Academic Senate of Contra Costa College

SLO/AUO HANDBOOK

Student Learning Outcomes & Administrative Unit Outcomes

This is a companion document to:
Guidelines for Program Review and SLOA Reports for Instructional Programs
&
Guidelines for Program Review and SLO/AUO Reports for Non-Instructional Programs

March 2010 Update

This *Handbook* is updated from time to time when new information, policies and procedures become available as the college continues to develop, implement and fine-tune all aspects of outcome assessment and review process. The basic processes already established regarding SLO/AUO plans, assessments and program review will not change.

The latest updates of this Handbook along with the *Guidelines for Program Review,* required forms and other documents, resources and references can be found on the Academic Senate web site.

You will be notified by e-mail when substantial changes (updates) have been made. The changes made in the updates will be clearly identified on the Table of Contents page.

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Changes made to the March 2010 update (compared with February update):

1. Minor editorial changes in preparation for the new CCC web site.
2. Minor corrections to Chapter 5.

Changes made to the February 2010 update (compared with the November 2009 version).

1. New chapter (Chapter 5) on AUOs, SUOs and other non-instructional programs.
2. Correction to the margin of error calculations, footnotes 26 & 27, page 24.

All URLs (web addresses) were accurate and active as of October 2009

FAQs about SLOs

Bold black type is a hyper-link to the referenced text; control-click will take you there. If you're reading a version that doesn't support hyperlinks, look up the bolded topic in the Quick Reference, page v.

1. Where does it say we have to do SLOs?

The Accreditation Commission of Community & Junior Colleges (ACCJC) has standards that we must meet in order to be accredited. A list of the SLO related standards is found in Chapter 1, especially note **Standard II.A**. To see the complete list of standards go to the ACCJC web site http://www.accjc.org

2. Why are they picking on us?

All community and junior colleges in California and in the U.S. are required to do SLOs. The CSU campuses and almost all of the higher education institutions (public and private) across the nation are required to do SLOs.

3. What if we don't do SLOs?

We will lose accreditation.

4. OK, I'll do them but where can I get more information?

Read this *Handbook*. Also go to the Quick Links menu from the CCC homepage and scroll down to **SLOs** for a list of various resources. Also see Appendix L for more resources.

5. Do I have to assess every course & every program every semester? No…

But within the four-year program review cycle you should assess each course and program at least 2 or 3 times. See Chapter 3 for examples of **assessment schedules**.

6. Do I have to assess all sections of the course? No…

But important information about consistency across sections is unavailable if you do not assess all sections. Note, all sections of the same course must have the same SLOs and assessments should be consistent across all sections of the same course. For more details, see: **Multiple Sections, inter-rater reliability,** and **Norming.**

7. Do I have to assess the work of every student? No…

But if you don't, you must select a *random* sample of the work of at least 30 students (and calculate the margin of error--it's not hard). For more details, see**: Using Samples, margin of error, and sample size.**

8. Can I use student work that I use to determine grades? Yes…

But the SLO records are kept differently than your records for student grades. See FAQ 10 and the *SLO Handbook* for examples of SLO record keeping. For more details, see: **For** grades **v. SLOs and Embedded assessments.**

9. What do I do with the raw data?

The student by student, section by section scores are your raw data. You should archive that raw data at the department level. You decide how & where & who is responsible for it and who has access to it. You only need to save the scores, not actual student work. For more details, see **Record Keeping, raw data raw data**

10. What does it mean, "At least 75% of students will score 70% or higher"?

Example: Your assignment is worth 10 points and you have 40 students. At least 30 of your 40 students (75% of your students) need to score at least 7 out of the possible 10 points (70%). Thus, for SLO record keeping you need to count the number of students who scored 7 points or more. In your SLO Plans, you decide on the percent of students and the minimum score. For more examples see **criterion statements**.

11. How often do I submit the SLOA Forms?

Complete and submit an SLOA Form each time you complete an assessment for the course or program. You will also need to submit copies of all SLOA Forms with the Program Review documents with at least one SLOA Form for each course and program. For more information see the companion document, *Guidelines for Program Review*.

12. Do we submit a separate SLOA Form for each section? No.

SLO analysis/recommendations are reported for all sections of the course on one form.

13. Where can I find the SLOA Forms?

Appendix K but MS Word forms are on the S-Drive in a folder called Program Review and SLOs. We are currently working on a on-line version of the form that will be available at the end of SP 2010.

14. What if my results are excellent, can I stop doing SLOs? No.

A) SLO assessments are done for two reasons: 1) to determine whether or not students are learning, but more importantly, 2) to help identify aspects of the teaching/learning process that can be improved upon. Therefore, even if SLO results are excellent there may be reasons for continuing with assessments if the results provide helpful information for use in developing action plans, prioritizing resource needs, designing master plans, creating strategic initiatives, informing shared governance decisions, etc.

B) If the results for a particular SLO are excellent and provide no new useful information, "retire" that SLO and move on to another.

C) Just as Program Review occurs on a routine and continuing basis SLO assessment and analysis also need to occur on a routine and continuing basis. "An effective institution ensures that its resources and processes support student learning, continuously assesses that learning, and pursues institutional excellence and improvement." (Introduction to the ACCJC Standards)

15. If I have "retired" an SLO does that mean I can never use it again? No.

After a number of semesters or even years, given the inevitable changes in technology, faculty, staff, student cohorts, textbooks, scheduling, etc., it would actually be a good idea and even worthwhile to reactivate your "retired" SLO.

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Chapter 1: Accreditation and Student Learning Outcomes

Accreditation as a system of voluntary, non-governmental self regulation and peer review is unique to American educational institutions. It is a system by which an institution evaluates itself in accordance with standards of good practice regarding goals and objectives…. Each institution affiliated with the Accrediting Commission for Community and Junior Colleges accepts the obligation to undergo a cycle of periodic evaluation through self study and professional peer review.[1]

The Western Association of Schools and Colleges (www.wascweb.org)
The Western Association of Schools and Colleges (WASC) is one of the six regional associations responsible for accrediting all public, private and church related schools and colleges in the United States. There are three separate commissions of WASC, each responsible for accrediting a different educational level. The Accrediting Commission for Schools covers all educational institutions below the college level. The Accrediting Commission for Senior Colleges and Universities covers all senior colleges and the Accrediting Commission for Community and Junior Colleges is responsible for accrediting all post-secondary institutions offering two-year programs and awarding an Associate Degree.

The Standards of Accreditation.
Each of the three accrediting commissions, under the oversight of WASC, establishes the standards by which institutions are evaluated. The current standards of the Accrediting Commission for Community and Junior Colleges (ACCJC) fall under the following four major categories:

Standard I: Institutional Mission and Effectiveness
Standard II: Student Learning Programs and Services
Standard III: Resources
Standard IV: Leadership and Governance

In the early 1960s, initial accreditation standards focused only on the basics of organizational structures and processes as well as availability and quality of resources. In the 1990s standards regarding student achievement were included. In the 2002 Standards of Accreditation, student learning outcomes were added: The student learning outcome standards require institutions to provide evidence of a conscious effort to:

- make learning the institution's core activity,
- support and produce student learning,
- measure that learning,
- assess how well learning is occurring,
- make changes to improve student learning,
- organize its key processes to effectively support student learning,

[1] *Guide to Evaluating Institutions*, 2006, available online at www.accjc.org/ACCJC_Publications.htm. (Scroll down to find the link for the Guide. The 2006 edition has been replaced by the 2009 edition.)

- allocate its resources to effectively support student learning, and
- improve learning as an important means to institutional improvement.

The ACCJC has developed three related rubrics used to assist in evaluating colleges during the accreditation process. The three rubrics, though focused on three different aspects of college effectiveness (Program Review, Planning and Student Learning Outcomes), are all interrelated. (See *Appendix B* for the rubrics.)

The ACCJC Standards that Directly Relate to Student Learning Outcomes.

The following selection of standards pertains directly to student learning outcomes (SLOs). It is important to keep in mind that, as a selection, this list represents only a small component of all the standards which must be addressed in the accreditation process.[2]

Not only do the new standards require the development and use of SLOs to measure learning and institutional effectiveness but also require documentation of:

- the process of developing student learning outcomes,
- the evidence of the achievement of student learning outcomes,
- the systematic use of student learning outcomes in self evaluations, and
- the routine use of outcome assessment results to inform strategies for improvement at the course, department and college level.

Standard I.B. Improving Institutional Effectiveness
The institution demonstrates a conscious effort to produce and support student learning, measures that learning, assesses how well learning is occurring, and makes changes to improve student learning. The institution also organizes its key processes and allocates its resources to effectively support student learning. The institution demonstrates its effectiveness by providing 1) evidence of the achievement of student learning outcomes and 2) evidence of institution and program performance. The institution uses ongoing and systematic evaluation and planning to refine its key processes and improve student learning.

Standard II.A. Instructional Programs
The institution offers high-quality instructional programs in recognized and emerging fields of study that culminate in identified student outcomes leading to degrees, certificates, employment, or transfer to other higher education institutions or programs consistent with its mission. Instructional programs are systematically assessed in order to assure currency, improve teaching and learning strategies, and achieve stated student learning outcomes. The provisions of this standard are broadly applicable to all instructional activities offered in the name of the institution.

[2] For a complete list of all the standards from the Accrediting Commission for Community and Junior Colleges/Western Association of Schools and Colleges see their web site www.accjc.org Look under publications for members.

II.A.1.c. The institution identifies student learning outcomes for courses, programs, certificates and degrees; assesses student achievement of those outcomes; and uses assessment results to make improvements.

II.A.2.a. The institution uses established procedures to design, identify learning outcomes for, approve, administer, deliver, and evaluate courses and programs. The institution recognizes the central role of its faculty for establishing quality and improving instructional courses and programs.

II.A.2.b. The institution relies on faculty expertise and the assistance of advisory committees when appropriate to identify competency levels and measurable student learning outcomes for courses, certificates, programs including general and vocational education, and degrees. The institution regularly assesses student progress towards achieving those outcomes.

II.A.2.e. The institution evaluates all courses and programs through an on-going systematic review of their relevance, appropriateness, achievement of learning outcomes, currency, and future needs and plans.

II.A.2.f. The institution engages in ongoing, systematic evaluation and integrated planning to assure currency and measure achievement of its stated student learning outcomes for courses, certificates, programs including general and vocational education, and degrees. The institution systematically strives to improve those outcomes and makes the results available to appropriate constituencies.

II.A.2.h. The institution awards credit based on student achievement of the course's stated learning outcomes. Units of credit awarded are consistent with institutional policies that reflect generally accepted norms or equivalencies in higher education.

II.A.2.i. The institution awards degrees and certificates based on student achievement of a program's stated learning outcomes.

II.A.3. The institution requires of all academic and vocational degree programs a component of general education based on a carefully considered philosophy that is clearly stated in its catalog. The institution, relying on the expertise of its faculty, determines the appropriateness of each course for inclusion in the general education curriculum by examining the stated learning outcomes for the course.

II.A.6. The institution assures that students and prospective students receive clear and accurate information about educational courses and programs and transfer policies. The institution describes its degrees and certificates in terms of their purpose, content, course requirements, and expected student learning outcomes. In every class section students

receive a course syllabus that specifies *learning outcomes*[3] consistent with those in the institution's officially approved course outline.

II.A.6.a. The institution makes available to its students clearly stated transfer-of-credit policies in order to facilitate the mobility of students without penalty. In accepting transfer credits to fulfill degree requirements, the institution certifies that the expected learning outcomes for transferred courses are comparable to the learning outcomes of its own courses. Where patterns of student enrollment between institutions are identified, the institution develops articulation agreements as appropriate to its mission.

Standard II.B. Student Support Services

The institution recruits and admits diverse students who are able to benefit from its programs, consistent with its mission. Student support services address the identified needs of students and enhance a supportive learning environment. The entire student pathway through the institutional experience is characterized by a concern for student access, progress, learning, and success. The institution systematically assesses student support services using student learning outcomes, faculty and staff input, and other appropriate measures in order to improve the effectiveness of these services.

II.B.4. The institution evaluates student support services to assure their adequacy in meeting identified student needs. Evaluation of these services provides evidence that they contribute to the achievement of student learning outcomes. The institution uses the results of these evaluations as the basis for improvement.

Standard II.C. Library and Learning Support Services

Library and other learning support services for students are sufficient to support the institution's instructional programs and intellectual, aesthetic, and cultural activities in whatever format and wherever they are offered. Such services include library services and collections, tutoring, learning centers, computer laboratories, and learning technology development and training. The institution provides access and training to students so that library and other learning support services may be used effectively and efficiently. The institution systematically assesses these services using student learning outcomes, faculty input, and other appropriate measures in order to improve the effectiveness of the services.

II.C.2. The institution evaluates library and other learning support services to assure their adequacy in meeting identified student needs. Evaluation of these services provides evidence that they contribute to the achievement of student learning outcomes. The institution uses the results of these evaluations as the basis for improvement.

Standard III. Resources

[3] The original version of the standards used the term "learning objectives." This has now been amended to read "learning outcomes." See *ACCJC News*, Summer 2009, page 9.

The institution effectively uses its human, physical, technology, and financial resources to achieve its broad educational purposes, including stated student learning outcomes, and to improve institutional effectiveness.

III.A.1.c. Faculty and others directly responsible for student progress toward achieving stated student learning outcomes have, as a component of their evaluation, effectiveness in producing those learning outcomes.

Use of Student Learning Outcomes in the Self-Study for Accreditation.

As part of the accreditation process, institutions are required to submit a self-study.[4] In the self study we are encouraged to answer the following questions with written evidence supporting our responses:[5] (The relevant standard is identified in parentheses.)

For Instructional Programs:

- What student learning outcomes has the institution identified for its courses, its programs, its certificates, its degrees? (II.A.1.c.)
- How and by whom are student learning outcomes and strategies for attaining them created? How and by whom are student learning outcomes and program outcomes assessed? How are the results used for improvement? (II.A.1.c.)
- Are student learning outcomes verifiable at the collegiate level? What assessments are in place for measuring these outcomes? How effectively are the assessments working? (II.A.1.c.)
- What dialogues have occurred about using assessment results to guide improvements to courses, programs, etc. What improvements have resulted? (II.A.1.c.)
- Are student learning outcomes established for each course and program? How is this "fit" evaluated? (II.A.2.a)
- How are competency levels and measurable student learning outcomes determined? What is the role of faculty? What is the role of advisory committees? (II.A.2.b)
- How has the institution structured the relationship between student learning outcomes, competency levels for degrees, certificate, programs, and courses? (II.A.2.b)
- Do students have a clear path to achieving the student learning outcomes required of a course, program degree, certificate? How well does the institution achieve and evaluate the effectiveness of learning at each level? (II.A.2.b)

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[4] A copy of our 2008 self-study is available on-line under the Quick Links menu of CCC's homepage (www.contracosta.edu).

[5] For a complete list of all the questions and required evidence, see the *Guide to Evaluating Institutions*, This list was based on the 2006 edition which has since been updated. The 2009 version is available on-line at www.accjc.org Look under member publications.

- How is the relevancy of a program determined? Have student learning outcomes for the program been identified? How well are the students achieving these outcomes? (II.A.2.e)
- Are student learning outcomes the basis for credit awarded for courses? Are credits awarded consistent with accepted norms in higher education? (II.A.2.h)
- By what means does the institution ensure that achievement of stated programmatic learning outcomes are the basis for awarding degrees and certificates? (II.A.2.i)
- Has the college identified student learning outcomes for its degrees and certificates? (II.A.2.i)
- How are student learning outcomes used to analyze courses for inclusion as general education? (II.A.3)
- Do general education courses demonstrate student achievement of comprehensive student learning outcomes? (II.A.3)

General Education Courses (II.A.3)

- Do student learning outcomes for general education courses require students to understand the basic content and methodology in the major areas of knowledge? Is there a consistent process for assuring that the content and methodology are included in course outlines?
- How are student learning outcomes developed to address concerns about ethics and effective citizenship? How is it determined where to include student learning leading to development of these qualities?

