

## **2015-2016 FULL PROGRAM REVIEWS**

### **STUDENT LEARNING OUTCOMES ASSESSMENT**

1. Behavioral Sciences
2. Biology/Allied Health
3. Environmental Science
4. Geography
5. Geology
6. Natural History
7. Math
8. Physical Sciences
9. Early Childhood Education
10. Library

## Student Learning Outcomes

### I. General Education / College Wide Outcomes

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

The Behavioral Sciences department and all of our programs (Anthropology, Psychology, Sociology) used the college wide rubrics to assess our classes.

3. Which courses were assessed?

Since 2011, we have assessed, ANTH 101, 102, 103, 110 and 215. In 2016 we will include ANTH 104 and 208 in our SLO assessments. We will start our assessment cycle again in 2017. Classes assessed for written competency include Anthropology 101, 102, 103 and 215. Classes assessed for critical thinking include Anthropology 101.

**Psychology:**

1. Psychology 114: Psychology of Human Development: Lifespan, Fall 2014 – Critical Thinking; and
2. Psychology 204: Abnormal Psychology, Spring 2015 – Written Competency.

**2015/2016 Full Program Review**  
**Discipline: Behavioral Sciences**

**Sociology:**

(Marco)

1. Sociology 110: Introduction to Sociology, Fall 2014 – Critical Thinking and Written Competency

2. Sociology/Psychology 205: Introduction to Research Methods, Fall 2015 – Critical Thinking, Scientific Reasoning, and Written Competency

(Susan)

Sociology/psychology 140

Sociology 110 DE Sociology/Psychology 230

4. What did you learn from the analysis of your results?

Written Competency:

In classes assessed for written competency, students scored 80% or above in written competency. Our program only did post-assessments, on final exams or papers. These results were consistently higher than we expected doing post-tests only.

Possible factors that affected these assessments:

We have worked hard to state very clear paper guidelines. I personally also make example papers available to the my students so they know what A, B and C papers look like.

Though the Anthropology classes don't have prerequisites, it is possible many of our students (who are predominantly continuing/ new transfer students with an ed goal of obtaining a degree and/or transferring to a 4 year university) already have the necessary skills to write at a college level by the time they take our anthropology classes.

Dr. Soluri and I (the only anthropology instructors to do SLO assessments thus far) offer to look over outlines and/or drafts before the final paper is due. It is possible that this may have enhanced the scores for students who would normally score at a lower level. We also recommend that students use the writing/tutoring centers while they are writing their papers.

Critical Thinking:

In classes assessed for critical thinking, student scores depended on the class/and topic being assessed. Assignments that assessed more topically oriented information like *natural selection*, *sociobiology*, *preservation conditions*, *archaeological criteria for a civilization* students showed an increased ability to go through the critical thinking process—I think this is because these are more concrete topics. However, this semester I tried assessing larger more abstract concepts like evolution and ask students to apply many different avenues of information to assess the behavior of a fossil—these assignments proved to be more difficult. I believe this is because these concepts require a greater degree of understanding and synthesis of the overall class material.

## 2015/2016 Full Program Review

### Discipline: Behavioral Sciences

This can be challenging in an introductory course. I would expect more students to struggle with these types of assignments.

#### **Psychology:**

A large majority of the students (70% or more) assessed in Psychology 114 showed a proficient or advanced level of achievement for all six criteria measured with the Critical Thinking rubric. The lowest achievement was on Criteria #4, “Assesses Assumptions,” on which only 78% of students scored at the proficient or advanced level. This suggests that these students may be weak at identifying their assumptions, objectively evaluating their assumptions, or both.

In Psychology 204, of the seven criteria measured with the Written Competency rubric, only on two criteria did a large majority (70% or more) of the students assessed show a proficient or advanced level of achievement. The number of students achieving that level on the other five criteria ranged from 48% to 67%, with the lowest scores being on Criteria 6, “Sentence Fluency & Flow” (48%) and Criteria 3, “Paragraph Structure” (52%). This indicates a general weakness in constructing smooth, polished sentences, and in arranging those sentences into logically organized paragraphs.

#### **Sociology:**

(Marco)

The data show that the majority of students assessed in Sociology 110 and Sociology/Psychology 205 left the course proficient or advanced in all criteria measured on the Critical Thinking and Written Competency rubrics. Additionally, the majority of students assessed in Sociology 205 left the course proficient or advanced in all criteria measured on the Scientific Reasoning Rubric. However, the data also suggest that students experienced some difficulty organizing their ideas and making cogent, logically structured arguments in both classes (Please see the Written Competency rubrics).

It also appears that Sociology/Psychology 205 is a more challenging course for students than Sociology 110. Specifically, the data show that the percentage of assessed students who left Sociology/Psychology 205 proficient or advanced in all criteria measured on the Critical Thinking and Written Competency Rubrics is less than the percentage of students who left Sociology 110 proficient or advanced in all criteria measured on the same rubrics. This suggests that the extant pre-requisites for Sociology 205 are warranted and should be maintained.

(Susan)

I learned that paper’s that combine theoretical concepts along with practical real-world experience, for example taking sociological concepts learned in class and applying them community based work and/or applying to student’s lives provides opportunity for a deep understanding of core course concepts and an understanding of the usefulness of this knowledge in their day to day interactions.

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**Discipline: Behavioral Sciences**

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

Written Competency:

Nothing

Critical Thinking:

Assessments for understanding of topically oriented information no need for improvement. For concepts that require a higher level of synthesis I will try to:

- State goals or objectives of assignment/activity more explicitly
- Increase the number of in-class activities and discussion leading up to and/or supporting assignment/activities
- Allow students to collaborate and see if this increases understanding/synthesis of the material.
- Increase guidance for students as they work on assignments
- As an instructor, increase your interaction with students outside of class

**Psychology:**

While the data showed that a majority (78%) of students in Psychology 114 were proficient or advanced when it comes to assessing their assumptions, this was the weakest area assessed and should be addressed. Faculty should provide explicit discussion, examples and practice exercises relating to the importance and methods of identifying one's assumptions when promoting an argument or supporting a thesis. Faculty should also explicitly discuss the appropriate criteria to then apply in the assessment of assumptions, and provide examples and in-class exercises in which students practice these skills.

