Feedback for the 2017-2018 Annual Assessment Report
Department of Mathematics
BA Mathematics

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I. Summary Memo to the Deans/Chairs/Program Directors

To: **Chair, Department of Mathematics**
From: **Dr. Amy Liu, Director, Office of Academic Program Assessment (OAPA)**
Date: **Fall 2018**
Subject: **Feedback for the 2017-2018 Annual Assessment Report**
CC: **Office of Academic Affairs**

The 2017-2018 Annual Assessment reports are based on responses to the *2017-2018 Annual Assessment Report Template* prepared by the Office of Academic Program Assessment (OAPA). The feedback for the *2017-2018 Annual Assessment Report* is summarized below:

We have used the appropriate rubrics from WASC Senior College and University Commission (WSCUC) for guidance on effective assessment practices in several areas, including the quality of learning outcomes, assessment plans, methods/data/analysis, Program Review, general education, and the use of assessment data for curricular improvement, academic planning, and budgeting.

We hope all the previous **feedback** reports that you have received from the Office of Academic Program Assessment (2011-2017) in addition to the current one (2017-2018) will be used to help the academic unit (department, program, or college) determine the extent to which its current assessment system is adequate and what additional components or processes may need to be developed or improved for **all the degree programs** in the academic unit.

We would like to thank Amy Wallace, Associate Vice President for Academic Excellence, Kathy Mine, Administrative Support Coordinator, our assessment consultant team, and our student assistants, Dylan Baker and Shelby Zahn, for their support in this assessment review process.

If you have any questions or suggestions, please contact Dr. Amy Liu (liuqa@csus.edu), Director of OAPA.

Thank you.

II. Commendations and Recommendations for the 2017-2018 Annual Assessment Report BA MATHEMATICS

Background Information:

Math 29 (Pre-calculus) and Math 30 (Calculus I) both satisfy the Area B4: Mathematical Concepts and Quantitative Reasoning GE Requirement. Math 12 appears to be introductory in that it does not satisfy GE requirements nor does it satisfy BA Mathematic graduation requirements.

Only Math 30 is an actual graduation requirement for the BA Mathematics program and thus it is not guaranteed that all majors within the program will take Math 29, since they can test out of it.

Commendations:

The program has submitted the report, and is commended for addressing the following areas well:

Program Learning Outcomes and their Alignment:

- Student Learning Outcomes were articulated for Math 29 or Math 30.

Measures, Rubrics and their Alignment:

- Rubric was developed.

Use of Assessment Data:

- This exercise provided important data that the department can use to improve student placement.

Recommendations:

As the program continues its annual assessment efforts we encourage it to pay attention to the following areas:

Placement Test:

- It is not clear how the learning outcomes for Math 29 (Pre-calculus) are aligned with the selected PLO of the Overall Disciplinary Knowledge. Describe how the PLO Overall Disciplinary Knowledge is explicitly aligned with the placement test.
- In the current iteration, is this an assessment of the Program Learning Outcomes for the BA Mathematics program? This may be an assessment of the effectiveness of the placement test administered by the Math department and the relationship of the placement test (ALEKS PPL) to two courses that fulfill the Area B4 GE requirement.
- While it is useful to analyze the matriculation pathway for important classes in the program, this does not represent an assessment of the overall program nor does it assess program majors near or at graduation.
- The measure used may make an excellent baseline measure, but without context or comparison to program majors that are at or near graduation it alone is not effective for assessment of the overall BA Mathematics program.

BA Mathematics Major:

- Develop the Overall Disciplinary Knowledge PLO. It is unclear exactly what the program is measuring with the content areas' test of the placement exam.
- Consider how you can use the current measure in conjunction with another measure (post-test) to measure change amongst program majors from earlier coursework (Math 30) to later coursework (Math 108 and beyond) at or near graduation.
- Math 30 will make for a more effective baseline as it is a graduation requirement for math majors while Math 29 may be tested out of.

Program Learning Outcomes and their Alignment:

- Please use Bloom's taxonomy and verbs to explicitly define what your program learning outcomes are for Overall Discipline Knowledge PLO in the discipline.

Measures, Rubrics and their Alignment:

- Consider describing in the rubrics what various scores represent. For example, how is a 60-69 score different than a 70-79 score?

Data Collection and Presentation:

- Please use Appendix 12C as an example of how to present data clearly. Instead of showing data for each individual student, consider presenting numbers of students scoring 1, 2, 3, 4 or 5 for each outcome.
- Due to the size of your program, collect the data for all the relevant learning outcomes from all the math majors every year in the future, but analyze one learning outcome at least once within a 6-year program review cycle.

Use of Assessment Data:

- Please use all the assessment feedback from last year from this office to improve your assessment effort and quality. See last year's feedback for more details.

III. Detailed Feedback
for the 2017-2018 Annual Assessment Report

Template Questions	Detailed Questions, Criteria, and Comments	
Q1: **Program Learning Outcomes (PLOs)**	**Q1.1.** Which of the following Program Learning Outcomes (PLOs), Sac State Baccalaureate Learning Goals (BLGs), and emboldened Graduate Learning Goals (GLGs) **did you assess?**	**See the Assessment Report** Quantitative Literacy, Overall Disciplinary Knowledge
	Q1.2. Please provide more detailed background information about **EACH PLO** you checked above and other information including how your specific PLOs are **explicitly** linked to the Sac State **BLGs**/**GLGs**: [See BLGs/GLGs]	**See the Assessment Report** See attached Report 2018
	Q1.2.1. *Do you have rubrics for your PLOs?*	**Yes, but for some PLOs.**
	Q1.3. *Are your PLOs closely aligned with the mission of the university?*	**Don't know**
	Q1.4. *Is your program externally accredited (other than through WASC Senior College and University Commission (WSCUC)?)*	**No**
	Q1.4.1. If *the answer to Q1.4 is* ***yes,*** *are your PLOs closely aligned with the mission/goals/outcomes of the accreditation agency?*	**N/A=Not Applicable**
	Q1.5. *Did your program use the* ***Degree Qualification Profile*** *(DQP) to develop your PLO(s)?* [See DegreeProfile.org]	**No, I don't know what the DQP is.**
	Q1.6. *Did you use action verbs to make each PLO measurable?*	**Don't know**
Q2: **Standards of Performance/Expectation for the Selected PLO**	**Q2.1.** Select **OR** type in **ONE(1)** PLO here as an example to illustrate how you conducted assessment (be sure you *checked the* ***correct box*** for this PLO in Q1.1):	**See the Assessment Report** Overall Disciplinary Knowledge
	Q2.1.1. Please provide more information about the **specific PLO** you've chosen in Q2.1.	**See the Assessment Report** See attached Report 2018

	Q2.2. *Has the program developed or adopted* ***explicit program standards of performance/expectations*** *for this PLO? (e.g. "We expect 70% of our students to achieve at least a score of 3 or higher in all dimensions of the Written Communication VALUE rubric.")*	**Yes**
	Q2.3. Please **1) provide and/or attach the rubric(s) AND 2) the standards of performance/expectations** that you have developed for *the selected PLO* here:	**Don't know** See Math 30 Rubric It is unclear whether the Math 30 rubric is for Math 30 or for Math 29 (please see Pg. 38 in the assessment report).
	Q2.4. Please indicate where you have published the selected **PLO:**	**See the Assessment Report**
	Q2.5. Please indicate where you have published the **standard** of performance:	**Missing**
	Q2.6. Please indicate where you have published the **rubric:**	**Missing**
Q3: **Data Collection Methods and Evaluation of Data Quality for the Selected PLO**	***Q3.1.*** *Was assessment data/evidence* ***collected*** *for the selected PLO?*	**Yes**
	Q3.1.1. How many assessment tools/methods/measures **in total** (#) did you use to assess this PLO?	**1**
	Q3.2. *Was the data* ***scored/evaluated*** *for this PLO?*	**Yes**
	Q3.2.1. Please describe how you collected the assessment data for the selected PLO. For example, in what course(s) or by what means were data collected:	**See the Assessment Report** See Report 2018
Q3A: **Direct Measures (key assignments, projects, portfolios, etc.)**	***Q3.3.*** *Were direct measures (key assignments, projects, portfolios, course work, student tests, etc.) used to assess this PLO?*	**No**
	Q3.3.1. Which of the following direct measures (key assignments, projects, portfolios, course work, student tests, etc.) were used? [**Check all that apply**]	**N/A**

	Q3.3.2. Please **1) provide and/or attach the direct measure** (key assignments, projects, portfolios, course work, student tests, etc.) you used to collect data, **THEN 2) explain here** how it assesses the PLO:	**N/A**
	Q3.4*. What tool was used to evaluate the data?*	**N/A**
	Q3.4.1. If you used other means, which of the following measures was used?	**N/A**
	Q3.4.2*. Was the **rubric** aligned directly and explicitly **with the PLO**?*	**N/A**
	Q3.4.3*. Was the **direct measure** (e.g. assignment, thesis, etc.) aligned directly and explicitly **with the rubric**?*	**N/A**
	Q3.4.4*. Was the **direct measure** (e.g. assignments, thesis, etc.) aligned directly and explicitly **with the PLO**?*	**N/A**
	Q3.5. Please enter the number (#) of faculty members who participated in planning the assessment data **collection** of the selected PLO?	**N/A**
	Q3.5.1. Please enter the number (#) of faculty members who participated in the **evaluation** of the assessment data for the selected PLO?	**N/A**
	Q3.5.2*. **If** the data was evaluated by multiple scorers, was there a norming process (a procedure to make sure everyone was scoring similarly)?*	**N/A**
	Q3.6. How did you **select** the sample of student work (papers, projects, portfolios, etc.)?	**N/A**
	Q3.6.1. How did you **decide** how many samples of student work to review?	**N/A**
	Q3.6.2. Please enter the number (#) of students that were in the class or program?	**N/A**
	Q3.6.3. Please enter the number (#) of samples of student work that you evaluated.	**N/A**
	Q3.6.4*. Was the sample size of student work for the direct measure adequate?*	**N/A**

Q3B: **Indirect Measures (surveys, focus groups, interviews, etc.)**	***Q3.7.*** *Were indirect measures used to assess the PLO?*	**No**
	Q3.7.1. Which of the following indirect measures were used? [**Check all that apply**]	**N/A**
	Q3.7.1.1. Please explain and attach the indirect measure you used to collect data:	**N/A**
	Q3.7.2. If surveys were used, how was the sample size **decided**?	**N/A**
	Q3.7.3. If surveys were used, how did you **select** your sample:	**N/A**
	Q3.7.4. If surveys were used, please enter the response rate:	**N/A**
Q3C: **Other Measures (external benchmarking, licensing exams, standardized tests, etc.)**	***Q3.8.*** *Were external benchmarking data such as licensing exams or standardized tests used to assess the PLO?*	**Yes**
	Q3.8.1. Which of the following measures were used? [**Check all that apply**]	**See the Assessment Report** General knowledge and skills measures; other standardized knowledge and skill exams
	Q3.8.2. *Were other measures used to assess the PLO?*	**No**
	Q3.8.3. If other measures were used, please specify:	**N/A**
Q4: **Data, Findings, and Conclusions**	**Q4.1.** Please provide tables and/or graphs to summarize the assessment data, findings, and conclusions for the selected PLO in **Q2.1** (see Appendix 12 in our Feedback Packet Example):	**See the Assessment Report** Rubric Scoring Please use Appendix 12C as an example of how to present data clearly.
	Q4.1a. Does the program explicitly assess the PLO?	**Don't know**
	Q4.2. Are students doing well and meeting program standard? **If not,** how will the program work to improve student performance of the selected PLO?	**See the Assessment Report** Report 2018 **Don't know**

	Q4.2a. Can the readers come to the **SAME** conclusion?	**Don't know**
	Q4.3. *For the selected PLO, what is the student performance:*	**Partially met expectation/standard**
	Q4.3a. Can the readers come to the **SAME** conclusion as the program that students meet the expectations/standards for this learning outcome?	**Don't know**
Q4A: **Alignment and Quality**	***Q4.4.*** *Did the data, including the direct measures, from all the different assessment tools/measures/methods directly align with the PLO?*	**Don't know**
	Q4.5. *Were **all** the assessment tools/measures/methods that were used good measures for the PLO?*	**Yes**
Q5: **Use of Assessment Data (Closing the Loop)**	***Q5.1.*** *As a result of the assessment effort and based on prior feedback from OAPA, do you anticipate **making any changes** for your program (e.g. course structure, course content, or modification of PLOs)?*	**Yes**
	Q5.1.1. Please describe ***what changes*** you plan to make in your program as a result of your assessment of this PLO.	**See the Assessment Report** See Report 2018
	Q5.1.2. *Do you have a plan to assess the **impact of the changes** that you anticipate making?*	**Don't know**
	Q5.2. To what extent did you apply **previous assessment results** collected through your program in the following areas?	**See the Assessment Report**
	Q5.2.1. Please provide a detailed example of how you used the assessment data above.	**See the Assessment Report** The assessment results were shared with our external reviewer.
	Q5.3. To what extent did you apply **previous assessment feedback** from the Office of Academic Program Assessment in the following areas?	**See the Assessment Report**

	Q5.3.1. Please share with us an example of how you applied **previous feedback** from the Office of Academic Program Assessment in any of the areas above:	**See the Assessment Report** Improved our data collection and analysis capabilities
Additional Assessment Activities	**Q6.** If your program/academic unit conducted assessment activities that are **not directly related to the PLOs** for this year (i.e. impacts of an advising center, etc.), please provide those activities and results here:	**N/A**
	Q6.1. Please explain how the assessment activities reported in **Q6** will be linked to any of your PLOs and/or PLO assessment in the future and to the mission, vision, and the strategic planning for the program and the university:	**N/A**
	Q7. What PLO(s) do you plan to assess next year? **[Check all that apply]**	**See the Assessment Report** Quantitative Literacy; Overall Competencies for GE Knowledge; Overall Disciplinary Knowledge
	Q8. Please explain how this year's assessment activities help you address recommendations from your department's last program review?	**See the Assessment Report**
	Q9.1 If you have attached **any** files to this form, please list **every** attached file here:	**See the Assessment Report** Math 30 Rubric; Report 2018; Rubric Scoring; Math Assessment Plan 2017
Summary	**S1.** Does the program follow the template by answering where applicable?	**Don't know**
	S2. Were the program's answers simple and clear?	**Don't know**
	S3. Does the program assess the PLO using correct alignment of standard, rubric, and measure (Q3.4.2 - Q3.4.4)?	**Don't know**
	S4. Overall, *do students partially meet, meet, or exceed program's standard of performance* ***based on consultant's*** *review?*	**Don't know** Please see our background information and recommendations for more details.

