

August 16, 2005

To: My Fellow Faculty Members  
From: Sandra Stefani Comerford  
RE: Handout for Articulation of SLOs at the Department/Program and Course Level

I have assembled this packet to help you articulate student learning outcomes (SLOs) at the department/program and course level. Although the packet looks substantial, many of the pages are designed to simplify your work in developing SLOs. These guidelines are only suggestions for assessing academic or student services departments/programs or courses. If your department has developed another method and matrix that is more meaningful for your discipline, then please continue to use it.

Because so many faculty members requested time to work on SLOs within their disciplines, the College Assessment Committee and Shirley Kelly, along with CSM's administrators, felt that this flex day would provide you time for fruitful dialogue within your department. **Today, you will be developing SLOs for one or more courses and/or SLOs for the department/program.** How much can be accomplished will be your decision. Ultimately, you will need to have SLOs for all courses taught and for the department/program and will have to measure each SLO. **We anticipate that SLOs for a course or for a department/program will be complete by the end of the fall semester and that one of those SLOs will be measured by the end of spring semester.** Because dialogue is an essential component of the student learning outcomes assessment cycle (SLOAC), we are hoping that this occasion will be followed by others in which you and your department members can interact and that different departments will be willing to share their work on the assessment website page. The intent of this website is to allow CSM faculty to share resources among themselves. It will also document for WASC our work with SLOs. This page is not a means to evaluate SLOs, individual faculty members, departments/programs, or individual students.

During the semester, you are welcome to contact any member of the College Assessment Committee (see assessment website) or me.

## **Articulating SLOs at the Department/Program or Course Level**

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Adapted from a workshop conducted by Mary Allen at the Faculty Association of California Community Colleges Teaching & Learning Colloquium on January 8, 2005 at Pleasant Hill, CA. and a workshop conducted by Janet Fulks and Kate Pluta of Bakersfield College at College of San Mateo on April 1, 2005.

## Overview of the Student Learning Outcome Assessment Cycle

Program assessment is an on-going process designed to monitor and improve student learning. The process to develop SLOs for departments/programs is very similar to the process for developing SLOs for individual courses.

Faculty

- develop explicit statements (SLOs) of what students should learn at the end of an educational experience (which is defined as the end of a course or program or a student service interaction),
- verify that the department/program is designed to foster this learning,
- collect empirical data that indicate student attainment of the student learning outcomes (The outcome can be a product or behavior. Data are used to inform how students are accomplishing the outcome.), and
- use these data to improve student learning by making appropriate changes, if necessary, to the curriculum, methodology, student service unit, etc.

### First Step in the Assessment Cycle at the Course or Department/Program Level

#### Articulating SLOs for a course:

One of the best ways for faculty members to articulate SLOs for a course within their department/program is to look at the Official Course Outline under the heading of Course Objectives. Many objectives in revised Official Course Outlines are already written as student learning outcomes, indicating what students should be able to know, do, or value once the course has been successfully completed. Remember that outcomes are the answers to the question: **What should students know, be able to do, or value when they complete a course?** If your Official Course Outline for a course has these objectives already written as SLOs (meaning they begin with an action verb which states what the student should know or do), then the department needs to determine if these actions are still valid for the course. If so, the SLOs are complete for the course, and you can write them in the first column of Matrix 2 of Appendix B. **Remember that outcomes are meant to be broad statements capturing the major outcomes of a course.** It has been suggested that a course have 3-6 outcomes; **remember that each outcome must be measured and assessed.** A list of relevant action verbs follows.

#### Articulating SLOs for a department/program:

Student learning outcomes for department/programs answer the same question as for courses but at the department level: What should students know, be able to do, or value when they complete a major or program, e.g., complete the English composition series program, complete a major in chemistry, receive a certificate in multimedia web design, complete an interaction in counseling? **Focus on what you, the faculty members, believe are the most important outcomes for students to achieve.** As for course SLOs, action verbs should start each of the 3-6 department/program outcomes. A list of action verbs follows. Department/program SLOs will most likely be included in future Program Reviews.

