

# LMC Program Review Year 3 Update 2019-2020

## Instructional Unit Name: BIOLOGICAL SCIENCES

### Introduction

In 2017-2018, all departments/programs completed a Comprehensive Program Review (CPR), in which goals were set for the 2017-2022 program years. Los Medanos College (College) is now in year three of a five-year review cycle. New to this program review cycle is the passage of the State's [Vision for Success](#) plan which establishes system-wide goals that can only be attained by each department contributing to college-level goals aligned with the state plan. Toward that end, the [Contra Costa Community College District Strategic Plan \(CCCD Strategic Plan\)](#) adopted by the Governing Board at its June 2019, meeting, aligns with the *Vision for Success* and plans are underway to ensure that the *Los Medanos College Educational Master Plan (LMC EMP)* also supports college and state goals. The intent is to direct College efforts toward a singular and coordinated set of goals.

The *Vision for Success* directs each college to increase degree and certificate completion and increase student transfers, improve time to completion, increase job placement in field of study, narrow achievement gaps and establishes targeted goals in five primary areas as follows:

**Goal #1** Increase by 20 percent the number of CCC students annually who acquire associates degrees, credentials, certificates, or specific skill sets that prepare them for an in-demand job.

**Goal #2** Increase by 35 percent the number of CCC students' system-wide transferring annually to a UC or CSU.

**GOAL #3** Decrease the average number of units accumulated by CCC students earning associate's degrees, from approximately 87 total units (the most recent system-wide average) to 79 total units—the average among the quintile of colleges showing the strongest performance on this measure

**GOAL #4** Increase the percent of exiting CTE students who report being employed in their field of study, from the most recent statewide average of 69 percent to an improved rate of 76 percent—the average among the quintile of colleges showing the strongest performance on this measure in the most recent administration of the CTE Outcomes Survey.

**Goal #5** Reduce equity gaps across all of the above measure through faster improvements among traditionally underrepresented groups as identified by the college.

The College can only meet its local and state goals with the contribution of each department's efforts. As noted, the intent is to direct College efforts towards a singular and coordinated set of goals to garner greater efficiencies and avoid duplication of effort.

The *Program Review Year 3 Update* includes five components with specified timeframes (not in chronological order) for draft and completion:

**Item 1. Program Update (October 1 – October 31)**

Provide an update to the department’s 2017-18 CPR

**Item 2. Setting the Vision for Success Goals 2021-22 (November 1 – November 27)**

Department/program alignment of goals, action steps, timeline, responsible party and next steps – all tied to the *Vision for Success* indicators. For ease of reference, the *Vision for Success* indicators are included in this section.

**Item 3. Assessment Date and Effectiveness (August 26 – September 30)**

Status report on the review and assessment of courses and next steps

**Item 4. Course Outline Updates (August 26 – September 30)**

Status report on the review and assessment of Course Outline of Records and next steps

**Item 5. Resource Needs (February 1 – February 28)**

Resource needs to meet goals, if any.

The table below shows a list of the above components in chronological order. The intent is to complete sections of Program Review by these dates to better assess and inform the process.

Date	Program Review Update Component
August 26 – September 30	Item 3. Assessment Date and Effectiveness Status report on the review and assessment of courses and next steps.
August 26 – September 30	Item 4. Status report on the review and assessment of Course Outline of Records and next steps.
October 1 – October 31	Item 1. Provide an update to the department’s 2017-18 CPR
November 1 – November 27	Item 2. Department/program alignment of goals, action steps, timeline, responsible party and next steps – aligned with the <i>Vision for Success</i> indicators.
February 1 – February 8	Item 5. Resource Needs