IV. Commendations and Recommendations for the 2016-2017 Annual Assessment Report BA MATHEMATICS

We commend the program for revising and developing their assessment plan, and for revising their Program Learning Outcomes. We have suggestions below on how to make the assessment plan more actionable and produce data that is more useful for program improvement.

Suggestions for Assessment Plan:

1. At the University, we establish Program Learning Outcomes rather than just the Learning Goals. Goals tend to be large and broad. Program Learning Outcomes are narrow, specific, and framed as what students will know and be able to do. For example, "The mathematics major is expected to develop a fundamental understanding of the main strands of mathematics" is a Learning Goal. It is very broad, and not very actionable. It is not obvious what would be measured to show that students have attained this learning goal. The goal is operationalized by translating it into narrow, specific learning goals. For example, the text says:

Students…[will] be able to explain the different approaches to the material [employed in real analysis and modern algebra].

This is an actionable Program Learning Outcome. One can easily imagine what the task would look like that determines if students can produce this explanation.

On the other hand, statements such as "Students are expected to show a basic understanding of the different methods employed in real analysis and modern algebra" is not very actionable. The verb "understand" is very vague. What can students do when they understand this difference? Can they compare and contrast the different kinds of methods? Can they use the methods to solve problems? Can they choose the appropriate methods to solve a novel problem? These are all actionable Program Learning Outcomes – it's obvious how to measure them: use concrete action verbs in the PLO statement.

Similarly, "Students should be familiar with common notations and proof techniques" is not very actionable. What can a student do that demonstrates she is familiar with these things? Can she use the proper notation in an appropriate setting? Can she choose among different proof techniques for the most applicable one? Action verbs make Learning Outcomes measurable.

2. The Assessment plan should be focused on what **students know and are able to do**, rather than courses they take. It is useful to situate your Program Learning Outcomes in a curriculum map that shows where each PLO is taught, developed and assessed. But the focus is on the PLO, not the course. The Assessment Plan does not have to explain why specific aspects of mathematics are important. The Assessment Plan should be very student-centered. It only needs to mention the faculty in terms of who is collecting data or analyzing data.

3. An Assessment Plan is an essentially pragmatic document. You can include the Mission Statement and a statement of lofty goals, but the user of your Plan would be grateful to have those pieces separated from the pragmatic parts. Tables of information is also very useful, combining a list of the PLOs, how they are measured, etc. An expository Plan is hard to follow.

4. It should include these elements:

- **A reasonable number of Program Learning Outcomes.** These are the competencies that the program is volunteering to be held accountable for, what students should know and be able to do when they emerge from the program. The program should concentrate on the most important student outcomes and not overload itself. Each PLO can be broken into smaller more actionable chunks. Most programs break each major PLO into 4-8 smaller chunks. It is useful to put the PLOs into a chart that shows their alignment to the University Baccalaureate Learning Goals

- **The measures by which these PLOs will be assessed.** The measure should be aimed explicitly at the PLO so that it is measuring that PLO directly. For this reason, exams and grades are usually poor measures, as they tend to confound many PLOs in a single measure. When exams are scored on a curve, they obscure the degree of student learning by setting a relative rather than an absolute standard – you know something about relative performance for that particular class, but not about your entire population of students, or your students over time, or about the performance of your students measured on an absolute scale. *Individual questions from exams* may be good measures of PLOs if they are well-aligned with the PLO, meaning they measure just that PLO and not something else as well. Using exam questions requires breaking out the scores for those specific questions, and it requires that some common standard is used to measure achievement on those questions from instructor to instructor and year to year.

  The majority of measures should be *direct measures* of student learning. *Indirect measures*, such as surveys and exit interviews, can provide useful data, but students' self-reports about their abilities is notoriously unreliable and is not a good substitute for direct measures, such as key assignments, student papers, tests, portfolios and capstone projects.
- **The metric by which the performance on the measure will be assessed**. For many kinds of PLOs, rubrics are a useful tool. Rubrics use different levels of performance on different criteria to measure student learning. For other kinds of measures, a percentage score or standard score may be useful. As noted earlier, the metric needs to be constant across instructors and years. This can be a challenge when comparing individual exam questions unless instructors use a common standard for scoring the question.
- **The standard of performance set by the program for each PLO**. The standard is the goal of performance for the program as a whole rather than for individual students. It is often expressed as a percentage of students scoring at a particular level of performance: 70% of students scoring at a level of 3.0 on the rubric, or 80% of students scoring 70% or above on a test-like assessment. The standard should not be expressed as a mean, because that gives no information about score distributions. For example, one class may have a mean of 70% because every student scored a 70%, and another might have a mean of 70% because 70% of the students had a perfect score and 30% scored a zero. The two situations call for different remedies: the first indicates an issue with instruction or lack of student practice that affects everyone, and the latter suggests the need for an intervention program for the struggling students.
- **A timeline for assessment of all the PLOs in the assessment plan**. All of the PLOs should be measured in a single program review cycle. That may mean more than one PLO must be measured in any given year, or that a number of sub-PLOs (the chunks that the main PLOs are broken into) must be measured in one year. Assessment responsibilities within the program change over time. It is immensely useful for the next Assessment Chair or Dept Chair to inherit a five-year plan that shows what will be measured when. Ideally, the timeline also indicates what course the data is collected in, who will do the collection and analysis, and what tools will be used in the data and analysis (a key assignment and a rubric, for example). This document provides coherence and continuity to the Plan.
- **A curriculum map, which is a chart that plots all the courses against all the PLOs,** and shows courses where PLOs are introduced, developed, and assessed. The curriculum map becomes even more useful when the actual assignment or lesson that introduces, develops or assesses is listed. Developing the curriculum map as a whole faculty provides an excellent opportunity for the entire faculty to understand the role each PLO plays in their subject and courses, and can spur development of higher quality assignments and lessons that better support the PLOs.

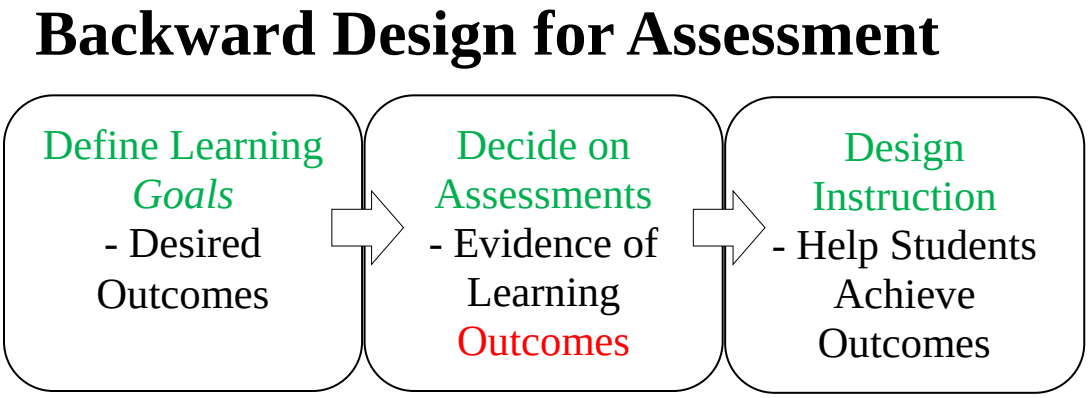
Appendix 1. Guidelines for Completing the Assessment Report Template

This template has two goals:

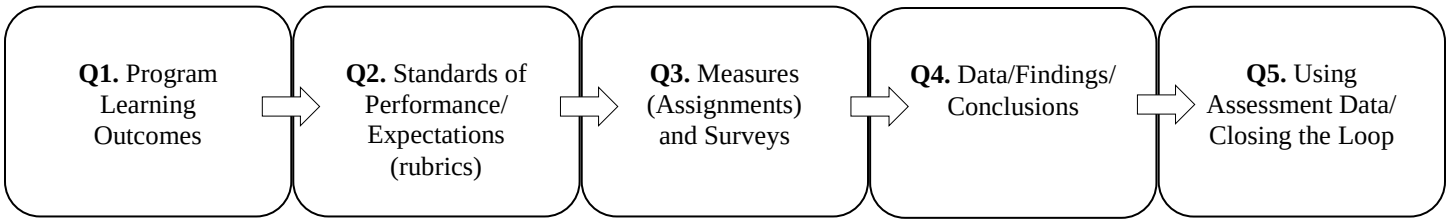
1. To help departments and programs think more critically about their assessment procedures, the use of assessment results, and to report more accurately the outcomes of those procedures.
2. To provide OAPA with the information necessary for reporting the campus assessment effort to our accreditation agency, WASC Senior College and University Commission (WSCUC).

Based on user comments, revisions were made in last year's template to make the template easier to read and use. We also hope the current revision better reflects a focus on the whole assessment process, from the development of measurable Program Learning Outcomes (PLOs), to the design of an appropriate and high-quality system for collecting and analyzing data, as well as the most important part of program assessment – the steps taken to improve the program and student learning.

Program review and assessment are based on Backward Design:



Program assessment follows this basic flowchart:



Program assessment also follows the assessment paradigm shifts below:

1.	Teaching Centered	Learning Centered	Partnership
	Goals/Objectives	Goals/Outcomes	Goals/Outcomes
	Teaching/Instructor focused	Learning/Student focused	Learning and Student focused
	Implicit criteria/Standards	Explicit criteria/Standards	Explicit criteria/Standards
	No rubrics or rubric developed by the course instructor	Rubrics developed by the program/university faculty	Rubrics developed by the program/university faculty, staff, and students
	Data collected and analyzed by course instructor (course focused)	Data collected and analyzed by the program or university committee (program or university focused)	Data collected and analyzed by the program/ university committee, staff, and students
	Assessment driven by instructor	Assessment driven by program faculty	Assessment driven by all stakeholders; (faculty, staff, administrators, and students)
2.	Data collection	Use of data for improvement	Use of data for accountability
3.	Indirect assessment	Direct assessment	Direct and indirect methods
4.	Course assessment	Program assessment	University assessment
5.	Content knowledge	Skills/Values	Application of knowledge and skills
6.	Tests/Exams	Projects besides tests/exams	Internships besides projects and tests
7.	Majors as frames of reference/different perspectives	Inter-disciplinary studies	Problem-based multi-disciplinary studies

These guidelines are organized to parallel the structure of the template, and are divided into four sections.

Section 1: Report All of the Program Learning Outcomes Assessed

Question 1: Program Learning Outcomes

Q1.1: This list of possible PLOs compiles the WSCUC Five Core Competencies, our Sacramento State Baccalaureate Learning Goals (BLGs), Graduate Learning Goals (GLGs), and more specific learning outcomes that may be specific to your program. Check all that apply. If you did not collect data on PLO assessment, please skip to Q6.

Q1.3: Find the University Mission Statement at http://www.csus.edu/universitystrategicplan.

Section 2: Report One Learning Outcome in Detail

In Questions #2-5, programs will report in detail on one PLO that they have assessed. You will have an opportunity at the end of the template to report a summary of any other assessment work you did for any other PLOs, and for any other program improvement steps you took that are not directly connected to a PLO.
The purpose of questions 2-5 is three-fold:

1. To provide your program an opportunity to think critically about the process you are using to assess the PLOs for your program. We encourage you to think about whether the measures you are using and the tools (such as rubrics) that you use to evaluate that data actually address the PLO you are trying to measure. We also encourage you to think about the quality of the data you are collecting. If you are sampling a larger student population, *does the sample adequately represent all your students? Are all the evaluators using the same standards in scoring student work?*

2. To help your program "close the loop" and use assessment data to improve student learning in your program. Ultimately the goal of assessment is to improve program quality. Assessment should be a useful experience for your program, not just a hoop to jump through.

3. To provide OAPA with evidence of the nature of assessment on the campus. This evidence is used both to give feedback to programs on making their assessment process more useful to the program, and in reporting to the Chancellor's office and outside agencies such as WSCUC.

Question 2: Standards of Performance for a Selected PLO

In addition to specifying what you want students to learn, you must specify what level of learning is acceptable for an **individual** student, and for **all** the students in your program. For example, the faculty in your program may agree that a score of 3 in all dimensions on a particular rubric is a reasonable standard to set for the students graduating from your BA program. As a program, you may decide that it is a reasonable target that 70% of your students are scoring at this level or above, or you may adjust these targets over time, but it is essential to specify a target standard of performance for each PLO.

