the larger the sample, the better the estimate. However, the factors noted above can impact the feasibility of obtaining a large sample of students. Our recommendation is to aim for as large of a sample as is reasonable.

Recommended minimum sample sizes

Despite the desire to recruit and assess the entire student body within the program, this may not be feasible. Therefore, we are providing general guidelines for the minimum number of students that should be sampled. ***At minimum, we recommend that a sample consist of 10 students, or 10% of the population of interest, whichever is greater.***

Sample selection techniques

Below are some brief descriptions of some common sampling techniques as well as some things to consider when choosing a sample selection technique (more info here:

http://en.wikipedia.org/wiki/Category:Sampling_techniques).

Simple random sampling – Sampling is done by randomly selecting a certain number of students or artifacts. Each student or artifact has an equal chance of being selected. With a large enough sample size, this technique may give the greatest confidence in generalizing to the population. Here is a useful tool for selecting students at random: <http://www.random.org/lists/>. You can paste in a list of student names, click “randomize,” then select the top 10 (or 15, or 20, etc.) students.

Stratified sampling – Students or artifacts are sorted into specific subgroups (e.g., by gender, ethnicity, major, day vs. evening, etc.), then a random sample is selected from each group. This may be a useful tool for when you want to ensure that certain groups are represented in your sample.

Systematic sampling – You select students based on a pre-determined order. For example, select every n^{th} (e.g., 3rd, 5th, 10th) student or artifact from a list. This approach may be more feasible than simple random sampling. However, it is important to consider how the order of students or artifacts may impact your findings.

Cluster sampling – Groups or clusters (typically classes or sections), and then all students within that cluster are evaluated. This approach may be useful when the assessment is best administered to an entire section rather than random students. However, it is important to consider the variation that can happen between different sections and instructors.

A note on convenience sampling – Convenience sampling is when a sample of students or artifacts is based on those who may volunteer or respond to a survey. Sometimes, this is the only way we can obtain responses. However, it is always important to consider that there may be important differences between those who agree to participate and those who don't. This should be considered when asking students to complete surveys or assessments or if only a few faculties volunteer to have SLO assessments incorporated into their course curriculum. These differences may impact your ability to generalize your findings to the population of interest.

Considerations

When choosing a sampling strategy, it is always important to consider what implications the strategy may have on your ability to generalize your findings to the rest of the population. This should also be balanced with issues of feasibility. For example, whereas a simple random sampling of students may give us the best chance of generating a representative sample, there may be issues of access or sample size.

Whenever possible, we recommend comparing key demographics of the students sampled to the population of interest (at the course, program, or other level) to get an estimate of how representative the sample population may be.

A Guide to Reporting Assessments

El Camino College

Nuventive SLO Template

This template (Word document) can be downloaded from the [ECC SLO website](#)

How to Use this Template: If you wish, you may fill out this template and transfer (copy & paste) the information into Nuventive once it is complete. This is a WORD document. Fields will expand as you type.

How to Access Past Reports and Alignment Grids: To access your past SLO reports, Alignment Grids, and past assessment reports, select the **Documents Repository** tab under **Documents** located on the left side of the main screen when you log in to Nuventive. Past reports were saved as WORD documents.

How to Log into Nuventive: <https://elcamino.tracdat.com/tracdat/> Use your ECC log-in and password.

Due Date: Assessment Reports are due the 3rd week of the following semester.



Course Number: _____ **Course Name:** _____

SLO or PLO Number and Statement: _____

Note: This is a “view only” screen. Contact your facilitator if you wish to change your SLO or PLO Statements.

Faculty Assessment Leader:

Faculty Contributing to Assessment:

Course SLO Assessment Cycle: *Note: This is a “view only” screen. New timelines beginning with Fall 2014 through Spring 2018 will be developed by each Program in Spring and input into Nuventive for you.*

Identify Assessment Method: Choose ONE item that most closely relates to your assessment method (mark the box next to Method with an X). If more than one assessment tool is being used for this assessment select “Multiple Assessments.” You will be able to explain the assessment method(s) in more detail in the following section.

<input type="checkbox"/>	Case Study	<input type="checkbox"/>	Journal/Log	<input type="checkbox"/>	Presentation/Skill Demonstration
<input type="checkbox"/>	Essay/Written Assignment	<input type="checkbox"/>	Laboratory Project/Report	<input type="checkbox"/>	Project
<input type="checkbox"/>	Exam/Test/ Quiz	<input type="checkbox"/>	Multiple Assessments	<input type="checkbox"/>	Standardized/Licensing Exam
<input type="checkbox"/>	Fieldwork Internship	<input type="checkbox"/>	Performance	<input type="checkbox"/>	Survey/Focus Group
<input type="checkbox"/>	Homework Problems	<input type="checkbox"/>	Portfolio	<input type="checkbox"/>	Term/Research Paper

Assessment Method Description: *In a sentence or two, describe the planned course SLO assessment. If you wish, you can attach the actual assessment instrument by first selecting "Save Changes", then selecting "Relate Document."*

HINT: Be sure to "Save Changes" to activate the "Relate Document" button.