Attached at the end of this handout in Appendix B are Matrix 1, a worksheet on which you can write the SLOs for your department/program in the first column, and Matrix 2,
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another worksheet on which you can write course SLOs in the first column. Faculty in student services may find Matrix 3 more suitable to their needs.

## Bloom's Taxonomy and List of Relevant Action Verbs

Bloom's taxonomy is a well-known description of levels of educational outcomes. It may be useful to consider this taxonomy when defining your outcomes.

Knowledge	To know specific facts, terms, concepts, principles, or theories
Comprehension	To understand, interpret, compare and contrast, explain
Application	To apply knowledge to new situations, to solve problems
Analysis	To identify the organizational structure of something; to identify parts, relationships, and organizing principles
Synthesis	To create something, to integrate ideas into a solution to propose an action plan, to formulate a new classification scheme
Evaluation	To judge the quality of something based on its adequacy, value, logic, or use

### Relevant Action Verbs

[Gronlund, N. E. (1991). *How to write and use instructional objectives* (4<sup>th</sup> ed.). New York: Macmillan Publishing Co.]

These verbs are useful when writing SLOs and applying Bloom's Taxonomy:

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
cite	arrange	apply	analyze	arrange	appraise
define	classify	change	appraise	assemble	assess
describe	convert	compute	break down	categorize	choose
identify	describe	construct	calculate	collect	compare
indicate	defend	demonstrate	categorize	combine	conclude
know	diagram	discover	compare	compile	contrast
label	discuss	dramatize	contrast	compose	criticize
list	distinguish	employ	criticize	construct	decide
match	estimate	illustrate	debate	create	discriminate
memorize	explain	interpret	determine	design	estimate
name	extend	investigate	diagram	devise	evaluate
outline	generalize	manipulate	differentiate	explain	explain
recall	give examples	modify	discriminate	formulate	grade
recognize	infer	operate	distinguish	generate	judge
record	locate	organize	examine	manage	justify
relate	outline	practice	experiment	modify	interpret
repeat	paraphrase	predict	identify	organize	measure
reproduce	predict	prepare	illustrate	perform	rate
select	report	produce	infer	plan	relate
state	restate	schedule	inspect	prepare	revise
underline	review	shop	inventory	produce	score
	suggest	sketch	outline	propose	select
	summarize	solve	question	rearrange	summarize
	translate	translate	relate	reconstruct	support
		use	select	relate	value
			solve	reorganize	
			test	revise	

## If you're stuck: Tips to Develop Course or Department/Program Level Outcomes

- Fill in the blanks. When students complete a course of instruction or interaction with student services, they should know \_\_\_\_\_, be able to \_\_\_\_\_, or value \_\_\_\_\_.
- Consider two types of outcomes, those unique to the discipline and those that expand on general education outcomes, such as communication skills.
- Review materials from similar programs and adapt relevant segments. Check our college assessment website (<http://www.smccd.net/accounts/csmresearch/assessing.html>) for links to other schools.
- Consider “best practices” guidelines from professional organizations or accrediting agencies and adapt these to your program or course.
- Try a ‘top-down’ approach. Use documents that describe your program to identify your outcomes. Examples of such resources are official course outline, catalog copy, mission statements, program brochures, and accreditation reports.
- Try a “bottom-up” approach. Review instructional materials, such as syllabi, assignments, tests, and texts. Look for faculty expectations, either explicit or implicit, for knowledge, skills, and values that students are expected to develop.
- Ask for input from important stakeholders, such as students, alumni, and employers. What do they believe that students should know, do, or value by the end the course/program?
- Describe the ideal graduate of your program. Ask these questions: “What does this person know? What can this person do? What does this person care about?”
- Involve as many of the program faculty as you can. Encourage faculty to explain and defend various perspectives, either anonymously or in open meetings.