The weakest areas identified in the assessment of students in Psychology 204 were Sentence Fluency & Flow, and Paragraph Structure. These fundamental issues in composition need to be addressed campus-wide. English pre-requisites to courses in different disciplines must be strictly enforced. More students should be encouraged to take composition classes. Faculty should become better acquainted with college writing resources, such as the Tutoring Center, the Writing Center, and the Online Writing Center, should make their students aware of these resources, and should frequently encourage students to take advantage of these resources. In class, faculty in any discipline can provide more specific feedback on the quality of sentence flow and paragraph structure in all student compositions. Faculty can have students upload their writing to online services such as TurnItIn.com, which include grammar-checking and other features helpful to writers. Lastly, faculty can show students samples of "A" papers, pointing out how sentences are constructed and how paragraphs are organized.

**Sociology:**

(Marco)

Given that assessed students in both Sociology 110 and Sociology/Psychology 205 experienced the most difficulty in organizing their ideas and structuring their arguments, additional efforts should be taken to help them develop better expository writing skills. To address this issue, I recommend that faculty provide clearer, more comprehensive instructions on assignments.

**2015/2016 Full Program Review**

**Discipline: Behavioral Sciences**

Specifically, assignments should do more than outline a topic of discussion or provide a series of questions for students to answer; they should also provide students with a basic framework/format to effectively complete the assignment. Faculty should also provide more examples of successful coursework and discuss the structural/organizational features of that work with students, emphasizing what worked, what didn't, and why. Overall, we need to help students better understand that how we approach knowledge and critically engage information is just as important as the knowledge/information itself.

(Susan)

As a result of these findings, I have sought to implement a service-learning component to many of my classes as well as grow service-learning college wide. The benefits of service learning have been shown to increase student retention and raise GPA. It also connects students to their local community and allows for local service agencies and businesses to work collaboratively with COM.

In addition I have adopted a self-exploration component to many of my courses as I find it to be very useful in drawing out students and allowing them to see themselves within the larger systems they belong to.

I will also be conducting a flex workshop in August of 2016 to introduce service learning to faculty who may be interested in adding a service learning component to their courses and will help instructors match up with one of the over 40 agencies I already collaborate with or help them connect with a more suitable one based on the course SLO's.

6. Will these changes require new resources or a reallocation of resources?

No. Any changes we make will not need new or reallocated resources

Sociology/Behs (susan)

To fully grow a service-learning component among classes at COM, we do need funds for a coordinator who can assist faculty in working on student placements. Ideally if we were to develop such a program and measurement system for hours of service should be centrally collected through the department where the coordinator is housed. We also need a hub of sorts for students to go to access these services perhaps housed with the student services department.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

This was the first semester I assessed concepts requiring a greater level of synthesis of class material; I have not had an opportunity to implement pedagogy changes. I will make these changes in Spring and Fall.

**2015/2016 Full Program Review**

**Discipline: Behavioral Sciences**

**Psychology:**

Due to the recency of acquisition of this assessment data, faculty have not yet had a chance to consider and implement the changes suggested above.

**Sociology:**

The findings outlined above are based on recent assessment data. As such, faculty have not had the opportunity to implement changes in and outside of the classroom to address these issues, but plan to starting this semester, Spring 2016.

Psy/Sociology/BEHS (Susan):

Student preparation and attention to discussion has greatly helped student success. As I grow and learn as a teacher, my ability to aid in student success grows. In particular I have learned from what came about organically in class interactions. The Fall 2015 Soc/Psych 140 class titled Marriage, Family and Intimate Relationships focused on many different issues surrounding families. The topic of Divorce proved, in years past, to be a central place where students could identify with, and relate to, the topic based on personal experience. As a result, I have focused this topic and built around it. Divorce does not appear in a vacuum, so it's effects depend on many other factors: familial role of person in the divorce, gender, age, social class, ethnicity, etc.. Using the intersectional approach, students were able to discuss their own experiences with divorce and see how everyone's situation is different based on a variety of variables.

After the section I asked students to write up their understanding of divorce and intersectionality and all students scored above 85%. This was a remarkable outcome, which leads me to believe that this has been a positive change that I will continue to apply not only in this specific course but to many others.

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

Sociology:

As noted above, I assessed two General Education/College-Wide Student Learning Outcomes (GE-SLOs) for Soc. 110: Introduction to Sociology - Critical Thinking and Written Competency. Each of these GE-SLOs relate to several course-level SLOs for the class. For example, the assignments I used to evaluate whether students met the Written Competency GE-SLO are the same as those used to evaluate whether students met course objectives 1-4. Similarly, the assignments I used to assess whether students met the Critical Thinking GE-SLO are the same as those used to examine whether students met course objectives 1-6. Given this, the Soc. 110 GE-SLO data outlined above can also be used to assess the course-level SLOs for class.

## 2015/2016 Full Program Review

### Discipline: Behavioral Sciences

I also assessed three GE-SLOs for Sociology/Psychology 205: Introduction to Research Methods – Critical Thinking, Scientific Reasoning, and Written Competency. Each of these GE-SLOs relate to several course-level SLOs for the class. For example, the assignments I used to evaluate whether students met the Critical Thinking and Written Competency GE-SLOs are the same as those used to evaluate whether students met course objectives 1-5. Similarly, the assignments I used to assess whether students met the Scientific Reasoning GE-SLO are the same as those used to evaluate whether students met course objectives 1, 3, 4, and 5. Given this, the Soc. 205 GE-SLO data outlined above can also be used to assess the course-level SLOs for the class.

Again, the data suggest that assessed students experience difficulty organizing their ideas and structuring their arguments. In Sociology 110 this directly affects students ability to successfully complete course-level objectives 3 (Compare and contrast the three main sociological theories in sociology); 4 (Analyze specific sociological topics utilizing the major theoretical models that are appropriate for each specific topic); and 5 (Apply sociological perspectives and concepts as they relate to society and to institutional structures of the social world). In Sociology/Psychology 205 this impacts students ability to effectively complete course-level objectives 3 (Summarize and critically evaluate various forms of evidence provided in Behavioral Science research studies); 4 (Formulate comparative strategies for testing and analyzing theories and data); and 5 (Design, develop, pilot, and assess a formal research proposal).

BEHS/Psychology/Sociology (susan):

The assignment discussed below was used as a tool to assess the following SLO

(2) Recognize the interpersonal dynamics influencing intimate human relations. (SLO)

2a: Discuss gender roles and their impact on relationships, marriage, and family life over the lifespan.

2b: Explain how social status factors such as ethnicity, race, and class shape patterns in relationships and family life.