Transfer Course (II.A.6)

- How does the institution assure that information about its programs is clear and accurate? Are degrees and certificates clearly described? Are student learning outcomes included in descriptions of courses and programs?
- How does the institution verify that students receive a course syllabus that includes student learning outcomes?
- How does the college verify that individual sections of courses adhere to the course objectives/learning outcomes?

For Student Support Services

- Does the evaluation assess how student support services contribute to the achievement of student learning outcomes? How are evaluation results used to improve services? (II.B.4)

For Library Support Services

- What methods does the institution use to evaluate its library and other learning support services? Does the evaluation assess use, access and relationship of the services to intended student learning? Does the evaluation include input by faculty, staff and students? (II.C.2)

For Human Resources

- What are the roles of teachers, tutors, and others in producing student learning outcomes? (III.A.1.c)

- What methods has the institution developed to evaluate effectiveness in producing student learning outcomes? Are these methods yielding meaningful and useful results? (III.A.1.c)
- How does the institution use evaluation results to improve student learning outcomes? (III.A.1.c)

Chapter 2: SLOs at Contra Costa College, A Brief History

Based on the report by Carol Maga and Jim Duval for the 2008 accreditation self-study.[6] *Also see Appendix M for a detailed timeline documenting SLO activities from fall 2003 to fall 2009.*

Student Learning Outcomes were added to the Accreditation Standards in 2002. In 2003-2004, the Academic Senate, under President Saul Jones, adopted the SLO implementation plan.[7] The plan defines SLOs and mandates their implementation at the course, program, and general education levels. The plan describes the assessment cycle for ongoing improvement in student learning and includes a Student Learning Outcome Plan, Template and Time Table for use by programs and departments.[8]

In these early years the Vice President (then McKinley Williams) made the topic of SLOs a standing agenda item at the Council of Chairs meeting. The Council membership includes all faculty department chairs, division deans and other managers. The Research and Planning Office, under the direction of Tim Clow, took the initiative to support SLO development and provide assistance to academic departments. Mission statements, student learning outcomes and assessments of outcomes have been topics of division, senate, and Council of Chairs meetings. Most departments responded by completing their mission statements and some began writing their student learning outcome plans. All College Day in spring 2005 focused on developing campus-wide outcomes or core competencies for all students graduating from Contra Costa College.

During the transition to a new district chancellor, new college president, new vice president, and new academic senate president, focus on the development of SLOs slowed down until the new leadership was established. Throughout this time period, however, departments continued to work on writing their SLO plans and to begin collecting and evaluating their assessment data. Faculty continued to attended SLO workshops and Ellen Geringer continued to add annotated SLO resource links to the Staff Development Web Site.

By fall 2005, there was a core of staff and faculty members on campus with a thorough understanding of Student Learning Outcomes. Flex workshops and presentations were offered to share information with other faculty members. Under the new Academic Senate President, Terence Elliott, a committee was formed to start developing the General Education SLOs. In addition, departments were now required to include program level Student Learning Outcome Plans with their Program Review documents. Beginning in spring 2007, CIC started requiring SLO Plans to be attached to all new and revised course outlines including all course outlines submitted as part of Content Review.

With all these new requirements it became clear that there needed to be a formal structure for defining and handling all the aspects of the SLO process. The following steps were

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[6] A copy of our 2008 self-study is available on-line under the Quick Links menu of CCC homepage.
[7] See original SLO model at http://www.contracosta.edu/AcademicSenate/outcomes.htm
[8] The original templates and timeline are now out of date.

taken beginning in spring 2007 to develop a process for institutionalizing the SLO-assessment cycle and integrating the recommendations derived from the assessment results into college planning and budgeting decisions with the goal of improving institutional effectiveness.

First: The Academic Senate suggested providing a twenty-percent reassigned time position for a faculty member to serve as the campus SLO Coordinator. This was approved for a two-year term to be extended as needed.

Second: A Coordinating Committee was established composed of the Academic Senate President, the SLO Coordinator, the CIC chairperson, the campus Vice President, the Senior Dean of Instruction, the Dean for Research and Development, the Articulation Officer and the Student Life Manager.

Third: A new template for writing Student Learning Outcome plans was developed for instructional units. (See *Appendix K*.) The template serves two functions: it helps faculty write their SLO plans and it clearly itemizes the three components which all SLO plans must contain. The CIC chair and SLO Coordinator offered various FLEX workshops and informational presentations to help faculty develop their SLO plans and complete the form.

Fourth: In spring 2007, the accrediting commission requested that all colleges submit an SLO progress report. This required a count of how many departments had completed their SLO plans, had conducted assessments, and had made use of the assessment results to improve their programs or facilities in order to improve student learning. The same progress report was required the following year. To facilitate this record keeping a Progress Report form was developed.

Fifth: A timeline was developed for reporting SLO assessments results based on the program review schedule. In response to the accreditation team's report after their visit in fall 2008, the timeline was adjusted to insure that the college meets the required deadline as stated below,

> *In order to achieve the Proficiency level of the ACCJC rubric relative to student learning outcomes by the year 2012, Contra Costa College should develop a comprehensive timeline for SLOs in the areas of courses and programs, library services, student services and administrative services. The college should thoroughly incorporate student learning outcomes into the curriculum and program review processes, identify systemic measurable assessments, and use the results for the improvement of student learning and institutional effectiveness.* (See *Appendix B* for the ACCJC rubric mentioned above.)

Sixth: Since SLO assessment results now need to be included in the program review self study, the instructions for conducting a program review were rewritten and an SLO Assessment Form was developed to help faculty report their assessment results, analyses and recommendations. *(See Appendix K.)*

Seventh: In fall 2009, the GE-Core Competency SLO Committee was reconstituted. The committee originally had the responsibility of developing the campus-wide General Education SLOs. The new and continuing responsibility for the committee is to assemble and analyze SLO assessment results and recommendations from all departments across the campus. The committee is also responsible for writing a report that summarizes these campus-wide results and recommendations to improve student learning and institutional effectiveness.

Eighth: Also in fall 2009, the SLO Committee began work to formalize the college-wide integration of assessment results to ensure their use in campus-wide planning and resource allocation decisions.

As of October, 2009, there is still work to be done in order to meet all the new accreditation standards. As work progresses this handbook will be updated.

Chapter 3: Writing and Assessing SLOs

The purpose of the SLO assessment process is to improve teaching, learning and institutional effectiveness through an ongoing, systematic, documented procedure. The assessments are used to stimulate discussion about student needs and issues and ways to improve the teaching/learning process.

Student learning outcomes must be identified, assessed, analyzed and used to make improvements for:[9]

- the college as a whole (Standard I.B.)
- all programs (Standard II.A.)
- all instructional departments/programs (Standard II.A.)
- all student support services (Standard II.B.)
- all library and learning support services (Standard II.C.)
- all campus resource departments; human, physical, technological, and financial (Standard III)
- all general education requirements (Standard II.A.), and
- all individual courses (Standard II.A.)

Instructional departments address student learning on three different levels: course, program and general education. Many of the outcomes for these three levels overlap and the SLO Assessment Form for programs and courses requires identification of those outcomes which also satisfy any of the general education outcomes or core competencies. *(See Appendix F: GE SLOs and Core Competencies and Appendix K: SLO Forms.)*

The SLO Assessment Cycle consists of the following five steps:

Step 1: Write the SLO Plans.
Step 2: Conduct the assessments, collect and record the assessment results.
Step 3: Evaluate and analyze assessment results.
Step 4: Make recommendations to improve learning based on SLO assessment results and analysis. Submit formal report with program review.
Step 5: Implement the recommendations.
Close the Loop: Repeat the cycle beginning with either Step 1 or Step 2 as appropriate.

The accreditation standards require the five steps to be "systematically institutionalized and documented". This means that (1) there is a formal procedure for ongoing assessment, evaluation, recommendation, implementation, reassessment, etc. and (2) there is a written record of the process. For this reason, SLO analysis is now included in the program review self study.[10]

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[9] Included in parentheses are the relevant standards of the Accrediting Commission for Community and Junior Colleges/Western Association of Schools and Colleges, see www.accjc.org/ACCJC_Publications.htm or Chapter 1 of this handbook for the detailed wording of the relevant standards.

[10] See the new *Guidelines for Program Review and SLOA Reports*, available on the S drive in the Program Review and SLOA folder.

This chapter covers Steps 1 and 2. The following chapter covers the last three steps which are more closely connected with program review.

Step 1: Write the SLO Plan

Course-level SLO Plans (one for each course) are now required with all new and/or revised course outlines submitted to CIC for approval. Program-level SLO Plans (one for each program) are submitted with the program review self study. There are four parts to all SLO Plans:

Part 1. The outcomes—identify the knowledge, skills, abilities, and attitudes that a student will have attained at the end (or as a result) of his or her engagement in a particular set of collegiate experiences.[11]
Part 2. The assessment techniques—explain how student learning will be measured.
Part 3. The criteria or expected results—identify (a) a minimum score (grade) that represents an acceptable level of learning, and (b) what percent of all students should earn at least the minimum acceptable score.
Part 4. The scoring rubrics—are required if a rubric will be used in assessing student work. Rubrics are highly recommended when scoring is subjective and/or conducted by multiple readers.

Step 1-Part 1. Writing the Outcome Statement

(See Appendix D: Brainstorming SLOs, Appendix E for some examples and Appendix L for on-line resources.)

Most instructional departments will need to write both course level and program level outcomes. When developing the outcomes keep in mind three important ACCJC requirements:

- All courses must have a single set of outcomes that apply to all sections. Outcomes are part of the official course outline of record.[12]
- All course-level outcomes must be listed on all course syllabi.
- Course-level outcomes should be made available to students contemplating taking the course.
- Degree and certificate SLOs must be published in the catalogue.[13]

[11] Definition given in the ACCJC Standards glossary
[12] It is possible to designate "core" outcomes which are the same (required) for all sections of the course while some faculty want or need to emphasize *additional* outcomes for their sections. All (core and additional) outcomes must be listed on the syllabus.
[13] As of this printing, the SLO Committee is working on how to meet this requirement. At issue is the fact that the catalog represents an official contract between the student and the college. As we gain experience

Course Outcomes

Use the course objectives from the course outline of record to develop the course outcomes. Since course outcomes, just as the course objectives, are the same for all sections, all instructors teaching the same course must be assessing the same outcomes. Developing the course outcomes requires discussion and consensus among faculty members.

Outcomes measure what students can do. They are broader than objectives. Usually, a number of related course objectives can be combined into one outcome. The following are definitions from the Academic Senate, California Community Colleges (ASCCC) glossary.[14]

Objectives refer to the specific or discrete course content that students need to meet in order to pass the class. Objectives usually relate to lower level skills in the Bloom's taxonomy of learning. Objectives are usually more numerous and create a framework for the overarching Student Learning Outcomes which address synthesizing, evaluating and analyzing many of the objectives

Learning outcomes are defined in higher education assessment practice as something that happens to an individual student as a result of attendance at a higher education institution. A Learning Outcome is a statement of what a student should understand and be able to do as a result of what he or she has learned in a course or program.

Outcome statements should use verbs from the higher level categories of analysis, synthesis, and evaluation in Bloom's taxonomy. (See verb examples in *Appendix C: Bloom's Taxonomy*.)

The outcome statements should be:

- Consistent with the college's mission statement or statement of institutional purpose (see *Appendix A: Contra Costa College Mission Statement*),
- Consistent with the department's or program's mission statement,
- Reasonable given the ability of students,
- Reflective of key concepts or objectives of the course or program,
- Clear,
- Reflective of campus-wide GE SLOs and Core Competencies when appropriate (see *Appendix F--GE SLOs and Core Competencies*),
- Singular (one outcome per statement) and
- Measurable.

Generally from 3 to 6 outcomes per course or program should be sufficient. If you have many outcomes it is possible to prioritize them. Work on those of highest priority first

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with SLOs we are learning how to improve them and some of us feel hesitant to publish our rudimentary results in the catalog until they are fine-tuned.

[14] A copy of the glossary follows Chapter 5.

and then when students are successful at meeting the priority outcomes (due to improvements made to the teaching/learning process) move on to the other outcomes.

Instructional Program Outcomes

When writing program-level outcomes consider the following additional points:

- The individual course SLOs,
- The connection between required courses in the program with emphasis on progression of related SLOs in sequenced courses,
- Professional expectations,[15]
- Transfer requirements,
- Community expectations, and
- Student expectations and needs.

In addition to individually listed program-level outcomes, if there are course sequences which share similar SLOs you may wish to include a matrix that shows how SLOs relate and/or progress across the sequence of courses in a program. The following is a generic example.

Enter courses where appropriate to show sequencing of SLOs. This is especially useful if your department has courses with intra-department prerequisites.

	Introduced— (List basic concepts of …)	Developed— (Compare/contrast Concepts of…)	Gained Mastery— (Analyze and solve problems using concepts of …)
SLO #1			
SLO #2			
SLO # 3			
SLO #4			

More or fewer gradations may be appropriate. Add SLOs as needed.

Using this type of matrix may help develop or fine-tune the individual course-level SLOs since many courses do not stand alone but form an integral part of a program. Looking at the program in a holistic manner can also highlight any gaps in the learning experiences of students.[16]

Step 1-Part 2. Techniques for assessing the outcomes.

Also see *Appendix G: Assessment Tool Checklist; Appendix H: Assessment Tools, Pros-Cons* and *Appendix I: Nine Principles of Assessment.*

[15] For CTE programs, advisory committee members should approve the outcome statements.

[16] For example, Macroeconomic instructors might assume that trade issues are taught in the Micro course and Microeconomic instructors might assume that trade issues are taught in the Macro course. Result: no one is teaching trade issues.

For consistency across sections the assessment technique and scoring *should* be the same for all sections. This is perhaps one of the trickiest aspects of the SLO Plans—for all faculty members teaching the same course to use the same assessment technique. For example, if the assessment technique is an individual assignment it should be the same and graded (scored) the same across all sections. If the assessment technique includes embedded exam questions the questions and scoring should be the same across all sections.

If it is not reasonable to use the same assessment technique across all sections then faculty members must work together to ensure comparability in their different assessment techniques and in the different scoring methods. Again, this is not an easy task but assessment results must be compatible across different sections for results to be meaningful. In the initial stages of developing SLO plans using different assessment strategies might be away of identifying those that work best and those that should be abandoned. Ensuring comparability across sections is further discussed under *Step 2—Multiple Sections*.

There are dozens of techniques for assessing SLOs. A partial list is given below and then the most commonly used assessment techniques are briefly explained.[17]

Direct assessment techniques

- Student Portfolios
- Pre and Post Tests
- Exit Exams
- Embedded Techniques
- Use of testing services such as the Major Field Tests provided by ETS (Educational Testing Services, www.ets.org)

Indirect assessment techniques:

- Surveys of students, alumni, employers, transfer institutions, etc.
- Self-Evaluation Reports
- Interviews
- Focus Groups
- Evaluation Reports

The three most common assessment techniques for instructional SLOs are the embedded assessments, portfolios and pre-post exams.

Embedded assessment techniques use the results of assignments that are already in place and used for determining grades. Any assignment or portion of an assignment can be used to measure SLOs as appropriate.

[17] See *Appendix H—Assessment Tools Pros-Cons* for a more extensive list of assessment techniques. Also see the list in Mt. San Antonio College's *SLO Guidelines*. Find the link to the Guidelines at http://www.mtsac.edu/instruction/outcomes/

The two main advantages of embedded assignments are that students are motivated to perform well since their results affect their grade and you do not need to create new assignments.

The drawback is that all sections should use the same or equivalent assignments requiring all instructors of the same course to agree on a set of embedded assignments and scoring methods.

