
Program: Chemistry

Division: Division

Date: 11/1/2021

Writer(s): Christopher Dudzik, Russell Jensen

SLO/SAO Point-Person: Russell Jensen

Audience: Deans, Vice Presidents of Student Services and Academic Services, All Planning and Allocation Committees. This document will be available to the public.

Uses: This Program Review will be used to inform the campus and community about your program. It will also be used in the processes of creating Division Summaries, determining College Planning Priorities and allocating resources. A final use is to document fulfillment of accreditation requirements.

Please note: Program Review is NOT in itself a vehicle for making requests. All requests should be made through appropriate processes (e.g., Instructional Equipment Request Process) or directed to your Dean or supervisor.

Time Frame: This Program Review should reflect on program status during the 2021-22 academic year. It should describe plans starting now and continuing through 2022-23.

Sections: There are three sections to this document. Sections and questions identify the name of the committee or office that will use the information and where you can get additional help.

- The first section focuses on general program reflection and planning.
- The second section is a review of curriculum, to be filled out only by programs with curriculum.
- The third section is a review for CTE programs, to be filled out only by these programs.

Topics: The Program Review Glossary defines key terms. Writers should review this glossary before writing: <https://bit.ly/2LqPxOW>

For Help: Contact Nadiyah Taylor: ntaylor@laspositascollege.edu.

A list of contacts for help with specific sections is provided on the Program Review website under the “tools for writers” tab. [<https://bit.ly/3fY7Ead>]

Instructions:

- 1) Please respond to each question with enough detail to present your information, but it doesn't have to be very long.
- 2) If the requested information does not apply to your program, write “Not Applicable.”
- 3) Optional/suggested: Communicate with your dean while completing this document.
- 4) Send an electronic copy of this form to Nadiyah Taylor and your dean by when?

Links:

[Program Review Home Page](#)

Section One: Your Program In 20-21 – Please check N/A where relevant

A. Accomplishments: How did your Program's accomplishments during AY20-21 support the newly revised college mission, the goals of the Educational Master Plan, and/or the President's Call to Action on anti-racism? Areas to consider include impacts to students by race/ethnicity, gender, sexuality, age, or disability status, or those disproportionately impacted by the shift to remote instruction and services.

- [College Mission](#)
- [Educational Master Plan](#)
- [Presidential Task Force: Call to Action](#)

Description	Mission	Master Plan	Presidential Task Force
1 SLO and IR data were analyzed and presented to division and department faculty. Populations that struggled during the 20/21 academic year were identified and engagement strategies discussed to improve success rate.	X		X
2 The department responded to the needs of the ever-changing workplace and society by producing entirely new, online versions of our courses while maintaining departmental standards.	X	X	
3 The department worked with campus partners to organize equitable supportive resources to provide students access to laboratory equipment, computer hardware, and internet access.	X	X	X
4 The department recruited, hired, and integrated new adjunct faculty completely on-line. Those instructors then taught unprecedentedly in a completely online format, and then hybrid format while maintaining academic excellence according to department standards.	X	X	
5			
6			

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B. Challenges, Obstacles and Needs: What significant challenges or obstacles did your Program face during AY20-21 in supporting the newly revised college mission, the goals of the Educational Master Plan, and/or the President's Call to Action on anti-racism? Areas to consider

include impacts to students by race/ethnicity, gender, sexuality, age, or disability status, or those disproportionately impacted by the shift to remote instruction and services.

_____N/A

Description	Mission	Master Plan	Presidential Task Force
1 Relatively low enrollment numbers and high number of withdraws, despite efforts to connect with students.	X	X	X
2 Transitioning to fully online instruction for classes with significant hands-on components.	X	X	X
3 Difficulties in maintaining enough faculty to teach all of the classes offered, especially with the transition back to hybrid and in-person instruction. For this we collaborated with our adjuncts at unprecedented levels to address their concerns and help provide them with the best possible environment to continue offering excellent learning opportunities for our students	X	X	X
4 Finding large enough rooms for students to social distance while taking in-person classes during the return to campus summer 2021.	X	X	
5 Working with the increased needs and difficulties of our student population and faculty during what has been arguably the most difficult collective experience of our generation so far.	X	X	X
6 Out of four full time faculty members, one faculty member took family leave for the birth of his child, one went on sabbatical, and one retired. For the current semester there two untenured and inexperienced full-time instructors coordinating the department. Our challenges have included hiring new adjunct faculty in middle of a pandemic, easing adjunct faculty concerns in the face of contradictory messages from the FA and the District, and reacting to a barrage of new policies and rules while providing quality instruction in our courses, fostering a climate of discovery for our students, and inspiring students to succeed.	X	X	X