[Enter text here.](#)

Standard and Target for Success: *Describe the standard you will use to determine success in your assessment. If you are using a rubric, attach the rubric. Include your target for student success for this SLO. This target for student success should be based on a clear standard. For example:*

Based on Percentages: "It is expected that 85% of students will score 75% or above on this SLO.

Based on Rubric: "It is expected that X% of students will score 4 or above on this SLO."

[Enter text here.](#)

Related Documents: *This section lets you upload documents. You may wish to upload your actual assessment tool, rubric or any other relevant material here.*

RESULTS

Assessment Data & Analysis Date: *Enter the date this assessment was completed. This may be different than the "Semester and Year Assessment Conducted." For example, since Assessment Reports are due the 3rd week of the following semester, you may have entered the data and analysis in the spring, but conducted the assessment the previous fall semester. [Enter date here \(MO/DA/YEAR format\).](#)*

In Nuventive, when you click on the box, it will bring up a calendar. Highlight and click on the date and it will enter that date in the box.

Assessment Data & Analysis: *What are the results of your assessment? Provide the assessment data. Summarize the patterns observed in the data. What were the most important findings from the data?*

[Enter text here.](#)

Semester and Year Assessment Conducted: *Enter the semester and year the assessment was conducted. This may be different than the "Date Assessment Data & Analysis Entered." For example, you may have conducted the assessment in the fall but are entering the results in the spring. [Enter Semester and Year here.](#)*

Note: *This semester and year must match the current assessment timeline for this SLO.*

Standard Met? *Was the target you set in the "Standard and Target for Success" section met? (Mark the box with an X.)*

Standard Met Standard Not Met |

Note: *If the target was not met, consider re-assessing this SLO sooner than indicated on the timeline. If the target has been met consistently, consider revising your SLO or developing a new SLO statement. If you plan to assess this SLO or PLO earlier than indicated on your timeline, enter it as an "Action Item" and provide the date you plan to re-assess this SLO.*

Related Documents: *This section lets you upload documents. You may wish to upload your actual assessment data, graphs, or any other relevant material here.*

Action Plan

Describe Actions Needed to Improve Student Learning: Address as many categories as needed.

Teaching Strategies: Needed changes to teaching strategies to improve student learning.

Curriculum Changes: Needed curricular changes (pre-requisites, major topics, objectives, etc.).

Program/College: Anything the Program or College should do to support any of these changes.

SLO Assessment Process: Needed changes to the SLO statement or assessment process based on results.

Action (One action plan per row.) Enter only those actions for which you wish to develop a plan.	Action Due Date	Action Category <i>Teaching Strategies</i> <i>Curriculum Changes</i> <i>Program/College Support</i> <i>SLO Assessment Process</i>
Enter text here.	Enter Date here	Enter Category here.
Enter text here.	Enter Date here	Enter Category here.
Enter text here.	Enter Date here	Enter Category here.
Enter text here.	Enter Date here	Enter Category here.

Follow Up

(Note: This section becomes active in Nuventive once an action has been entered.)

Consider the following prompts for this section. What Action was taken? When was the Action implemented? What are the implications of the observations and/or data that resulted from implementation of the Action? Describe any changes to student learning that were observed and/or describe any data that resulted from the Action. (Note: These observations may be anecdotal or preliminary with additional information provided at a later date.) What other follow-up or Action(s) should be taken, if any?

[Enter text here.](#)

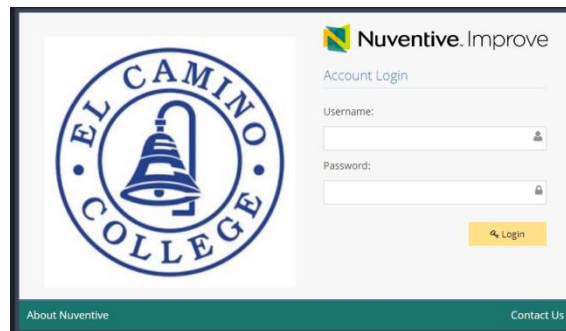
Nuventive Quick Start Guide - Entering Reports

Log into Nuventive - Go to:

<https://elcamino.tracdat.com/tracdat/>

If you have an older version of Internet Explorer (before version 11) use Chrome or Firefox.

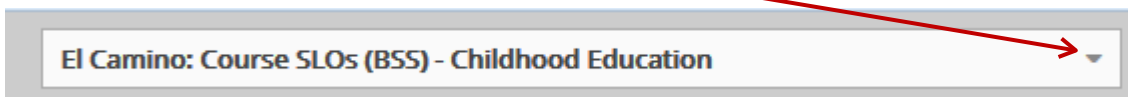
Steps for entering in a SLO report



Use your ECC ID and Password.

Adding Assessment Methods

- 1) Select the program from the top drop down menu.



- 2) You will see a list of all the courses in your program. The courses with a black triangle on the left side are courses that have one or more SLO assessments due for the filtered semester.