When using embedded assignments to measure SLOs two sets of records are usually required. One set of records is used for determining each student's grade and the other is used to determine the SLO results. (This dual record keeping might also be required with other types of assessment techniques.)

- Record keeping for grades. The grade on each assignment during the semester is recorded for each student. The final grade for the course is determined by averaging the student's grades across all assignments or adding up all the points the student earned for the semester.

- Record keeping for SLOs from embedded exam questions, for example. In this case, the number of points earned on each embedded question needs to be recorded for each student. To evaluate the results, count the number of students who scored at or above the minimum acceptable points. For example, if 7 points out of 10 points is considered the minimum acceptable score, count the number of students who scored 7 or more points. If 30 out of 40 students earned at least 7 points, then 75% earned an acceptable grade. For SLOs, you do need to determine the number (or percent) of students who received an acceptable score on the assignment. Using the average score for the assignment can be misleading and may not accurately measure student outcomes. See the detailed examples under *Step 1- Part 3*.

Portfolios
Portfolios contain a selection of student work and are useful at both the course level and the program level.

Course Level
For a course or a sequence of courses the portfolio contains a collection of the student's work over the semester or series of semesters. The work is used to assess the process of learning by showing advancements and improvements over time. They are especially useful when the purpose of the course or sequence of courses is to improve student skills as in writing, critical analysis or the arts.

To assess the SLO, portfolios are evaluated based on a set of previously defined standards designed to measure evidence of learning, development, progress and/or improvement. All faculty members teaching the same course should agree on the standards. A scoring rubric is essential for evaluating "progress" consistently across all sections and should be developed jointly by instructors of the same course. (See below

for more information on rubrics and *Appendix J* for many examples.) If the rubrics are the same it may not be necessary for the assignments to be the same in different sections as long as they are equivalent. (The following would not be equivalent assignments. One instructor assigns a single paragraph analysis and another instructor assigns an essay term paper.) Also, many faculty members (and students) find it useful to have students also score themselves with either the same rubric or one developed specifically for student use. (The last example in *Appendix J* is an example of a student friendly rubric.)

Program Level

Portfolios used to assess program-level outcomes might include a selection of the student's best work from all the required courses in the program.

In some cases instructors determine which work should be included in the portfolio. In other cases students are asked to choose which work to submit. If students are to select the work it must be clear to them how their work will be evaluated. For example, students might be requested to "submit an example of your best writing that demonstrates your critical thinking skills." The scoring rubric that will be used to evaluate their work should also be made available.

To assess the SLO, determine the percent of students who scored at or above the previously determined "acceptable" level for each measured characteristic listed in the rubric.

Pre-tests and Post-tests. Pre-tests are assessments administered prior to the interaction with students, usually for the purpose of identifying existing skills, knowledge, and/or perceptions. The results of the pre-test are then compared with the results from a post-test of the same or similar content. The post-tests are assessments administered after the interaction with students, usually for the purpose of documenting attainment of or changes in skills, knowledge, and/or perceptions. Pre/post tests measure the actual learning that took place during the semester and may be useful in courses where it is expected that students enter the course with previous knowledge and/or skills related to the subject. To assess the SLO, determine what percent of students showed a previously determined acceptable level of improvement from the pre-test to the post-test scores.

Portfolios and pre/post tests are similar in that they are both designed to show improvement over the semester. Portfolios can be designed to measure incremental or intermediate steps in improvement throughout the semester whereas pre/post tests compare just two points.

When deciding on assessment techniques consider the following:[18]

1. Validity—Does the assessment technique measure what you want? Will it measure your stated learning outcome?
2. Reliability and Consistency—Are assessments and scoring consistent across sections and semesters?

[18] This list is a summary of *Appendix G: The Assessment Tool Checklist.* Also see, *Appendix H: Nine Principles of Assessment.*

3. Fairness—Are the assessment techniques unbiased, value-neutral and reflective of student progress?
4. Usefulness—Will assessment results provide enough information for analysis and evidence to support recommendations?

Each course does not need to be assessed every semester but should be assessed at least three out of the eight semesters in the four-year program review cycle. The formal SLO Assessment Report is submitted with the program review self study. Assessment of program level SLOs should also be completed for at least three out of the eight semesters. Even though CTE departments undergo program review every two years the SLO Assessment Reports are required only every four years—at the time of the full program review.

Step 1-Part 3: Assessment Criteria or the Expected Results

The expected results are defined in terms of how well the students collectively perform in reference to the learning outcome. Be realistic in setting expectations. In some cases it is possible to collect assessment data for a few semesters to help determine a benchmark or realistic expectation.

In general there are two factors that need to be identified when stating a criterion.

1. Minimum acceptable score. What is the minimum acceptable score on the assignment that indicates a successful outcome? In the examples below this is indicated by the phrase "earn at least" or "score at least" or "show at least".
2. Minimum percent of students. What percent of the students being assessed must earn or score at or above the minimum acceptable score to indicate a successful outcome. In the examples below this is indicated by the phrase "At least ___% of students will."

Below are some common methods for stating a criterion for a successful outcome. Note, the first two statements mean exactly the same thing.

- At least 80% of students will earn at least 12 points on a 24 point rubric,
- 80% or more of the students will earn 12 points or higher on a 24 point rubric,
- At least 75% of students will earn at least a C grade on the assignment,
- At least 70% of students will earn at least 70% of the total points possible.
- At least 75% of students will show at least a 20% increase in pre/post scores.
- At least 80% of students will show consistent improvement in technique from a selection of their portfolio work. Consistent improvement is defined by scoring at least 1 point higher in at least 3 out of the 5 characteristics identified in the rubric.

The above are examples of how assessment criteria are usually stated but there is no requirement that they take this form. It is required that any statement used as a criterion be specific enough so that it is clear whether or not assessment results indicate successful student learning.

In order to determine the number or percent of students who score at or above the minimum acceptable score, records must be kept for each student for each assessment technique. In some cases the score on the assessment technique might be the same as the grade given to the student for the assignment. In most cases, unfortunately, it is usually not that easy. Two examples of SLO record keeping:

Example 1: The outcome is assessed using embedded questions on exams. Perhaps the outcome is assessed using questions 3 and 5 on Exam 1 and question 4 on Exam 2. The following is the set up for recording student SLO results:

Student	Q3 on Exam 1 Possible points=20	Q5 on Exam 1 Possible points=15	Q4 on Exam 2 Possible points=10	Total Points Out of 45 possible
First student	19 pts (90%)	11 pts (73%)	10 pts (100%)	42 pts (88%)
Second student	10 pts (50%)	4 pts (27%)	7 pts (70%)	22 pts (49%)
Third student	17 pts (75%)	6 pts (60%)	8 pts (80%)	31 pts (69%)
Average scores	15.3 pts (77%)	7 pts (47%)	8.3 pts (83%)	31.7 pts (70%)

Note—Percent values are included for illustration. These can be easily calculated later if points are entered into a spreadsheet like Excel.

For grades, only the total exam score is recorded. For an SLO the score for each relevant question is recorded. This can be very time consuming. If using multiple choice questions, special scanners can automatically save question-by-question results and upload the results to a spreadsheet.

Analysis—In the above example, only the first student scored above 75% when considering total points (last column on right, 88%). The second and third students scoring at 49% and 69% did not score above 75%.

If the criterion was, a*t least 70% of students will earn at least 75% of the total points possible*, the criterion was not met. Only one of the three students or 33% scored above 75%.

The SLOA Report and the program review self study require departments to identify ways to improve learning based on the assessment results. This, in turn, requires an analysis of the results in order to understand why the criterion was not met. A look at the scores for each individual question is revealing. Note the following in the above example:

- All students scored at least 70% on Q4-Exam 2. Why?
- The third student did not reach 70% in total points due to Q5-Exam 1. On the other two questions she scored 75% and 80%. Even the first student scored low on question 5. Why?
- The second student did not do well at all on the first 2 questions but earned 70% on Q4-Exam 2. Why?
- Looking at average scores (the bottom row) students did well on Q4-Exam 2 but did not do well on Q5-Exam 1. Why?

In trying to answer the "whys" from above look at:

- The assessment tool (in this case the exam questions). Was the question or assignment clearly worded or was it too difficult or unrelated to course content?
- Course materials and presentations. Maybe some aspect related to the course needs improving such as: providing more supplemental material, giving more practice assignments, expanding on a lecture topic or demonstration, allowing for more student interaction in class, etc.
- Student support or learning services, campus facilities, etc. Maybe the tutoring schedule needs to be expanded, or more copies of relevant material need to be placed on reserve, or more space provided where students can meet and study together, etc.
- Other.

Keep detailed records. As the above example indicates, referring to the detailed scores for individual questions and individual students is very helpful during the crucial analysis stage of the SLO assessment cycle. These records should be kept on file at the department level. The detailed student-by-student raw data are not submitted with the program review in the SLOA Report. Only the overall results are required for the SLOA Report, for example, "only 33% of students scored above 75%." The crucial elements in the program review are the recommendations for improving student learning. These recommendations, however, need to be supported with evidence—the SLO assessment results and analysis.

Example 2: Using a rubric (discussed in more detail below) to score an oral presentation. Refer to the second rubric in Appendix J, "Analytic Rubric for Grading Oral Presentations."

There are two possibilities for record keeping. One is to just enter the overall total score for the presentation. This is probably the same score used in determining the student's grade. The better option is to enter the points for each characteristic listed in the rubric as well as the total points.

Student	Organization (0-8 points)	Content (0-8 points)	Style (0-8 points)	Total (0-24 points)
First Student	3	5	4	12
Second Student	3	7	6	16
Third Student	2	6	5	13

If the criterion for a successful outcome was, *at least 80% of students will earn at least 12 points on a 24 point rubric*, the criterion was met. All 3 students (100%) scored 12 or more points (right-hand column). However, a detailed analysis reveals that all students scored less than satisfactory (0-3 points) on organization. This detailed information is important but would have been missed if only total points (aggregated data) were recorded. More time and effort in record keeping means more useful information.

Step 1-Part 4: The Grading Rubric: Required if a rubric is to be used for scoring. See *Appendix J—Rubric Examples*. These rubrics are also available as MS-Word documents on the campus S-drive in the SLO Handbook folder. These could be modified to suit your needs.

Many of the SLO assessment techniques require the use of a rubric. A rubric ensures consistency in scoring. This is especially important when the same SLO assignments are assessed across different sections and semesters by different people. In addition, most instructors find it helpful to share rubrics with their students.

What are rubrics?

- A tool used to evaluate student performance based on specific defined criteria.
- Reflects the major traits or characteristics that are expected in student work.
- Assignment/activity specific.
- Given to students when assignment is announced.
- Assigns points or values for meeting performance criteria.

What should be included in a Rubric?

- Major traits or characteristics expected in student work. (Primary Trait Analysis)
- A range of values that reflect student performance – can include descriptions or examples of what each value represents.
- Clear criteria for each trait and value – e.g. what warrants a "4" vs. a "3".
- Easy for students to understand.

Rubrics are useful because . . .

- They focus instruction on the most important outcomes.
- They provide formative feedback to students
- They communicate explicit expectations
- They connect assessment to activity, increasing validity.
- They articulate how scoring/grading is determined.
- They provide more consistent/reliable grading.

Steps for Creating a Rubric[19]

1. Identify what you are assessing.
2. Identify the key characteristics of what you are assessing.
3. Describe the best work you expect for each of these characteristics. This describes the top category earning the highest number of points.
4. Describe the worst work possible for each of these characteristics. This describes the lowest category earning zero or the lowest number of points.
5. Develop descriptions of intermediate level results and an intermediate range of points. You might decide to develop a scale with five levels (e.g., unacceptable, marginal, acceptable, competent, outstanding), three levels (e.g., novice, competent, exemplary), or any other set that is meaningful.
6. If certain characteristics are more important than others, weights can be assigned to those characteristics. (See *Appendix J, Grading Rubric for Labs* as an example of using weights.)

[19] There are many on-line tools to help build a rubric. See, for example, http://rubistar.4teachers.org

Many faculty members share the rubrics with their students before the assignment so students have a better sense of what is expected of them. They often return the assignment with the points filled in on the rubric. This helps students better understand the determinants of their final score (grade).

A suggestion for SLO record keeping: make a duplicate of the scored rubric; hand one back to the student and keep the other for SLO tabulations. To save time have students fill in their name, section, assignment details, etc on two (un-scored) rubric forms that that they turn in with their assignment. (See the *Essay Grading Sheet*, for example, in *Appendix J*.) When you have time enter the rubric scores into a spreadsheet like Excel, entering the points earned for each student on each element of the rubric.[20] Once in a spreadsheet format, percent of students scoring at or above the minimum acceptable score as stated in the criterion can be easily calculated for each element or characteristic of the rubric.

Step 2: Conduct the Assessments, Collect and Record the Results

As mentioned above, not all work from all students from all sections for all semesters needs to be assessed. It is recommended that each course undergo SLO assessments at least 3 semesters during the four-year program review cycle. Developing a department level time-line listing each course and semesters of assessment is also recommended. Do not wait to do the assessments during the semester you are conducting the program review.

An assessment schedule might look like the following: Divide all courses into two groups, group A and group B. Asses group A each spring and group B each fall.

Fall 2010	Sp 2011	Fall 2011	Sp 2012	Fall 2012	Sp 2013	Fall 2013	Sp 2014	Fall 2014
Program Review	Assess Group A	Assess Group B	Assess Group A	Assess Group B	Assess Group A	Assess Group B	Write SLOA Report Present at Division	Write Program Review Self-Study

Another possible variation: Asses group A the first 3 semesters and group B the last three semester.

Fall 2010	Sp 2011	Fall 2011	Sp 2012	Fall 2012	Sp 2013	Fall 2013	Sp 2014	Fall 2014
Program Review	Assess Group A	Assess Group A	Assess Group A	Assess Group B	Assess Group B	Assess Group B	Write SLOA Report Present at Division	Write Program Review Self-Study

[20] Some faculty members hire students to do this work. In this case make sure the student's names are removed from their work. For SLOs there is no need to identify individual students.

If it is not realistic to assess each course three times in the four-year cycle, divide all courses into three groups. In this example each course is assessed 2 semesters out of the eight.

Fall 2010	Sp 2011	Fall 2011	Sp 2012	Fall 2012	Sp 2013	Fall 2013	Sp 2014	Fall 2014
Program Review	Assess Group A	Assess Group B	Assess Group C	Assess Group A	Assess Group B	Assess Group C	Write SLOA Report Present at Division	Write Program Review Self-Study

The above are only examples[21] but each department should work out a schedule so that SLO assessments are completed in time for writing the SLOA Report and presenting the results at a division meeting the semester before your program review. Even though assessments are being done most or every semester, the formal SLOA Report is submitted only once every four years with the program review self study. (See Chapter 4 of this handbook and the revised *Guidelines for Program Review and SLOA Reports*.[22])

Multiple Sections

Another aspect departments should address has to do with multiple sections. Will all sections of the same course be assessed? Will assessment results from multiple sections be aggregated? There is no requirement to conduct SLO assessments in all sections and to keep section results separate but there are good reasons to do both. For example, comparing assessment results from different sections is one method to ensure consistency across all sections and, as discussed above, the more detailed the results the more useful and informative they are.

Do all sections need to use the same assessment tools? While all sections must be assessing the same SLOs, the assessment tools (assignments) do not necessarily need to be the same. They must, however, be comparable and equivalent.

For example, Prof. Alpha assigns a C grade on an essay assignment in section 1001. For assessments to be comparable, Prof Beta, who teaches section 1002, would also assign the essay a C grade. This is referred to as *inter-rater reliability.* Rubrics are crucial in maintaining inter-rater reliability as they define a consistent set of standards for scoring (grading).

Another example, Prof. Alpha assigns a C grade on an SLO essay assignment. Prof. Beta assigns 12 points from a 24 point rubric on the same SLO essay assignment. There is no comparability. What does "12" mean in relationship to "C"?