Q2.1: Please state which of the PLOs you described in Question 1 you are choosing to report in detail.

Q2.2.a: Answer the question **just for the selected PLO**. This is often simply stated as a percentage of students reaching a certain level of achievement on a rubric (e.g. 70% of students achieve a 3 or higher in all dimensions of the Critical Thinking VALUE rubric).

Q2.3: Describe/attach the **standard of performance AND the rubric**, criteria, or scoring device you used to evaluate the PLO. For purposes of program improvement, it is most useful to:

- Express the standard of performance as a percentage of students performing at a particular level, rather than as a mean.
- Use a scoring device (such as a rubric) that specifies varying levels of performance.
- See Appendix **12A** for an example.

Q2.4, Q2.5, & Q2.6: It is considered good assessment practice to make the learning goals, standards and measuring devices (such as rubrics) available for others to see, including students, other faculty, administrators, and the public. This question asks about the range of ways in which this information might be published. It is not necessarily appropriate that all of your assessment information be published in all of these ways. The University does need to know in which ways this information is currently being communicated to others.

Question 3: Data Collection Methods and Evaluation of Data Quality

The question differentiates between direct measures, indirect measures, and other measures. **Direct measures** are those that measure **student performance in their program**. These measures can include key assignments in courses within the program, performances in capstone projects, portfolios either within courses or as program culminating experiences, and the like.

Indirect measures are those that ask students and others for their **impression of your program**. The measuring device might be surveys, focus groups or interviews; those involved might include students, alumni, employers or others familiar with the program.

Your program may have access to **other measures** aside from student performance or survey data. Students in some programs undergo examinations for licensing or credentialing. In some fields there are recognized tests that can be used to compare student performance at different institutions. Some fields have specialized GREs or other achievement exams.

Q3.1 & 3.1.1: If data was collected, please indicate how many tools and/or classes were used. For example, a capstone portfolio might be one tool, and a key assignment in a specific course would be another.
Q3.2 & 3.21: Please describe how **all** assessment data for this PLO was collected.
Q3.3 & 3.3.1: Indicate if direct measures were used and what kind.

Question 3 (Q3). Direct Measures (key assignments, projects, portfolios, course work, student tests, etc.) **used to assess the PLOs**

<u>This question is where you describe how you plan to align your data to your direct measure, using key assignments, projects, portfolios, course work, student tests, etc.</u>

Q3.3.2. Please **attach the assignment instructions that the students received to complete the assignment (See Appendix 1 Sample Answer to Q3.3.2):**

Example Answer to Q3.3.2:

The key assignment for the iMET program assessment is the **Action Research Report.** iMET used this **Action Research Report** (Master's Thesis) included in an accessible ePortfolio as its direct measure to assess its Critical Thinking PLO.

This culminating experience report (the master thesis) includes the following tasks:

1. Designing and implementing a study using data collection tools that will allow the students to "show" the reader what happened during and as a result of the intervention.
2. Sorting through the findings after collecting the data, looking for data that reveal some information pertinent to the study.
3. Looking for relationships (patterns) between the data. These patterns emerge from a variety of sources such as things that have happened, things that students have observed, things that people have said, and things that students have measured. These are the findings (conclusions) of the study.

Q3.4: The VALUE rubrics are nationally recognized and can be used to measure various aspects of post-secondary education. We encourage your program to use VALUE rubrics where possible to assess your PLOs. Use of a common rubric allows us to aggregate data and better understand student learning across the University, while also allowing the comparison of performance between our students and students at other institutions. If you find that a particular VALUE rubric does not quite work for your PLO, perhaps some items on the rubric may work, and you can use a modified VALUE rubric. If the VALUE rubrics just won't work for your program, you might use a rubric from elsewhere. There are also some kinds of data for which a rubric is not needed (e.g., student performance on a diagnostic exam).

Q3.4.2, Q3.4.3 & 3.4.4: Alignment: These questions investigate how well the direct measure you have chosen and the way you evaluate performance on the measure (using a rubric, setting criteria for evaluation, a grading sheet, etc.) actually measure progress on the PLO you are assessing. For example, if your PLO is addressing Critical Thinking, and your direct measure is a multiple choice test that measures Content Knowledge, then there is poor alignment between your goals and your instrument for measuring progress toward that goal. If your PLO addresses Civic Engagement, then the measure should address the aspect of Civic Engagement with which you are the most concerned.

Likewise, you should consider how well the device you are using to evaluate the direct measure actually fits the task students will be doing in that direct measure. For example, if your PLO addresses student competency in Writing in the discipline, and your measure asks students to write a technical report, then your rubric should apply to that kind of writing.

Finally, *does the rubric or other scoring device support the PLO?* For example, your PLO may call for students to be effective writers in the discipline. If your scoring device is much more heavily geared toward the mechanics of writing (spelling, punctuation, etc.) than toward the larger issues of writing (clarity, organization, depth of discussion), then it may not be accurately capturing progress toward becoming an effective writer.

Q3.4.2 asks you to consider the rubric or scoring device in light of the PLO. *Does that scoring device actually capture progress toward the PLO?*
Q3.4.3 asks whether the rubric or other scoring device is appropriate for the direct measure you are using.
Q3.4.4 is effectively asking, *does your direct measure actually measure student performance on this PLO?*

Q3.5 & 3.5.1: If you have a lot of data, or data from multiple sections of a course, or data from multiple assessment tools, you may have more than one person evaluating the data. A **norming process** helps ensure that everyone uses the same standards when scoring (unless your direct measure is a multiple choice exam orsomething similar). In a typical norming process, all the scorers score a select set of

papers, and then compare their scores and discuss the results to help find consensus. Please enter the number.

Q3.6 - 3.6.4 Sampling: These questions investigate how you chose the samples of student work that were evaluated during this assessment process. Please enter the actual number for Q3.6.2a and Q3.6.3a.

Q3.6: *What selection process did you use?* For example, a key assignment from every student in a specific class. If your program is large, you probably only chose some student work to examine for assessment. For example, perhaps you chose work from five students in five different sections.
Q3.6.1: Please explain and/or justify your thinking in how the sample was selected.

Q3.6.2a - 3.6.4: These questions help us see how the size of your sample compares to the amount of student work that was available to sample. *Do you think your sample was adequate to accurately represent student performance in your program?*

Q3.7 - 3.8.3: These questions address **indirect measures,** such as surveys, focus groups and interviews, and **any other measures**, like external benchmarking or licensing exams. Please be sure to **attach copies** of any indirect or other measures used.

Question 4: Data, Findings and Conclusions and Quality of Assessment

This question is where you present your data. You may paste data tables into the form or attach documents.

Q4.1: Data should be presented in clear, easy-to-read tables. The most useful way to present the data is as **percentages** of students scoring at various levels of performance. If a rubric is used, show the percentage of students scoring at each level of the rubric. If the data is something like test scores, break out student performance at **different percentage levels** (e.g., % of students scoring 0-20%, 20-40%, etc.). This kind of data presentation gives a more complete picture of student performance than simply presenting averages. Please see Appendix 12C for an example.

Table 1: Summary for the Results, Discussion, and Conclusions for the Critical Thinking Skill

Different Levels / Five Criteria (Areas)	Capstone = (4)	Milestone = (3)	Milestone = (2)	Benchmark = (1)	Total (N=130)
6.1: Explanation of Issues	38%	54%	0%	8%	(100%, N=130)
6.2: Evidence	15%	46%	24%	15%	(100%, N=130)
6.3: Influence of Context and Assumptions	15%	46%	24%	15%	(100%, N=130)
6.4: Student's Position	23%	54%	8%	15%	(100%, N=130)
6.5: Conclusions and Related Outcomes	15%	54%	16%	15%	(100%, N=130)

Q4.2: This question refers to the program standard of performance (Question 2). Please detail how students are meeting or not meeting the standard, and plans to improve student performance. See Appendix **12C** for an example.

We can see from Table 1 above that students meet the criteria of 6.1 (92%), 6.4 (77%), and 6.5 (69%) based on the assessment of our selected Critical Thinking PLO and our identified program standard of performance (70% of students should achieve a score of 3 or higher in all dimensions of the Critical Thinking Rubric). Students do not meet the criteria of 6.2 (61%) and 6.3 (61%). **Students meet some of our program standards for the Critical Thinking Skill, thus they *"Partially Met Program Standards."*** Two areas need improvement: 1) Criterion 6.2: Evidence (61%), and 2) Criterion 6.3: Influence of context and assumptions (61%).

In order to help students in our program successfully become researchers with critical thinking skills, we will design more classroom activities and assignments related to: 1) Re-examination of evidence (6.2) and context and assumptions (6.3) in the research, and 2) Require students to apply these skills as they compose comprehensive responses for all their assignments.

Q4.3: Indicate the level of student performance.

Q4.4 & 4.5: Please evaluate how well your assessment process actually measured what you set out to measure. *Did all of your tools align with the PLO you set to measure? Were all of these tools useful and accurate ways to measure that PLO?*

Question 5: Use of Assessment Data

Perhaps the most important component of program assessment is using the results to improve instruction and the program as a whole. Please tell us how your results will be, and have been, used.

Q5.1: Tell us about your program's plans based **on the current year's** assessment results.

Q5.1.1: Please describe what changes you plan to make in your program as a result of your assessment of this PLO.

Example Answer to Q5.1.1:
In order to help students in our program successfully become Critical Thinking researchers, we will design more classroom activities and assignments related to: 1) Re-examining evidence (6.2) and context and assumptions (6.3) in the research, and 2) Requiring students to apply these skills as they compose comprehensive responses for all their assignments.

Note: The following provide you examples of use of assessment data:

Q5.2. *To what extent did you apply previous assessment results collected through your program in the following areas?*	***(1)*** *Very Much*	***(2)*** *Quite a Bit*	***(3)*** *Some*	***(4)*** *Not at all*	***(8)*** *N/A*
1. Improved specific courses					
2. Modified curriculum					
3. Improved advising and mentoring					
4. Revised learning outcomes/goals					

5. Revised rubrics and/or expectations					
6. Developed/updated assessment plan					
7. Annual assessment reports					
8. Program review					
9. Prospective student and family information					
10. Alumni communication					
11. WASC accreditation (regional accreditation)					
12. Program accreditation					
13. External accountability reporting requirement					
14. Trustee/Governing Board deliberations					
15. Strategic planning					
16. Institutional benchmarking					
17. Academic policy development or modification					
18. Institutional Improvement					
19. Resource allocation and budgeting					
20. New faculty hiring					
21. Professional development for faculty and staff					
22. Recruitment of new students					
23. Other Specify:					

Q5.2: Tell us how **previous assessment results** have been used.
Q5.3: Tell us how **previous assessment feedback** has been used.

Section 3: Report Other Assessment Activities

Question 6: Other Assessment Activities

In this question, please provide any other assessment activities that are not reported above.

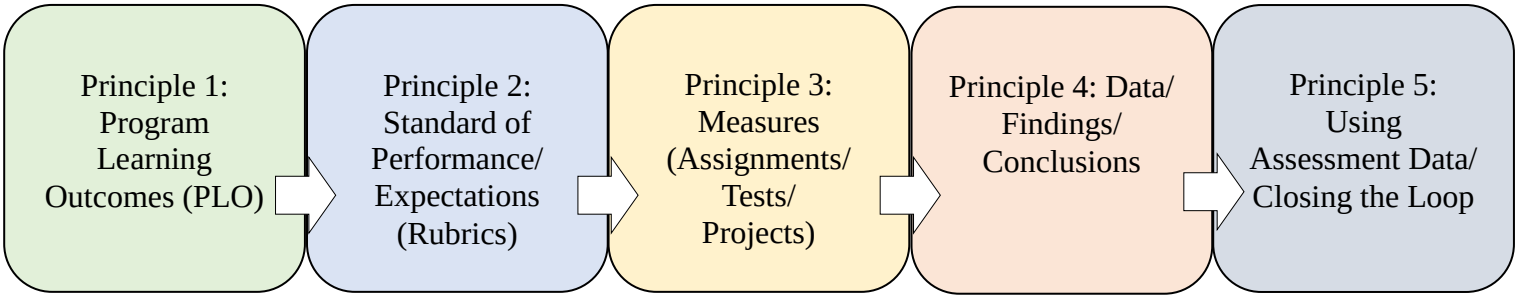
Q6: Sometimes programs/academic units conduct assessments of elements of their program not related to PLOs (i.e. impacts of an advising center, etc.), please provide those activities and results.
Q6.1: Explain how the assessment activities reported in **Q6** are associated with any of your PLOs and/or PLO assessment in the future and to the mission, vision, and the strategic planning for the program and the university.

Section 4: Background Information about the Program

See the template for more details.

Appendix 2: Principles for Program Assessment and Review

(Updated on 10/23/2017)



In the future, please keep the following principles and questions in mind when the academic unit (program, department, or the college) reflects on assessing student learning outcomes and improving the programs:

Principle 1 (Q1) Program Learning Outcomes (PLOs):
PLO Comprehensive List
See WSCUC Rubric for Assessing the Quality of Academic Program Learning Outcomes (Appendix 3) for more details.