The research paper for Sociology/Psychology 140 was an amazing tool for analysis. I was able to gauge how well they had taken in the course material. The majority of papers reflected a deep understanding of family dynamics and a thoughtful application of course material to real-life understanding. Many students used their own family members as a part of their sample group so the data was both useful for their understanding of course material as well as beneficial for their own relationships. Follow-up discussions about this paper revealed a high level of student satisfaction with this project.

**2015/2016 Full Program Review**  
**Discipline: Behavioral Sciences**

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

See section on GE/College Wide.

**Psychology:**

**Sociology:**

Please see responses to Section I, Question 5 and Section I, Question 7.

**BEHS/PSY/SOC:**

I plan to continue to use student's life experiences as central parts of their assignments on the family as an institution. This intimate knowledge of their own families along with the theoretical concepts of intersectionality allow students to look at the similarities and differences among their classmates and it creates opportunities for new dialogues among diverse students. These opportunities reach beyond course level SLO's and speak also to the mission of the College of Marin.

2015/2016 Full Program Review  
Discipline: Biology/Allied Health

## Student Learning Outcomes

### I. General Education / College Wide Outcomes

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

BIO108A: I refocused the language on the combined Critical Thinking and Problem Solving rubric to help direct my students responses better.

BIO/GEO99: I created my own rubric.

Different rubrics were used in the varied classes that were assessed, but the shared assessment rubric that was used was the Scientific Reasoning- Life/Earth/Social Sciences rubric.

3. Which courses were assessed?

Some of the courses assessed were: Biology 99, Biology 100, Biology 107, Biology 110, Biology 112A, Biology 112B, Biology 112C, Biology 120 and Biology 224. There are more courses to be assessed this semester and in future semesters.

Bio108A was assessed 3 times using the same rubric over the course of the semester.  
Bio/Geo99 was assessed once at the end of the semester

**2015/2016 Full Program Review**  
**Discipline: Biology/Allied Health**

4. What did you learn from the analysis of your results?

Bio108A: I seemed to learn that students were not necessarily growing in their ability to do the task of critical thinking/problem solving over the course of the semester. This may have had to do with the assign tasks themselves, as they did not present the students with a uniform problem to solve with expected outcomes. The tasks involved students reflecting on their own lives and applying their content knowledge to their experiences. The difficulty was that it seemed that stronger students with better experience in writing did better on these tasks; they weren't learning new skills in the class itself.

BIO/GEO99: Students come to this class with a variety of skill. As I did not evaluate them more than once on these skills explicitly, I did not have a large chance to see growth.

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

One approach to improve student learning in that area is to take some extra time in the lecture/lab course to review the mathematical steps of the exercise, so all the students understand along the way through the explanation. The plan of more explanation of mathematical steps will be implemented and assessed this semester.

Other improvements based on the example above was to spend more time in the laboratory correlating the steps of the scientific method with the lab activities students perform in the lab, to enhance student understanding and learning.

We have also recently added English and Math pre-requisites to our General Biology courses Biology 110 and 110L. These pre-requisites take effect Fall 2016, and are hoping that these changes will help with student success and retention.

In both Bio108A and Bio/Geo99, students seem to not be getting into the text. For both classes, I have developed reading guides to help them focus on key content. With both classes, I am trying a more directed focus to address the SLOs first, and using the course content as a means to help address those SLOS.

**2015/2016 Full Program Review**  
**Discipline: Biology/Allied Health**

6. Will these changes require new resources or a reallocation of resources?

For both Bio108A and Bio/Geo99 I am utilizing library instruction. Sarah Frye has worked wonderfully with my Bio/Geo99 students this past semester, and I am planning to use similar strategies with my Bio108A students this semester. I don't yet know if this work will require better access to academic journals for my Bio108A classes.

I am also applying the techniques from Reading Apprenticeship to this task. Funds to support workshops and training in this area for myself and my peers (for better discussion!) would be helpful.

Photocopy load may also increase as I move forward. Students will be engaging in some in-class reading exercises using non-textbook materials.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

In the past, I made changes by reflecting on what seemed to work or not work with students. Was their resistance to an activity or poor performance on an assessment due to lack of familiarity with the process or a disconnect to the content? I would try different things, see how the students responded both emotionally (telling me that they felt more confident) and academically (quality of response or outcome). Typically, I have found that scaffolding so that students could build skill in how to respond or making question formatting clear so that they what was needed for a complete response was helpful. This semester I am working to help them mine content from the text so that lecture time can be spent on discussions; these kind of skills will be necessary if they move on to flipped classrooms in the future, and other instructors may not provide support.

BIO/GEO99 has been trickier, because, as a basic skills science class, students are coming in with deficits. While I have not done a skills pre-assessment at the start of the semester beyond a computer workshop, I typically see that I have to adjust every semester. The class is usually small enough that I can pair strong and weak easily, and work with students in small groups to provide assistance and follow-up instruction. I also find it difficult to proceed with y content when students are doing their part of reading or preparing; a common problem with this population, it seems.

**2015/2016 Full Program Review**  
**Discipline: Biology/Allied Health**

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

BIO108A: This semester I gave students a base-line assessment where I made one simple, open ended, question about each of the SLOs. I will collect these and re-assess them on the same questions as their final exam. They do not know that they just say their final exam!! While the SLOs have been woven throughout my content, and exam questions have addressed them in the past, this is the first time that I will be examining them directly.

Other SLO's were assessed in the various Biology courses. One SLO that examines analyzing data from scientific studies was tested in 112A and 224. One homework assignment was handed out where the students were given a scientific study, and they had to analyze if the study followed the steps of the scientific method, and if not what changes would be needed to the study to comply with the scientific method. Later in the semester, another similar assignment (of the same level of difficulty) with a different scientific study was given. The comparison between the pre and post assignments scores did show a marked improvement.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

Many of the faculty in our department constantly looking at the increasing number of multimedia sources to help student understanding and learning, thus SLOs. The increase in the number of smart classrooms available to the instructors really helps to teach to students with varying learning styles. Also, having modern equipment and supplies used in the laboratory classes is vital for student learning and success.

BIO108A: In the past, my assessment of SLOs has been woven through the regular exams, and examined in a somewhat superficial way. However, even from this I have learned that students were not learning the names, location and function of reproductive organs, and could not generalize how cultural differences lead to different perspective on sexual practices and were able to apply course content to their lives in only a superficial way. This semester I will be posting the SLOs in my classroom when I teach, along with theme-by-theme essential questions which help them to unfold the content understanding.