[21] For examples of other timelines or assessment schedules see the SLO Guidelines from Mt. San Antonio College, find the link to the Guidelines at http://www.mtsac.edu/instruction/outcomes/

[22] A copy of the *Guidelines for Program Review and SLOA Reports* is available on the campus S-drive in the Program Review, SLOA folder. It is also available on the Academic Senate web site.

One more example, Prof. Alpha assigns an essay to evaluate the SLO while Prof. Beta gives a multiple choice test to evaluate the same SLO. Obviously, since these assessment tools are not equivalent there is no comparability in this case.

The surest way to ensure comparability and inter-rate reliability is for all sections to use the same assessment tools (assignments) and the same scoring rubric. In some situations this might not be practical or desirable. In this case faculty members teaching the same or related (sequential) sections do need to collaborate to ensure comparability. Some refer to this collaborative process as *norming*.[23]

Norming does not mean everybody must teach alike with the same exams and projects. Norming does not mean using identical learning activities, emphases, or pedagogy. Norming does mean collaboration and consultation. Norming is the practice of having planned, regular discussions with fellow faculty members to share and combine ideas and make decisions that will be carried out by all participants within their areas.[24]

In the initial stages of developing assessment tools, faculty members might be encouraged to experiment with a variety of different techniques as a way of determining which assignments and rubrics work well and which should be discarded.

Using Samples

It is possible to use a sample of student work to assess SLOs but there are some important caveats to consider.[25]

1. If using a sample, it must be truly a random sample. A random sample can be defined as one in which each student's work has an equal chance of being selected. Choosing the work of only the A students is not random. Asking for students to volunteer their work for assessment is not random. A random selection, for example, would be to stack the work to be assessed of all the students in one pile in *no particular order* and then roll one die. If it comes up 3 then select every 3rd paper to assess.

2. The students in the sample should also be representative of all students in the course. Choosing one section as a sample may or may not be representative. Choosing a night class, for example, would not be a good selection as a sample since the characteristics of evening students do not necessarily represent the characteristics of all students. Choosing one section also means selecting students from only one faculty member which can also be problematic if sections are taught by more than one person. Choosing only one or a few sections also defeats one of the purposes of SLOs—that of ensuring consistency across all sections of the same course. In general we do not recommend using a section as a sample of student work for a course.

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[23] Norming to ensure consistency in assessments across sections is not the same as "normed-referenced assessments" which compares each individual student's results with the results of the group as in determining percentiles, for example.

[24] White Paper, Joan Sholars and Joseph Terreri, SLO and GEO Coordinators, Mt San Antonio College.

[25] Statisticians have written volumes of work on the technical aspects of sample selection. These caveats while valid are rudimentary. This is not meant to be a technical expose. The point is, give the decision to use samples and the sample selection technique some thought.

3. There should be no less than 30 students represented in the sample otherwise the results will not be very useful if not completely worthless. (Explained below.) Therefore, if there are 60 or fewer students across all sections of the course, it does not make sense to use a sample. Also, the larger the sample size the more useful the results, up to a point.

4. There is no guarantee that the sample results will be the same as the results for all the students. In fact, three different samples would probably give three different results. Working from samples requires a leap from the sample results to a statement about all of the students. This leap involves a level of uncertainty.

5. Given something called the "margin of error" the sample results may not be very useful or informative. When using samples, the margin of error should be calculated. (It is not difficult to do.)

An example:
Suppose the criterion is: *At least 70% of students will earn 12 points or more on a 24 point rubric.*

Suppose that out of a sample of 30 students 22 of them earned at least 12 points. The results would be: *73% of the students in the sample earned 12 points or more.*

According to the sample results, the criterion was met—73% is better than 70%, but what statement can be made about all the students? The margin of error is crucial in making the leap from the sample results to a claim about all students.

The margin of error in this example is 13%[26]. It is very unlikely that the results from all students would be exactly 73%--the same as the sample. The margin of error is used to calculate a range of possible values. In this case the range of possible values would be between 60% and 86%. This range of values is called a *confidence interval*[27] Using the confidence interval the claim about all students would be:

We are fairly confident that this range of values (60% to 86%) contains the actual percent of all students who earned 12 points or more.

This means that even though 73% of students in the sample earned 12 points or more, it is possible that only 60% of all students earned 12 points or more—not very good. On the other hand, it is also possible that 86% of all students earned 12 points or more—excellent results. Which is it? We don't know! The only way to know for certain is to assess all students.

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[26] Based on a 90% confidence level, Z=1.645. Margin of error=Z*[(pq/n)^.5] where p=.73, q=1-.73=.27 and n=30=sample size and no finite population correction measure. Also assumes independence and a *simple* random sample.

[27] The confidence interval is calculated by subtracting and adding the margin of error from/to 73%, 73%-13% and 73%+13%.

Why at least 30 students in the sample?
Smaller samples results in larger confidence interval For example, if 7 students from a sample of only 10 students earned at least 12 points, the confidence interval would be 43% to 97%[28]. This interval is too large to have any meaning.

- Given all the caveats about using samples, recording detailed sample results rather than aggregated data (as discussed above) can indicate areas of weakness (or strength) which can be used to help develop recommendations for improvement.

Remember, the purpose of developing and assessing SLOs is to provide useful information—information that can be used to help identify ways to improve the teaching/learning experience and institutional effectiveness.

Record Keeping. The actual student by student assessment results are not submitted with the formal SLOA Report. Because this raw data is not submitted with a formal report it is important for departments to consider how records will be kept and who will be responsible for maintaining the records and ensuring that the records are made available to the program review self study team.

As mentioned above, recording more detailed information on student work results in more meaningful and useful information. Record keeping is one of the most time consuming aspects of the SLO assessment cycle and is the responsibility of all instructors. Completing the formal SLOA Report also takes time but is incorporated into the existing program review process and is usually the responsibility of only the program review self-study team. All members of the department, however, should contribute to the analysis of SLO assessment results and the formation of recommendations to be included in the SLOA Report and program review self-study.

Chapter Summary—Six points to consider while developing SLO Plans

1. Who will be responsible for scoring (grading) student work? What if there are multiple sections with different instructors? How will consistency in scoring (inter-rater-reliability) be maintained across sections?

2. How will data that documents the results of the assessments be collected, and in what form? How and where will it be stored? Who will be responsible for collecting the data for a course with multiple sections? Who will be responsible for making sure the results are available to the program review self-study team?

3. If multiple sections of a course are offered, will all sections use the same assessment tools? How will this be accomplished? Who decides on which assessment tools to use?

[28] Using $t_{(9, 0.05)} = 1.833$ since sample size is small, and assumes normal sampling distribution which may or may not be the case.

If different sections will use different assessment tools how will consistency across all sections be maintained?

4. Who will be responsible for analyzing the data? What if there are multiple sections with different instructors? How will consistency in analysis be maintained across sections?

5. It is recommended that SLOs be assessed at least 3 semesters for each course during the four-year program review cycle. Should faculty members determine their own schedule for doing assessments? Should the department develop a schedule of which classes will be assessed in which semester?

6. How will program-level SLOs be determined and assessed? How will all faculty members be engaged? Will program-level SLOs be assessed across different courses? Will there be an additional assignment or assessment tool given to majors or students in the certificate program? Who is responsible for overseeing the program-level assessments, data collection, record keeping and analysis?

Chapter 4: Program Review and the SLO Assessment Cycle

Also refer to the companion document, *Guidelines for Program Review and SLOA Reports*, for more detailed information on program review.[29]

As discussed in the previous chapter there are five steps in the SLO Assessment Cycle.
Step 1: Write the SLO Plans.
Step 2: Conduct the assessments, collect and record the assessment results.
Step 3: Evaluate and analyze assessment results.
Step 4: Make recommendations to improve learning based on SLO assessment results and analysis. Submit formal report with program review.
Step 5: Implement the recommendations.
Close the Loop: Repeat the cycle beginning with either Step 1 or Step 2 as appropriate.

The first two steps were discussed in the previous chapter. Analysis, recommendations and implementation are discussed in this chapter.

While assessments are being conducted every semester and analysis may also occur every semester, the formal SLO Assessment (SLOA) Report is submitted once every four years as an attachment to the program review self-study. In addition, the analysis of SLO results and resulting recommendations are referenced and discussed throughout the program review self study. The companion document, *Guidelines for Program Review and SLOA Reports*, gives details about writing the program review self study and how to include references to your SLO assessment results and recommendations.

Step 3: Evaluate and Analyze the Assessment Results

The goal in evaluating assessment results is to gain an insight or understanding on how to improve the teaching and learning experience. As discussed in Chapter 3, the outcomes, assessment tools and assessment records are all designed to provide useful information. The SLOA Form (*Appendix K-3* in this document or called Appendix H in the program review document) is designed to report and record SLO assessment results from a detailed outcome by outcome analysis to the broader course, program and even campus-wide analyses. The campus-wide analysis is conducted by the SLO GE and Core Competency Committee from the information provided on the SLOA Forms. It is crucial that the questions on the form referring to GE and Core competencies be completed to ensure success in analyzing and reporting on the campus-wide SLOs.

The first task in analysis is to determine whether or not the criteria for the SLOs were met an if they were not met then to determine why.

[29] The *Guidelines for Program Review and SLOA Reports* can be found on the campus S-drive in the Program Review SLO folder and on the Academic Senate web site.

For example, if a stated criterion was, *70% of students will score at least 12 points based on a 24 point rubric* and only 63% of students earned 12 points or more, then the criterion was not met. To help determine why it was not met analyze the detailed records. For example:

- The scores (points) for the individual rubric characteristics might be helpful. Are there only one or two aspects that need improvement? (See Chapter 3 for an explanation of rubrics and examples of record keeping.)
- Comparing scores from different sections of the same course might be helpful. Perhaps there is inconsistency across the sections that needs to be addressed. These inconsistencies could occur for a variety of reasons. Some possibilities are, instructors emphasize different material or interpret the rubric point system differently, working evening students aren't able to use the tutors, study groups were better organized in one section compared to another, etc.
- Is there a difference in results between this assessment tool and a different assessment tool which was used to measure the same outcome? (Difference between an essay question and multiple choice questions, for example.)
- Are there any identifiable differences or circumstances that can explain why some students were successful and others were not? Perhaps some students entered the class under-prepared. Is there a prerequisite course? If yes, does the course cover the required material adequately and consistently?
- Was the assessment tool (assignment) too difficult? Were expectation set too high? Was there a mismatch between the assignment and course content or between course content and the SLO?

If, on the other hand, 78% of students earned at least 12 points, for example, then the criterion was met. What does this mean?

- Is the teaching and learning experience perfected for this outcome? If yes, perhaps move on to a new outcome or set a goal of improving the results to *80% of students will earn at least 12 points.*
- Perhaps the assignment or scoring was too easy or the criterion set too low? If so, then change the assessment, the rubric or the criterion, whichever is appropriate.
- What aspects of the teaching/learning experience worked well? Can these be expanded or used in other courses?

The correct interpretation of assessment results is key for the next step, recommending improvements.

Step 4: Make Recommendations

Making recommendations to improve the teaching and learning experience is the goal of the SLOA process. The recommendations are included in program review and provide plans of action to increase institutional effectiveness, i.e., increase student learning and student success. The SLOA process also provides documentation (evidence) of the process and the results. Most faculty members always try to find ways to improve their teaching and to better help students learn the material. The SLOA process formalizes these efforts by creating an ongoing, systematic, documented procedure. In addition, the process is designed to incorporate the SLOA based recommendations into campus-wide procedures and decisions especially regarding resource allocation. (See Chapter 6.)

Both the SLOA process and the documentation of the process are now required components of the program review procedure. First, the formal SLOA Report (the "evidence") is a required attachment to the program review self study. Second, the self study, especially the action plan, relies, in part, on the analysis of SLO results. Third, the results of any changes and improvements that are implemented as a result of SLOA recommendations are themselves assessed. This third part is often referred to as "closing the loop" since it requires continual repetition of the SLOA steps as listed above.

The important aspects of the SLOA Report and the action plan component of the program review self-study are the recommendations. The SLOA Form allows for recommendations to be made in reference to (1) strategies or changes that instructors can employ inside or outside of the classroom to improve student learning and (2) strategies or changes that (a) the department; (b) the division; (c) the library and learning support services; (d) student support services; or (e) campus resources (human, physical, technological, financial) could employ to improve student learning. The recommendations cited in the SLOA report should also be included in the self-study action plan.

Planning and budgeting decisions at the division, campus and district level will be based, in part, on SLOA based recommendations. (See Chapter 1, Standard IB, part of which reads: *The institution also organizes its key processes and allocates its resources to effectively support student learning*.)

Step 5: Implement the Recommendations

Recommendations for improvement can be directed at the SLO Plans themselves or to the teaching and learning process either inside or outside the classroom.

Changes in the SLO Plans (outcomes, assessment techniques and criteria) themselves can be made at any time. Until further notice from CIC, the SLO Plans are considered an "attachment" to the course outline and do not need to go through the formal CIC process for changing the course outline of record. If SLO Plans are changed during the four-year program review cycle, this should be noted in the formal SLOA Report and the new version of the SLO Plans submitted to CIC at that time. It is important to analyze the assessment results separately from two different sets of SLO Plans.

Though the process suggest implementing changes after program review it is possible (and perhaps desirable) to make improvements as soon as they are identified. Regardless of when the changes and improvements are implemented, SLO Assessment records should be kept separate in order to make "before-and-after" comparisons. Did the changes result in improved learning and assessments? In other words, once changes have been implemented, assessments need to continue and the SLOA cycle repeats. This is referred to a as "closing the loop" and indicates that the cycle of outcome-assessment-improvement has become fully "institutionalized."

Chapter 5: SLOs/AUOs for Non-Instructional Programs

Non-instructional programs include administrative, student support, learning resources, and other service units. Non-instructional programs may have both SLOs and AUOs:

SLOs (Student Learning Outcomes) for non-instructional unit are similar to those for instructional departments except that the "learning" does not take place in a formal course setting. The "learning" could be the result of information presented to students through counseling sessions, transfer center interviews, student orientations or workshops, ASU participation, etc.

AUOs (Administrative Unit Outcomes) are statements about what a client will experience, receive, understand or benefit from as a result of a given service or activity

The client can be anyone or any group benefiting from the primary or key services, activities or responsibilities of the unit. Possible clients include:

- Students
- Faculty members
- Staff members
- High school students
- Parents
- Community organizations
- Other

Some programs or units could have both "learning" and "unit" outcomes. The number of outcomes per unit or program can range from one to many but probably not more than three to six should be assessed during a single 4-year program review cycle. It may be necessary, therefore, to prioritize the outcomes and begin the assessment process with those highest on the list.

Whether the outcomes are "learning" outcomes or "unit" outcomes, the ultimate aim of the process is to promote "institutional effectiveness" which means to promote student learning and student success. Generally, SLOs are designed to measure student learning directly[30] while AUOs can provide both direct and indirect measures of student success and learning.[31]

Just as with SLOs, unit outcome statements need to be specific and measurable. Unit outcome statements should refer to how the central responsibilities, activities, goals or mission of the unit support student learning and/or student success.
Developing the outcome statements, while key to the process, is only the first step. The outcome statements must be supported by the assessment technique and the assessment

[30] There are exceptions, however, as with surveys or self-assessment techniques. For example, a math assessment might measure students' "math anxiety" which would be an indirect measure of student learning. These types of SLOs usually supplement the direct leaning assessments for the courses.
[31] An example of a direct effect would be a student orientation workshop which leads to increased retention. An example of an indirect effect would be AV tech support to faculty that enhances student learning in the classroom.

criterion. These three elements comprise Step 1 in the complete outcome assessment cycle. There are five steps in total as outlined below.[32]

Step 1. Write the Outcome Assessment Plan. There are 3 parts to the Plan.