- What are your PLOs: ***what should your students know, value, and be able to do*** *(at the time of graduation)?*

Assessable Outcomes

- *Is each program learning outcome assessable?*
- *What **action verbs** are used?*

Alignment

- *Is each PLO **aligned closely** with the curriculum, the key assignment, the rubric, pedagogy, grading, the co-curriculum, or relevant student support services?*
- *Are the PLOs **aligned closely** with the mission of the university and the program/department/college?*

Assessment Plan

- ***Has an assessment plan for each program (department or college) been developed or updated?***
- *Have curriculum maps been developed?*
- *Does the plan clarify when, how, and how often each outcome will be assessed and used?*
- *Will all outcomes be assessed over a reasonable period of time such as within a six-year program review cycle?*
- *Is the plan sustainable in terms of human, fiscal, and other resources?*
- *Is the assessment plan revised as needed?*

Student Experience

- ***Are the PLOs widely shared?***
- *Are students aware of these learning outcomes?*
- *Do they often use them to assess the learning outcomes themselves?*
- *Where are the PLOs published for view, e.g., across programs, with students, in the course syllabus, the department websites or catalogs?*

Principle 2 (Q2) Standards of Performance (Expectations)/Rubrics:
See WSCUC Rubric for Assessing the Quality of Academic Program Learning Outcomes (Appendix 3) for more details.

- *What are the explicit **PROGRAM** (not course) **standards of performance** for each outcome?*

- *What are the **expectations** for each outcome?*
- *Have the programs achieved the learning outcomes: **the standards** and/or **the expectations**?*
- *Are **rubrics** needed to assess the PLOs? If **yes**, what rubrics are used to assess a particular PLO?*
- *Are these PLOs (together with their standards of performance and achievement targets) able to demonstrate the **meaning, quality, integrity and uniqueness** of the degree program?*

Principle 3 (Q3) Measures Used:
Relevant outcomes and lines of evidence identified. See Appendices 4 and 5 for more details.

- *What **direct measures** (key assignments, projects, portfolios, course work, student tests, etc.) are used to collect the data?*
- *Is relevant evidence collected?*
- *What **indirect measures** (national, university conducted, college/department/program, alumni, employer, and advisory board student surveys or focus groups or interviews, etc.) are used to collect the data?*
- *Are external benchmarking data, such as licensing exams or standardized tests, being used to assess the PLO?*
- *Which **other measures** (national disciplinary, state/professional licensure exams, general knowledge and skills measures, other standardized knowledge and skill exams, etc.) are used?*

Principle 4 (Q4) Data and Findings:
See Appendices 4 and 5 for more details.

Are the results reliable and valid?

- ***What are the data, analyses, and findings for EACH PLO?***
- ***What is the quality of the data: how reliable and valid is the data?***
- *Other than GPA, what data/evidences are used to determine whether your graduates have achieved the stated outcomes for the degree (BA/BS or MA/MS)?*
- *If two or more pieces of assessment data are used for each outcome, is the data consistent or contradictory?*
- *Are the data, analyses, and findings clearly presented (in tables) so that they are easy for other faculty and the **general public** to understand and/or use?*

Principle 5 (Q5) Use of Data:
See Appendices 4 and 5 for more details.

Are the results used?

- ***Who is going to use the data**?*
- *Is the data used only for the course or for the program where the data is collected, or do you want the data to be used broadly for the curriculum, budgeting, or strategic planning at the department, the college, or the university level?*
- **Follow-Up Assessment:** *Has the program conducted **follow-up assessment(s)** to evaluate the effectiveness of program changes made based on assessment data? **If yes, how effective are those changes?***

Appendix 3: WSCUC "Rubric for Assessing the Quality of Academic Program Learning Outcomes"

http://www.wascsenior.org/search/site/Rubrics%20combined

Criterion	Initial	Emerging	Developed	Highly Developed
1.Comprehensive List	The list of outcomes is problematic: e.g., very incomplete, overly detailed, inappropriate, and disorganized. It may include only discipline-specific learning, ignoring relevant institution-wide learning. The list may confuse learning processes (e.g., doing an internship) with learning outcomes (e.g., application of theory to real-world problems).	The list includes reasonable outcomes but does not specify expectations for the program as a whole. Relevant institution-wide learning outcomes and/or national disciplinary standards may be ignored. Distinctions between expectations for undergraduate and graduate programs may be unclear.	The list is a well-organized set of reasonable outcomes that focus on the key knowledge, skills, and values students learn in the program. It includes relevant institution-wide outcomes (e.g., communication or critical thinking skills). Outcomes are appropriate for the level (undergraduate vs. graduate); national disciplinary standards have been considered.	The list is reasonable, appropriate, and comprehensive, with clear distinctions between undergraduate and graduate expectations, if applicable. National disciplinary standards have been considered. Faculty has agreed on explicit criteria for assessing students' level of mastery of each outcome.
2.Assessable Outcomes	Outcomes statements do not identify what students can do to demonstrate learning. "Statements understand scientific method" do not specify how understanding can be demonstrated and assessed.	Most of the outcomes indicate how students can demonstrate their learning.	Each outcome describes how students can demonstrate learning, e.g., "Graduates can write reports in APA style" or "Graduate can make original contributions to biological knowledge."	Outcomes describe how students can demonstrate their learning. Faculty has agreed on explicit criteria statements such as rubrics, and have identified example of student performance at varying levels of each outcome.
3.Alignment	There is no clear relationship between the outcomes and the curriculum that students experience.	Students appear to be given reasonable opportunities to develop the outcomes in the required curriculum.	The curriculum is designed to provide opportunities for students to learn and to develop increasing sophistication with respect to each outcome. This design may be summarized in a curriculum map.	Pedagogy, grading, the curriculum, relevant student support services, and co-curriculum are explicitly and intentionally aligned with each outcome. Curriculum map indicates increasing levels of proficiency.
4.Assessment Planning	There is no formal plan for assessing each outcome.	The program relies on short-term planning, such as selecting which outcome(s) to assess in current year.	The program has a reasonable, multi-year assessment plan that identifies when each outcome will be assessed. The plan may explicitly include analysis and implementation of improvements.	The program has a fully-articulated, sustainable, multi-year assessment plan that describes when and how each outcome will be assessed and how improvements based on findings will be implemented. The plan is routinely examined and revised, as needed.
5.The Student Experience	Students know little or nothing about the overall outcomes of the program. Communication of outcomes to students, e.g., in syllabi or catalog, is spotty or nonexistent.	Students have some knowledge of program outcomes. Communication is occasional and informal, left to individual faculty or advisors.	Students have a good grasp of program outcomes. They may use them to guide their own learning. Outcomes are included in most syllabi and are readily available in the catalog, on the web page, and elsewhere.	Students are well-acquainted with program outcomes and may participate in creation and use of rubrics. They are skilled at self-assessing in relation to the outcome levels of performance. Program policy calls for inclusion of outcomes in all course syllabi, and they are readily available in other program documents.

Appendix 4: WSCUC "Rubric for Assessing the Use of Capstone Experiences for Assessing Program Learning Outcomes"

Criterion	Initial	Emerging	Developed	Highly Developed
1. Relevant Outcomes and Lines of Evidence Identified	It is not clear which program outcomes will be assessed in the capstone course.	The relevant outcomes are identified, e.g., ability to integrate knowledge to solve complex problems; however, concrete plans for collecting evidence for each outcome have not been developed.	Relevant outcomes are identified. Concrete plans for collecting evidence for each outcome are agreed upon and used routinely by faculty who staff the capstone course.	Relevant evidence is collected; faculty have agreed on explicit criteria statements, e.g., rubrics, and have identified examples of student performance at varying levels of mastery for each relevant outcome.
2. Valid Results	It is not clear that potentially valid evidence for each relevant outcome is collected and/or individual faculty use idiosyncratic criteria to assess student work or performances.	Faculty have reached general agreement on the types of evidence to be collected for each outcome; they have discussed relevant criteria for assessing each outcome but these are not yet fully defined.	Faculty have agreed on concrete plans for collecting relevant evidence for each outcome. Explicit criteria, e.g., rubrics, have been developed to assess the level of student attainment of each outcome.	Assessment criteria, such as rubrics, have been pilot-tested and refined over time; they usually are shared with students. Feedback from external reviewers has led to refinements in the assessment process, and the department uses external benchmarking data.
3. Reliable Results	Those who review student work are not calibrated to apply assessment criteria in the same way; there are no checks for inter-rater reliability.	Reviewers are calibrated to apply assessment criteria in the same way or faculty routinely check for inter-rater reliability.	Reviewers are calibrated to apply assessment criteria in the same way, and faculty routinely check for inter-rater reliability.	Reviewers are calibrated, and faculty routinely find assessment data have high inter-rater reliability.
4. Results Are Used	Results for each outcome may or may not be are collected. They are not discussed among faculty.	Results for each outcome are collected and may be discussed by the faculty, but results have not been used to improve the program.	Results for each outcome are collected, discussed by faculty, analyzed, and used to improve the program.	Faculty routinely discuss results, plan needed changes, secure necessary resources, and implement changes. They may collaborate with others, such as librarians or Student Affairs professionals, to improve results. Follow-up studies confirm that changes have improved learning.
5. The Student Experience	Students know little or nothing about the purpose of the capstone or outcomes to be assessed. It is just another course or requirement.	Students have some knowledge of the purpose and outcomes of the capstone. Communication is occasional, informal, left to individual faculty or advisors.	Students have a good grasp of purpose and outcomes of the capstone and embrace it as a learning opportunity. Information is readily avail-able in advising guides, etc.	Students are well-acquainted with purpose and outcomes of the capstone and embrace it. They may participate in refining the experience, outcomes, and rubrics. Information is readily available.

Appendix 5: WSCUC "Rubric for Assessing the Use of Portfolios for Assessing Program Learning Outcomes"

Criterion	Initial	Emerging	Developed	Highly Developed
1. Clarification of Students' Task	Instructions to students for portfolio development provide insufficient detail for them to know what faculty expect. Instructions may not identify outcomes to be addressed in the portfolio.	Students receive some written instructions for their portfolios, but they still have problems determining what is required of them and/or why they are compiling a portfolio.	Students receive written instructions that describe faculty expectations in detail and include the purpose of the portfolio, types of evidence to include, role of the reflective essay (if required), and format of the finished product.	Students in the program understand the portfolio requirement and the rationale for it, and they view the portfolio as helping them develop self-assessment skills. Faculty may monitor the developing portfolio to provide formative feedback and/or advise individual students.
2. Valid Results	It is not clear that valid evidence for each relevant outcome is collected and/or individual reviewers use idiosyncratic criteria to assess student work.	Appropriate evidence is collected for each outcome, and faculty have discussed relevant criteria for assessing each outcome.	Appropriate evidence is collected for each outcome; faculty use explicit criteria, such as agreed-upon rubrics, to assess student attainment of each outcome. Rubrics are usually shared with students.	Assessment criteria, e.g., in the form of rubrics, have been pilot-tested and refined over time; they are shared with students, and student may have helped develop them. Feedback from external reviewers has led to refinements in the assessment process. The department also uses external benchmarking data.
3. Reliable Results	Those who review student work are not calibrated to apply assessment criteria in the same way, and there are no checks for inter-rater reliability.	Reviewers are calibrated to apply assessment criteria in the same way or faculty routinely check for inter-rater reliability.	Reviewers are calibrated to apply assessment criteria in the same way, and faculty routinely check for inter-rater reliability.	Reviewers are calibrated; faculty routinely find that assessment data have high inter-rater reliability.
4. Results Are Used	Results for each outcome are collected, but they are not discussed among the faculty.	Results for each outcome are collected and discussed by the faculty, but results have not been used to improve the program.	Results for each outcome are collected, discussed by faculty, and used to improve the program.	Faculty routinely discuss results, plan needed changes, secure necessary resources, and implement changes. They may collaborate with others, such as librarians or Student Affairs professionals, to improve student learning. Students may also participate in discussions and/or receive feedback, either individual or in the aggregate. Follow-up studies confirm that changes have improved learning.
5. If e-Portfolios Are Used	There is no technical support for students or faculty to learn the software or to deal with problems.	There is informal or minimal formal support for students and faculty.	Formal technical support is readily available and proactively assists in learning the software and solving problems.	Support is readily available, proactive, and effective. Tech support personnel may also participate in refining the overall portfolio process.

Appendix 6: WSCUC "Rubric for Assessing the Integration of Student Learning Assessment into Program Reviews"

Criterion	Initial	Emerging	Developed	Highly Developed
1. Required Elements of the Self-Study	Program faculty may be required to provide a list of program-level student learning outcomes.	Faculty are required to provide the program's student learning outcomes and summarize annual assessment findings.	Faculty are required to provide the program's student learning outcomes, annual assessment studies, findings, and resulting changes. They may be required to submit a plan for the next cycle of assessment studies.	Faculty are required to evaluate the program's student learning outcomes, annual assessment findings, bench-marking results, subsequent changes, and evidence concerning the impact of these changes. They present a plan for the next cycle of assessment studies.
2. Process of Review	Internal and external reviewers do not address evidence concerning the quality of student learning in the program other than grades.	Internal and external reviewers address indirect and possibly direct evidence of student learning in the program; they do so at the descriptive level, rather than providing an evaluation.	Internal and external reviewers analyze direct and indirect evidence of student learning in the program and offer evaluative feedback and suggestions for improvement. They have sufficient expertise to evaluate program efforts; departments use the feedback to improve their work.	Well-qualified internal and external reviewers evaluate the program's learning outcomes, assessment plan, evidence, benchmarking results, and assessment impact. They give evaluative feedback and suggestions for improvement. The department uses the feedback to improve student learning.
3. Planning and Budgeting	The campus has not integrated program reviews into planning and budgeting processes.	The campus has attempted to integrate program reviews into planning and budgeting processes, but with limited success.	The campus generally integrates program reviews into planning and budgeting processes, but not through a formal process.	The campus systematically integrates program reviews into planning and budgeting processes, e.g., through negotiating formal action plans with mutually agreed-upon commitments.
4. Annual Feedback on Assessment Efforts	No individual or committee on campus provides feedback to departments on the quality of their outcomes, assessment plans, assessment studies, impact, etc.	An individual or committee occasionally provides feedback on the quality of outcomes, assessment plans, assessment studies, etc.	A well-qualified individual or committee provides annual feedback on the quality of outcomes, assessment plans, assessment studies, etc. Departments use the feedback to improve their work.	A well-qualified individual or committee provides annual feedback on the quality of outcomes, assessment plans, assessment studies, benchmarking results, and assessment impact. Departments effectively use the feedback to improve student learning. Follow-up activities enjoy institutional support
5. The Student Experience	Students are unaware of and uninvolved in program review.	Program review may include focus groups or conversations with students to follow up on results of surveys	The internal and external reviewers examine samples of student work, e.g., sample papers, portfolios and capstone projects. Students may be invited to discuss what they learned and how they learned it.	Students are respected partners in the program review process. They may offer poster sessions on their work, demonstrate how they apply rubrics to self-assess, and/or provide their own evaluative feedback.