Some other improvements based on the example above was to spend more time in the laboratory correlating the steps of the scientific method with the lab activities that students perform in the lab, to enhance student understanding and learning, and thus, success.

**2015/2016 Full Program Review  
Program Review 2015/2016 L&ES  
Environmental Sciences**

**Student Learning Outcomes**

**I. General Education / College Wide Outcomes**

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

Students are assessed for comprehension of Standard Environmental Science Problem-Solving Procedure:

1. Description and Analysis of Problem
2. Proposed Solution
3. Implementation of Solution
4. Assessment of Impact

3. Which courses were assessed?

ENVS 143

**2015/2016 Full Program Review**  
**Program Review 2015/2016 L&ES**  
**Environmental Sciences**

4. What did you learn from the analysis of your results?

When dealing with a real-life close-to-home problem, students show impressive ability to use the procedure. All students who completed the course in Fall, 2015, successfully applied the first two steps to problems of their choice. The last two steps require additional time, but are expected to be completed in the ENVS 150 course.

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

The main objective is to enroll a cohort of students who have already passed through the basic and intermediate courses in the capstone ENVS 150 course. Future partnership with the TLC may facilitate this.

6. Will these changes require new resources or a reallocation of resources?

Possibly, depending on unit allocations.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

Implementation of the certificate has given students a clear path to increased mastery of the subject. This should increase enthusiasm and desire to learn more. One student did become so excited she could not wait for the ENVS 150 course to be offered and demanded an immediate internship, which we were able to arrange to the mutual benefit of the student and the sponsoring agency.

**2015/2016 Full Program Review**  
**Program Review 2015/2016 L&ES**  
**Environmental Sciences**

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

ENVS 143 F 2105 SLO #7 – This objective was assessed in a class independent project summarized by oral and written reports. All students were able to apply Steps #1 and #2 of the procedure to their areas of interest and to envision Steps #3 and #4.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

The basic strategy of applying theoretical concepts to real local situations should be expanded.

## Student Learning Outcomes

### I. General Education / College Wide Outcomes

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

I have used my own assessments and rubrics for SLOs for my courses.

3. Which courses were assessed?

I assess all courses.

4. What did you learn from the analysis of your results?

What areas students struggle in.

**2015/2016 Full Program Review**

**Discipline: \_\_GEOGRAPHY\_\_**

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

I adapt and modify my pedagogy and curriculum every semester. I have also recruited geography tutors to be available and encourage students to avail themselves of tutoring and other campus resources.

6. Will these changes require new resources or a reallocation of resources?

**No**

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

N/A

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

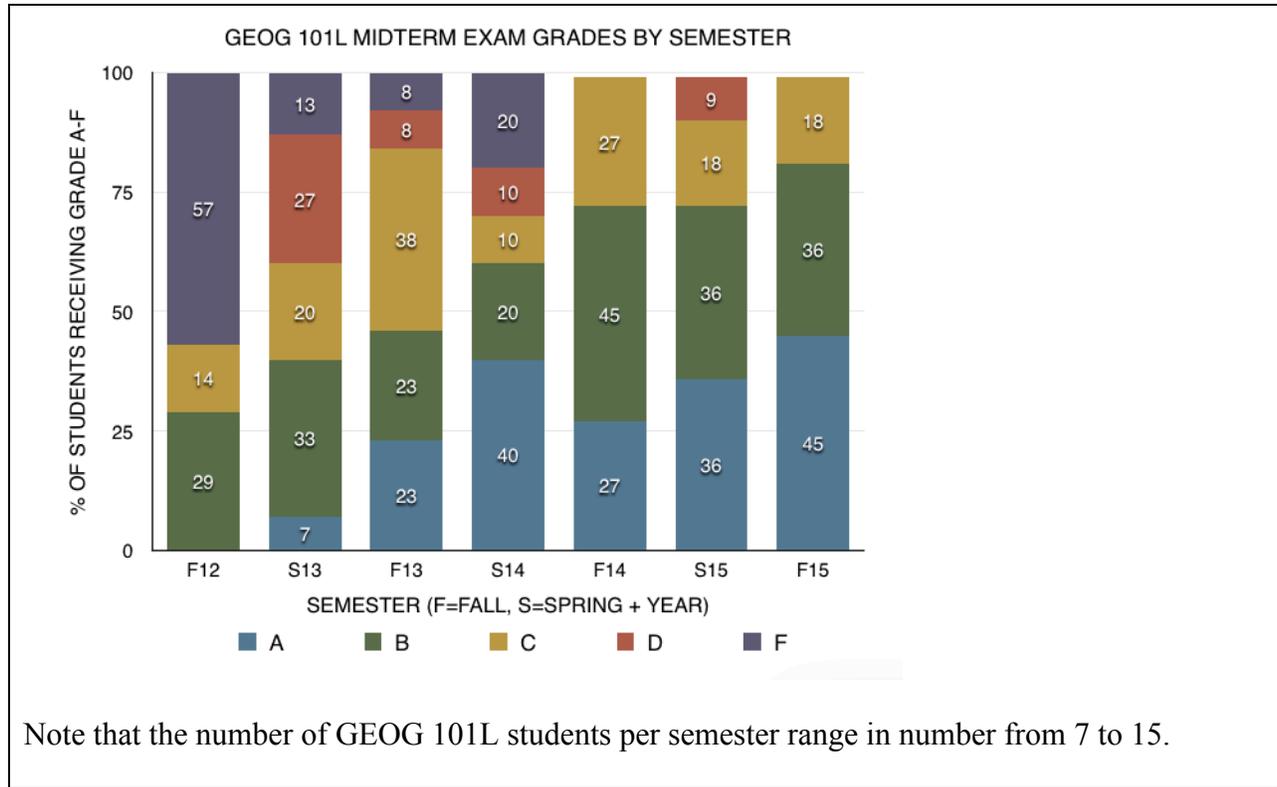
**Example:** GEOG 101L The Physical Environment Laboratory SLO

1. analyze and interpret various types of maps, graphs, and tables depicting topographic, geologic, meteorological, climatic and cartographic data;

**MIDTERM EXAM ASSESSMENT:** For the midterm exam, students are given a set of questions designed to evaluate knowledge, comprehension, analysis and application of learned skills from the lab exercises and activities completed in class.

## 2015/2016 Full Program Review

Discipline:  GEOGRAPHY



2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

The poor outcome from the Fall 2012 semester (half of the students failed the exam) led me to implement changes where I foster group work on exercises and provide same-day feedback and time for correction on lab activities and exercises. The following year, Fall 2013, I also implemented a midterm review session where student groups are tasked with presenting a review of a section of material for the rest of the class. The result of these two changes has been a steady increase in the pass and success rate of students on the midterm assessment, as can be seen in the preceding graph.