Part 1—the outcome statement:

a. SLO--identify the knowledge, skills, abilities, or attitudes that a student will have attained at the end (or as a result) of his or her engagement in a particular set of collegiate experiences.

b. AUO--identify the experience, support, benefit or service clients will receive as a result of the key or core activities of the program or unit.

Part 2-The assessment technique—explain how the outcome will be measured or assessed. How will you collect data from students or clients that measure the learning or experience or benefit of the service your unit provides?[33]

Part 3--The criterion or expected result.[34]

a. SLO—identify (a) a minimum score that represents an acceptable level of learning, and (b) what percent of all students should earn at least the minimum acceptable score. Assessment results are considered "successful" if they meet or exceed this minimum criterion. (See pages 17-19 for examples.)

b. AUO—identify (a) what defines an acceptable level of client satisfaction and (b) what percent of clients need to report at or above the defined level of satisfaction.

Step 2. Conduct the assessment. Collect and record the assessment results. (See pages 25-26 for comments on record keeping.)

Step 3. Evaluate and analyze the assessment results. Determine whether or not the outcome was "successful" (i.e., met or exceeded the minimum criterion). (See page 28 for examples.)

Step 4. Recommendations—After analyzing the assessment results make recommendations for improving the results. These recommendations are to be included (along with others) in the program review action plan. Recommendations can be directed at improving the activities, organizational structure, resources etc. of the unit or improving the outcome plan (Step 1).

Step 5. Implement the recommended changes. Put the recommendations into practice. Then start the process over again beginning with either Step 1 or Step 2 as appropriate. This is referred to as closing-the-loop and results in the ongoing process of assess/improve.

The recommendations and Program Review action plans play a central role in the college-wide integration of assessment results as discussed in Chapter 6.

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[32] Chapter 3 covers Steps 1 &2 for SLOs in detail and Chapter 4 covers Steps 3-5 for SLOs in detail. Also a separate document, *Guideline for Program Review*, explains the Outcome Assessment Report in detail and how outcome results are incorporated into the program review self-study.

[33] Appendix H lists a variety of assessment techniques. For unit outcomes, there are a variety of surveys (exit, self-assessment, satisfaction, perceptions, etc.) that could also be used. Other possible assessment techniques for unit outcomes include focus groups, pre/post analysis and interviews.

[34] Use of rubrics might be very beneficial in some cases. See Appendix J and Appendix B for examples.

Chapter 6: College-wide Integration of Outcome Assessment Results

The process for college-wide integration is currently being explored by the SLO Committee and will be described in this chapter when complete.

The outcome assessment results provide *evidence* to support effective planning and resource allocation. This is referred to as "evidence-based practice" which uses data from research and studies to help determine the best practices in a field. At Contra Costa College the *evidenc*e (outcome assessment results) is used to supplement subjective professional judgments when developing appropriate plans of action to improve student learning and success and thus institutional effectiveness. This evidence-based practice not only occurs at the department level but at the institutional level as stated in the ACCJC Standard 1B

Standard I.B. Improving Institutional Effectiveness
The institution demonstrates a conscious effort to produce and support student learning, measures that learning, assesses how well learning is occurring, and makes changes to improve student learning. The institution also organizes its key processes and allocates its resources to effectively support student learning. The institution demonstrates its effectiveness by providing 1) evidence of the achievement of student learning outcomes and 2) evidence of institution and program performance. The institution uses ongoing and systematic evaluation and planning to refine its key processes and improve student learning.

By including a report on SLO assessments, evaluations and recommendations in the program review self-study…

- SLO results are available to those making key institutional decisions about planning and resource allocation.
- An on-going systematic process is easily established for continual evaluation of and improvements to student learning.
- Evidence of student learning achievement and improvement is easily maintained.

Glossary

If you are reading this handbook as an MS Word document you will need to get a copy of the glossary. The pdf version of this *Handbook* includes the glossary and can be found on the Contra Costa College Academic Senate web page.

To get a separate copy of the glossary go to either:

The campus S-drive folder, *SLO Handbook*, or

on-line at the California Community Colleges (CCC) Network for SLO Assessment http://sloassessment.com Scroll down to find the link or go directly to:

http://sloassessment.com/yahoo_site_admin/assets/docs/Glossary_rough_draft_final.61134559.pdf

Appendix A: Contra Costa College Mission Statement

As a public community college that serves an urban community rich in diversity, the mission of CCC is to offer instruction within a comprehensive curriculum and to provide student services to ensure opportunities for:

1. Effective student learning that leads to successful achievement of educational goals through completion of developmental, certificate, degree or transfer programs,
2. Acquisition of knowledge, skills and abilities pertinent to lifelong learning and gainful employment in the global community,
3. Student success verified by a process of assessment and improvement.

The college will use informed shared decision-making to allocate resources in support of its mission.

Approved at April 11, 2007 College Council Meeting
(Sent to May 30, 2007 Governing Board)

Appendix B: Three ACCJC Rubrics

These three rubrics are used for assessing institutional effectiveness by accrediting teams during the accreditation process.

If you are reading this handbook as an MS Word document you will need to get a copy of the rubrics. The pdf version of this *Handbook* includes these rubrics and can be found on the Contra Costa College Academic Senate web page.

To get a separate copy of the glossary go to either:

The campus S-drive folder, *SLO Handbook*, or

The ACCJC web site www.accjc.org. It is located under member publications.

Appendix C: Bloom's Taxonomy

Bloom's Six Levels (Hierarchy)	Students are able to:	Examples of verbs requesting student response
Knowledge	• recall information • show basic knowledge of dates, events, places, major ideas • demonstrate mastery of subject matter	list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, name, who, when, where, etc.
Comprehension	• understand and grasp the meaning of the material • interpret facts, compare and contrast • infer causes and predict consequences	summarize, describe, interpret, generalize, review, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend
Application	• use information • use methods, concepts, theories in new situations • solve problems using new skills or knowledge	apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover
Analysis	• see and identify patterns • organize parts • recognize hidden meanings • identify components • assess differences between competing ideas, theories, conclusions,	analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer
Synthesis	• use old ideas to create new ones • generalize from given facts • relate knowledge from several areas • predict, draw conclusions	combine, integrate, modify, rearrange, substitute, plan, create, design, invent, suppose, organize, compose, formulate, prepare, generalize, rewrite
Evaluation	• make choices based on reasoned argument • evaluate evidence, theories, presentations, arguments • recognize bias	assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, distinguish, support, conclude, compare, summarize, predict, solve, defend

Adapted from
1. http://www.coun.uvic.ca/learn/program/hndouts/bloom.html
2. NEA Higher Education Journal, Fall 2006, Thought and Action, *Questioning the Lecture Format*

Original:
Benjamin S. Bloom *Taxonomy of educational objectives*.

Appendix D: Brainstorming: Developing Student Learning Outcomes.

For Courses, refer to the objectives on the course outline. Course outcomes should be consistent with course objectives.

> *SLOs are distinguished from course objectives in that course objectives are statements that tell students what supporting skills, knowledge, and attitudes they will learn during a course. They are usually discrete skills that require lower level thinking skills and form the building blocks to course SLOs.*[35]

In the boxes below briefly list words or descriptions of attitudes, skills, or knowledge that you would like your students to know or do as a result of this course or student services program.[36]

Attitudes or values developed as a result of this course or activity	
Skills or performance ability as a result of this course or activity	
Knowledge and concepts they will have as a result of this course or activity Other	

[35] Student Learning Outcomes Report, April 26, 2006, Chancellor's Office, Contra Costa Community College District, page 1.

[36] Original document from Crafton Hills College, Basic Skills SLO Retreat, November 16-17 2007. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.

Appendix E: Examples of Student Learning Outcome Plans from CCC

1. Intended Outcome	**2A. Target Course** **2B. Assessment Measures** **2C. Technique**	**3. Assessment Criteria**
Students will demonstrate the ability to objectively analyze randomly chosen front page stories of a local newspaper and or national news magazine	Philosophy 130 students will complete evaluative papers including a minimum of six examined article themes in mid-semester and at the end of the semester. Faculty will evaluate using a rubric developed by the department.	Data will be collected for 2 semesters to develop a baseline of student achievement. Any level of improvement from mid-term to final will be viewed positively.
Students will be able to analyze a physical (chemical) process in terms of a tested physical law and identify factors which limit the application of the model.	Physics 110 and Chemistry 119 students will be given a question(s) on a regularly scheduled exam(s) in which they must demonstrate the abilities noted in the intended outcome. A jury of faculty will evaluate a random selection of student responses based on a rubric developed by the department.	Seventy-five percent of the randomly selected students will score above ____ points as calculated by the rubric scoring system.
Students will demonstrate their ability to write grammatically correct simple sentences in paragraph form.	Students in ESL 163 will write a paragraph on a topic appropriate to this level. The writing portion of the assessment will be evaluated using pre-determined criteria for high-beginning level grammar/writing students.	Writing assessments will be given to the same students whose scantron tests were randomly selected. Of these students, 70% will receive passing scores. The paragraph rating will be used in conjunction with the scantron exam results to determine successful completion of this level of grammar/writing.
Students will demonstrate their ability to recognize the correct use of selected grammatical structures as specified in the course outline of record.	Students in ESL 163 will complete a 20-item scantron exam developed by Grammar/Writing I instructors. Scantron exams from all sections will be selected at random.	Of the randomly selected scantron tests, at least 70% of the students will score 14 points or higher.

Library Studies110

	Intended Outcome	Assessment Method	Assessment Criteria
1.	Students will **explain** the value of specific reference resources such as subject encyclopedias and almanacs.	Students will answer **two** imbedded question in the final exam (Q10 and 9).	70% of students who complete the course will answer **these** questions correctly.
2.	Students will be able to distinguish domains of websites and **explain** which may be the least helpful for research.	Students will answer imbedded question in the final exam (ex.Q22i)	70% of students who complete the course will answer this question correctly.
3.	Students will be able to distinguish a primary source from a secondary source.	Students will answer imbedded questions in the final exam (ex.Q22e,f)	70% of students who complete the course will answer these question correctly.
4.	Students will **explain why** the Internet does not include most copyrighted, published information for free.	Students will answer imbedded question in the final exam (ex.Q22g)	70% of students who complete the course will answer this question correctly.
5.	Students will **explain** citations as they relate to copyright and plagiarism.	Students will answer imbedded question in the final exam (ex.Q22a)	70% of students who complete the course will answer this question correctly.

Appendix F: GE SLOs and Core Competencies

General Education Student Learning Outcomes, Contra Costa College, Established by the GE-SLO Committee, 2006-2007.

For each outcome, identify which (if any) of the following GE-SLOs apply. The GE-Core Competency SLO Committee will use this information in their campus-wide SLO Assessment Report. This is very important. Use your own judgment to determine which GE categories match up with each of your outcomes. If none of these categories match your outcome then indicate by circling "no".

1. English Composition: Students will communicate effectively in writing using standard English

2. Critical Thinking: Students will increase their ability to objectively analyze the information flow that comes to them from the media, friends and family.

3. Oral Communication: Students will be confident and capable oral communicators

4. Art and Literature: Students will understand the nature and value of the arts and literature.

5. Humanities, Values and Ethics. Students will become more self-aware and self-reflective personally and socially of the values operative in their own and others lives.

6. Information Competency: Students will both recognize when information is needed and be able to locate, evaluate, synthesize, use and communicate information.

7. Computer Literacy: Students will use computer technology for communication and information retrieval.

8. Quantitative Reasoning: Students will accurately comprehend, analyze and manipulate quantitative information.

9. Physical Science: Students will learn the bases of physical laws and an appreciation for the difference between physical laws and our models of them and how physical laws are reflected in natural processes.

10. Biological Science: Students will understand the scientific processes used to gain understanding of the structure and function of the living world.

11. Health Education: Students will understand elements of health and be able to articulate a plan for maintenance of health across the life span.

12. Physical Education: Students will understand why safe, regular physical activity is crucial for a healthy lifestyle and will develop the enthusiasm and strategy for maintaining a physically active life.

13. Social and Behavioral Sciences: Students will understand and apply the methodologies of the disciplines to analyze social and behavioral issues.

14. History: Students will be able to use historical facts, themes, and ideas to analyze and evaluate past events with reference to the complex pluralistic environments in which they occurred, recognizing the diversity of views and experiences due to differences in class, race, ethnicity, religion and gender.

15. American Institutions and Ideals: Students will develop the knowledge and understanding necessary to be informed and engaged citizens.

16. Cultural Pluralism: Students will gain the knowledge necessary to understand and appreciate the dynamics of the many contemporary cultures of the 21st century.

College-wide Core Competencies, Contra Costa College, Established at All College Day, 2005.

For each outcome, identify which (if any) of the following Core Competencies apply. The GE-Core Competency SLO Committee will use this information in their campus-wide SLO Assessment Report. This is very important. Use your own judgment to determine which Core Competency categories match up with each of your outcomes. If none of these categories match your outcome then indicate by circling "no".

Students at Contra Costa College will develop:

A. Attitudes and interpersonal skills to succeed in any professional or social situation.

B. Reading, writing, computational and technology skills.

C. Critical thinking skills to locate, analyze, and apply information.

D. Ethical consciousness to evaluate and respond to situations.

E. Appreciation for diverse cultures.

F. Curiosity and inquisitiveness for knowledge and learning.

G. Aesthetic awareness.

H. Mastery of discipline content appropriate to the program

Appendix G: Assessment Criteria Checklist

Do your assessments meet the following criteria?	✓
Does the assessment adequately evaluate academic performance relevant to the desired outcome? (validity)	
Does this assessment tool enable students with different learning styles or abilities to show you what they have learned and what they can do?	
Does the content examined by the assessment align with the content from the course? (Content validity)	
Does this assessment method adequately address the knowledge, skills, abilities, behavior, and values associated with the intended outcome? (Domain validity)	
Will the assessment provide information at a level appropriate to the outcome? (Bloom's)	
Will the data accurately represent what the student can do in an authentic or real life situation? (Authentic assessment)	
Is the grading scheme consistent; would a student receive the *same* grade for the *same* work on multiple evaluations? (Reliability)	
Can multiple people use the scoring mechanism and come up with the same general score? (Reliability)	
Does the assessment provide data that is specific enough for the desired outcomes? (alignment with SLO)	
Is the assessment summative or formative - if formative does it generate diagnostic feedback to improve learning?	
Is the assessment summative or formative - if summative, is the final evaluation built upon multiple sources of data? (AAHE Good practice)	
If this is a summative assessment, have the students had ample opportunity for formative feedback and practice displaying what they know and can do?	
Is the assessment unbiased or value-neutral, minimizing an attempt to give desirable responses and reducing any cultural misinterpretations?	
Are the intended uses for the assessment clear? (Grading, program review, both)	
Have other faculty provided feedback?	
Has the assessment been pilot-tested?	
Has the evaluation instrument been normed?	
Will the information derived from the assessment help to improve teaching and learning? (AAHE Good Practice)	
Will you provide the students with a copy of the rubric or assignment grading criteria?	
Will you provide the students examples of model work?	