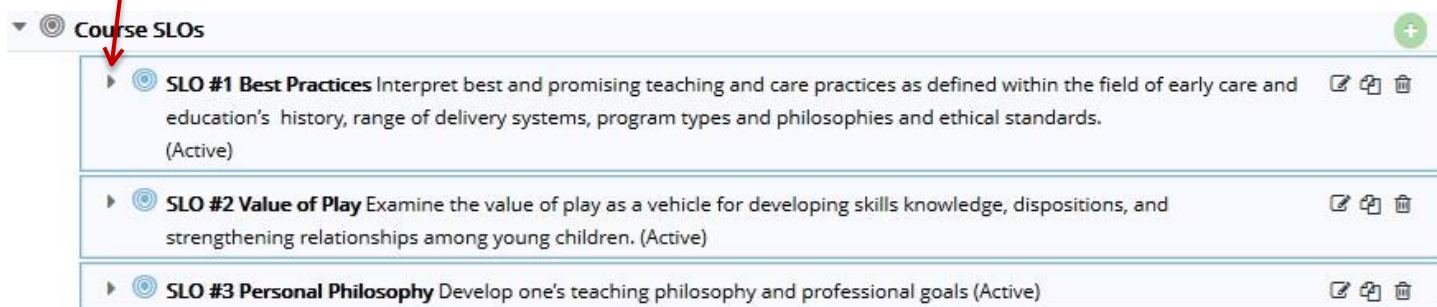
This column shows the number of assessments that are currently due. The other columns reference the Assessment Method, Results, etc. associated with that SLO.

NOTE: Ignore the zeros if there is no black triangle on the left as your SLO is not currently due for assessment.

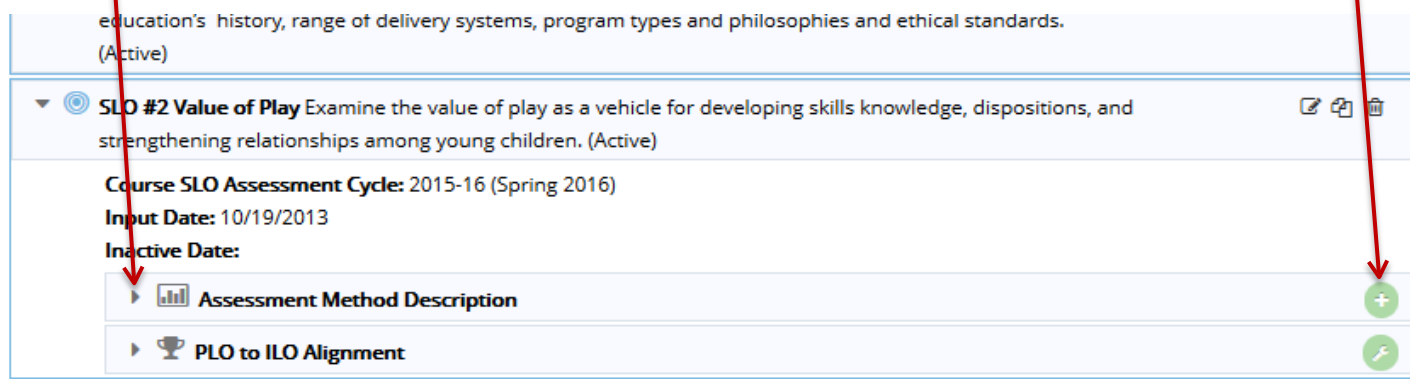
Course Planning Summary - Owned

	Courses	Course SLOs	Assessment Method Description	Results	Actions	Follow-Up
▶	✓ ECC: ASTR 12 - Astronomy Laboratory	1	0	0	0	0
	✓ ECC: ASTR 13 - Astronomical Optics	0	0	0	0	0
	✓ ECC: ASTR 20 - The Solar System	0	0	0	0	0
▶	✓ ECC: ASTR 25 - Stars and Galaxies	1	1	1	1	0

3) Click the arrow next to the SLO for which you wish to enter data.



4) Click on the plus sign “+” on the right side to add a new assessment.
Or, click on the arrow next to **Assessment Method Description** to locate a current assessment method.



5) Fill in all required information. Remember to include a clearly stated standard for success. You will be able to attach (relate) your rubric and your assessment on the next screen.

Reviewer Comments are optional. However, this is a good place for faculty, facilitators or deans to make comments or recommendations.

SLO #3 Everyday Application On examination (e.g., m/c, T/F, fill-in, matching, essay), written essay, research paper, and/or oral presentation, students will be able to apply fundamental lifespan principles (e.g., temperament, attachment, personality, parental style, milestones, interpersonal and familial relationship) in their efforts to understand everyday life experiences (e.g., child rearing, bereavement).

Active ?

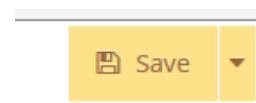
Assessment Method ?

* Assessment Method Description ?

Standard and Target for Success ?