2015/2016 Full Program Review

Discipline: Geology

## Student Learning Outcomes

### I. General Education / College Wide Outcomes

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

I have written and used my own SLOs for each course.

3. Which courses were assessed?

I have assessed SLOs for every course over the past few years; however, there is great confusion over how to do these assessments.

4. What did you learn from the analysis of your results?

n/a

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

n/a

**2015/2016 Full Program Review**

**Discipline: \_\_\_ Geology \_\_\_**

6. Will these changes require new resources or a reallocation of resources?

No.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

N/a.

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

I have assessed Geology 103, 109, and 120.

An SLO for Geology 120 is SLO #1:

“Appraise geologic hazards and the risks associated with earthquakes, landslides, pollution, and climate change.”

For Fall 2015, students were evaluated for SLO #1 with this essay question on the final exam: “What are some things you can do/buy to prepare for the next big quake?”

Out of the 13 students who took this final exam in Geology 120, 8 chose to answer this question from a list of possible questions. Of those, 7/8 scored 10/10, with one student scoring 8/10. This averages to 97%, a very satisfying result in terms of student understanding of the geologic hazards associated with earthquakes and ways that these hazards can be mitigated. Clearly they learned something about this topic.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

Based on the results described above, no new strategies seem warranted.

**2015/2016 Full Program Review**  
**Discipline: L&E Sciences Natural History Certificate Program**

**Student Learning Outcomes**

**I. General Education / College Wide Outcomes**

1. Did you use the shared assessment rubrics and if so which one(s)?
<input type="checkbox"/> Critical Thinking and Problem Solving Combined <input type="checkbox"/> Scientific Reasoning--Physical Sciences and Math <input type="checkbox"/> Scientific Reasoning--Life/Earth/Social Sciences <input type="checkbox"/> Revised Written Communication <input type="checkbox"/> Visual Communication (Fine Arts - 2014) <input type="checkbox"/> Information Literacy <input type="checkbox"/> Modern Language Oral Presentation <input type="checkbox"/> Modern Language Written Composition <input type="checkbox"/> Modern Language Critical Thinking <input type="checkbox"/> Speech/Communication Performance Assessment Student Feedback Sheet (2013)
2. If you used your own assessments or rubrics, please describe.
<b>See Biology Program Review</b>
3. Which courses were assessed?
N/A
4. What did you learn from the analysis of your results?
N/A
5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?
N/A
6. Will these changes require new resources or a reallocation of resources?
N/A
7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.
N/A

**2015/2016 Full Program Review**  
**Discipline: L&E Sciences Natural History Certificate Program**

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

~In some courses we have been concentrating on assessing interpretation of data and critical thinking SLOs.  
~Early in the courses we give examples of scientific studies, have students write papers using rubrics and then grade the papers. We then analyze areas where more understanding is needed, review those areas and be sure all students understand them and then we repeat the assignment with a similar but different subject scientific study.  
~The results were significant and we found that the early assessments allowed us to determine what areas need to be worked on for success.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

Provide more laboratory opportunities for students to review scientific research and practice analyzing and interpreting data and results.

## **Student Learning Outcomes**

### **I. General Education / College Wide Outcomes**

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

The mathematics department created a bank of essential skill questions to include on our final exams. Each semester, instructors report their individual results, the results are compiled and distributed for a collective discussion. Below is a table of the results collected since the last full program review. Discussion follows. A list of the actual questions is also attached.

**2015/2016 Full Program Review**  
**Discipline: Mathematics**

course	total	Q1	Q2	Q3	success rates for the same time period
85	300	71%	52%	73%	62%
95	183	56%	48%	63%	59%
101	274	74%	54%	39%	35%
103	597	43%	47%	35%	46%
104	124	38%	67%	23%	67%
105	65	37%	68%	26%	63%
109	126	44%	36%	46%	38%
115	323	60%	60%	40%	73%
121	135	61%	51%	45%	62%
123	68	50%	62%	41%	73%
124	61	56%	70%	39%	64%
223	40	53%	53%	55%	82%

**3. Which courses were assessed?**

The mathematics department compiles, tracks and examines SLO data from every course every semester. Specific questions and solutions were developed with careful consideration to address individually and collectively would help us determine whether we are helping our students meet the College-wide goals/rubrics:

- 1 **Written, Oral and Visual Communication:** Communicate effectively in writing, orally and/or visually using traditional and/or modern information resources and supporting technology.
  - 2 **Scientific and Quantitative Reasoning:** Locate, identify, collect, and organize data in order to then analyze, interpret or evaluate it using mathematical skills and/or the scientific method.
  - 3 **Critical Thinking:** Differentiate between facts, influences, opinions, and assumptions to reach reasoned and supportable conclusions.
  - 4 **Problem Solving:** Recognize and identify the components of a problem or issue, look at it from multiple perspectives and investigate ways to resolve it.
- Information Literacy:** Formulate strategies to locate, evaluate and apply information from a variety of sources - print and/or electronic.

## 2015/2016 Full Program Review

Discipline: Mathematics

### 4. What did you learn from the analysis of your results?

Comments: Certainly all the stake holders (students, faculty, administration, board and community at large) would like to see higher percentages across the board. However, one must keep in mind that the math department members put complex questions and problems on their finals so that we have a common thread among the different sections of a particular course. To be counted as answering an SLO question correctly, the student must have a perfect solution an answer. Individually, instructors evaluate students' solutions and, thus, will have a more informed idea of whether the student has completely mastered the concept and completed the problem perfectly or perhaps, as we see all too often, mastered most or some of the material, but was unable to provide a perfect solution.

Two other items from the table above are worth noting. First, success rates seem to rise as the curriculum progresses, ie the transferrable courses have higher success rates. This is not surprising as the students who are in those courses either placed directly into those courses and were deemed "college ready" when they arrived at COM, or, they were successful in the developmental courses here at COM. Either way, it appears that more students in 104 and "higher" (with the exception of 109) are more successful than in the developmental courses (85, 95, 101, 103).

It's interesting to note that the success rate for 109 is significantly lower than the success rates of 104 and 105. Those courses cover the same material with the same level of rigor, just at a slower pace. It stands to reason that the math department and counselors should be more careful in advising students. Many students who were successful in 103 (as well as 103XY and 103AB) may be best served by the slower pace in trigonometry and advanced algebra as they prepare for calculus.