Assessing Student Learning, Section 4, Janet Fulks, Bakersfield College
http://online.bakersfieldcollege.edu/courseassessment/Section_1_Introduction/Introduction1.htm

Appendix H: Choosing the Right Assessment Tools, Pros/Cons

Assessment Tool	**Data** Direct or Indirect	**Domain** Cognitive, Psychomotor, or Affective	Formative or Summative	**Bloom's** Knowledge, Comprehension, Application or Analysis/ Synthesis/Eval		
Abbreviation	D or I	C, P or A	F or S	K, C, A, ASE	**Pros**	**Cons**
Multiple Choice Exam	D	C	F & S	K, C If carefully constructed A, S, & E	easy to grade objective	reduces assessment to multiple choice answers
Licensing Exams	D	C	S	K, C, A	easy to score and compare	no authentic testing, may outdate
Standardized Cognitive Tests	D	C	S	K, C, A?	comparable between students	heavily dependent on exposure to topics on test
Checklists	D	C, A, P	F, S	variable	very useful for skills or performances students know exactly what is missing	can minimize large picture and interrelatedness Evaluation feedback is basically a yes/no - present/absent - without detail
Essay	D	C, A	F, S	K, C, A, ASE	-displays analytical and synthetic thinking well	time consuming to grade, can be subjective
Case Study	D	C, A	F, S	K, C, A, ASE	-displays analytical and synthetic thinking well -connects other knowledge to topic	creating the case is time consuming, dependent on student knowledge form multiple areas
Problem Solving	D	C	F, S	K, C, A, ASE	displays analytical and synthetic thinking well authentic if real world situations are used	difficult to grade due to multiple methods and potential multiple solutions

Assessment Tool	**Data** Direct or Indirect	**Domain** Cognitive, Psychomotor, or Affective	Formative or Summative	**Bloom's** Knowledge, Comprehension, Application or Analysis/ Synthesis/Eval		
Oral Speech	D	C	F, S	variable K, C, A, ASE	easily graded with rubric allows other students to see and learn what each student learned connects general education goals with discipline-specific courses	difficult for ESL students stressful for students takes course time must fairly grade course content beyond delivery
Debate	D	C, A	F, S	K, C, A, ASE	provides immediate feedback to the student reveals thinking and ability to respond based on background knowledge and critical thinking ability	requires good rubric more than one evaluator is helpful difficult for ESL students stressful for students takes course time
Product Creation & Special Reports	D	C, P, A	F, S	variable K, C, A, ASE	students can display skills. knowledge, and abilities in a way that is suited to them	must have clearly defined criteria and evaluative measures "the look" can not over-ride the content
Flowchart or Diagram	D	C	F, S	C, A, ASE	displays original synthetic thinking on the part of the student perhaps the best way to display overall high level thinking and articulation abilities	more difficult to grade, requiring a checklist or rubric for a variety of different answers difficult for some students to do on the spot

Assessment Tool	**Data** Direct or Indirect	**Domain** Cognitive, Psychomotor, or Affective	Formative or Summative	**Bloom's** Knowledge, Comprehension, Application or Analysis/ Synthesis/Eval		
Portfolios	D	C, P	S	variable	provides the students with a clear record of their work and growth best evidence of growth and change over time students can display skills. knowledge, and abilities in a way that is suited to them promotes self-assessment	time consuming to grade different content in portfolio makes evaluating difficult and may require training bulky to manage depending on size
Exit Surveys	D, I	A	S	ASE	provides good summative data easy to manage data if Likert-scaled responses are used	Likert scales limit feedback, open-ended responses are bulky to manage,
Performance	D	C, P	F, S	variable K, C, A, ASE	provides best display of skills and abilities provides excellent opportunity for peer review students can display skills. knowledge, and abilities in a way that is suited to them	stressful for students may take course time some students may take the evaluation very hard - evaluative statements must be carefully framed
Capstone project or course	D	C, P , A	F, S	ASE	best method to measure growth overtime with regards to a course or program - cumulative	focus and breadth of assessment are important understanding all the variables to produce assessment results is also important may result in additional course requirements

Assessment Tool	**Data** Direct or Indirect	**Domain** Cognitive, Psychomotor, or Affective	Formative or Summative	**Bloom's** Knowledge, Comprehension, Application or Analysis/ Synthesis/Eval		
						requires coordination and agreement on stamdards
Team Project	D	C, A	F, S	variable K, C, A, ASE	connects general education goals with discipline-specific courses	must fairly grade individuals as well as team grading is slightly more complicated student interaction may be a challenge
Reflective self-assessment essay	D, I	C, A	S	ASE	provides invaluable ability to evaluate affective growth in students	must use evidence to support conclusions, not just self-opinionated assessment
Satisfaction and Perception Surveys	I	C, P, A	S	C, A, ASE	provides good indirect data data can be compared longitudinally can be used to determine outcomes over a long period of time	respondents may be influenced by factors other than those being considered validity and reliability most be closely watched

Assessing Student Learning, Section 4 Janet Fulks, Bakersfield College
http://online.bakersfieldcollege.edu/courseassessment/Section_1_Introduction/Introduction1.htm

Note—Examples of these assessment tools are given on-line in Section 4, Appendix C. Find at the above URL.

Appendix I: 9 Principles of Good Practice for Assessing Student Learning

American Association of for Higher Education

1. **The assessment of student learning begins with educational values. Assessment is not an end in itself but a vehicle for educational improvement.** Its effective practice, then, begins with and enacts a vision of the kinds of learning we most value for students and strive to help them achieve. Educational values should drive not only *what* we choose to assess but also *how* we do so. Where questions about educational mission and values are skipped over, assessment threatens to be an exercise in measuring what's easy, rather than a process of improving what we really care about.

2. **Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.** Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes, and habits of mind that affect both academic success and performance beyond the classroom. Assessment should reflect these understandings by employing a diverse array of methods, including those that call for actual performance, using them over time so as to reveal change, growth, and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning, and therefore firmer bases for improving our students' educational experience.

3. **Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.** Assessment is a goal-oriented process. It entails comparing educational performance with educational purposes and expectations -- those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' own goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.

4. **Assessment requires attention to outcomes but also and equally to the experiences that lead to those outcomes.** Information about outcomes is of high importance; where students "end up" matters greatly. But to improve outcomes, we need to know about student experience along the way -- about the curricula, teaching, and kind of student effort that lead to particular outcomes. Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.

5. **Assessment works best when it is ongoing not episodic.** Assessment is a process whose power is cumulative. Though isolated, "one-shot" assessment can be better than none, improvement is best fostered when assessment entails a linked series of activities undertaken over time. This may mean tracking the process of individual students, or of cohorts of students; it may mean collecting the same examples of student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

6. **Assessment fosters wider improvement when representatives from across the educational community are involved**. Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty play an especially important role, but assessment's questions can't be fully addressed without participation by student-affairs educators, librarians, administrators, and students. Assessment may also involve individuals from beyond the campus (alumni/ae, trustees, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Thus understood, assessment is not a task for small groups of experts but a collaborative activity; its aim is wider, better-informed attention to student learning by all parties with a stake in its improvement.

7. **Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.** Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This implies assessment approaches that produce evidence that relevant parties will find credible, suggestive, and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.

8. **Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.** Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and worked at. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting, and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision making, and avidly sought.

9. **Through assessment, educators meet responsibilities to students and to the public.** There is a compelling public stake in education. As educators, we have a responsibility to the publics that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation -- to ourselves, our students, and society -- is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.

Authors: Alexander W. Astin; Trudy W. Banta; K. Patricia Cross; Elaine El-Khawas; Peter T. Ewell; Pat Hutchings; Theodore J. Marchese; Kay M. McClenney; Marcia Mentkowski; Margaret A. Miller; E. Thomas Moran; Barbara D. Wright

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Appendix J: Eleven Examples of Rubrics

Examples of rubrics are given on the following pages—source noted in parentheses.[37]

Page J-2, Developmental English Essay Rubric (CHC)
Page J-3, Analytic Rubric for Grading Oral Presentations (CHC)
Page J-4, Critical Thinking Assessment Grid (CHC)
Page J-5, Golf Bunker Shot Rubric (CHC)
Page J-6, Rubric for a Research Project (CHC)
Page J-7, Essay Grading Sheet and Rubric (CC)
Page J-9, Collaboration Rubric Tide Pool Study (CC)
Page J-10, Analytic Rubric for Peer Assessment of Team Project Members (unknown)
Page J-11, Grading Rubric for Labs (BC)
Page J-12, Mathematics Rubric (BC)
Page J-13, Student Self-Scoring Math Rubric (BC)

There are many on-line tools for developing rubrics. For example see, http://rubistar.4teachers.org

If you are reading a PDF version of this document, MS Word versions of the rubrics are available on the S Drive in the SLO Handbook folder. Look in the Appendix sub-folder which has all appendices listed separately.

[37] CHC--Crafton Hills College, Basic Skills SLO Retreat, November 16-17 2007. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.
CC—Cabrillo College. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.
BC—Bakersfield College, Janet Fulks, from her website with permission.

Developmental English Essay Rubric

	1 Needs Work	2 Adequate	3 Good	4 Excellent
Assignment Fulfillment	Essay is off-topic and/or fails to fulfill the directives (i.e., minimum number of quotes, etc.). . .	Essay is on-topic but fails to fulfill some of the directives (i.e., minimum number of quotes, etc.).	Essay is on-topic and fulfills most of the directives (i.e., minimum number of quotes, etc.).	Essay is on-topic and fulfills all directives (i.e., minimum number of quotes, etc.).
Thesis	Thesis is missing, unfocused or vague.	Thesis is clear and engages the topic appropriately, but is not original.	Thesis is clear, engages the topic appropriately, and is somewhat original.	Thesis is clear, insightful, and original.
Organization/ Coherence/ Focus	No clearly defined or apparent organization. Paragraphs lack focus and cohesion.	Sequence of ideas is functional but may have abrupt or illogical shifts.	Sequence of ideas is effective but may lack smooth transitions.	Sequence of ideas and transitions between paragraphs are effective.
Development & Support	Body paragraphs contain summaries or generalizations that lack relevant supporting evidence and analysis.	Body paragraphs offer a functional level of evidence and analysis which at times may be too general.	Body paragraphs offer solid, convincing, and somewhat original analysis of relevant evidence.	Body paragraphs offer richly developed, insightful, original, and convincing analysis of relevant evidence.
Grammar & Usage	Frequent errors in grammar, usage and spelling.	Some errors in grammar, usage and spelling. Sentences may by simplistic, choppy or awkward.	Occasional errors in grammar, usage and spelling. Demonstrate syntactical maturity through varied sentence structure.	Few if any grammatical or proofreading errors. Demonstrate syntactical maturity through varied sentence structure.
Basic Research & Documentation Skills	Neglects relevant sources and/ or improperly cites sources according to MLA format.	Inconsistently integrates relevant sources and quotes to substantiate claims, and demonstrates an inconsistent use of MLA format.	Integrates relevant sources and quotes to substantiate claims, using MLA format with occasional lapses in usage.	Smoothly integrates relevant sources and quotes to substantiate claims, consistently using MLA format.
Overall Holistic Score				

Crafton Hills College, Basic Skills SLO Retreat, November 16-17 2007. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.

	Analytic Rubric for Grading Oral Presentations					
	Not Acceptable	Below Expectation	Satisfactory	Above Satisfactory	Exemplary	Score
Organization	No apparent organization. Evidence is not used to support assertions (0-1)	Poorly organized. Evidence is not enough to clearly support assertions. (2-3)	The presentation has a focus and provides some evidence which supports conclusions. (4-5)	Presentation is well-organized and evidence largely supports its conclusion. (6-7)	The presentation is carefully organized and provides convincing evidence to support conclusions. (8)	
Content	The content is inaccurate or overly general. Listeners are unlikely to learn anything or may be misled. (0-1)	The content is often inaccurate or generalized. Listeners learned little from the presentation. (2-3)	The content is generally accurate, but incomplete. Listeners may learn some isolated facts, but they are unlikely to gain new insights about the topic. (4-6)	The content is mostly accurate and complete. Audience is hearing facts and may gain some insights. (7-8)	The content is accurate and complete. Listeners are likely to gain new insight about the topic. (9)	
Style	The speaker appears anxious and uncomfortable, and reads notes, rather than speaks. Listeners are largely ignored. (0-1)	The speaker is uneasy. Eye contact is only occasional. (2-3)	The speaker is generally relaxed and comfortable, but too often relies on notes. Listeners are sometimes ignored or misunderstood. (4-5)	Speaker is mostly confident and familiar with notes. Eye contact is good (6-7)	The speaker is relaxed and comfortable speaks without undue reliance on notes, and interacts effectively with listeners. (8)	
Total Score						

Crafton Hills College, Basic Skills SLO Retreat, November 16-17 2007. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.

Critical Thinking Assessment Grid	0-1 point F-D (00-69%)	2 points C (70-79%)	3 points B (80-89%)	4 points A (90-100%)
1: analysis/ assessment of deductive arguments	Incorrect applications. Reveals a poor understanding of basic logical concepts, deductive forms or methods for evaluating validity and soundness.	Demonstrates a fair understanding of deductive forms and assessment methods, and is able to apply them, though with some errors.	Demonstrates a good understanding of deductive forms and assessment methods, and is able to apply them with only a few errors.	Demonstrates thorough grasp of various deductive forms and assessment methods (e.g., use of symbols, Venn diagrams, truth functions, etc.) and applies them correctly.
2: analysis/assessment of inductive arguments	Incorrect applications. Reveals a poor understanding of basic logical concepts, inductive forms or methods for evaluating strength and cogency.	Demonstrates a fair understanding of inductive forms and assessment methods, and is able to apply them, though with some errors.	Demonstrates a good understanding of inductive forms and assessment methods, and is able to apply them with only a few errors.	Demonstrates a thorough grasp of various inductive forms and assessment methods (e.g., basic statistical methods, Mill's methods, fallacies, etc.) and applies them correctly.
3: analysis/assessment of explanatory theories	Reveals a poor understanding of the criteria of adequacy for empirical theories and is unable to use these concepts to assess a theoretical claim. May also have multiple errors of application or interpretation.	Demonstrates a fair grasp of the concept of *testability* and is able to use it and at least some of the other criteria. May have some errors of application or interpretation.	Demonstrates a good grasp of the concept of *testability*, and the other criteria of adequacy for empirical theories, and correctly uses most of the criteria. Few or minor errors.	Demonstrates a thorough grasp of the concept of *testability*, and the other criteria of adequacy for empirical theories, and successfully deploys the criteria. No major errors.
4: construction of a novel argument	The student fails to construct an argument with a clear logical structure. The conclusion is uninteresting or poorly supported. Has problematic premises or commits an obvious fallacy. Unable to represent argument form.	The student can construct a novel but unchallenging argument, having a fairly clear logical form. May have problematic premises. Avoids obvious fallacies. May contain some errors in the construction or formal representation.	The student can construct a somewhat challenging and interesting argument that is well-formed, valid or strong, has few problematic premises, and avoids major fallacies. Few or no errors in the construction or formal representation.	The student constructs a challenging and interesting argument that is well-formed, valid or strong, with no obviously problematic premises, and no fallacies. No significant errors in the construction or formal representation.

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Golf Bunker Shot Rubric (#3)
Draft 2/5/07

SLO- Be able to successfully hit balls from greenside bunkers using proper stance, ball position and swing technique.

	Poor	**Average**	**Good**	**Excellent**
Success of shot (balls struck from greenside bunker in an attempt to hit the green)	Student is able to hit balls out of the bunker 10% of the time or less	Student is able to hit balls out of the bunker 25% of the time	Student is able to hit balls out of the bunker the majority of the time and on the green occasionally	Student is able to hit balls out of the bunker at least 70% of the time and on the green the majority of the time
Proper stance (open, weight forward, good golf posture)	Stance is incorrect and contributes to lack of success	Some components of the stance are correct but student is rarely successful	Most components of the stance are correct and student is occasionally successful	All components of the stance are present and the student is often successful
Ball position (ball center to back in stance, proper distance from golfer)	Ball is almost always incorrectly placed in stance and contributes to lack of success	Ball is primarily either positioned the incorrect distance from the golfer or too far forward in stance, contributing to relative lack of success	Ball is usually positioned correctly in stance, some success is evident	Ball is almost always positioned correctly in stance and student demonstrates success
Swing technique ("down the target line swing", open club face, smooth and rhythmic, eyes behind the ball)	Swing technique is incorrect in at least three of four key characteristics, leading to lack of success	Two of four characteristics of proper swing technique are present; success is effected by improper technique	Three of four characteristics of proper swing technique are present, leading to a majority of successful shots and occasional accuracy	Three to four characteristics of proper swing technique are present, success and accuracy result

Crafton Hills College, Basic Skills SLO Retreat, November 16-17 2007. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.