Appendix 7: WSCUC "Rubric for Evaluating General Education Assessment Process"

Criterion	Initial	Emerging	Developed	Highly Developed
1. GE Outcomes	GE learning outcomes have not yet been developed for the entire GE program; there may be one or two common ones (e.g., writing, critical thinking).	Learning outcomes have been developed for the entire GE program, but list is problematic (e.g., too long, too short, unconnected to mission and values). Outcomes do not lend themselves to demonstrations of student learning.	The list of outcomes is a well-organized set of reasonable outcomes that focus on the most important knowledge, skills, and values of the GE program. Outcomes express learning can be demonstrated. Work to define levels of performance is beginning.	The list of outcomes is reasonable and appropriate. Outcomes describe how students can demonstrate learning. Faculty have agreed on explicit criteria, such as rubrics, for assessing students' mastery and have identified exemplars of student performance at varying levels for each outcome.
2. Curriculum Alignment with Outcomes	There is no clear relationship between the outcomes and the GE curriculum. Students may not have opportunity to develop each outcome adequately.	Students appear to have reasonable opportunities to develop each of the GE outcomes. Curriculum map may indicate opportunities to acquire outcomes. Sequencing and frequency of opportunities may be problematic.	The curriculum is explicitly designed to provide opportunities for students to learn and to develop increasing sophistication with respect to each outcome. Design may be summarized in a curriculum map that shows "beginning," "intermediate" and "advanced" treatment of outcomes.	GE curriculum, pedagogy, grading, advising, etc. explicitly aligned with GE outcomes. Curriculum map and rubrics in use well known and consistently used. Co-curriculum and relevant student support services are also viewed as resources for GE learning and aligned with GE outcomes.
3. Assessment Planning	There is no formal plan for assessing each GE outcome. There is no coordinator or committee that takes responsibility for the program or implementation of its assessment plan.	GE assessment relies on short-term planning, such as selecting which outcome(s) to assess in the current year. Interpretation and use of findings for improvement are implicit rather than planned or funded. There is no individual or committee "in charge."	The campus has a reasonable, multi-year assessment plan that identifies when each GE outcome will be assessed. The plan includes specific mechanisms for interpretation and use of findings for improvement. A coordinator or committee is charged to oversee the program and its assessment.	The campus has a fully articulated, sustainable, multi-year assessment plan that describes when and how each outcome will be assessed. A coordinator or committee leads review and revision of the plan, as needed, based on experience and feedback from internal & external reviewers. The campus uses some form of comparative data (e.g., own past record, aspiration goals, external benchmarking).
4. Assessment Implementation	It is not clear that potentially valid evidence for each GE outcome is collected and/or individual reviewers use idiosyncratic criteria to assess student work.	Appropriate evidence is collected and faculty have discussed relevant criteria for assessing each outcome. Reviewers of student work are calibrated to apply assessment criteria in the same way, and/ or faculty check for inter-rater reliability.	Appropriate evidence is collected and faculty use explicit criteria, such as rubrics, to assess student attainment of each outcome. Reviewers of student work are calibrated to apply assessment criteria in the same way, and faculty routinely check for inter-rater reliability.	Assessment criteria, such as rubrics, have been pilot-tested and refined over time; and they usually are shared with students. Reviewers of student work are calibrated, and faculty routinely find high inter-rater reliability. Faculty take comparative data into account when interpreting results and deciding on changes to improve learning.
5. Use of Results	Results for GE outcomes are collected, but relevant faculty do not discuss them. There is little or no collective use of findings. Students are unaware of, uninvolved in the process.	Results for each GE outcome are collected and discussed by relevant faculty; results have been used occasionally to improve the GE program. Students are vaguely aware of outcomes and assessments to improve their learning.	Results for each outcome are collected, discussed by relevant faculty and others, and regularly used to improve the GE program. Students are very aware of and engaged in improvement of their GE learning.	Relevant faculty routinely discuss results, plan improvements, secure necessary resources, and implement changes. They may collaborate with others, such as librarians, student affairs professionals, students, to improve the program. Follow-up studies confirm that changes have improved learning.

Appendix 8: Sacramento State Baccalaureate Learning Goals for The 21st Century & AAC&U's 16 VALUE Rubrics

http://www.csus.edu/wascaccreditation/Documents/Endnotes/E044.pdf

1. **Competence in the Disciplines:** The ability to demonstrate the competencies and values listed below in *at least one major field of study* and to demonstrate informed understandings of other fields, drawing on the knowledge and skills of disciplines outside the major.

2. **Knowledge of Human Cultures and the Physical and Natural World** through study in the *sciences and mathematics, social sciences, humanities, histories, languages, and the arts.* Focused by engagement with big questions, contemporary and enduring.

3. **Intellectual and Practical Skills, including:** *inquiry and analysis, critical, philosophical, and creative thinking, written and oral communication, quantitative literacy, information literacy, teamwork and problem solving,* practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.

3.1 Critical Thinking	(WSCUC core competency)
3.2 Information Literacy	(WSCUC core competency)
3.3 Written Communication	(WSCUC core competency)
3.4 Oral Communication	(WSCUC core competency)
3.5 Quantitative Literacy	(WSCUC core competency)
3.6 Inquiry and Analysis	(Sixth VALUE rubric)
3.7 Creative Thinking	(Seventh VALUE rubric)
3.8 Reading	(Eighth VALUE rubric)
3.9 Teamwork	(Ninth VALUE rubric)
3.10 Problem Solving	(Tenth VALUE rubric)

4. **Personal and Social Responsibility (Values), including:** *civic knowledge and engagement—local and global, intercultural knowledge and competence*, ethical reasoning and action, foundations and skills for lifelong learning* anchored through active involvement with diverse communities and real-world challenges.

4.1 Civic Knowledge and Engagement—Local and Global	(Eleventh VALUE rubric)
4.2 Intercultural Knowledge and Competence	(Twelfth VALUE rubric)
4.3 Ethical Reasoning	(Thirteenth VALUE rubric)
4.4 Foundations and Skills for Lifelong Learning	(Fourteenth VALUE rubric)
4.5 Global Learning	(Fifteenth VALUE rubric)

5. **Integrative Learning**, including:** *synthesis and advanced accomplishment* across general and specialized studies.

a. Integrative and Applied Learning	(Sixteenth VALUE rubric)

All of the above are demonstrated through the application of knowledge, skills, and responsibilities (values) to new settings and complex problems.

**Understanding of and respect for those who are different from oneself and the ability to work collaboratively with those who come from diverse cultural backgrounds.*

***Interdisciplinary learning, learning communities, capstone or senior studies in the General Education program and/or in the major connecting learning goals with the content and practices of the educational programs including GE, departmental majors, the co-curriculum and assessments.*

Appendix 9: Graduate Learning Goals Policy

Departments/interdisciplinary groups with graduate programs in their purview shall be required to establish Graduate Goals, Program Learning Outcomes with an associated curriculum map, and an assessment plan with an associated action plan, to be submitted to the Office of Graduate Studies. These documents must be reviewed and, if necessary, updated by May 30 of each academic year.

The Institutional Graduate Learning Goals listed in Section A express a shared, campus-wide articulation of minimum requirements for recipients of graduate degrees. Each graduate program may set Program Learning Goals in addition to the required Institutional Graduate Learning Goals.

A. Institutional Graduate Learning Goals

For each Institutional Graduate Learning Goal, students are expected to achieve a level of competency associated with an advanced degree, as appropriate to the discipline.

Institutional Graduate Learning Goals for Masters Programs

1. **Disciplinary knowledge**: Master, integrate, and apply disciplinary knowledge and skills to current, practical, and important contexts and situations.
2. **Communication**: Communicate key knowledge with clarity and purpose both within the discipline and in broader contexts.
3. **Critical thinking/analysis**: Demonstrate the ability to be creative, analytical, and critical thinkers.
4. **Information literacy**: Demonstrate the ability to obtain, assess, and analyze information from a myriad of sources.
5. **Professionalism**: Demonstrate an understanding of professional integrity.
6. **Intercultural/Global Perspectives**: Demonstrate relevant knowledge and application of intercultural and/or global perspectives.

Institutional Graduate Learning Goals for Doctoral Programs

All of the above Institutional Graduate Learning Goals for Masters Programs, with the addition of:

7. **Research**: Conduct independent research resulting in an original contribution to knowledge in the focused areas of their graduate program.

B. Program Learning Outcomes

Graduate programs shall develop Program Learning Outcomes (PLOs) that represent their unique perspectives and which demonstrate achievement of Graduate Learning Goals. Each graduate program shall define its own set of learning outcomes, specific to the level of study and to the discipline, which are clearly more advanced in content than those defined for related undergraduate work. For some programs, these might already be defined, at least in part, by external accrediting agencies. Such defined outcomes shall also form the basis for assessment plans within graduate programs and offer foci for future academic Program Review teams.

Program Learning Outcomes are designed with the goal of placing graduated master's or doctoral students into post-degree positions in secondary education, non-profits, business and consulting, government and private agencies, and other fields that draw on the knowledge and skills of graduates in the focused areas of their degree preparation.

C. Curriculum Map

Each program shall create a curriculum map:

1. List all courses, both required and elective, as well as other required graduate education activities.
2. Indicate where in the curriculum each PLO is addressed through development of a curriculum map. The curriculum map may be presented in many formats, including tabular form as in the example below:

Curriculum Map

Coursework	**PLO 1**	**PLO 2**	**PLO 3**	**PLO 4**	**PLO 5**	**PLO 6**
GRAD 201 (core course)	X		X			
GRAD 202 (core course)				X		X
GRAD 203 (core course)		X		X		
GRAD 204 (core course)	X				X	
GRAD 205 (core course)			X			
GRAD 206 (core course)	X	X	X	X		
GRAD 252 (elective)	X				X	
GRAD 252 (elective)		X				X
GRAD 500 Culminating Experience	X	X	X	X	X	X

D. Assessment Plan

Each graduate program shall develop a plan for assessing student achievement of its Program Learning Outcomes:

1. Identify graduate program-specific direct and indirect lines of evidence for each of the PLOs. The table below summarizes the kinds of direct and indirect evaluative data programs might draw on to assess PLOs related to two of the Institutional Graduate Learning Goals:

		Lines of Evidence (Examples for Assessing Graduate Program Learning Outcomes)	
Institutional Graduate Goal	***PLO***	***Direct***	***Indirect***
Disciplinary Knowledge	1. PLO1 2. PLO2 3. PLO3	1. Assignments in core courses 2. Completion of culminating experience	1. Mid-course assessments 2. Program exit interview 3. Alumni survey
Communication	1. PLO1 2. PLO2	1. Assignments in content courses 2. Early writing assessment 3. Pre-Candidacy project or examination 4. Presentation at scholarly meetings or in colloquia series 5. Papers/articles/books/grants 6. Thesis or Doctoral dissertation proposal 7. Culminating experience Doctoral dissertation	1. Mid-course assessments 2. Program exit interview 3. Alumni survey

2. Articulate evaluation parameters for measuring introductory and advanced levels of graduate student development for each PLO.
3. Evaluate each of the PLOs based on direct lines of evidence such as those identified above, collectively supporting the evaluation of introductory and advanced levels of development over the course of each student's program trajectory. Emphasis should be placed on early assessment of indicators that predict success in the graduate experience.

E. Action Plan Based on Assessment Data

Based on the assessment data collected, each graduate program shall provide detailed information about ongoing action steps to be taken to maintain and improve program quality and/or address identified deficiencies.