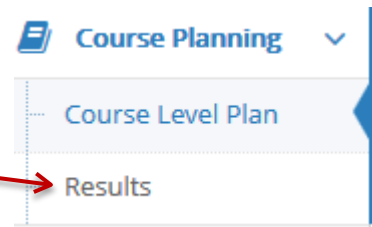
Reviewer's Comments ?

6) Note: Be sure to click “SAVE” located at the **top right** before leaving a screen.

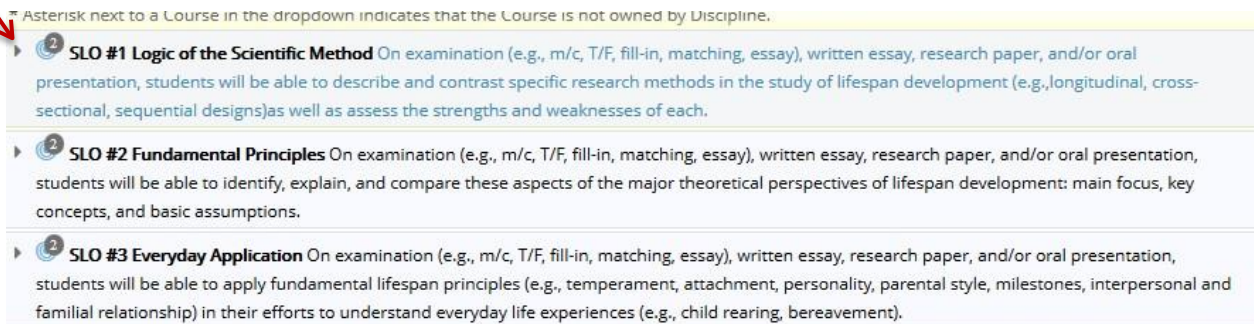


Adding Results

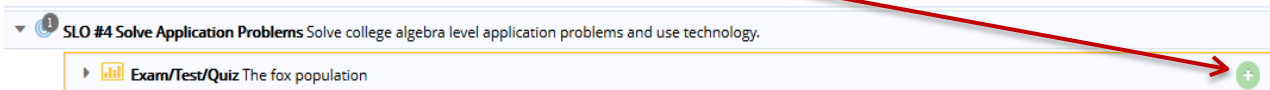
- 7) Go to the Menu on the left to **Course Planning**.
Click on **Results**.



- 8) To enter in the results click on the arrow next to the appropriate SLO.



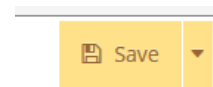
- 9) Click on the plus sign on the right side to open the fields.



- 10) Scroll down and enter the results.

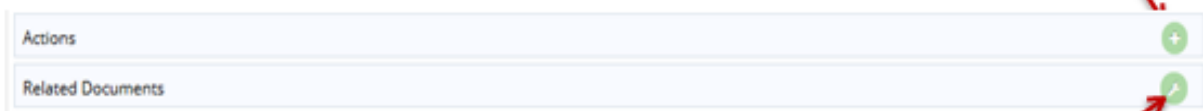
* Assessment Data & Analysis Date	<input type="text" value="08/31/2015"/>
* Assessment Data & Analysis	<input type="text"/>
* Semester and Year Assessment Conducted	<input type="text"/>
* Standard Met?	<input type="text"/>
* Faculty Assessment Leader	<input type="text"/>
Faculty Contributing to Assessment	<input type="text"/>
Reviewer's Comments	<input type="text"/>

- 11) Note: Be sure to click "SAVE" located at the **top right** before leaving a screen.



Adding Actions

- 12) Scroll down and select plus sign (+) next to the **Action**. Be sure to enter a date when the action will be completed. The Action date should be sometime during the next time the class is taught, or within a year of the assessment you just entered. Remember to save on the top right side.



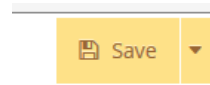
- 13) Related documents can also be added from this screen, the icon is right below the action.

Adding Follow Ups

- 14) Click on the arrow next to the action for which you wish to add a follow up, and then click on the plus sign on the right side to add the follow up. The follow up section should be completed after the Action has been implemented. Enter the results of your actions in the "Follow Up" section. This can be informal or formal data.



- 15) Remember to save your work before you leave the screen or when you make any changes to your report.