Rubric for a Research Project **Student Name(s)**_____

	Thesis/Problem/ Question	Information Seeking/Selecting and Evaluating	Analysis	Synthesis	Documentation	Product/Process
4	Student(s) posed a thoughtful, creative question that engaged them in challenging or provocative research. The question breaks new ground or contributes to knowledge in a focused, specific area.	Student(s) gathered information from a variety of quality electronic and print sources, including appropriate licensed databases. Sources are relevant, balanced and include critical readings relating to the thesis or problem. Primary sources were included (if appropriate).	Student(s) carefully analyzed the information collected and drew appropriate and inventive conclusions supported by evidence. Voice of the student writer is evident.	Student(s) developed appropriate structure for communicating product, incorporating variety of quality sources. Information is logically and creatively organized with smooth transitions.	Student(s) documented all sources, including visuals, sounds, and animations. Sources are properly cited, both in-text/in-product and on Works-Cited/Works-Consulted pages/slides. Documentation is error-free.	Student(s) effectively and creatively used appropriate communication tools to convey their conclusions and demonstrated thorough, effective research techniques. Product displays creativity and originality.
3	Student(s) posed a focused question involving them in challenging research.	Student(s) gathered information from a variety of relevant sources--print and electronic	Student (s) product shows good effort was made in analyzing the evidence collected	Student(s) logically organized the product and made good connections among ideas	Student(s) documented sources with some care, Sources are cited, both in-text/in-product and on Works-Cited/Works-Consulted pages/slides. Few errors noted.	Student(s) effectively communicated the results of research to the audience.
2	Student(s) constructed a question that lends itself to readily available answers	Student(s) gathered information from a limited range of sources and displayed minimal effort in selecting quality resources	Student(s) conclusions could be supported by stronger evidence. Level of analysis could have been deeper.	Student(s) could have put greater effort into organizing the product	Student(s) need to use greater care in documenting sources. Documentation was poorly constructed or absent.	Student(s) need to work on communicating more effectively
1	Student(s) relied on teacher-generated questions or developed a question requiring little creative thought.	Student(s) gathered information that lacked relevance, quality, depth and balance.	Student(s) conclusions simply involved restating information. Conclusions were not supported by evidence.	Student(s) work is not logically or effectively structured.	Student(s) clearly plagiarized materials.	Student(s) showed little evidence of thoughtful research. Product does not effectively communicate research findings.

Crafton Hills College, Basic Skills SLO Retreat, November 16-17 2007. Shared with workshop participants at the Accreditation Institute Workshop, Pasadena, Jan 25-27, 2008.

Essay Grading Sheet (Based on a rubric by Marcy Alancraig, English, Cabrillo College. Shared at the Accreditation Institute, January 2008.)
Course _____Outcome _____

Student's Name: _____ Total Grade: _____

Assignment:_____
(Example, write essays, including researched based writing on the ecological, anthropological, historical and literary aspects of the Monterey Bay region, demonstrating academic rhetorical strategies and documentation.)

See the following page for the definitions of Wow, Good, Getting There, Try Again, Let's Not Go There

Elements of Grade	Wow!	Good	Getting There	Try Again	Let's Not Go There	Weight	Total pts.
Introduction							
Thesis or Claim							
Response to Topic							
Evidence to support thesis							
MLA citation and documentation							
Awareness of counter arguments							
Flow and order of Ideas							
Conclusion							
Word Choice							
Grammar and Punctuation							
Personal Voice							

Comments:

English 1A Essay Rubric

(Based on a rubric by Marcy Alancraig, English, Cabrillo College. Shared at the Accreditation Institute, Pasadena, January 2008.)
Note, any point system could be used.

W0W!!! (90-100 Points - Grade A)

- Begins with an introduction that shows your understanding of the issues, grabs your readers' attention, and presents a strong and insightful thesis or point of view.
- Engages the topic in a thoughtful and individual way, showing originality, elegance and clear thinking.
- Develops the topic using a strong detail, quotes from other sources, and a unique synthesis of ideas.
- Utilizes library research and quotes from outside sources, always properly citing them using the MLA format.
- Possesses a fully explained and logical progression of ideas that indicates the writer's sensitivity to different ways of looking at the topic with an awareness of key counter arguments and a consideration of how those alternate positions shape your understanding of the topic.
- Ends with a strong conclusion that clarifies the significance of the paper's lessons
- Chooses words aptly and sometimes inventively.
- Demonstrates mastery of most of the grammar and usage conventions of Standard English.
- Uses phrasing, tone, and expression that reflects a unique personal voice.

Good! Almost There (80-89 Points - Grade B)

- Begins with an introduction that shows some understanding of the issues, gives some background and has an adequate thesis or point of view.
- Presents a thoughtful response to the topic, using appropriate reasoning and a partially realized analysis that is accurate.
- Develops the topic showing appropriate details, a sense of orderly progress between ideas, and use of references that reveal a familiarity with the topic.
- Uses words precisely if not creatively.
- Varies sentence structure enough to read smoothly.
- Utilizes library research and quotes from outside sources, usually properly citing them using the MLA format.
- Uses competently the conventions of written English, containing few, if any, errors in sentence structure, punctuation and capitalization or usage.
- Uses mostly consistent phrasing, tone and expression that reflects a personal world view and style.

Getting there (70-79 Points - Grade C)

- Presents an adequate response to the topic, using superficial analysis and weak point of view.
- Uses logical reasoning, but the supporting evidence is general and imprecise with few examples. There may be some small factual errors.
- Uses a less precise vocabulary and may contain awkwardness of expression.
- Utilizes library research and quotes from outside sources, with fairly consistent use of the MLA citation format. May make some errors.
- Contains minor errors in mechanics and usage, and perhaps one or two more distracting errors in sentence structure.
- Uses fairly consistent phrasing, tone and expression that reflect a personal world view and style with occasional inconsistencies.

Try Again (60-69 Points - Grade D)

- Responds to the topic illogically, without a coherent structure or focus.
- Has no point of view, uses mostly summary and lacks evidence and support.
- Makes several large, factual errors.
- Makes enough errors in usage and sentence structure to cause a reader serious, if occasional, distraction.
- Improperly uses the MLA format for citations. Makes major errors in quoting and uses few sources.
- Uses frequently inconsistent phrasing, tone and expression, often formulaic and imitative; lacks evidence of a personal worldview and style.

Let's not even go there (50-59 Points - Grade F)

- Doesn't attempt the task or distorts it
- Lacks organization or detail.
- Contains many distracting errors in sentence structure, simplistic or inaccurate word choice, many repeated errors in grammar and usage.

- Not enough is written to get a sense of personal worldview and style.

Collaboration Rubric (From the Cabrillo Tidepool Study)

	Beginning: 1	Developing: 2	Accomplished: 3	Exemplary: 4	Score
Contribute					
Research & Gather Information	Does not collect any information that relates to the topic.	Collects very little information--some relates to the topic.	Collects some basic information--most relates to the topic.	Collects a great deal of information--all relates to the topic.	
Share Information	Does not relay any information to teammates.	Relays very little information--some relates to the topic.	Relays some basic information--most relates to the topic.	Relays a great deal of information--all relates to the topic.	
Be Punctual	Does not hand in any assignments.	Hands in most assignments late.	Hands in most assignments on time.	Hands in all assignments on time.	
Be Punctual					
Fulfill Team Role's Duties	Does not perform any duties of assigned team role.	Performs very little duties.	Performs nearly all duties.	Performs all duties of assigned team role.	
Participate in Science Conference	Does not speak during the science conference.	Either gives too little information or information which is irrelevant to topic.	Offers some information--most is relevant.	Offers a fair amount of important information--all is relevant.	
Share Equally	Always relys on others to do the work.	Rarely does the assigned work--often needs reminding.	Usually does the assigned work--rarely needs reminding.	Always does the assigned work without having to be reminded.	
Value Others' Viewpoints					
Listen to Other Teammates	Is always talking--never allows anyone else to speak.	Usually doing most of the talking--rarely allows others to speak.	Listens, but sometimes talks too much.	Listens and speaks a fair amount.	
Cooperate with Teammates	Usually argues with teammates.	Sometimes argues.	Rarely argues.	Never argues with teammates.	
Make Fair Decisions	Usually wants to have things their way.	Often sides with friends instead of considering all views.	Usually considers all views.	Always helps team to reach a fair decision.	

				Total	

Analytic Rubric for Peer Assessment of Team Project Members			
	Below Expectation	**Good**	Except**ional**
Project Contributions	Made few substantive contributions to the team's final product	Contributed a "fair share" of substance to the team's final product	Contributed considerable substance to the team's final product:.
Leadership	Rarely or never exercised leadership	Accepted a "fair share" of leadership responsibilities	Routinely provided excellent leadership
Collaboration	Undermined group discussions or often failed to participate	Respected other's opinions-and contributed to the group's discussion	Respected other's opinions and made major contributions to the group's discussion

Source unknown

Grading Rubric for Labs—24 points maximum

(Adapted from http://www2.bc.cc.ca.us/jfulks/BSI_SLO/BSI_SLO_Page.htm)

	Weight	Excellent	Good	Satisfactory	Unsatisfactory	Score Points	Points times Weight
		3 Points	2 Points	1 Point	0 Points		
Key concepts	3	The answers fully demonstrate that the student(s) understands the key concepts.	The answers mostly demonstrate that the student(s) understands the key concepts.	The answers somewhat demonstrate that the student(s) understands the key concepts.	The answers do not demonstrate that the student(s) understands the key concepts.		
Detail and facts	2	The answers include full and adequate detail and have no significant factual errors and/or misconceptions.	The answers include some detail or have only minimal significant factual errors and/or misconceptions.	The answers include some detail and have only minimal significant factual errors and/or misconceptions.	The answers do not provide adequate detail and have several significant factual errors and/or misconceptions.		
Writing mechanics	2	Non-numerical answers are written in complete sentences, with proper grammar.	Non-numerical answers are written mostly in complete sentences, with proper grammar.	Non-numerical answers are occasionally written in complete sentences, with proper grammar in some places.	There are several incomplete sentences, cases of poor grammar.		
College level work	1	Graphs are constructed accurately, including measuring and scaling, labeling of axes, straight lines (when applicable), and neatly. AND The lab is neatly presented and organized. AND The lab is turned in by the first 5 minutes of class on the due date. AND The papers are stapled (if more than 1 paper).	Graphs are accurately drawn but missing labeling. Or, labeling is included, but scaling is not accurate. Graphs are still neatly drawn. OR The lab is fairly neatly presented and organized. OR The lab is turned in by the end of class on the due date. OR The papers are NOT stapled (if more than 1 paper).	Graphs are missing many of the required parts or are not neat. OR The lab is not neatly presented or not organized. OR The lab is completed and turned in by the end of the day on the due date. OR The papers are NOT stapled (if more than 1 paper).	Graphs are drawn without straight edges (when applicable), are messy, are not accurate, or do not reflect the data or distribution. OR The lab is neither neatly presented nor organized. OR The lab is turned in after the due date. OR The papers are NOT stapled (if more than 1 paper).		
Final grade: **Sum of Weighted points**							

Student: Last name _____ First Name _____ id _____

Assignment: _____ Date _____ Course/Section_____

Assessed by _____

Mathematics Rubric

(From http://www2.bc.cc.ca.us/jfulks/BSI_SLO/BSI_SLO_Page.htm)

	Excellent	Good	Satisfactory	Unsatisfactory
Key concepts	The answers fully demonstrate that the student(s) understands the key concepts.	The answers mostly demonstrate that the student(s) understands the key concepts.	The answers somewhat demonstrate that the student(s) understands the key concepts.	The answers do not demonstrate that the student(s) understands the key concepts.
Mathematics language	The project includes mathematical terminology, notation, and labeling of units when appropriate.	The project mostly includes mathematical terminology, notation, and labeling of units when appropriate.	The project includes some mathematical terminology, notation, and labeling of units when appropriate.	The project misuses mathematical terminology or notation or does not label units when appropriate.
Strategies	The project shows complete evidence of appropriate strategies for solving the problem.	The project shows nearly complete evidence of appropriate strategies for solving the problem.	The project shows some evidence of appropriate strategies for solving the problem.	The project shows no evidence of using appropriate strategies for solving the problem.
Algorithms and computations	There are no significant factual errors and/or misconceptions in the algorithms or calculations.	There are only minor computational errors. There are no misconceptions in the algorithms.	There are some computational errors or misconceptions in the algorithms.	Most of the project shows computational errors and misconceptions in the algorithms.
Writing mechanics	Non-numerical answers are written in complete sentences, explaining what was done and why it was done.	Non-numerical answers are mostly written in complete sentences, explaining what was done and somewhat addressing why it was done.	Non-numerical answers are occasionally written in complete sentences. Explanations are vague.	Non-numerical answers are not written in complete sentences. Explanations are difficult to interpret.
College level presentation	Graphs are constructed accurately, including measuring and scaling, labeling of axes, straight lines (when applicable), and neatly. AND The project is neatly presented and organized. AND The project is turned in by the first 5 minutes of class on the due date. AND The papers are stapled (if more than 1 paper).	Graphs are accurately drawn but missing labeling. Labeling is included, but scaling is not accurate. Graphs are still neatly drawn. OR The project is fairly neatly presented and organized. OR The project is turned in by the end of class on the due date. OR The papers are NOT stapled (if more than 1 paper).	Graphs are missing many of the required parts or are not neat. OR The project is not neatly presented or not organized. OR The project is completed and turned in by the end of the day on the due date. OR The papers are NOT stapled (if more than 1 paper).	Graphs are drawn without straight edges (when applicable), are messy, are not accurate, or do not reflect the data or distribution. OR The project is neither neatly presented nor organized. OR The project is turned in after the due date. OR The papers are NOT stapled (if more than 1 paper).

Student Self-Assessment Math Rubric, developed by Joan Sholars, Mt. San Antonio College

Score. How do you evaluate your work	Mathematical Understanding (Do you know it?)	Strategic Knowledge and Planning (How did you plan your answer?)	Explanation and Justification (Can you explain your thinking?)
4	I got the right answer and I identified and labeled the parts correctly. I use math terms correctly to show I understand how math works. I computed with no errors.	I found all the important parts of the problem and I know how they go together. I showed all the steps and procedures I used to solve the problem. I explained my mental math or showed my calculations.	I wrote What I did and Why I did it in a clear and concise manner. If I used a drawing, diagram or picture, I explained all of it in writing. I described my logical steps and my critical thinking in clear and concise manner.
3	I got the right answer and identified the parts, but I made slight errors. I made minor errors in computation or steps, but I understand what I did. I understood my answer and recognized my mistakes.	I showed detailed pictures, diagrams, models, or computations. I found most of the important parts of the problem. I showed a reasonable plan and most of the steps I used to solve the problem.	I wrote mostly about What I did not Why I did it. I described my steps but not clearly. If I used a drawing, I exp lained most of it in writing.
2	I know how to do parts of the problem but I made noticeable mistakes. I gave an incorrect answer or only parts of the answer.	I showed some of the steps of parts of the problem, but my plan is not clear. I found some elements of the problem.	I wrote some about What I did or Why I did it, but not both. If I used a diagram, drawing or formula, I explained some of it or it was basic.
1	I tried to do the problem, but I did not understand it. My answer is incorrect, and I cannot explain why.	I show a plan but it was basic. I showed a limited number of steps I used to solve the problem. I included unnecessary information.	I wrote, drew, or created something, but it was not linked to the answer. I wrote an answer but it was not clear.
0	I did not attempt to answer the problem.	I did not show a plan.	I did not explain my answer in writing.