FS 15-16-115 Approved by the Faculty Senate, April 21, 2016. Approved by President Nelsen, June 3, 2016. Revises FS 14/15-166 Approved by the Faculty Senate May 7, 2015 Supersedes FS 11/12-112, which was approved by the Faculty Senate April 5, 2012

Appendix 10: The Importance of Action Verbs

The Importance of Action Verbs (Mager, 1975, cited in Brown, 1995)	
Multiple Interpretations	**Fewer Interpretations**
➢ to "know" ➢ to "understand" ➢ to "**really** understand" ➢ to "appreciate" ➢ to "fully appreciate" ➢ to "grasp the significance of" ➢ to "enjoy" ➢ to "believe" ➢ to "have faith in"	➢ to write- ➢ to recite- ➢ to identify- ➢ to sort- ➢ to solve- ➢ to construct- ➢ to build- ➢ to compare- ➢ to contrast-

Appendix 11: Relevant Verbs in Defining Learning Outcomes

(Based on Bloom's Taxonomy)

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Cite	Arrange	Apply	Analyze	Arrange	Appraise
Define	Classify	Change	Appraise	Assemble	Assess
Describe	Convert	Compute	Break Down	Categorize	Choose
Identify	Describe	Construct	Calculate	Collect	Compare
Indicate	Defend	Demonstrate	Categorize	Combine	Conclude
Know	Diagram	Discover	Compare	Compile	Contrast
Label	Discuss	Dramatize	Contrast	Compose	Criticize
List	Distinguish	Employ	Criticize	Construct	Decide
Match	Estimate	Illustrate	Debate	Create	Discriminate
Memorize	Explain	Interpret	Determine	Design	Estimate
Name	Extend	Investigate	Diagram	Devise	Evaluate
Outline	Generalize	Manipulate	Differentiate	Explain	Explain
Recall	Give Examples	Modify	Discriminate	Formulate	Grade
Recognize	Infer	Operate	Distinguish	Generate	Interpret
Record	Locate	Organize	Examine	Manage	Judge
Relate	Outline	Practice	Experiment	Modify	Justify
Repeat	Paraphrase	Predict	Identify	Organizer	Measure
Reproduce	Predict	Prepare	Illustrate	Perform	Rate
Select	Report	Produce	Infer	Plan	Relate
State	Restate	Schedule	Inspect	Prepare	Revise
Underline	Review	Shop	Inventory	Produce	Score
	Suggest	Sketch	Outline	Propose	Select
	Summarize	Solve	Question	Rearrange	Summarize
	Translate	Translate	Relate	Reconstruct	Support
		Use	Select	Relate	Value
			Solve	Reorganize	
			Test	Revise	

Page 37: Adapted from Gronlund (1991).

Allen, Mary. 2004. "Assessing Academic Programs in Higher Education". San Francisco, CA: Anker Publishing, Part of Jossey-Bass.

Appendix 12A: Example: The **VALUE Rubric for the Critical Thinking Skill**

Criterion	Capstone = (4)	Milestone = (3)	Milestone = (2)	Benchmark = (1)
6.1: Explanation of issues	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.
6.2: Evidence *Selecting and using information to investigate a point of view or conclusion*	Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis.	Information is taken from source(s) without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question.
6.3: Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions).
6.4: Student's position (perspective, thesis/hypothesis)	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position.	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.
6.5: Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

<u>An example of the Program Standard of Performance for the Critical Thinking PLO</u>:
Seventy percent (70%) of our students should achieve a score of **at least 3 in all dimensions** of the above rubric by the time of graduation.

The program standard of performance helps programs identify how *well* students perform within and across the program learning outcome (PLO).

Appendix 12B.1: Example: **Data Collection Sheet** for the Critical Thinking Skill

Individual Level

Student A in Your Program

Different Levels / Five Criteria (Areas)	Capstone = (4)	Milestone = (3)	Milestone = (2)	Benchmark = (1)
6.1: Explanation of Issues	4	3	2	1
6.2: Evidence	4	3	2	1
6.3: Influence of Context and Assumptions	4	3	2	1
6.4: Student's Position	4	3	2	1
6.5: Conclusions and Related Outcomes	4	3	2	1

You can use the rubric to collect data for each student. In this example, Student A achieved a score of 4 for criteria 6.1 and 6.3, a score of 3 for criteria 6.2 and 6.5, and a score of 2 for criterion 6.4.

Appendix 12B.2: Example: **Raw Data Summary** for the Critical Thinking Skill for the Program

Program Level

Your Program

Different Levels / Five Criteria (Areas)	Capstone = (4)	Milestone = (3)	Milestone = (2)	Benchmark = (1)	Total (N=130)
6.1: Explanation of Issues	49	71	0	10	(100%, N=130)
6.2: Evidence	19	61	31	19	(100%, N=130)
6.3: Influence of Context and Assumptions	19	61	31	19	(100%, N=130)
6.4: Student's Position	30	71	10	19	(100%, N=130)
6.5: Conclusions and Related Outcomes	19	71	21	19	(100%, N=130)

You can use the rubric to summarize your data of student work. For example, 49 students achieved Capstone 4 for criterion 6.1, and 10 students achieved Milestone 2 for criterion 6.4.

Appendix 12B.3: Example: **Data Summary** for the Critical Thinking Skill for the Program

Program Level

Your Program

Different Levels / Five Criteria (Areas)	Capstone = (4)	Milestone = (3)	Milestone = (2)	Benchmark = (1)	Total (N=130)
6.1: Explanation of Issues	38% (N= 49/130)	54%	0%	8%	(100%, N=130)
6.2: Evidence	15%	46%	24%	15%	(100%, N=130)
6.3: Influence of Context and Assumptions	15%	46%	24%	15%	(100%, N=130)
6.4: Student's Position	23%	54%	8% (N = 10/130)	15%	(100%, N=130)
6.5: Conclusions and Related Outcomes	15%	54%	16%	15%	(100%, N=130)

*For direct and simple comparison, you can use percentages to summarize your data. For example, **38% of the students** achieved Capstone 4 for criterion 6.1, and **8% of the students** achieved Milestone 2 for criterion 6.4.*

Appendix 12C: Example: Summary for the **Results, Discussion, and Conclusions** for the Critical Thinking Skill

Different Levels / Five Criteria (Areas)	Capstone = (4)	Milestone = (3)	Milestone = (2)	Benchmark = (1)	Total (N=130)
6.1: Explanation of Issues	38%	54%	0%	8%	(100%, N=130)
6.2: Evidence	15%	46%	24%	15%	(100%, N=130)
6.3: Influence of Context and Assumptions	15%	46%	24%	15%	(100%, N=130)
6.4: Student's Position	23%	54%	8%	15%	(100%, N=130)
6.5: Conclusions and Related Outcomes	15%	54%	16%	15%	(100%, N=130)

We can see (using the above table) that students meet the criteria of 6.1 (92%), 6.4 (77%), and 6.5 (69%) based on the assessment of our selected Critical Thinking PLO and our identified program standard of performance (70% of students should achieve a score of 3 or higher in all dimensions of the Critical Thinking Rubric). Students do not meet the criteria of 6.2 (61%) and 6.3 (61%). **Students meet some of our program standards for the Critical Thinking Skill, thus they *"Partially Met Program Standards."*** Two areas need improvement: 1) Criterion 6.2: Evidence (61%), and 2) Criterion 6.3: Influence of context and assumptions (61%).

In order to help students in our program successfully become researchers with critical thinking skills, we will design more classroom activities and assignments related to: 1) Re-examination of evidence (6.2) and context and assumptions (6.3) in the research, and 2) Require students to apply these skills as they compose comprehensive responses for all their assignments.

Appendix 13: Background Information for Academic Program Assessment and Review

Ideally, academic program assessment and review at Sacramento State should be an ongoing process that facilitates continuous program improvement and includes the following areas[1]:

Assessment Plan: Each program needs to develop a program assessment plan which contains the following elements: 1) Program goals and learning outcomes, 2) methods for assessing progress toward these outcomes, and 3) a timetable. This plan should be updated annually or frequently.

Annual Program Assessment Report: Program Learning Outcomes (PLOs) should be directly aligned with Course Learning Outcomes (CLOs) and the University Baccalaureate Learning Goals (UBLGs). Programs are asked to provide the Office of Academic Affairs with an annual report (Annual Assessment Report—AAR) on program assessment activities that occurred during the past academic year. These reports should identify learning goals and outcomes that were targeted for program assessment, measures used to evaluate progress toward those outcomes, data and analysis, and changes made or planned in response to the results. Annual program assessment and the assessment reports provide a solid foundation and data for the six year Program Review at Sacramento State.

Program Review: Each department undertakes an extensive Program Review every six years. As part of the Program Review process, departments are asked to use annual program assessment data to evaluate how well students are meeting Program Learning Outcomes and university learning goals.

Thus, each department in our university should have in place a system for collecting and using evidence to improve student learning. So far, not all programs have established Program Learning Outcomes and/or approaches to assess learning for all degree programs; it is essential to make these expectations explicit. This will help departments and colleges to assure that every degree program has or will have in place a quality assurance system for assessing and tracking student learning, so that they may use this information to improve their respective programs. Importantly, departments should also present learning expectations, data, findings, and analysis in a way that is easy to understand and/or to use by the faculty, students, administration, the general public, accreditation agencies, and policy-makers.

[1] Adapted from the information at http://webapps2.csus.edu/assessment/

Appendix 14: WASC Senior College and University Commission (WSCUC) GLOSSARY

(https://www.wascsenior.org/content/wasc-glossary)

A glossary of terms used in this report and by WSCUC accreditation is provided below. As WSCUC points in its most updated Handbook of Accreditation:

> *"Many of these terms have multiple meanings and/or have been used in different ways by different associations, institutions, and individuals. The definitions that follow represent the way WSCUC typically uses these words for purposes of institutional review and reporting. If local usage differs significantly from the definitions below, the institutions should consider translating its terms for accreditation purposes to avoid misunderstanding on the part of the evaluation term, WSCUC staff, and others" (WSCUC Handbook of Accreditation 2012:39)."*

To avoid misunderstanding by WSCUC and confusion at Sacramento State, Office of Academic Program Assessment has decided to use the same definitions from the WSCUC 2013 Handbook of Accreditation Glossary (linked above.)

AAC&U (Association of American Colleges and University) - Washington-based national organization dedicated to promotion of liberal learning and its integration with professional and civic education.

Accountability - in higher education, being answerable to the public, e.g., students, parents, policymakers, employers. Historically, accountability has focused on financial resources; emphasis now extends to students' academic progress, including retention, acquisition of knowledge and skills, and degree completion.

Alignment - connections among functions or dimensions of an institution that support achievement of goals, e.g., among curriculum, pedagogy, and expected outcomes; or priorities, planning, and resource allocation.

Assessment (of student learning) - an ongoing, iterative process consisting of four basic steps: 1. defining learning outcomes; 2. choosing a method or approach and then using it to gather evidence of learning; 3. analyzing and interpreting the evidence; and 4. using this information to improve student learning.

Benchmark - a point of reference or standard of excellence in relation to which something can be compared and judged. A specific level of student performance may serve as the benchmark that students are expected to meet at a particular point in time or developmental level. Retention and graduation rates may also be benchmarked against those of peer institutions or national norms.

Capstone - a culminating project or experience, usually associated with undergraduates but also applicable to graduate education, that generally takes place in the student's final year of study and requires review, synthesis, and application of what has been learned over the course of the student's college experience. The result may be a product (e.g., original research, an innovative engineering design, an art exhibit) or a performance (e.g., a recital, an internship, student teaching). The capstone can provide evidence for assessment of a range of outcomes, e.g., core competencies, general education outcomes, and institution-level outcomes, as well as those for the major or graduate degree.

Closing the Loop - refers to the four-step assessment cycle (see "assessment of student learning") and the need to complete the cycle in order to improve learning. "Completing the cycle" may be understood as 1. Completing step 4; or 2. Completing step 4 and then repeating the cycle to see whether the changes implemented have produced the desired result.

Co-curricular Learning - learning that takes place in activities and programs that are not part of the prescribed sequence of courses in an academic program.

Competency - in assessment of student learning, a specific skill, body of knowledge, or disposition; can also refer to the student's ability to demonstrate that learning. "Competency" is sometimes used interchangeably with "outcome," "objective," and "ability."

Criterion-Referenced - testing or assessment in which student performance is judged in relation to pre-established standards and not in relation to the performance of other students.

Culture of Evidence - a habit of using evidence in assessment, decision making, planning, resource allocation, and other institutional processes that is embedded in and characteristic of an institution's actions and practices.

Curriculum Map - a visual representation, usually in the form of a table or matrix, which shows the alignment of course outcomes with Program Learning Outcomes. Well-crafted curriculum maps also show development of proficiency levels, for example using terminology such as "beginning," "intermediate," and "advanced" or "introduced," "developed," and "mastered."

Degree Qualifications Profile (DQP) - a framework funded by the Lumina Foundation that describes the kinds of learning and levels of performance that may be expected of students who have earned an associate, baccalaureate, or master's degree.

Direct Method - in assessment of student learning, a way of gathering evidence of learning directly, e.g., through scoring of actual student work or performances, rather than indirectly, e.g., through self-reports, surveys, etc. Direct evidence can be supplemented by indirect evidence and descriptive data.

External Validation - corroboration or confirmation through an outside source. External validation has two dimensions: 1. data from external sources may be used to confirm that something has been accurately judged and documented; and 2. external reviewers may be invited to examine the evidence. External validation can bring fresh perspectives and lend credibility. See also "external evaluator."

Formative Assessment - assessment intended to provide feedback and support for improved performance as part of an ongoing learning process, whether at the student, program, or institution level. See also "summative assessment."

Goal - 1. In assessment of student learning, a high-level, very general statement of learning expected of graduates, aligned with the institution's mission, vision, and values (more specific learning outcomes are derived from goals); 2. A statement developed by an institution or program related to strategic planning, financial development, and other important issues.

High-Impact Practice (HIP): HIPs include first-year seminars, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments, undergraduate research, diversity/global learning, service learning, internships, and capstone courses or projects. Research suggests that if students experience one or more HIPS in the course of their studies, they are more likely to persist, achieve higher levels of learning, and complete their degrees.