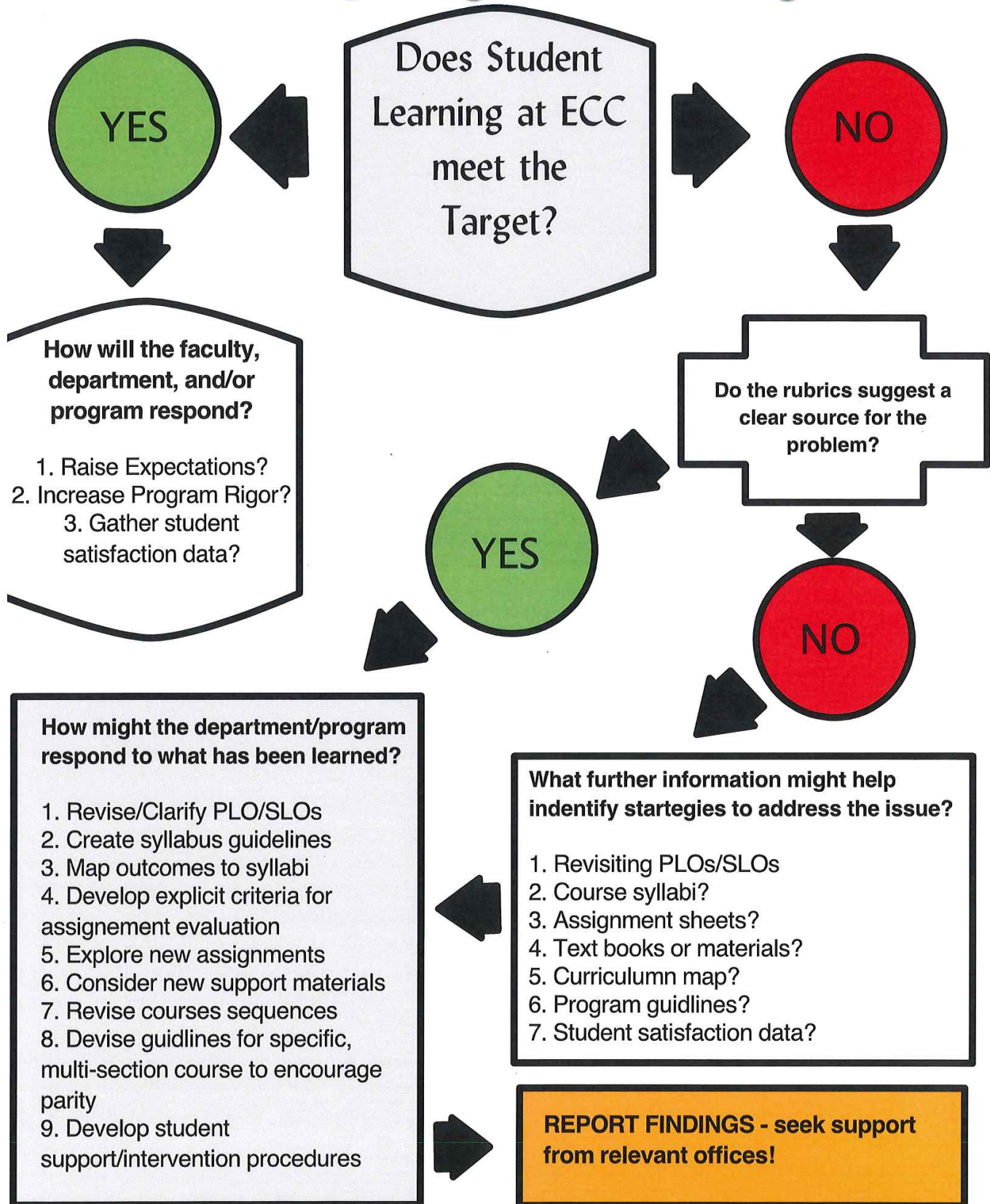


Additional SLO Resources

Training Materials: <http://www.elcamino.edu/academics/slo/tracdattraining.aspx>

SLO Facilitator Information: <http://www.elcamino.edu/academics/slo/assessment-personnel.aspx>

Assessment: Improving student learning at ECC



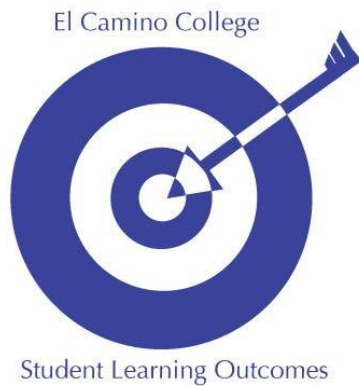
El Camino College Planning Model



The El Camino College planning process integrates assessment, evaluation, and planning to promote effectiveness and student success. The mission underlies all that we do, with Strategic Initiatives providing direction for achieving the mission. The master plan is based on the mission and strategic initiatives and is guided by the planning components. These components consist of curriculum review, program review, outcomes assessment, and annual planning, all of which drive and are responsive to each other. These components join to guide resource allocation and produce the ultimate outcomes of institutional effectiveness and greater student success.