### Student Learning Outcomes Checklist (To help determine good SLOs)

	Yes	No
Do the SLOs include active verbs?		
Do the SLOs suggest or identify an assessment?		
Do the SLOs address the expected level of learning for the course or department/program using Bloom’s Taxonomy as a guideline?		
Do the SLOs address more than one domain (cognitive, psychomotor, and affective)?		
Are the SLOs written as outcomes rather than as objectives? <ul style="list-style-type: none"> <li>• Does the language indicate an important overarching concept versus small lesson or chapter objectives?</li> <li>• Do the outcomes address what a student will be able to do at the completion of the course or program/degree or student services interaction?</li> <li>• Do the SLOs address student competency rather than content coverage?</li> </ul>		

Are the SLOs appropriate for the course or program/degree?		
<ul style="list-style-type: none"> <li>• Are the SLOs consistent with the curriculum document of record?</li> <li>• Do the SLOs represents a fundamental result of the course or interaction?</li> <li>• Do the SLOs align with other courses in a sequence, if applicable?</li> <li>• Do the SLOs represent collegiate level work?</li> </ul>		
Will students understand the SLOs?		
Comments or suggestions:		

## A Measurement Plan

Once you've completed articulating SLOs for a course or department/program or student services interaction, develop a meaningful, manageable, and sustainable assessment plan. Are any assessments—placement tests, capstone projects, portfolios, tests—already in place now? After articulating SLOs, have a plan for how often and who will assess each one, how data will be collected and when the department will look at the data. Assessment strategies include any methods established by faculty that will determine if students have achieved learning outcomes. For example, a painting may be considered valid evidence of SLOs in an art class; a capstone project may be evidence of SLOs for a history course; an experiment may be evidence of SLOs in a biology course. Once you and your department members have identified a measurement and a timeline for it, you can complete the second column of Matrix 1, 2, or 3 in Appendix B. **Please try to determine a measurement plan for at least one SLO for a course or the department/program to be completed during this academic year.**

## Appendix A

**To be completed after developing department/program & course SLOs:**

**(1) Check for alignment between SLOs for courses in the curriculum and department/program SLOs.** What is the articulation between sections of a course and courses in a sequence? How consistent are faculty's expectations of student learning outcomes across sections of a course, courses, and degree or certificate?

### Course X Department/Program SLOs Alignment Matrix

Course*	Dept/Prog SLO 1	Dept/Prog SLO 2	Dept/Prog SLO 3	Dept/Prog SLO 4	Dept/Prog SLO 5
100	I	I		I	
101	R				I
105		R	I		
110		R	R	R	R
165	R		M		R
200	M			M	
201		M			M

\*Courses in a department or program

I = Introduced, R = Reinforced, M = Demonstrated at the Mastery Level (If I, R, and M are not useful designations for your course X department/program alignment, check marks can replace I, R, and M.)

**(2) Check for alignment between department/program SLOs and institutional SLOs.** You will have a chance to review institutional SLOs later this semester. The College Assessment Committee will be working on a draft of institutional SLOs this fall and will distribute it campus wide for your input.

### Institutional SLOs X Department/Program SLOs Alignment Matrix

\_\_\_\_\_ addresses the following institutional SLOs:  
(Name of Dept. or Program)

Institutional SLOs:	Dept/Prog SLO that addresses institutional SLO
SLO 1:	
SLO 2:	
SLO 3:	

SLO 4:	
SLO 5:	
SLO 6:	

(Not all department/program SLOs need address all the institutional SLOs.)

### **Institutional SLOs X Student Services Unit SLOs Alignment Matrix**

\_\_\_\_\_ addresses the following institutional SLOs:  
(Name of Unit in Student Services)

Institutional SLOs:	SS Unit SLO that addresses institutional SLO
SLO 1:	
SLO 2:	
SLO 3:	
SLO 4:	
SLO 5:	
SLO 6:	

(Not all department/program SLOs need address all the institutional SLOs.)