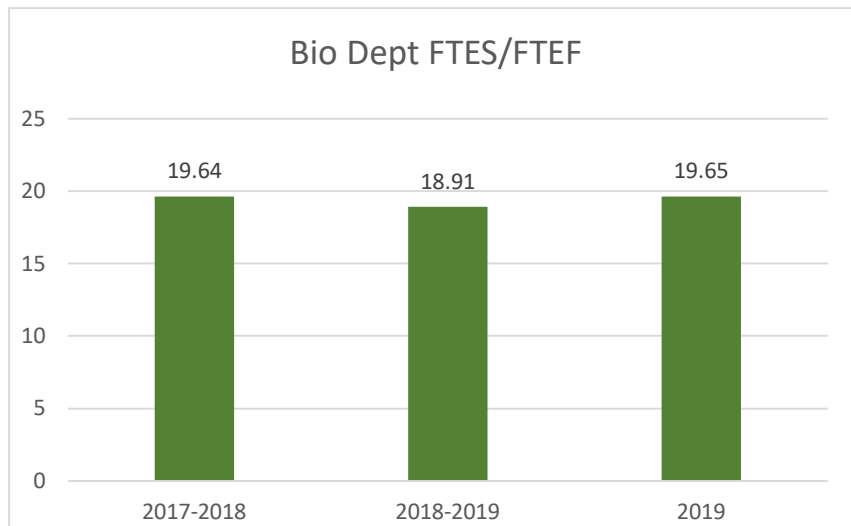
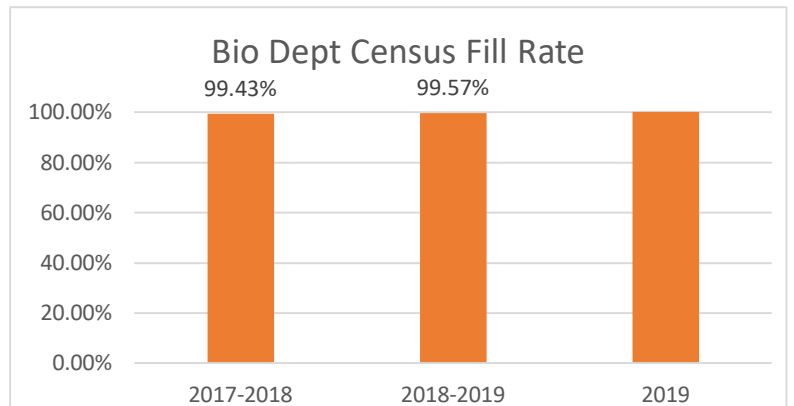
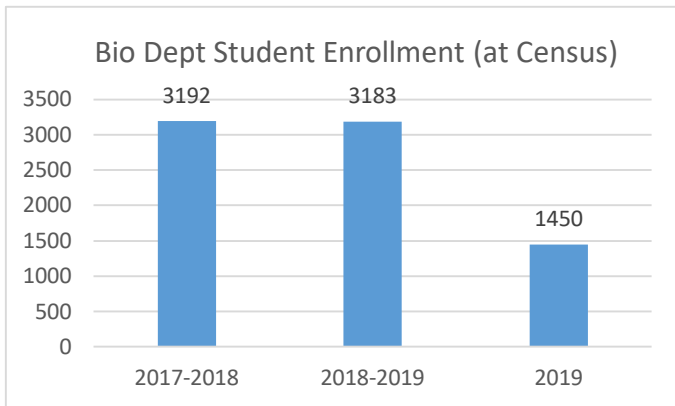
## 1. Program Update (Oct 1 – Oct 31)

1a. Provide any important changes or updates within your program since your last CPR. (New degrees, new curriculum, staffing changes, etc.)

*No new degrees to report. We added an online section for Nutrition 55, which was approved by Curriculum Committee and will be offered for the first time in Spring 2020.*

*Sandhya Bhatnagar was hired as our Brentwood Senior Science Lab Coordinator, and Julie Lucca was reclassified to Pittsburg Biology Lab Coordinator (from technician).*

1b. Please address the following enrollment data provided for your program.



1.b.1. What are the enrollment trends over the past 3 years, beginning with Fall 2017? (Please address census enrollment, census fill rate, and productivity (Ftes/Ftef))

Over the past three years, our overall yearly enrollment has remained relatively constant with only a decrease of 9 students (0.28%). In comparing our Fall enrollments from 2017-2019, our current Fall

enrollment (1481 students) is down compared to enrollment in FA17 (1450 students). This equates to a 2.09% decrease in enrollment. Further analysis shows our FA17 and FA18 student census numbers decreased by 61 students (-4.12%); however, our enrollments for FA19 increased 30 students (2.11%). Comparing SP17 to SP19, our census enrollments have increased by 24 students (1.64%). Our Spring census enrollments from SP2017 and SP2018 show a decrease by 5 students (-0.34%). However, enrollments from SP18 to SP19 show an increase of 29 students (1.99%). Over the last three years, SP2019 was our highest enrollment for the Department.

Our fill rate has been consistently high over the past three Fall semesters, averaging over 100%. For FA17 our FTES/FTEF (20.32) was well above the goal of 16. Compared to FA17, our FA18 declined by 1.26 (-6.20%), but it still remained above goal. Currently, our FA19 productivity is 19.65 which is an increase of 0.59 (3.10%) from FA18.

1.b.2. What does the data suggest in terms of future needs/directions?