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C. Planning: What are the most important plans, either new or continuing, for your Program?

_____N/A

Plan	New	Continuing	Short term	Long term
To hire a replacement full-time faculty member to replace our retired colleague. We are severely short staffed.		X		X
Returning to campus to offer hybrid and in-person labs and classes		X		
To hire new, additional full-time faculty so that we can expand our department, have faculty to specialize in certain areas of the department and our instrument array, provide more stability for the members of our department, and reduce the amount of hours we have to search for enough adjuncts to cover the ever expanding amount of class sections we offer.		X		X
Participating in new STEAM building use planning. Our department desperately needs more lab space, especially if/when we transition to the 16-week semester. Our in-person labs are always wait-listed, even so far during the pandemic, so we need to expand the number of labs we can use to accommodate our sections.	X			X
To find enough part-time faculty to make up for the current shortfall we are experiencing due to not having enough full-time faculty.	X	X	X	

Tab to add more lines as needed

D. How have your program's interactions with the larger campus systems benefitted your students? For example, working with allocation committees, participation on committees, etc.
 ___x___N/A

Campus system or Committee	How has it benefitted your students?
Awards committee	Making grant awards more visible
Facilities and Sustainability	Chemistry department members have served as voting members and committee chairs over the last few years. Members have contributed to the development of plans to build a new STEAM complex for the benefit of our students, and campus efforts to add solar panels, energy storage, and energy efficient building certifications to serve as an example to students

	that low-carbon energy independence can and should be pursued.
Curriculum Committee	Ensuring academic excellence in the design of courses and degrees and certificates offered at LPC

E. If you have outreached to students in your department, program or classes, please share information about what you discovered and how you have used the feedback

_____N/A

Describe student outreach used to gather feedback? For example, through surveys, conversations, etc.	Individual faculty communications through one-on-one meetings and email. Instructor evaluation comments.
What did you learn?	Successful students have the resources and study habits to succeed. Struggling students generally do not. Reaching out to students often gives them a confidence boost to interact more with the instructor and attempt to develop new skills.
How will you use the feedback?	Support students by offering available resources and guiding cultivation of good study habits and appropriate mindset. Modification of one's teaching style to be more effective to a diverse audience while not compromising educational excellence.

Section Two: Data Analysis – Quantitative and Qualitative

A. IR Data Review: Describe any significant trends in your program's data provided by the office of Institutional Research and Planning. (Note: Not all Programs have IR data available; if your program does not have a data packet or dashboard data, you may note that in the response box.) You may also discuss any other data used by your program for decision-making and planning.

- IR Data packets are available here: <https://bit.ly/2IYaFu7>
- Course Success Rates Dashboard can be found at the bottom of this page: <https://bit.ly/2Y9vGpl>

Two trends of note are apparent in the IR data for the Chemistry Department:

1. Only about 30% of students who successfully complete Chem 31 go on to enroll in Chem 1A at LPC. This percentage is reflected generally across racial lines.
2. Those students who successfully complete Chem 1A at LPC and go on to Organic Chemistry 12B have a 100% success rate regardless of race or gender.

B. Program-Set Standard (Instructional Programs Only): The program-set standard is a baseline that alerts programs if their student success rates have dipped suddenly. There may be many valid reasons a program does not meet the Program Set Standard; when a program does not meet this standard, they are simply asked to examine possible reasons and note any actions that should be taken, if appropriate.