We realize there is pressure to reduce the number of units in some courses as more units mean more monetary cost for the student. However, in the long run, it would be less expensive and better for a student to be successful in a slower-paced class than to fail or drop a class that moves too quickly?

### 5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

At our last department meeting we started to discuss the success rates for the individual Math SLO questions and whether or not we could assess success (or lack thereof) with three discrete questions and they way we have been scoring the students' solutions. We agreed to continue the discussion on how to assess for communication, reasoning, critical thinking and problem solving via the assessment tools that we have. We were all in agreement that we, as a department, need to re-tool how we gather the data on how well our students are meeting the College of Marin SLOs.

**2015/2016 Full Program Review**  
**Discipline: Mathematics**

6. Will these changes require new resources or a reallocation of resources?

n/a

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

n/a

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

See attached list of SLO questions included on the final exams.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

The mathematics department continues to discuss re-structuring the developmental math courses (eg 85, 95, 101, 103) to improve students' understanding and mastery of the concepts and, improve success rates.

Since the last program review, the self-paced courses have had higher success rates than the traditional classroom courses. The reasons for these differences may include the flexibility of timing and pace in the Math Lab courses as opposed to the rigid schedule and pace of the traditional courses, the required hours to work on problems/homework in the Math Lab courses as opposed to the traditional model of students doing homework on their own, unstructured, time, the available one-on-one assistance of the tutors and instructional specialists in the lab who can offer real-time, in the moment help as opposed to having to wait until the next class to ask questions.

**2015/2016 Full Program Review**  
**Discipline: Mathematics**

The department is working to formulate a plan to bring the best part of both types of courses together to help all types of students be more successful. The improvements currently being discussed are:

1. convert the units in the developmental courses to include a lab component as well as a lecture component
2. offer drop-in lectures in the math lab on topics where students typically need remediation (fraction, rational expressions, graphing etc)
3. use online problem sets and assessments so that students can get real-time results and can get help and make necessary changes before bad habits are developed and memorized.

2015/2016 Full Program Review  
Discipline: Physical Sciences

## Student Learning Outcomes

### I. General Education / College Wide Outcomes

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

Online MasteringChemistry.com for student completion of SLOs in CHEM 231 course.

3. Which courses were assessed?

Overall campus wide SLOs were assessed based on the campus rubric and excel spreadsheet for the following courses:

CHEM 105 (F14), 110 (F14), 114 (F15), 132 (F14)

COMP

ENGG 235 (F14)

PHYS 108A (F14), 110 (F15),

ASTR 101 (F14), 117L (F14)

**2015/2016 Full Program Review**  
**Discipline: Physical Sciences**

4. What did you learn from the analysis of your results?

Students generally show increase scientific reasoning skills from early assessment to late assessment in lower division courses. In the higher level courses, such as CHEM 132, there seems to be little change since students have evolved scientific reasoning skills based on successfully completing lower division STEM related courses.

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

STEM courses by nature increase student scientific reasoning skills and it appears that our courses either do just that or do not need to make changes. The pedagogy and assessments in STEM: critical problem solving, group discussion sections, repeated analysis of math/science based applications to real-life principles and the nature of a constantly changing interface of science allow us to maintain and grow students' deep level of Scientific Reasoning skills. Our above 70% success rates in our program for ASTR, CHEM, COMP, ENGG and PHYS tell us that we are appropriately meeting the needs of our students.

6. Will these changes require new resources or a reallocation of resources?

Generally no, but some changes may be necessary in ENGG due to the low enrolled courses.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

Student success rates are consistent over the past several years.

**2015/2016 Full Program Review**  
**Discipline: Physical Sciences**

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

For CHEM 231:

- “gain knowledge of structure, properties, and stereochemistry of organic compounds and use this information in a comprehensive analysis to explain reactivity”
- Exams 1 and 2 assess this SLO. Students learn reaction types and reagents necessary to alter chemical structures. Exam averages were in the 70s, which is standard (actually high) for this material.
- According to the online homework, MasteringChemistry.com specific course SLOs:
  - #125: MCAT: Draw and identify pairs of enantiomers, diastereomers, and meso compounds. Compare their chemical and physical properties. (complete: 96.2%, average: 80.0%)
  - #159: Predict the products of substitution reactions, including their stereochemistry. (complete: 88.0%, average: 76.5%)
  - #163: Predict the major products of elimination reactions, including their stereochemistry. (complete: 89.3%, average: 79.2%).

MasteringChemistry implies that students have a better understanding of the SLOs when they have notes, textbook and the comfort of their own homes. Once they enter into the testing environment, their results decline somewhat overall.

“compare and contrast functional group transformations with carbon-carbon bond forming reactions to synthesize (theoretically and practically) compounds from these reactions”

All three exams and final exam address/assess this SLO. Again, an average of 70 percent range suggests that students generally master these concepts.

According to the online homework, MasteringChemistry.com specific course SLOs:

- #175 Describe how cis and trans diols can be synthesized from alkenes. (complete: 91.4%, average: 79.3%)
- #177 Show how to convert an alcohol to a related compound with a different functional group. (complete: 88.6%, average: 94.5%)
- #193 Show how radical halogenation can be used for the synthesis of organic compounds. (complete: 68.6%, average: 85.0%)

## 2015/2016 Full Program Review

### Discipline: Physical Sciences

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

Organic chemistry has a standard curriculum, which I've rearranged this year. No major changes to student retention of material have been observed by this alteration. Exam averages remain consistent over the years. Addition of online homework system MasteringChemistry, allows me to track specific learning outcomes and find out if specific SLOs are more troublesome than others. I will continue to monitor these specific course outcomes.

**2015/2016 Full Program Review**  
**Discipline: Early Childhood Education**

## **Student Learning Outcomes**

### **I. General Education / College Wide Outcomes**

1. Did you use the shared assessment rubrics and if so which one(s)?

Critical Thinking and Problem Solving Combined  
Scientific Reasoning--Physical Sciences and Math  
Scientific Reasoning--Life/Earth/Social Sciences  
Revised Written Communication  
Visual Communication (Fine Arts - 2014)  
Information Literacy  
Modern Language Oral Presentation  
Modern Language Written Composition  
Modern Language Critical Thinking  
Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

While the ECE faculty may not use the COM Instructional SLO rubrics directly, the process of assessment is alive in ECE instruction. The content of the COM rubrics that most consistently apply to ECE ongoing assessment are Critical Thinking and Problem Solving, Scientific Reasoning-Social Sciences and Information Literacy.