Assessment of Learning Committee (ALC) Roles and Responsibilities

	Assessment of Learning Committee (ALC)	Outcomes Assessment Process	Nuventive	ACCJC Reports	Public Access
SLO Coordinators	<ul style="list-style-type: none"> ▪ Chair committee (e.g., preside over meetings, develop agendas/notes) ▪ Coordinate ILO assessment teams and collaborate with Institutional Research and Planning on analysis and reporting ▪ Publish SLO newsletters and submit end-of-year Coordinator reports ▪ Represent learning outcomes assessment efforts campus-wide (e.g., Academic Program Review Committee, Academic Senate) 	<ul style="list-style-type: none"> ▪ Provide ongoing training in development and assessment of course- and program-level outcomes statements ▪ Make recommendations regarding outcomes assessment, based on audits of reports ▪ Monitor assessment activity for compliance with established timelines 	<ul style="list-style-type: none"> ▪ Provide ongoing faculty and staff training on the assessment reporting system ▪ Maintain updated User Guides and other training resources ▪ Generate completion status reports and other reports as needed ▪ Update system user lists and 	<ul style="list-style-type: none"> ▪ Collect evidence ▪ Assist in writing/editing ▪ Provide evidence of dialogue regarding student learning and outcomes assessment 	<ul style="list-style-type: none"> ▪ Ensure access to learning outcome statements and assessment reports ▪ Keep ECC website updated
SLO Facilitators	<ul style="list-style-type: none"> ▪ Attend ALC meetings ▪ Chair division-level outcomes assessment meetings ▪ Report highlights and challenges related to SLO and PLO assessment results ▪ Share best practices for improving outcomes assessment process (e.g., assessment rubrics, strategies, action items) ▪ Provide materials for SLO newsletter ▪ Submit end-of-year Facilitator report ▪ Make presentations on outcomes assessment to divisions on Professional Development Day 	<ul style="list-style-type: none"> ▪ Maintain learning outcomes alignment grids, assessment timelines, and related reports (e.g., 3-week report on course cancelations that affect timelines) ▪ Coordinate the review and revision of course- and program-level outcome statements in consultation with division colleagues ▪ Meet regularly with division Dean and respond to division requests for information related to outcomes assessment ▪ Provide division-level support for faculty/staff completing outcomes assessments 	<ul style="list-style-type: none"> ▪ Provide training to faculty and staff within own division ▪ Monitor completion of scheduled assessments and spot-check for quality of reports in Nuventive ▪ Generate and review status reports ▪ Follow up with faculty regarding status of action items from previous assessments ▪ Report any user and/or functionality-related issues to SLO Coordinators 	<ul style="list-style-type: none"> ▪ Collect evidence of ongoing dialogue regarding outcomes assessment to SLO Coordinators (e.g., agendas, minutes, emails, documented discussions) ▪ Collect evidence of follow-up regarding action items from outcome assessment. 	<ul style="list-style-type: none"> ▪ Report any changes needed SLO website to SLO Coordinators
General Members	<ul style="list-style-type: none"> ▪ As designated representative (e.g., IRP, Deans, Student Services), provide updates to colleagues regarding process and status of learning outcomes assessment ▪ Make recommendations based on assessment process and results in division/area represented 	<ul style="list-style-type: none"> ▪ Participate in the planning, analysis, and reporting of ILO assessment ▪ Participate in discussions regarding trends in student performance on SLO and PLO assessments (e.g., equity gaps) 	<ul style="list-style-type: none"> ▪ Review outcomes assessment reports from division/area represented 	<ul style="list-style-type: none"> ▪ Collect evidence of ongoing dialogue regarding outcomes assessment in division/area represented (e.g., agendas, minutes, emails, documented discussions) 	<ul style="list-style-type: none"> ▪ Report any changes needed SLO website to SLO Coordinators



Quality SLO Assessment Checklist

___1. **Completion**

- Are all sections of the report complete (lead faculty, target, data and analysis, action plan with due date)?
- Is the information in the appropriate place?

___2. **Target**

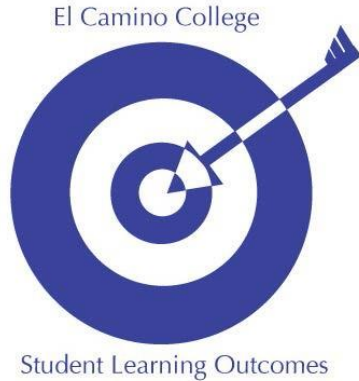
- Is the target clearly defined?
- Is it stated that the target has been met/not met?
- Is it clear why the target was met/wasn't met?

___3. **Data with Analysis**

- Is there appropriate data to support whether the target was met or not?
- Have faculty analyzed the data (i.e. given a short narrative interpretation of the results)?

___4. **Action Plan**

- Is the action plan stated an appropriate result of the data and analysis?
- Is it dated appropriately (i.e. the next time the course is taught, or after)?



Quality PLO Assessment Checklist

___1. **Completion**

- Are all sections of the report complete (lead faculty, target, data and analysis, action plan with due date)?
- Is the information in the appropriate place?

___2. **Target**

- Is the target clearly defined?
- Is it stated that the target has been met/not met?
- Is it clear why the target was met/wasn't met?

___3. **Data with Analysis**

- Is there appropriate data to support whether the target was met or not?
- Is the scope of the findings appropriate for this PLO?
- Is the sample size of recommended limits (i.e. multiple courses used)?
- Have faculty analyzed the data (i.e. given a short narrative interpretation of the results)?

___4. **Action Plan**

- Is the action plan stated an appropriate result of the data and analysis?
- Is it a program wide action that can be implemented?
- Is it dated appropriately (i.e. within reasonable limits and before the next assessment)?