Indirect Method - in assessment of student learning, a way to capture evidence of learning in the form of opinions—for example, of students, employers, and alumni—by means of surveys, focus groups, exit interviews, etc. Indirect evidence is mediated by personal perceptions and experiences, and learning can only be inferred. Indirect evidence may be supplemented by descriptive data.

Liberal Education and America's Promise (LEAP) - a project of AAC&U, the LEAP outcomes (also known as Essential Learning Outcomes) total 12, grouped under the headings "Knowledge of Human Cultures and the Natural and Physical World," "Intellectual and Practical Skills," "Personal and Social Responsibility," and "Integrative and Applied Learning."

Mission - in higher education, an institution's formally adopted statement of its fundamental reasons for existence, its shared purposes and values, and the students that it aims to serve. The mission is central to decisions about priorities and strategic objectives and provides a context for WSCUC decisions about quality and accreditation.

Norming - 1. In assessment of student learning, a process of training raters to evaluate student products and performances consistently, typically using criterion-referenced standards and rubrics; 2. In accreditation, can be applied to other reviewing and rating processes, e.g., institutional evaluation, Commission actions.

Norm-Referenced - testing or assessment in which student performance is judged in relation to the performance of a larger group of students, not measured against a pre-established standard.

OAPA - Office of Academic Program Assessment at Sacramento State, located in Library 67.

Objective - in assessment of student learning, a concise statement of what the instructor (or program or institution) intends a student to learn (on some campuses, objectives then lead to development of learning outcomes); 2. Sometimes used interchangeably with "outcome," but "outcome" has become the more common usage because of its more direct focus on the result (or "outcome") for the student; 3. In institution- or program-level planning, more specific statements derived from general goals; 4. In psychometrics, a test consisting of factual questions requiring short answers that can be reliably scored using an answer key, minimizing subjective judgments.

Outcome - in assessment of student learning, a concise statement of what the student should know or be able to do. Well-articulated learning outcomes describe how a student can demonstrate the desired outcome; verbs such as "understand" or "appreciate" are avoided in favor of observable actions, e.g., "identify," "analyze." Learning outcomes can be formulated for different levels of aggregation and analysis. Student learning outcomes are commonly abbreviated as SLOs, course learning outcomes as CLOs, Program Learning Outcomes as PLOs, and institution-level outcomes as ILOs. 2. Other outcomes may address access, retention and graduation, and other indicators aligned with institutional mission and goals.

Persistence - like "retention," refers to the rate at which students return to college from semester to semester and year to year, or "persist" in their education. Some educators interpret "retention" as putting the responsibility for degree completion on the institution, whereas "persistence" puts the responsibility on the student.

Planning (Assessment) - the development of a design by which an institution sets goals and objectives and identifies the means to measure their accomplishment. *Institutional* planning may address educational programs, support services, the physical plant, budgets and finances, and other aspects of institutional operation and future development.

Portfolio - in assessment of student learning, a method of collecting student work so that the evidence can be reviewed in relation to specific learning outcomes. Most student portfolios also include a reflection on the learning process. Portfolios are highly adaptable: they may be developmental (showing progress from rough draft to finished product) or cumulative (i.e., students' "best work"); and they may be assembled at the level of the individual student, program, or institution.

Program - 1. a systematic, usually sequential, grouping of courses that forms a considerable part, or all, of the requirements for a degree in a major or professional field; 2. sometimes refers to the total educational offering of an institution.

Program Review - a systematic process of examining the capacity, processes, and outcomes of a degree program or department in order to judge its quality and effectiveness and to support improvement. Historically, Program Review focused primarily on capacity and research output; more recently, educational outcomes and student success have been included. While student success and assessment of learning at the program level are an important part of Program Review, they should not be confused with the more encompassing process of Program Review.

Reliability - in psychometrics and assessment of student learning, the consistency and dependability of judgments and measurements. See also "validity."

Retention - typically refers to the rate at which students return and re-enroll in college from semester to semester and year to year; retention rates from first to second year are of particular interest, since that is when the heaviest attrition is likely to occur.

Rigor - in education, refers both to a challenging curriculum and to the consistency or stringency with which high standards for student learning and performance are upheld.

Rubric - a tool for scoring student work or performances, typically in the form of a table or matrix, with criteria that describe the dimensions of the outcome down the left-hand vertical axis, and levels of performance across the horizontal axis. The work or performance may be given an overall score (holistic scoring), or criteria may be scored individually (analytic scoring). Rubrics are also used to communicate expectations to students. 2. WSCUC has developed a number of rubrics to assist teams and institutions in evaluating various aspects of their curriculum and assessment processes.

Signature Assignment - an embedded assessment method using an assignment—either the identical assignment or multiple assignments all constructed according to a common template— across multiple courses or sections of courses. A sample of students' work products is then examined using a rubric to arrive at judgments about the quality of student learning across the course, program, or institution. Alternatively, a signature question may be embedded, for example, in final exams.

Standard - broadly refers to statements of expectations for student learning, which may include content standards, performance standards, and benchmarks. In the K-12 arena, standards generally describe content, but not level of mastery. In higher education, in contrast, standards generally refer to expected levels of mastery or proficiency. Not to be confused with standards of accreditation.

Standard of Performance - the degree of skill or proficiency with which a student demonstrates a learning outcome. WSCUC Standard 2, CFR 2.2a, requires institutions to report on their students' levels of performance at or near the time of graduation in five core competencies: writing, oral communication, quantitative reasoning, critical thinking, and information literacy. Standards of performance are set by faculty and other educators on campus.

Standardized - a good practice meaning that a protocol or set of guidelines is consistently followed. For example, individuals may be trained in using scoring rubrics or conducting focus groups such that their activities are "standardized" to support the collection of reliable data. Commercially available tests are often referred to as "standardized tests," and "standardized" has acquired negative connotations in some circles.

Standards of Accreditation - standards of accreditation are the principles used as a basis for judgment in accreditation reviews. WSCUC has four Standards that flow from three Core Commitments. They are used to guide institutions in assessing institutional performance, to identify areas needing improvement, and to serve as the basis for judgment of the institution by evaluation teams and the Senior College Commission.

Student Success - a phrase often used as shorthand for retention and degree completion. For WSCUC, student success includes quality of learning and rigor as well as retention and completion.

Student-Centeredness - 1) a shift in perspective from teaching and inputs (e.g., assignments) to desired outcomes and what students actually learn; 2) an approach that places the student (the learner) at the center of the educational process by providing more curricular flexibility, more accessible services, a supportive campus climate, and so on.

Summative Assessment - 1. assessment that occurs at the conclusion or end point of a course, program, or college experience to determine whether student learning outcomes have been achieved; 2. applied organizationally, the

use of certain methods to evaluate the overall effectiveness of a program, an institution, or some element of the course of study. See also "formative assessment."

Sustainability - ability of an educational institution to maintain effective functioning and improve over the long term. Assumes financial viability, but also availability of human capital and other resources, as well as vision, planning, and flexibility.

Triangulation - the use of multiple methods to generate more robust evidence and to see whether results converge or diverge.

Validity - in psychometrics and assessment of student learning, refers to how well a particular assessment method actually measures what it is intended to measure. Considerations include construct validity, content validity, and face validity. May also refer to consequences, i.e., whether an assessment has "consequential validity" and will support subsequent actions to improve learning. See also "reliability."

VALUE rubrics - Valid Assessment of Learning in Undergraduate Education (VALUE); a set of fifteen rubrics developed by AAC&U in collaboration with hundreds of faculty to assess learning outcomes defined by the LEAP project. Institutions may download the rubrics at no cost and are encouraged to modify them to suit local needs.

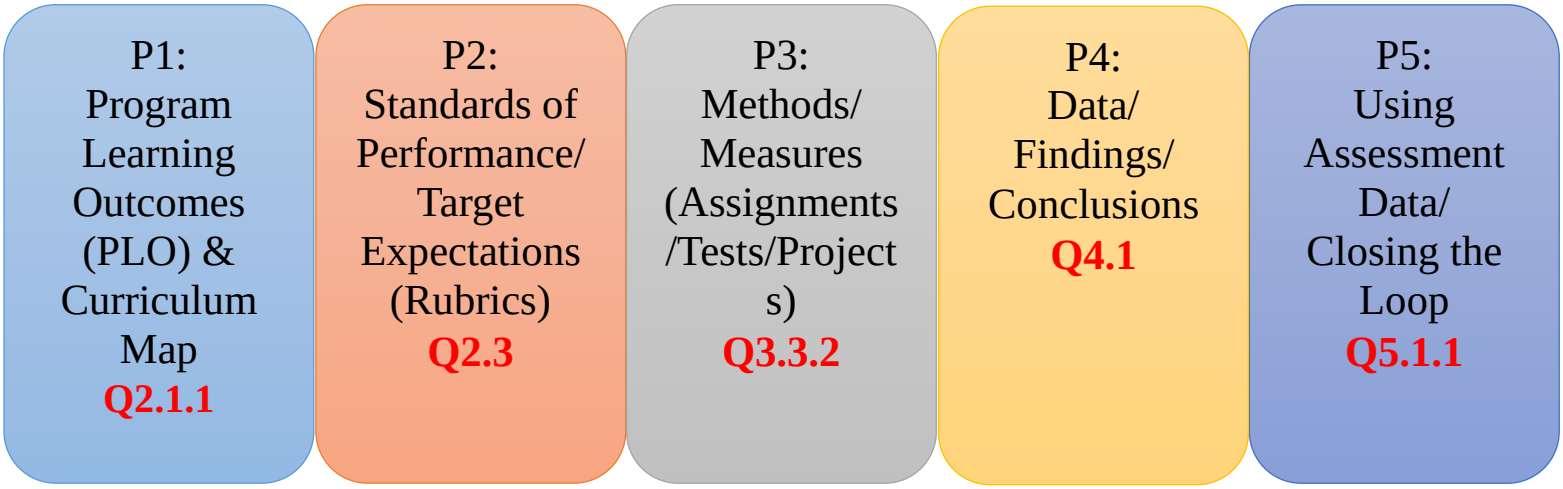
Value-added - 1. in higher education, the contribution that institutions make to their students' learning and development, documented from students' entry to exit; 2. a WSCUC value, namely to promote an accreditation process that adds value to institutions and helps them to achieve their own goals.

WASC - See WSCUC.

WSCUC (*formerly* **WASC**) - "Western Association of Schools and Colleges" The three Commissions under the WSCUC umbrella: [1] the Accrediting Commission for Schools (ACS); [2] the Accrediting Commission for Community and Junior Colleges (ACCJC); and [3] the Accrediting Commission for Senior Colleges and Universities (ACSCU), also referred to as the Senior College Commission.
In the context of the 2013 Handbook, WSCUC refers to the Senior College Commission.

Appendix 15: Examples for Answering Open-Ended Questions

How to Answer the *Open-Ended* Assessment Questions



Question 1 (Q1): Program Learning Outcomes (Q1-Q1.6)

Questions from 2017-18 Annual Assessment Report Template:
Q2.1.1. Explain what ***the PLO/competency means in your program using action verbs*** *(Appendix IV, V, and XI):*

Critical Thinking VALUE Rubric

Definition
Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

Framing Language
This rubric is designed to be transdisciplinary, reflecting the recognition that success in all disciplines requires habits of inquiry and analysis that share common attributes. Further, research suggests that successful critical thinkers from all disciplines increasingly need to be able to apply those habits in various and changing situations encountered in all walks of life.
This rubric is designed for use with many different types of assignments and the suggestions here are not an exhaustive list of possibilities. Critical thinking can be demonstrated in assignments that require students to complete analyses of text, data, or issues. Assignments that cut across presentation mode might be especially useful in some fields. If insight into the process components of critical thinking (e.g., how information sources were evaluated regardless of whether they were included in the product) is important, assignments focused on student reflection might be especially illuminating.

Glossary
The definitions that follow were developed to clarify terms and concepts used in this rubric ***only****.*

- Ambiguity: Information that may be interpreted in more than one way.
- Assumptions: Ideas, conditions, or beliefs (often implicit or unstated) that are "taken for granted or accepted as true without proof." (quoted from www.dictionary.reference.com/browse/assumptions)
- Context: The historical, ethical, political, cultural, environmental, or circumstantial settings or conditions that influence and complicate the consideration of any issues, ideas, artifacts, and events.
- Literal meaning: Interpretation of information exactly as stated. For example, "she was green with envy" would be interpreted to mean that her skin was green.
- Metaphor: Information that is (intended to be) interpreted in a non-literal way. For example, "she was green with envy" is intended to convey an intensity of emotion, not a skin color.

Critical Thinking VALUE Rubric

Criterion	***Exceed Standards*** ***4***	***Meet Standards*** ***3***	***Meet Minimum Standards*** ***2***	***Don't Meet Standards*** ***1***
6.1: Explanation of issues	Issue or problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue or problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue or problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue or problem to be considered critically is stated without clarification or description.
6.2: Evidence (Selecting and using information to investigate a point of view or conclusion)	Information is taken from source(s) with enough interpretation or evaluation to develop a comprehensive analysis or synthesis.	Information is taken from source(s) with enough interpretation or evaluation to develop a coherent analysis or synthesis.	Information is taken from source(s) with some interpretation or evaluation, but not enough to develop a coherent analysis or synthesis.	Information is taken from source(s) without any interpretation or evaluation. Viewpoints of experts are taken as fact, without question.
6.3: Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions).
6.4: Student's position (Perspective, thesis/ hypothesis)	Specific position (perspective, thesis or hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position.	Specific position (perspective, thesis or hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis or hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis or hypothesis) is stated, but is simplistic and obvious.