Appendix K: SLO Forms

See the *SLO Handbook* and the *Guidelines for Program Review and SLOA Report* for instructions

Course Level SLO Plan for CIC Page K-2
Attach to course outline.
Submit to CIC.
One for each course.

Program Level SLO Plans for Instructional Programs Page K-3
One for each program.
Include with Program Review.

SLO Assessment Form, Instructional Programs/Departments Page K-5
Submit with program review in SLOA Report
One for each course and one for each program

SLO/AUO/SUO Assessment Form—Non-Instructional Programs/Units Page K-8
Submit with program review in SLOA Report
One for each unit or program.

If you are reading a PDF version of this document, MS Word versions of the forms are available on the S Drive in the SLO Handbook folder. Look in the Appendix sub-folder which has all appendices listed separately.

At some point in the near (we hope) future these forms will be available to complete on-line.

CONTRA COSTA COLLEGE
Course-Level SLOs with Assessment Methods and Criteria

Department/Course Number: _____ Date: _____

Course Title: _____

Is this course required for completion of a degree, major(s), or certificate program(s)? ☐ Yes ☐ No
If yes, which degree/major(s)/certificate program(s)?
Degree: ☐ AA ☐ AS
Major(s):

	Certificate of Achievement?	☐ Yes	☐ No
	Certificate of Achievement?	☐ Yes	☐ No
	Certificate of Achievement?	☐ Yes	☐ No

Certificate(s) of Accomplishment:

Does this course satisfy a GE requirement(s)? ☐ Yes ☐ No
If yes, which requirement(s)?

☐ A. Language & Rationality ☐ English Composition ☐ Oral Communication & Critical Thinking

☐ B. Natural Science w/ Lab	☐ H. Physical Education Activity
☐ C. Arts and Humanities	☐ I. Mathematics Proficiency
☐ D. Social Sciences	☐ J. Computer Literacy
☐ F. American Institutions	☐ K. Cultural Pluralism
☐ G. Health Education	☐ L. Information Competency

	Intended Outcome	Assessment Method	Assessment Criteria
1.			
2.			
3.			
4.			
5.			

You may have more than four outcomes. To add rows, place cursor in last cell (bottom right) and hit the tab key.
Just include this page when submitting your program level SLOs. Delete the following two pages or just print out this page.

CONTRA COSTA COLLEGE
Program-Level Student Learning Outcomes
Instructional Departments and Programs

Department Name: | Program Title:

List of department members contributing to the development of the SLO plans

Date:

SLO	Intended Outcome	Assessment Method	Assessment Criteria
#1			
#2			
#3			
#4			

You may have more than four outcomes. To add rows, place cursor in last cell (bottom right) and hit the tab key.
Just include this page when submitting your program level SLOs. Delete the following two pages or just print out this page.

In addition to individually listed outcomes, if there are course sequences which share similar SLOs you may wish include a matrix that shows how SLOs relate and/or progress across the courses. The following is a generic example. More or fewer gradations may be appropriate. Add SLOs as needed. Enter course where appropriate.

	Introduced— List basic concepts of …	Developed— Compare/contrast concept	Gain Mastery— Analyze and solve problems using concepts Course 103
SLO #1			
SLO #2			
SLO # 3			
SLO #4			

Standard IIA, Instructional Departments and Programs

The following are the standards used by the Accrediting Commission for the Community and Junior Colleges, Western Association of Schools and Colleges that relate specifically to SLOs for Instructional Programs. They are included here to aid in the development of your Program Level SLOs. (For a complete list of the standards see, www.accjc.org/ACCJC_Publications.htm.)

- *The institution offers high-quality instructional programs in recognized and emerging fields of study that culminate in identified student outcomes leading to degrees, certificates, employment, or transfer to other higher education institutions or programs consistent with its mission. Instructional programs are systematically assessed in order to assure currency, improve teaching and learning strategies, and achieve stated student learning outcomes. The provisions of this standard are broadly applicable to all instructional activities offered in the name of the institution*. (Standard IIA)

- *The institution awards degrees and certificates based on student achievement of a program's stated learning outcomes.* (Standard IIA2i)

Student Learning Outcomes Assessment (SLOA) Form—Courses and Instructional Programs: (Revised August 2009.)
Complete one form for each course and one for each program. Include with your SLOA Report that is attached to your Program Review document. For instructions see Chapter 4 of the SLO Handbook and Appendix G of the companion document, *Guidelines for Program Review and SLOA Report*..

Department: _____ Semester _____

Course or Program _____ Form completed by _____

If this form is for a course, does this course satisfy a CCC GE requirement as listed in the catalog? Yes or No.
If yes, check which one(s) apply. (Courses are listed in the catalog under, *CCC Breadth Requirements for the Associate Degree*.)

☐ A. Language & Rationality ☐ English Composition ☐ Oral Communication & Critical Thinking
☐ B. Natural Science w/ Lab ☐ H. Physical Education Activity
☐ C. Arts and Humanities ☐ I. Mathematics Proficiency
☐ D. Social Sciences ☐ J. Computer Literacy
☐ F. American Institutions ☐ K. Cultural Pluralism
☐ G. Health Education ☐ L. Information Competency

Instructions --This report consists of 2 parts:
Part 1 is an overall summary of your assessment results and recommendations. (You may wish to complete the detailed analysis in Part 2 before Part 1.)
Part 2 includes the outcome by outcome detailed results. Please complete all sections of the form. It is **very important** that you identify whether or not each of the outcomes satisfies a GE or Core Competency Outcome and if it does then indicate which one(s). (See the lists attached on page 4.) For courses, the first three columns in Part 2 should be the same as the SLO Plans submitted to CIC. If they are not the same, please explain in Part 1, #5.

PART 1: Summary of Assessment Results (overall) and Recommendations. (Add additional comments/pages if needed.)
Please answer the following:

1. In general, did the assessment results meet your expectations or criteria as described in your SLO plans?
____ Not at all _____To some extent _____Mostly _____Yes, they all did.

2. If not, list the reasons why you think the assessment results fell short of your criteria or expectations.
3. Identify strategies or changes that you can employ inside or outside of the classroom that might improve student learning.
4. Identify strategies or changes that (1) your department; (2) your division; (3) the library or learning support services; (4) student support services; and/or (5) other campus resources (human, physical, technological, financial) could employ that might improve student learning in your course or department.
5. Include any additional comments. (If you changed your SLO Plans from those you submitted to CIC with your course outline, briefly explain.)

PART 2: Detailed report of assessment results. Add additional pages/outcomes if needed.
The first three columns (Outcome, Assessment Method, Criteria) should be the same as the SLO Plan submitted to CIC with the course outline. If not, just indicate and explain in Part 1 #5.
(Optional—only if you wish. If any of your outcomes have sub-sections you would like to address separately, just place your cursor in the cell under "Recommendations" and hit the tab key. A new row will appear. Use this for entering sub-section results. Repeat as often as needed.)

First learning outcome (refer to Appendix F for a list of GE and Core Competency SLOs)
Does this outcome measure any of the SLO GE categories? See attached list. Yes or No. If "yes" which ones, indicate number(s)_____
Does this outcome measure any of the Core Competencies? See attached list. Yes or No If "yes" which ones, indicate letter(s)_____
Is the Outcome, Assessment Method and Criteria the same as you submitted to CIC with your course outline? Yes or No (If No, explain in Part 1, #5.)

Outcome	Assessment Method	Criteria	Assessment Results	Recommendations

Second learning outcome (refer to Appendix F for a list of GE and Core Competency SLOs)
Does this outcome measure any of the SLO GE categories? See attached list. Yes or No. If "yes" which ones, indicate number(s)_____
Does this outcome measure any of the Core Competencies? See attached list. Yes or No If "yes" which ones, indicate letter(s)_____
Is the Outcome, Assessment Method and Criteria the same as you submitted to CIC with your course outline? Yes or No (If No, explain in Part 1, #5.)

Outcome	Assessment Method	Criteria	Assessment Results	Recommendations

Third learning outcome (refer to Appendix F for a list of GE and Core Competency SLOs)

Does this outcome measure any of the SLO GE categories? See attached list. Yes or No. If "yes" which ones, indicate number(s)_____
Does this outcome measure any of the Core Competencies? See attached list. Yes or No If "yes" which ones, indicate letter(s)_____
Is the Outcome, Assessment Method and Criteria the same as you submitted to CIC with your course outline? Yes or No (If No, explain in Part 1, #5.)

Outcome	Assessment Method	Criteria	Assessment Results	Recommendations

Fourth learning outcome (refer to Appendix F for a list of GE and Core Competency SLOs)

Does this outcome measure any of the SLO GE categories? See attached list. Yes or No. If "yes" which ones, indicate number(s)_____
Does this outcome measure any of the Core Competencies? See attached list. Yes or No If "yes" which ones, indicate letter(s)_____
Is the Outcome, Assessment Method and Criteria the same as you submitted to CIC with your course outline? Yes or No (If No, explain in Part 1, #5.)

Outcome	Assessment Method	Criteria	Assessment Results	Recommendations

Copy and paste to add spaces for additional outcomes if needed. If you are reading this in a PDF document, an MS Word version exists on the S Drive in a folder called SLO Forms.

Appendix L: A Short Selection of On-line References

The URLs listed were accurate as of September, 2009. Our campus CRC website also has a selection of on-line references.

California State University (Yes, CSU campuses are also working on SLOs.)
http://www.calstate.edu/itl/sloa/index.shtml
The *Assessment* link opens a list of a dozen or so links to a variety of on-line references.
The *Rubrics* link opens a page with basic information about rubrics. At the bottom of the page is a link to a long list of rubric examples used on CSU campuses and other institutions.

North Carolina State University (Yes, campuses across the country have SLOs.)
http://www2.acs.ncsu.edu/UPA/assmt/resource.htm
Extensive annotated and regularly updated list of Internet resources for higher education outcomes assessment. Listed by category as follows:
General Resources
Assessment Handbooks
Assessments of Specific Skills and Content
Individual Institutions' Assessment Related Pages
State Boards and Commissions
Accrediting Bodies
Student Assessments (Evaluations) of Courses and Faculty

Center for Student Success
Research and Planning (RP) Group for California Community Colleges
http://css.rpgroup.org/
This site has archived a large collection of "case studies" (examples) of SLO work from many California Community College campuses. Use the *learning assessment* tab. This takes you to a page where you select the type of case study you would like to investigate:

Institutional/College Level	Program/Major Level
Course/Class Level	Basic Skills
Occupational/Technical	General Education
Library/Learning Assistance	Student Services/Student Development
Templates/Rubrics/Tools	College Department Processes
Bibliographies/Guides/Readings	San Diego Student Success Conference, 2006

Once you select the type of case study, you are presented with a detailed annotated list of links to the work of other campuses.

Janet Fulks of Bakersfield College has written an online Handbook. Some of the material in this document is borrowed (with permission) from her website. She also has an extensive list of links to other online sources.
http://online.bc.cc.ca.us/courseassessment/Default.htm

Mt. SAC in Walnut (LA area), CA has an excellent SLO/AUO web site.
http://www.mtsac.edu/instruction/outcomes/

Bloom's Taxonomy
http://www.coun.uvic.ca/learning/exams/blooms-taxonomy.html
Or do a Google search as there are many similar websites about Bloom's Taxonomy

ACCJC, Accrediting Commission for Community and Junior Colleges, has an informative web site.
www.accjc.org

California Community Colleges Network for SLO Assessment (A combined effort of the RP Group and ASCCC)
http://sloassessment.com

Academic Senate for California Community Colleges (ASCCC)
http://www.asccc.org

Appendix M: CCC Historic Timeline, SLO Activities

Fall 2003

- Student Services Senior Dean begins distributing SLO journal articles to managers in division.

Spring 2004

- SLO Master Plan written, Saul Jones, President of Academic Senate
- CTE Program developed SLOs with assistance of Research Department(Clow)
- Student Services begins SLO discussions

Fall 2004

- Student Services continues discussions and begins SLO development by department.
- SLO conference offered at DVC presentors: James O. Nichols; Attendees: Clow, Jones, Lamb, et.al

Spring 2005

- All College Day, 8 Campus-wide Core Competencies identified.
- Student Services adopts College Core Competencies as basis for SLO development and each department creates initial SLOs within rubric, presents to Student Services Managers Group for input and discussion on a monthly basis per department.
- Student Services attends ACCA Conference Session on Student Service SLOs, San Jose, CA: Hernandez, Mathews, Pearson, Floyd, Barrick and Ounjian
- Student Services presents process and first SLOs to the Management Council: Hernandez, Ounjian

Fall 2005

- NSAS Division representatives attended Larry Kelly Workshop, Stockton; attendees, Duvall, Cromartie, Mead, Williams
- Started GE SLO Committee, by Terence Elliot, new President of Academic Senate
- First time that program level SLOs are required with Program Review. This requirement continues to present.

Spring 2006

- First flex Workshop on GE SLOs offered by Wendy Williams, Chair GE SLO Committee
- GE SLO Committee continued to meet
- CCC Student Services and Academic Departments report to the District Governing Board about progress made on SLOs. Sample SLOs are presented

Fall 2006

- Representatives attended SLO conference in San Diego, Williams and Elliot"
- GE SLO Committee continued to meet
- First assessment data of test Student Services SLO's is collected over several semesters in the technological awareness competency
- Vacancies in the majority of Student Services manager positions create hold on any SLO development and progress.

Spring 2007

- Appointed SLO Coordinator, Faculty Member (Williams) with 20% release time.
- SLO Coordinator met with all Divisions and Council of Chairs. This practices continues to the present. Purpose is to keep campus community informed and answer questions.
- Created SLO Coordinating Committee
- GE SLO Committee continued to meet

- CIC begins to require course level SLOs to be submitted with all new course proposals and content review. This requirement continues to the present and will continue into the future.
- SLO workshops offered on regular basis by CIC Chair (Duvall). These workshops continue to be offered, minimum of 3 times a semester.

Fall 2007

- Representative attended SLO conference in San Jose (Maga)
- GE SLO Committee on hold until Fall 2008.
- SLO Coordinating Committee continued to meet.
- Numerous SLO workshops given by CIC Chair (Duval) and SLO Coordinator (Williams)
- Student Services Managers attend CSSO drive in and discuss state of SLOs at individual institutions. Student Services decides to divide division into two SLO Groups and develop common SLOs.
- Student Services Group 1 meets and develops group SLOs with assessment measures based on previous department SLOs. Presents to Student Services Managers group for input and discussion.
- Student Services Group 2 begins to meet to work on development of group SLOs
- Student Services SLO Coordinator works with both groups to move forward in SLO development and begins identifying at common division wide SLOs.

Spring 2008

- Representative attended Accreditation Seminar in Pasadena (Williams)
- Plan for institutionalizing the 5 steps of the SLO process finalized, approved by Academic Senate.
- SLO Coordinating Committee continued to meet
- Draft version of SLO Handbook published
- Union representatives revising faculty evaluation procedure which will include reference to SLOs
- Numerous SLO workshops given by CIC Chair (Duval)
- Two semesters of data collected on some Group SLOs in Student Services. Results presented to college administration and SLO Coordinating Committee.
- Student Services Group SLOs are combined to form Division SLOs for Student Services, assessment continues and expands into new areas.

Fall 2008

- Student Services Division SLOs refined and assessment begins on new Division SLOs. Data from existing SLOs is presented and used for program refinement

Spring 2009

- Program Review process modified to include SLO analysis. Guidelines for Program Review Rewritten to specify how SLOA results are to be included in the self study. Separate documents were written for instructional programs and non-instructional programs.
- Divisions begin to routinely discuss and share SLO results at meetings.

Fall 2009

- SLOA Reports now required with program review.
- SLO Handbook updated to include new program review requirements.
- GE SLO Committee reestablished. Purpose is to evaluate and report or campus-wide GE SLOs and Core Competencies.
- Campus representatives attended RP/ASCCC conference on SLOs and Basic Skills, SF Airport Marriott.