Some of the faculty assessment strategies used to glean an understanding of student skills and knowledge are outlined below:

Including case study scenarios for discussion and evaluation

~ Evaluate observation recording techniques in collaborative quizzes, partner definition assignments and presentations, charting activities in class

~Assign papers requiring students to explain observation methods, benefits and limitations and data collection and analysis

~Small group discussions and charting after faculty presentation

~ Role play to demonstrate understanding of theory and best practices in ECE, and to apply problem solving techniques

~Assign reflection essays where students apply metacognitive strategies to ECE principles

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**Discipline: Early Childhood Education**

- ~Assignments requiring students to write arguments in support of or refuting theories of child development and/or teacher development (depending on the course)
- ~Collaborative group exams written on chart paper
- ~Research papers requiring students to summarize, evaluate and analyze a topic relevant to ECE
- ~Assigning journal writing in confidential blog format to support student inquiry and knowledge
- ~Assignments that require students to problem solve and apply theories and demonstrate understanding in a creative project such as a children's game
- ~Student presentations that require visuals such as tri-fold boards or powerpoint slides to demonstrate content understanding

**3. Which courses were assessed?**

The ideas listed above are from several different ECE faculty and include many ECE courses.

**4. What did you learn from the analysis of your results?**

ECE faculty are reflective by nature (it's typical for the field) and adjust practices based on the success of student assignments. For example, one faculty noticed that most students did not do well on a component of an assignment, so she plans to teach it in a different way the next semester. Another instructor collected notes after a test, recognized that the notes were not all well organized, so she added a note-taking workshop to the class agenda. One instructor assessed students struggling with a children's literacy evaluation, so she augmented the instructions with technology and pulled up quality examples on the internet. Two faculty noticed that curriculum assignments were challenging students, so they revised the assignments, chunking them in parts to simplify the process for students.

Student success in ECE is reportable in ECE, but tends to be assignment and activity based, rather than being aligned with, or plugged into, the COM college wide SLO rubrics.

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**Discipline: Early Childhood Education**

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

The cycle of observation, assessment, evaluation and reflection is an active part of the ECE program.

One thing that has been observed and expressed is that students (especially millennials- our growing demographic) respond well to visuals. Additional funding received from past Program Reviews has allowed us to begin replacing older videos with more current and appropriately closed-captioned DVD resources. A system to ensure that resources are catalogued and that all faculty know what is available still needs to be implemented. Instructors also frequently use clips from Youtube and other internet sources.

We are in conversation with English skills about how to embed skills taught in their program within ECE content courses.

6. Will these changes require new resources or a reallocation of resources?

We will need to reallocate some of the Department's Administrative Assistant's time to properly cataloguing the DVD and other resources available and to devise a good system to communicate that information to all faculty and handle the check-out and return of resources.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

Previous and ongoing department conversations about the need for SLO's have lead ECE faculty to focus more on course SLO's and objectives.

**2015/2016 Full Program Review**  
**Discipline: Early Childhood Education**

**II. Course Level Student Learning Outcomes:**

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

ECE students in almost all classes do some type of observation or directed interaction with young children for assessment purposes. Depending on the specific course, essays, research papers, presentations and multiple choice/short answer tests may also be used for assessment. Most ECE classes also have a comprehensive project integrating various aspects of the course content that is due at the end of a semester and is a significant assessment piece. Some instructors also routinely have students self assess achievement of the Student Learning Outcomes for the class at the end of each semester. All ECE faculty are committed to assessing the SLO defined for any course they teach.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

Examples are listed above in Student Learning Outcomes, General Education, #4.

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Discipline: Library

Student Learning Outcomes

I. General Education / College Wide Outcomes

1. Did you use the shared assessment rubrics and if so which one(s)?

- Critical Thinking and Problem Solving Combined
- Scientific Reasoning--Physical Sciences and Math
- Scientific Reasoning--Life/Earth/Social Sciences
- Revised Written Communication
- Visual Communication (Fine Arts - 2014)
- Information Literacy
- Modern Language Oral Presentation
- Modern Language Written Composition
- Modern Language Critical Thinking
- Speech/Communication Performance Assessment Student Feedback Sheet (2013)

2. If you used your own assessments or rubrics, please describe.

The library has three instructional SLOs:

- **SLO 1:** The student will demonstrate an appropriate level of skill in locating sources from the library catalog and the online databases.
- **SLO 2:** The student will demonstrate an appropriate level skill in evaluating a source and determining its reliability, validity, authority and point of view.
- **SLO 3:** The student will demonstrate an appropriate level of skill in applying and/or citing a resource to a specific assignment or other information need.

The library also has a Student Services SLO:

- By improving the Library's facilities and access, students will:
  - Use the Library more frequently
  - Check out more circulating items
  - Check out more reserve materials
  - Attend more Library programs and events
  - Gain access to free textbooks for Math 103

## 2015/2016 Full Program Review

### Discipline: Library

We have approached assessment in a number of ways:

- Student responses to items from online quizzes given immediately after library instruction
- Observation of student research presentations
- Course faculty online survey results that solicit feedback on all three of our instructional SLOs
- Faculty Inquiry Groups in collaboration with non-librarian faculty

For each semester, we have focused our assessment on specific aspects of our three instructional SLOs, collected data, analyzed it, and summarized our findings in an instruction assessment report.

We have assessed our Student Services SLO by:

- Analyzing library statistics
- Examining student survey responses

### 3. Which courses were assessed?

The library hasn't taught courses in several years, but we routinely teach information literacy through course-integrated and reference instruction. We have assessed our instruction across a variety of subject areas, which have included Basic Skills, ESL, general education, and a variety of transfer level courses.

### 4. What did you learn from the analysis of your results?

The most significant lesson we learned is that there is a healthy tension between two findings:

- First, in general students struggle with many aspects of research. In other words, research is challenging for most students.
- Second, some students are developmentally ready for challenging information literacy concepts and techniques, so librarians should prepare lessons with advanced instructional goals but be ready to simplify them mid-lesson. Modifying a lesson plan with advanced concepts to one with less advanced concepts appears to be easier than the other way around.