[Program-set standard data can be found on this page:](#)

- *Did your program meet its program-set standard for successful course completion?*
☐yes ☐no
- *If your program did not meet your program-set standard, discuss possible reasons and how this may affect program planning or resource requests.*

SLOs/SAOs:

For assistance with these questions, contact the SLO Committee Chair. [<https://bit.ly/3fY7Ead>]

Each year programs must discuss how their PSLOs, CSLOs, or Service Area Outcomes (SAOs) support the College Mission. This helps us to see how our students are progressing in their learning.

You should complete ONE of the following three sections. Please choose the option that is most appropriate for your program:

- C1: Instructional Programs with PSLOs
- C2: Instructional Programs without PSLOs or with Special Circumstances
- C3: Non-Instructional Programs

Go directly to the section you chose. If you are not sure which option to pick, contact the SLO Committee Chair or Program Review Committee Chair for assistance.

C1: Instructional Programs with PSLOs

PSLO Assessments:

- (1) Please list the PSLO(s) that were reviewed in this last cycle and explain why these were chosen.

The “Content” SLO was assessed last year because it was our first year with all new SLOs and this was closest (and most familiar) to our previous SLO.

- (2) What percentage of faculty completed the planned assessments? (run Faculty Participation report from last year). ____61____%

- (3) Did you get the assessment data that you needed to complete this report? If not, then describe the barriers that you can identify. ____x__YES _____No

(4)

- (4) Discuss the findings of the PSLO(s) that were up for review last year (according to your 3-year planning template). What conclusions can be drawn about student learning?

Females, Hispanic+Filipino, and African American students showed a higher incidence of “Below Average Mastery” when compared to other groups. We suppose this is due to a lack of resources and/or study skills needed to demonstrate mastery in 20/21.

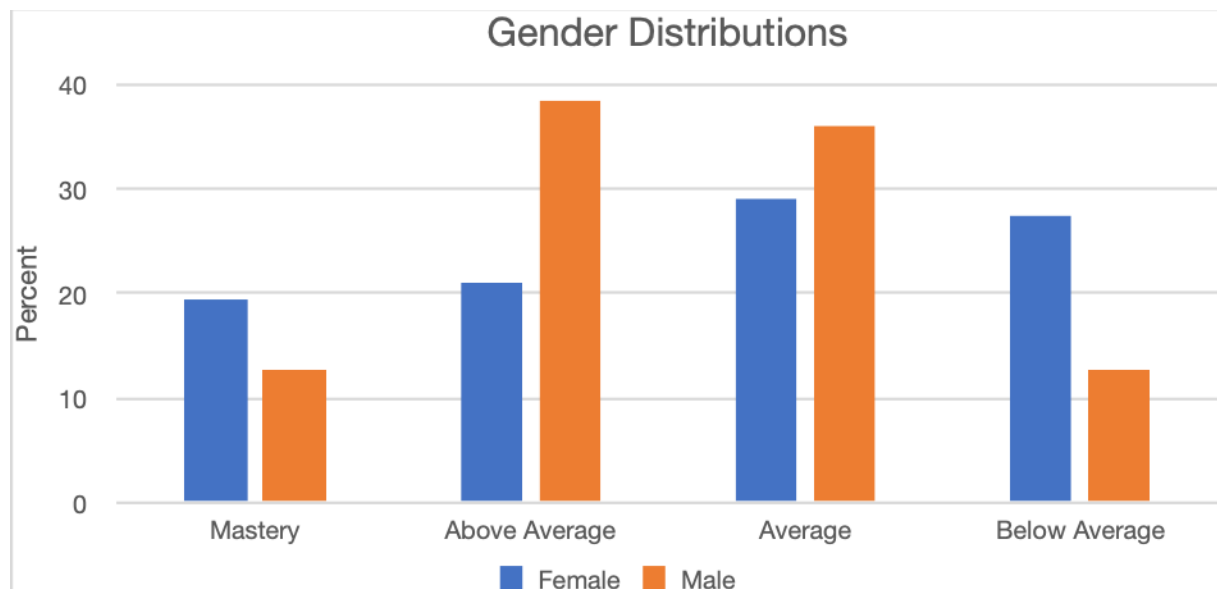
(5)

(5) Was the data disaggregated and, if so, on what parameters? What, if any, equity issues emerged?