El Camino College



Student Learning Outcomes

Follow Up Procedure in Nuventive

Many courses are now being assessed for the second or third time. Earlier assessments include Actions and an Action Due Date, and these Actions need to have Follow Ups completed.

Faculty members are asked to review previous Assessment Data, Analysis, and Actions and provide a Follow Up on completion of planned Actions and any other observations.

Follow Up should include:

- | | |
|---|---|
| <input type="checkbox"/> Teaching Strategy | Was the Action implemented and did it result in improved student success? |
| <input type="checkbox"/> College Support | Was support provided? If not, was the request included in the division action plan? |
| <input type="checkbox"/> Curriculum Changes | Has the process begun to change or introduce new curriculum? |
| <input type="checkbox"/> Assessment Process | Was the process revised or the statements changed for the next assessment? |

Entering “Follow Up” information into TracDat allows us to document actions taken as a result of assessment as well as to reflect on any impact of completed actions. This is the final step in the ‘Assessment Cycle’ outlined in the SLO Handbook and helps the college demonstrate that assessment results are used to refine instruction and services (close the feedback loop) and modify course, program, and services goals and outcomes.

When to follow up?

The following are possible models:

1. **Complete the follow up when the next course assessment is submitted.**
This is the recommended plan as it usually will coincide with the assessment cycle. Most courses will enter a follow up of the past year’s assessment, once a year, when the course, not just that SLO, is assessed again.
2. **Have a once-a-year division follow up date.**
This date will be set by the division as the time when faculty will go back into previously completed assessments with actions due and complete the follow ups.
3. **Utilize an “Action” report that will be run by the date that actions are due.**
This report (generated annually or each semester) can be used to complete follow ups based on the time when faculty indicated actions would be completed.

Online Resources

El Camino College SLO Website

<http://www.elcamino.edu/academics/slo/>

El Camino College Institutional Research & Planning

<http://www.elcamino.edu/about/depts/ir/>

Nuventive

<https://elcamino.tracdat.com/tracdat/>

Glossary of Terms

Broad Terminology

Student Learning Outcome (SLO)	<p>What students are expected to produce by the end of a course, program, college experience, degree or certificate program, or set of interactions with student services. SLOs involve higher order thinking skills and are measurable. A robust SLO includes the following three elements:</p> <ul style="list-style-type: none"> • Context or conditions under which performance will be assessed (e.g. test, essay, demonstration, class discussion, etc.) • Behavioral objective • Criteria, performance standards or primary traits for assessing performance <p>Thus, an SLO suggests an appropriate assessment and rubric for measuring the outcome.</p>
Core Competency	<p>A broadly-defined knowledge base and/or set of skills. Core competencies can be expressed as institution-level outcome (ILO) statements which describes what students are able to do at the end of their experience at the college. They serve as “folders” or “categories” under which course- and program-level learning outcomes are organized and aligned. They may be assessed indirectly via measures of course- and program-level student learning accordingly.</p>
Course-Level SLO	<p>What the student will be able to produce at the end of a course. This is the lowest level at which SLOs are usually assessed. Writing a course-level SLO involves considering the overarching goals of the respective course, matching these goals with a particular assessment method, and articulating these overarching goals in an SLO statement. Courses may have multiple SLOs.</p>
Course Objective	<p>A statement of what the students are expected to know or learn by the end of a course. These differ from SLOs in many ways:</p> <ul style="list-style-type: none"> • they often focus on what the instructor does rather than what the student will be able to do (i.e. input rather than output); • they are often content-based and not necessarily competency-based • they are often not measurable or assessable
Institution-level SLO	<p>What students are able to do at the end of their experience at the college. ILOs serve as “folders” or “categories” under which course- and program-level learning outcomes are organized and aligned. They may be assessed indirectly via measures of course- and program-level student learning accordingly.</p>
Program	<p>A set of courses which culminates in a degree, certificate, or preparation for degree or certificate</p>
Program-Level SLO	<p>What the student will be able to produce at the end of a program. This is the middle level at which SLOs are usually assessed. Writing a program-level SLO involves considering the overarching missions of the</p>

respective program, matching these missions to courses in the program, and coming up with a cumulative assessment which may or may not be the same as a course-level assessment. Program-level SLOs, like core competencies, may also serve as “folders” or “categories” under which course-level SLOs are assessed; thus, program-level SLOs may or may not be directly assessed. For student services, which has many modes of learning which cannot necessarily be readily divided into discreet units like courses can, this is the most common level at which SLOs are written and assessed.

Student Learning Outcomes Assessment Cycle

The process by which SLOs are identified, measured and analyzed, and the results used to improve student learning.