## 2015/2016 Full Program Review

### Discipline: Library

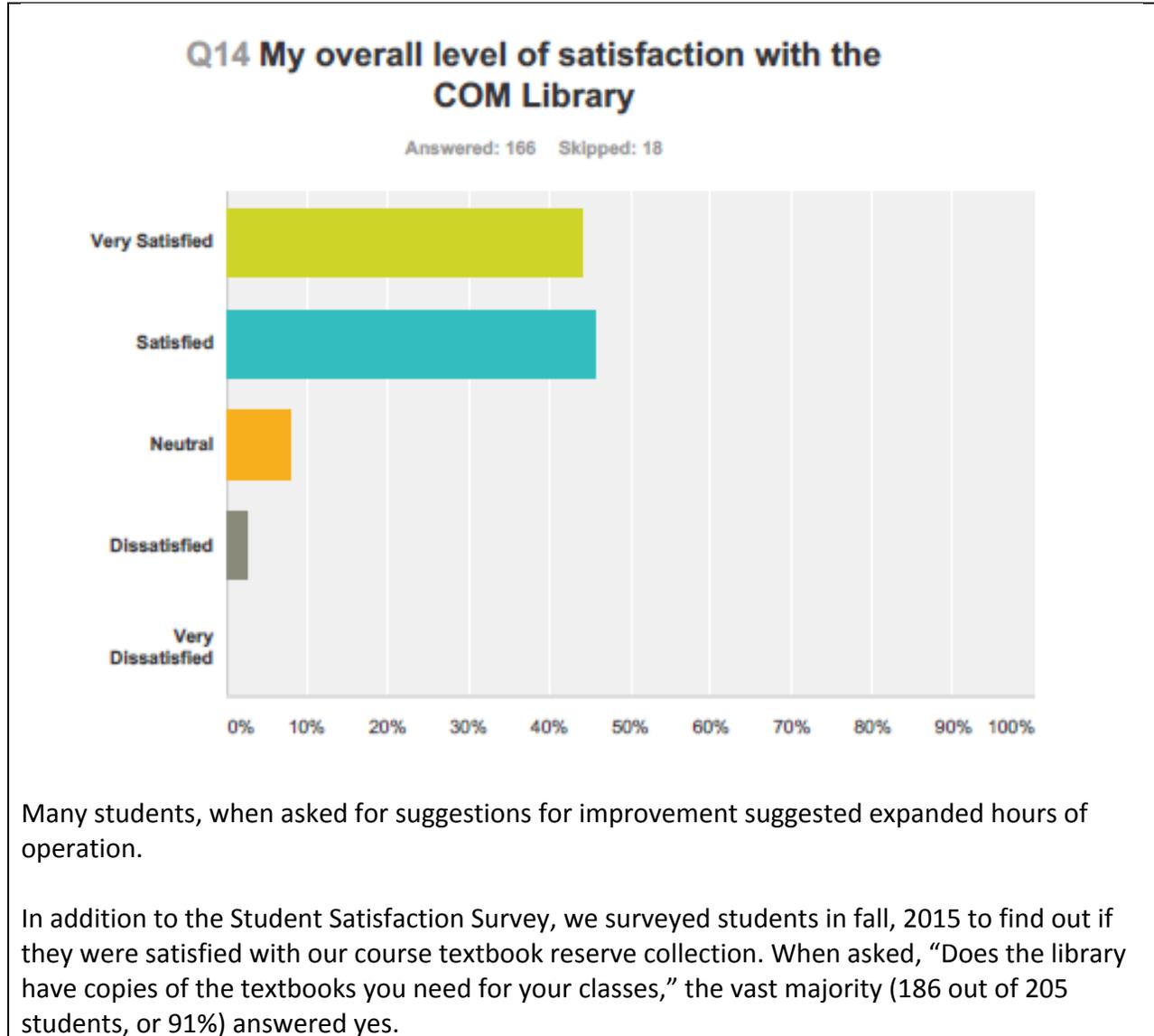
In addition:

- The more opportunities instructors can give for honing research skills the better
- Non-native speakers of English, both ESL students and non-ESL students, especially require clarity both in instruction and in assessment
- Assessing information literacy seems particularly tricky compared to assessment in other disciplines. The nature of our instruction – we see students once or twice in a semester – makes meaningful assessment difficult. There is a significant potential for disconnect between students correctly answering questions on one of our post-session quizzes and their ultimate success in completing their research projects. This may indicate that assessing a sample of the students' final projects offers better understanding of their information literacy proficiency.
- Not surprisingly, students responded well to hands-on, student-centered, interactive teaching techniques (for example, when learning about citations)
- We were surprised to learn that students indicated a preference for face-to-face instruction rather than online tutorials.

For our Student Services SLO, we surveyed students in 2014-2015 (spring) and in 2015-2016 (fall). Of the 166 students surveyed, 89% were either very satisfied or satisfied with the library (Library Student Satisfaction Survey, Spring 2015):

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### Discipline: Library



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**Discipline: Library**

5. What do you plan to change in the curriculum, pedagogy, course outline, etc. as a result of what you have learned? Or what have you already changed?

We have sought out informal assessment opportunities that involve examining final projects, such as PowerPoint presentations given by ESL 40 and 86 students, speeches in Communication courses, and poster sessions in biology classes. We have also begun discussing among ourselves and with faculty outside the library alternative ways to deliver and assess information literacy.

For our Student Services SLO, we continue to add to our course textbook collection and expand our MATH 103A/B textbook program

6. Will these changes require new resources or a reallocation of resources?

An additional librarian and library technician would build our capacity for instruction and other forms of access that would contribute to COM students' information literacy growth.

7. How have previously made changes affected student learning? Use qualitative and /or quantitative data to support your response.

The introduction of LibGuides have increase access and improved our pedagogical approach for instructing students across a variety of courses and disciplines. The fact that these guides are viewed 15,000-20,000 times per semester offers some evidence of their usefulness to students.

2015/2016 Full Program Review

Discipline: Library

II. Course Level Student Learning Outcomes:

1. What Student Learning Outcomes have you assessed from your course outlines over the last year? Describe the assessment(s) and summarize the results.

Not applicable. The library has not taught courses in several years.

2. What specific strategies have you implemented or do you plan to implement in the future based on the results of your SLO assessment?

Not applicable. The library has not taught courses in several years. However, we are planning to continue or begin the following projects:

- Upgrading LibGuides to new platform
- Updating website
- Broaden ASCOM course reserve holdings
- Outreach to new faculty to collaborate on information literacy instruction
- Increased the number of sections supported by the MATH 103 Textbook Program
- COMmon Read Program
- Haddie Lecture Series and Faculty Lectures
- Improved print, online, and consortial collections