Yes. Along gender and race/ethnicity.

GENDER

The distributions are as follows:

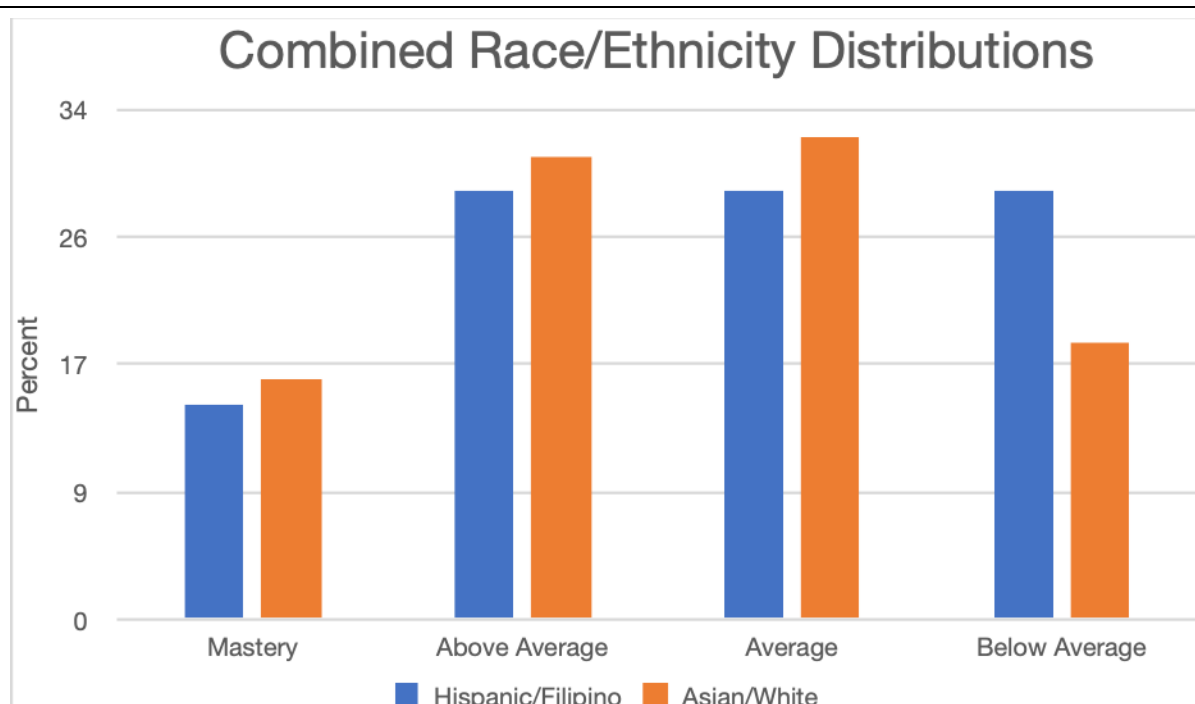


Females had a flatter distribution. There were more high achieving females but also more low achieving females. This shows that many females (27%) were lacking the resources and/or study skills to reach higher levels of mastery in 20/21.

Notably, we had nearly twice as many females (N=62) in the program as males (N=39). It is possible that college-wide low enrollment comes predominately from males who have left college. One might also assume that the males who left were not top-performing students to begin with. These males, if they were still attending, might make the “Below Average” bin more even between males and females.