The three steps in the cycle are:

- *Identify*: Faculty meet and work together in identifying what the students should produce at the end of a set of learning experiences (be it at the course or program level). An SLO is then drafted, and an assessment plan written, which states what the assessment will be (i.e. how the SLO will be measured), and what the rubric will be (i.e. which standards will be used to determine attainment of the outcome.)
- *Assess*: The semester following the identification of the SLO(s) and drafting of the assessment plan, the proposed assessment is then run and the data collected.
- *Reflect*: In the third semester of the cycle, the data is compiled and the faculty come together again to discuss the results. This dialogue should include a discussion about the meaning of the results and how they can be used to improve student learning.

Processes Involved in SLO Development and Assessment:

Assessment

In simplest terms, assessment is the systematic collection and analysis of information to improve student learning. However, “assessment is not an end in itself but a vehicle for educational improvement” (AAHE, 1992). The purpose of assessment is not merely to gather information; the purpose of assessment is to foster improvement.

Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance. When it is embedded effectively within larger institutional systems, assessment can help us focus our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of higher education (Angelo, AAHE Bulletin, November 1995, p. 7).

Assessment Instrument	The evidence of learning that the student will produce (e.g. test, essay, portfolio, demonstration) and which will be evaluated by faculty associated with a particular program with respect to a rubric.
Assessment Plan	A plan written in the first step of the cycle (<i>identify</i>) in which faculty draft an SLO for a course or program, outline how it will be assessed, and state how the resulting data will be used to improve student learning.
Dialogue	A group discussion among colleagues, often facilitated, which is designed to explore complex issues, greater group intelligence and facilitate group learning (ACCJC Standards Glossary). Dialogue is an essential process in SLO development.
Norming	A process in which faculty come to an agreement about how the rubric will be used and standards applied to evaluate assessments. The purpose is to avoid inter-rater error (i.e. large differences from evaluator to evaluator in how assessments are scored).
Pilot	A small-scale trial of an assessment instrument to test its validity and usability before the full-scale assessment is run.
Program Review	An analysis of a program's performance with respect to particular indicators, including student learning outcomes. SLOs are a natural fit in program reviews because for both, the goal is improvement (of student learning).
Rubric	A set of primary traits and guidelines for scoring and evaluating each assessment as agreed upon by a particular faculty group. A rubric makes explicit and specific statements about the expected qualities of performance at each point in the scale and for each primary trait or standard being evaluated. Rubrics help ensure consistency among raters (Oxnard College SLO Handbook, 2006).

Types of Assessment

Classroom Assessment	Simple, non-graded, anonymous, in-class activities that help instructors gather feedback from students on the teaching-learning process and determine how well their students are learning what they are being taught. The purpose of classroom assessment is to provide faculty and students with information and insights needed to improve teaching effectiveness and learning quality. College instructors use feedback gleaned through Classroom Assessment to inform adjustments in their teaching. Faculty also share feedback with students, using it to help them improve their learning strategies and study habits in order to become more independent, successful learners (Angelo, T.A., 1991; see also Classroom Assessment Techniques (2 nd ed.) by Angelo and Cross, 1993). Classroom assessment is a type of formative evaluation (see below).
Embedded Assessment	Collecting assessment data information within the classroom because of the opportunity it provides to use already in-place assignments and coursework for assessment purposes. This involves taking a second look at materials generated in the classroom

so that, in addition to providing a basis for grading students, these materials allow faculty to evaluate their approaches to instruction and course design. These assessments can be a part of the student's grade, but do not have to be (Oxnard College SLO Handbook, 2006).

Pre-Test/Post-Test	An assessment technique in which students are given an assessment at the beginning of the semester on material to be covered in the course to provide a baseline (pre-test). Then, students are given the same or a similar assessment at the end of the semester (post-test). This is a particularly valid way to show learning in a course because prior knowledge is established through the pre-test; then it's possible to show learning that took place in the course itself (rather than some other course or prior knowledge) through comparing the pre- and post-test results.
Portfolio	A collection of student work to show not only learning outcomes but also the progress or process of learning. Portfolios may be used not only as a course-level assessment but also at the program-level to show learning progress throughout a whole program.

Types of Evidence:

Direct Evidence	Evidence that shows directly that a student has learned. Examples of direct evidence include essays, tests, portfolios, or demonstrations. Simply stated, direct evidence is produced by students.
Indirect Evidence	Evidence that shows student learning indirectly, through which student learning can be inferred rather than directly demonstrated. Examples of indirect evidence are course grades, transfer and retention data, surveys, exit interviews, etc.
Formative Evaluation	Evaluation for the purpose of <i>improvement</i> . Formative evaluation usually takes place <i>continually</i> throughout a lesson module, course, or program.
Summative Evaluation	Evaluation that is used to show <i>learner achievement</i> . Summative evaluation usually takes place at the <i>end</i> of a lesson module, course, or program. Formative and summative evaluation should be used to complement each other.
Qualitative Evidence/Data	Data/evidence that is narrative or descriptive in form. Qualitative evidence usually involves fewer cases than quantitative data, but shows much more specific information and tends to be very subjective.
Quantitative Evidence/Data	Data/evidence that is numerical in form. Quantitative evidence usually involves a great number of cases and is used to show general patterns and trends rather than specifics. It tends to be much more objective.