6.5: Conclusions and related outcomes (Implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Q2: <u>Standards of Performance/Expectations</u>: Seventy percent **(70%)** of our students **will score 3.0 or above** in all the five dimensions of the VALUE rubric (by the time they graduate from the four semester program.)

Question 1 (Q1): Program Learning Outcomes (Q1-Q1.6)

Answers toQ2.1.1:
6: Graduate students from iMET will demonstrate a habit of systematically exploring issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. They will (PLO 6: Critical thinking adopted from the VALUE rubric):

6.1: Clearly state the issue/problem that needs to be considered critically, comprehensively describe the issue/problem, and deliver all relevant information so it is necessary for a full understanding of the issue/problem (Explanation of issues);

6.2: Thoroughly interpret and evaluate the information taken from source(s) to develop a comprehensive analysis or synthesis (Evidence);

6.3: Thoroughly analyze their own and others' assumptions and carefully evaluate the relevance of contexts when presenting a position (Influence of context and assumptions);

6.4: Consider the complexities (all sides) of an issue. Limits of position and others' points of view are acknowledged and synthesized within position (Student's position including perspective, thesis/hypothesis);

6.5: Form conclusions, consequences and implications that are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in order of priority (Conclusions and related outcomes).

Question 2 (Q2): Standards of Performance/Expectations/Rubrics

Questions from 2017-18 Annual Assessment Report Template:

Q2.3. *Please provide and/or attach* ***the rubric(s)*** *that you used to develop your assignment (See Appendix 15 Sample Answer to Q2.3):*

Answers to Q2.3:
Q2: Standards of Performance/Expectations:
Seventy percent **(70%)** of our students **will score 3.0 or above** in all the five dimensions of the VALUE rubric (by the time they graduate).

Rubric and Standards of Performance for Critical Thinking Skills

Criterion	*Exceed Standards* *4*	*Meet Standards* *3*	*Meet Minimum Standards* *2*	*Don't Meet Standards* *1*
6.1: Explanation of issues	Issue or problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue or problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue or problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue or problem to be considered critically is stated without clarification or description.
6.2: Evidence (Selecting and using information to investigate a point of view or conclusion)	Information is taken from source(s) with enough interpretation or evaluation to develop a comprehensive analysis or synthesis.	Information is taken from source(s) with enough interpretation or evaluation to develop a coherent analysis or synthesis.	Information is taken from source(s) with some interpretation or evaluation, but not enough to develop a coherent analysis or synthesis.	Information is taken from source(s) without any interpretation or evaluation. Viewpoints of experts are taken as fact, without question.
6.3: Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions).
6.4: Student's position (Perspective, thesis/ hypothesis)	Specific position (perspective, thesis or hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position.	Specific position (perspective, thesis or hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis or hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis or hypothesis) is stated, but is simplistic and obvious.

6.5: Conclusions and related outcomes (Implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Q2: <u>Standards of Performance/Expectations</u>: Seventy percent **(70%)** of our students **will score 3.0 or above** in all the five dimensions of the VALUE rubric (by the time they graduate from the four semester program.)

Question 3 (Q3): Direct Measures (key assignments, projects, portfolios, course work, student tests, etc.) **used to assess the program learning outcomes.**

Questions from 2017-18 Annual Assessment Report Template:
Q3.3.2. *Please* ***attach the assignment instructions that the students received to complete the assignment (See Appendix 1 Sample Answer to Q3.3.2):***

Q3.3.1. *Which of the following direct measures (key assignments, projects, portfolios, course work, student tests, etc.) were used? [Check all that apply]*
1. Capstone projects (including theses, senior theses), courses, or experiences
2. Key assignments from required classes in the program
3. Key assignments from elective classes
4. Classroom based performance assessments such as simulations, comprehensive exams, critiques
5. External performance assessments such as internships or other community based projects
6. E-Portfolios
7. Other portfolios
8. Other measure. Specify:

Question 3 (Q3): Direct Measures (**key assignments**, projects, portfolios, course work, student tests, etc.) **used to assess the program learning outcomes.**

Answers to Q3.3.2:

The key assignment for the iMET program assessment is the **Action Research Report.** iMET used this **Action Research Report** (Master's Thesis) included in an ePortfolio as its direct measure to assess its critical thinking program learning outcome.

This culminating experience report (the master thesis) includes the following tasks:

1. Designing and implementing a study using data collection tools that will allow the students to "show" the reader what happened during and as a result of the intervention.

2. Sorting through the findings after collecting the data, looking for data that reveal some information pertinent to the study.

3. Looking for relationships (patterns) between the data. These patterns emerge from a variety of sources such as things that have happened, things that students have observed, things that people have said, and things that students have measured. These are the findings (conclusions) of the study.

Question 4 (Q4): Data, Findings, and Conclusions:

Questions from the 2017-18 Annual Assessment Report Template:

Q4.1. *Please provide tables and/or graphs to summarize the assessment data, findings, and conclusions for the selected PLO in* ***Q2.1*** *(see Appendix 12 in our Feedback Packet Example). Please do* ***NOT*** *include student names and other confidential information. This is going to be a* ***PUBLIC*** *document.*

Q4.3. *For the selected PLO, the student performance:*
1. ***Exceeded*** *expectations/standards*
2. ***Met*** *expectations/standards*

*3. **Partially** met expectations/standards*
4. Did not meet expectations/standards
5. No expectations or standards have been specified
6. Don't know

Answer to Q4.1:

Q4.1. A Simple Result Table for iMET

Five Criteria/outcomes	*Exceed Standards* (4)	*Meet Standards* (3)	Meet Minimum Standards (2)	Don't Meet Standards (1)	Total (N=13)
6.1: Explanation of issues	38% (n=5)	54% (n=7)	0% (n=0)	8% (n=1)	(100%, N=13)
6.2: Evidence (Selecting and using information to investigate a point of view or conclusion)	15% (n=2)	40% (n=6)	21% (n=3)	15% (n=2)	(100%, N=13)
6.3: Influence of context and assumptions	15% (n=2)	41% (n=6)	20% (n=3)	15% (n=2)	(100%, N=13)
6.4: Student's position (perspective, thesis/ hypothesis)	23% (n=3)	54% (n=7)	8% (n=1)	15% (n=2)	(100%, N=13)
6.5: Conclusions and related outcomes (Implications and consequences)	15% (n=2)	55% (n=7)	15% (n=2)	15% (n=2)	(100%, N=13)

Data Collection Sheet for Each Program

Criterion	Exceed Standards 4	Meet Standards 3	Meet Minimum Standards 2	Don't Meet Standards 1
6.1: Explanation of issues	Issue or problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue or problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue or problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	**Issue or problem to be considered critically is stated without clarification or description.**
6.2: Evidence (Selecting and using information to investigate a point of view or conclusion)	Information is taken from source(s) with enough interpretation or evaluation to develop a comprehensive analysis or synthesis.	Information is taken from source(s) with enough interpretation or evaluation to develop a coherent analysis or synthesis.	Information is taken from source(s) with some interpretation or evaluation, but not enough to develop a coherent analysis or synthesis.	**Information is taken from source(s) without any interpretation or evaluation.** **Viewpoints of experts are taken as fact, without question.**
6.3: Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	**Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions).**
6.4: Student's position (perspective, thesis/ hypothesis)	Specific position (perspective, thesis or hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position.	Specific position (perspective, thesis or hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis or hypothesis) acknowledges different sides of an issue.	**Specific position (perspective, thesis or hypothesis) is stated, but is simplistic and obvious.**

6.5: Conclusions and related outcomes (Implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	**Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.**

Q2: <u>Standards of Performance/Expectations</u>: Seventy percent **(70%)** of our students **will score 3.0 or above** in all the five dimensions of the VALUE rubric (by the time they graduate from the four semester program.)

How to Answer Q4.1, Q4.2, and Q4.3 for the Program

Five Criteria/Outcomes	Exceed Standards (4)	Meet Standards (3)	Meet Minimum Standards (2)	Don't Meet Standards (1)	Total (N=13)	
6.1: Explanation of issues	**38% (n=5)**	**54% (n=7)**	**0% (n=0)**	**8% (n=1)**	**(100%, N=13)**	6.1: 38 + 54 = **92%** achieving 3.0 or higher.
6.2: Evidence (Selecting and using information to investigate a point of view or conclusion)	**15% (n=2)**	**40% (n=6)**	**21% (n=3)**	**15% (n=2)**	**(100%, N=13)**	6.2: 15 + 40 = **55%** not achieving 3.0 or higher.
6.3: Influence of context and assumptions	**15% (n=2)**	**41% (n=6)**	**20% (n=3)**	**15% (n=2)**	**(100%, N=13)**	6.3: 15 + 41 = **56%** not achieving 3.0 or higher.
6.4: Student's position (perspective, thesis/ hypothesis)	**23% (n=3)**	**54% (n=7)**	**8% (n=1)**	**15% (n=2)**	**(100%, N=13)**	6.4: 23 + 54 = **77%** achieving 3.0 or higher.
6.5: Conclusions and related outcomes (Implications and consequences)	**15% (n=2)**	**55% (n=7)**	**15% (n=2)**	**15% (n=2)**	**(100%, N=13)**	6.5: 15 + 55 = **70%** achieving 3.0 or higher.

Question 4 (Q4): Data, Findings, and Conclusions:

Q2: Standards of Performance/Expectations: Seventy percent **(70%)** of our students **will score 3.0 or above** in all the five dimensions of the VALUE rubric (by the time they graduate from the four semester program.)

Summary conclusion for Q4.2

Students meet the following standards
6.1 (92%),
6.4 (77%) and
6.5 (69%).

Students do not meet the following standards
6.2 (61%) and
6.3 (61%).

The two areas needing improvement:
6.2: Evidence (61%)
6.3: Influence of context and assumptions (61%).

Student Performance (Q4.3)*: 3. Partially meet the standards*

Data Collection Sheet for Each Student

Criterion	Exceed Standards 4	Meet Standards 3	Meet Minimum Standards 2	Don't Meet Standards 1
6.1: Explanation of issues	Issue or problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue or problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue or problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue or problem to be considered critically is stated without clarification or description.
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6.5: Conclusions and related outcomes (Implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect students' informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Q2: Standards of Performance/Expectations: Seventy percent **(70%)** of our students **will score 3.0 or above** in all the five dimensions of the VALUE rubric (by the time they graduate from the four semester program.)

Question 4 (Q4): An example of a Data Collection Sheet for Each Student/Assignment

Reference: Your data tables are based on the **rubric** and the data collection sheet.
The moment your rubric is developed, you also have a data collection sheet!
The following table is an example of a data collection sheet for a student:

Criterion	**Capstone 4**	**Milestone 3**	**Milestone 2**	**Benchmark 1**
6.1: Explanation of issues	(4)	3	2	1
6.2: Evidence (Selecting and using information to investigate a point of view or conclusion)	4	(3)	2	1
6.3: Influence of context and assumptions	4	3	(2)	1
6.4: Student's position (perspective, thesis/ hypothesis)	(4)	3	2	1
6.5: Conclusions and related outcomes (Implications and consequences)	(4)	3	2	1

Question 4 (Q4): Data, Findings, and Conclusions:

Answer for Q4.2:

We can see (using the above table) that students meet the criteria for 6.1 (92%), 6.4 (77%), and 6.5 (69%) based on the assessment of our selected Critical Thinking PLO and our identified program standards of performance (70% of students should achieve a score of 3 or higher in all dimensions of the Critical Thinking Rubric). Students do not meet the criteria of 6.2 (61%) and 6.3 (61%). Students meet some of our program standards for the Critical Thinking Skill, thus they "Partially Met Program Standards." Two areas need improvement: 1) Criterion 6.2: Evidence (61%), and 2) Criterion 6.3: Influence of context and assumptions (61%).

Question 5.1.1: Use of Assessment Data

Questions from 2017-18 Annual Assessment Report Template:
Q5.1.1. *Please describe what changes you plan to make in your program as a result of your assessment of this PLO. Include a description of how you plan to assess the impact of these changes.*

Answer to Q5.1.1:

In order to help students in our program successfully become critical thinking researchers, we will design more classroom activities and assignments related to: 1) Re-examination of evidence (6.2) and context and assumptions (6.3) in the research, and 2) Require students to apply these skills as they compose comprehensive responses for all their assignments.

Question 5.2: Use of Assessment Data

Q5.2. To what extent did you apply previous assessment results collected through your program in the following areas? [Check all that apply]					
	(1) Very Much	***(2) Quite a Bit***	***(3) Some***	***(4) Not at all***	***(8) N/A***
1. Improved specific courses	*X*				
2. Modified curriculum		*X*			
3. Improved advising and mentoring		*X*			
4. Revised learning outcomes/goals			*X*		
5. Revised rubrics and/or expectations				*X*	
6. Developed/updated assessment plan	*X*				
7. Annual assessment reports			*X*		
8. Program review		*X*			
9. Prospective student and family information				*X*	
10. Alumni communication				*X*	
11. WASC accreditation (regional accreditation)	*X*				
12. Program accreditation			*x*		
13. External accountability reporting requirement		*X*			
14. Trustee/Governing Board deliberations				*x*	
15. Strategic planning	*X*				
16. Institutional benchmarking	*X*				
17. Academic policy development or modification		*X*			
18. Institutional Improvement			*X*		
19. Resource allocation and budgeting				*X*	
20. New faculty hiring	*X*				
21. Professional development for faculty and staff					*X*
22. Recruitment of new students					*X*
23. Other Specify:					