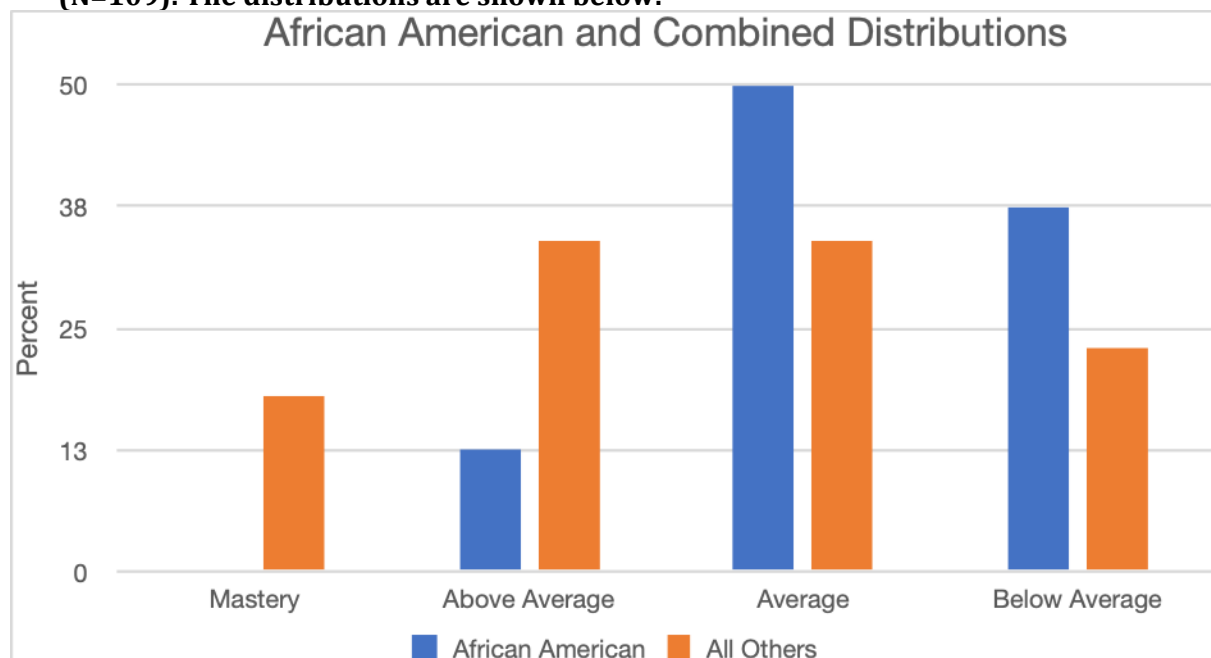
RACE/ETHNICITY

1) Hispanic+Filipino results were combined because the distributions were quite similar (N=28). White+Asian were also combined for the same reason (N=81). The distributions are plotted below:



The distributions are similar except for the “Below Average” bin. Like before, a large percentage of Hispanic+Filipino students (29%) seemed to lack the resources and/or study skills necessary to demonstrate mastery in 20/21.

2) African American (N=8) outcomes were compared to all other groups combined (N=109). The distributions are shown below:



A weighted average of the distribution revealed an average score of 1.8 for African Americans and 2.4 for all other groups, on a 1 (below average) to 4 (mastery) scale. Statistical analysis showed that these average values are significant different, yielding a value of $p = 0.0623$. The p value suggests that there is only a 6.23% chance that the difference in average score was due to random sampling error.

The conclusion is that there were very few African American students taking chemistry in 20/21, and that their average score as a population was significantly lower when compared to peers. Again, this suggests a lack of resources and/or study skills necessary to demonstrate mastery in 20/21.

(6) List changes that you plan on making to improve student learning and address inequities.

Discuss these data with faculty so they are aware of the trends. Brainstorm and apply engagement strategies to make the classroom as welcoming and supportive as possible.

(7)

(7) Discuss the challenges, if any, to improving student learning and equity. You may refer back to items listed in Section 1B.

It's been a challenge to connect with students who don't show up despite outreach efforts. We can't force them to acquire mastery in chemistry.

(8)

(8) Are you planning on revising on your 3-year planning template? If so, describe.

____ YES ____x____ No

C2: Instructional Programs without PSLOs or with Special Circumstances

CSLO Assessments:

Student Learning

(1) List the CSLO(s) that were up for review last year (according to your 3-year planning template) and explain why your department selected these CSLOs for review.

(2)

(2) What percentage of faculty completed the planned assessments? (run Faculty Participation report from last year). _____%

(3) Discussion-based analysis of student learning: Using the CSLO data and answers to the reflection questions, what type of conclusions can be made about student learning?