## Appendix B

### Matrix 1

## Student Learning Outcome Assessment Cycle for Department/Program Level

**Name of Department or Program:**

<u>Student Learning Outcomes</u>	<u>Measurement</u>	<u>Evaluation</u>	<u>Recommendation/Action</u>
<p><b>What will students know, do, or value at the end of a course of instruction at dept/prog level?</b></p> <p><b>Students should be able to</b> (begin each SLO with an action verb)</p>	<p><b>What strategies (activities, tools, instruments, projects, papers, techniques) will be used to demonstrate the extent to which the learning outcome was successful? In other words, how and when will the SLO be assessed? Who will collect the data?</b></p>	<p><b>Who will analyze the data? What do the measurement results reveal in relation to the learning outcome?</b></p>	<p><b>What recommendations or actions will be made (if any) based on the evaluation?</b></p>
<p><i>SLO Example:</i>  <i>Example for a dept/prog SLO: (at the end of the composition program) write a clear, well organized essay analyzing an issue using support from texts.</i></p>	<p><i>Example: A random selection of English 110 and 165 essays written at the end of the spring semester will be collected by a three-instructor English committee.</i></p>	<p><i>Example: The three-instructor English committee will holistically score the essay based on a department-approved rubric. The data reveal....</i></p>	<p><i>Example: Based on the data, English Department has decided....</i></p>
<p>SLO 1:</p>			
<p>SLO 2:</p>			

SLO 3:			
SLO 4:			
SLO 5:			
SLO 6:			



**Matrix 2**

**Student Learning Outcome Assessment Cycle for Course Level**

**Name of Course:**

<b><u>Student Learning Outcomes</u></b>	<b><u>Measurement</u></b>	<b><u>Evaluation</u></b>	<b><u>Recommendation/Action</u></b>
<p><b>What will students know, do, or value at the end of a course?</b></p> <p><b>Students should be able to</b> (begin each SLO with an action verb)</p>	<p><b>What strategies (activities, tools, instruments, projects, papers, techniques) will be used to demonstrate the extent to which the learning outcome was successful? In other words, how and when will the SLO be assessed? Who will collect the data?</b></p>	<p><b>Who will analyze the data? What do the measurement results reveal in relation to the learning outcome?</b></p>	<p><b>What recommendations or actions will be made (if any) based on the evaluation?</b></p>
<p><i>SLO Example: Example for a microbiology course: Retrieve, evaluate, and use microbiologic information regarding contemporary issues in the world and relevant to their everyday lives.</i></p>	<p><i>Example from a microbiology course: Project - Microbiologic Pamphlet or 3 D project</i></p>	<p><i>Example from a microbiology course: class instructor will grade pamphlet based on a rubric, outlining the areas to be graded and specifying levels of performance. The data reveal...</i></p>	<p><i>Example from a microbiology course: After reviewing the data of the whole class (or perhaps the data of all sections of this course taught by the instructor), the instructor decides....</i></p>
<p>SLO 1:</p>			
<p>SLO 2:</p>			

SLO 3:			
SLO 4:			
SLO 5:			
SLO 6:			



**Matrix 3**

**Student Learning Outcome Assessment Cycle for Student Services**

**Student Services Unit:**

<u>Student Learning Outcomes</u>	<u>Measurement</u>	<u>Evaluation</u>	<u>Recommendation/Action</u>
<p><b>What will students know, do, or value as a consequence of the service provided by this unit?</b></p> <p><b>Students should be able to</b> (begin each SLO with an action verb)</p>	<p><b>What strategies (activities, tools, instruments, projects, papers, techniques) will be used to demonstrate the extent to which the learning outcome was successful?</b></p> <p><b>In other words, how and when will the SLO be assessed? Who will collect the data?</b></p>	<p><b>Who will analyze the data? What do the measurement results reveal in relation to the learning outcome?</b></p>	<p><b>What recommendations or actions will be made (if any) based on the evaluation?</b></p>
<p>SLO 1:</p>			
<p>SLO 2:</p>			

SLO 3:			
SLO 4:			
SLO 5:			
SLO 6:			