(4)

(4) Describe the pertinent findings. What, if any, equity issues emerged?

(5)

(5) List changes that you plan on making to improve student learning.

(6)

Assessment Process: To be completed by the department/program or the SLO Coordinator

(1) List changes that you plan on making to improve student learning and address inequities.

(2)

(2) Discuss the challenges, if any, to improving student learning and equity. You may refer back to items listed in Section 1B.

(3)

(3) Are you planning on revising your 3-year planning template? If so, describe.

____YES ____No

C3: Non-Instructional Programs

SAO Assessments:

Support of Student Learning

(1) List the SAO(s) that were up for review last year (according to your 3-year planning template) and explain why your department selected these SAOs for review.

(2)

(2) What percentage of faculty completed the planned assessments? (run Faculty Participation report from last year). _____%

(3) Discussion-based analysis of student learning: Using the SAO data and answers to the reflection questions, what type of conclusions can be made about student learning?

(4)

(4) Describe the pertinent findings. What, if any, equity issues emerged?

(5)

(5) List changes that you plan on making to improve student learning.

(6)

Assessment Process: To be completed by the department/program or the SLO Coordinator

(6) List changes that you plan on making to improve student learning and address inequities.

(7)

(7) Discuss the challenges, if any, to improving student learning and equity. You may refer back to items listed in Section 1B. Are you planning on revising on your 3-year planning template and, if so, describe?

(8)

(8) Are you planning on revising on your 3-year planning template? If so, describe.

____YES ____No

Program Review Suggestions (optional): What questions or suggestions do you have regarding this year's Program Review forms or process?

Section Three: Curriculum Review (Programs with Courses Only)

For assistance with this section, contact the Curriculum Committee Chair. [\[https://bit.ly/3fY7Ead\]](https://bit.ly/3fY7Ead)

The following questions ask you to review your program's curriculum. To see the last outline revision date and revision due date:

- 1. Log in to CurricUNET**
- 2. Select "Course Outline Report" under "Reports/Interfaces"**
- 3. Select the report as an Excel file or as HTML**

- A. **Title V Updates [Curriculum Committee]: Are any of your courses requiring an update to stay within the 5-year cycle? List courses needing updates below.** *Reminder: updates to course title or units, and course deactivations, will require updating any program they are associated with. List programs requiring updating in question (B).*

Course Name & Number

B.

_____YES _____No

- B. **Degree/Certificate Updates [Curriculum Committee]: Are there any programs requiring modification? If yes, list them below.**

_____YES _____No

Certificate or Degree

C. Are there any courses or programs for which a non-mandatory update is planned?

____YES _____Not at this time

If yes, explain details, rationale, or any support that might be helpful

D. Does your program plan to create any new courses or programs this year?

____YES _____No

If yes, please provide details and the rationale

Section Four: CTE Updates

(CTE Programs Only)

Vicki Shipman will provide you with or support any data needs

A. Labor Market Conditions: Examine your most recent labor market data (within the last 2 years).

1) Does your program continue to meet a documented labor market demand?

_____YES _____No

2) Does this program represent a training need that is not duplicated in the college's service area?

_____YES _____No

Please explain

B. Advisory Boards: Has your program complied with advisory board recommendations?

_____YES _____No

If not, please explain.

C. Strong Workforce Program Metrics: Utilizing LaunchBoard, review the Strong Workforce Program Metrics. Review the data and then answer the following questions.

C1. Does your program meet or exceed the regional and state medians for increased enrollments, completions, and/or transfer since your last program review?

_____YES _____No

If not, what program improvements may be made to increase this metric?

C2. Does your program meet or exceed the regional and state medians **for students gaining employment in their field of study?**

_____YES _____No

If not, what program improvements may be made to increase this metric?

C3. Does your program meet or exceed the regional and state medians **for student employment rates after leaving the college?**

_____YES _____No

If not, what program improvements may be made to increase this metric?

C4. Does your program meet or exceed the regional and state medians **for increased student earnings and median change in earnings?**

_____YES _____No

If not, what program improvements may be made to increase this metric?