The data suggests that we are doing well with our yearly enrollments. The differences in numbers that occur when comparing semesterly enrollments likely reflects the economy during those time periods. As a result of meta-analysis of course enrollments over these three years, we may opt to convert more sections (Bio 5, Bio 7, and Nutrition 55) to on-line or hybrid. With the opening of the new Brentwood center, we expect our overall enrollment numbers to increase as we expand our section offerings.

Our fill rate data suggests that we are doing well in filling all of our classes to maximum enrollment. It also suggests that we have managed to offer and schedule classes appropriately to meet students' goals and needs. With the expansion of the Brentwood center, we will offer more sections of classes to accommodate for the demands for our classes, especially for our biology majors and pre-allied health sciences students.

The decline in productivity by 1.26 (-6.20%) comparing FA18 to FA19 semesters may be a result of economy and state budget/funding at that time period. It may also be explained by the new 16-week calendar implemented for the 2018-2019 school year in which scheduling changes needed to be made within the department and within the entire college. Students may have found course times conflicting and competing with other courses for the same group of students. Our FA19 productivity (19.65) has increased by 0.59 (+3.10) in comparison to FA18 and is still above target. This data may be reflective of the increase in enrollment in our courses during this semester.

1c. Provide a brief update of your program’s goals as listed in your **(CPR)** 2017- 2018. Given these goals, please provide a brief update on: (a) Goals completed since their submission in 2018, and the impact of that completion on program effectiveness; (b) Goals abandoned with an explanation of why they were abandoned and (c) Goals still in progress or modified to be achieved by 2021-2022. Please include action steps, timeline, and responsible parties.

Goals	Completed/ Abandoned/ In Progress/ Modified	Impact/ Explain/ Action Steps	Timeline/ Responsible Parties
<p><b>Goal 1:</b> Continue to support and explore skills developed by students in the Biology program with those emphasized at transfer institutions and in the STEM workforce.</p>	<p>In Progress</p>	<p>This item requires continued conversation within the department and across STEM departments. We continue to meet as a STEM task force to discuss supporting overall STEM initiative, but department-level skill work is an item that would benefit from more attention. We will include this item on our department agenda for Spring FLEX and bring it to the STEM task force in the Spring</p>	<p>Spring 2020 –Jill Bouchard, Briana McCarthy, Jancy Rickman.</p>
<p><b>Goal 2:</b> Expand Biology Department offerings at the Brentwood Center after the new facility is built.</p>	<p>In Progress</p>	<p>We plan to offer 16 new sections at the Brentwood Center starting Fall 2020, including Bio7, Bio10, Bio20, Bio30, Bio40, Bio45, and Bio50.</p>	<p>Continued work through Spring 2020 with whole department, based on management directions.</p>
<p><b>Goal 3:</b> Meet the equipment, maintenance, and supply needs of current and future lab curricula department-wide, including conversion of SCI-103 to a fully functional wet lab.</p>	<p>Completed (Part 1) and Abandoned (Part 2)</p>	<p>We continue to fund purchase and maintenance of supplies at Pittsburg and Brentwood and work to expand materials in anticipation of new Brentwood Center opening, utilizing our existing department budget as well as the new RAP process. We recently submitted a RAP proposal to fund supplies at Brentwood (Fall 2019).</p> <p>We abandoned conversion of SCI-103 to fully functional lab due to the college cancellation of project (limited funds (Spring 2017)). We put in a RAP for conversion of space to a learning/tutoring center in Spring 2019, and funding was denied.</p> <p>We look forward to getting college funding and approval to move forward with the lab conversion project.</p>	<p>Based on management approval/funding</p>
<p><b>Goal 4:</b> Make a successful transition to the new compressed calendar format in a manner consistent with excellent pedagogy, with minimal impact on FTES.</p>	<p>Completed/Ongoing</p>	<p>Based on data from 17-18 academic school year compared to first roll-out of compressed calendar 18-19 academic school year. We will continue to monitor these indicators of student success and include discussions about best pedagogical practices for engaging students during long time spans in department meetings and FLEX activities.</p>	<p>Department co-chairs with collaboration of whole department</p>

**For CTE programs only:**

1c. Community and Labor Market Needs (Link Ed Code [78016](#), Title 5, [51022](#))

1d. Advisory Board Update and Analysis (CTE related only) Include dates of Advisory Board meetings in 2018-2019, and those completed or planned in 2019-2020.

## 2. Setting Vision for Success Goals for 2021-22 (Nov 1—Nov 27)

The *Vision for Success* directs each college to increase degree and certificate completion and increase student transfers, improve time to completion, increase job placement in field of study, narrow achievement gaps and establishes targeted goals in five primary areas. The College can only meet its local and state goals with the contribution of each department’s efforts. As noted, the intent is to direct College efforts towards a singular and coordinated set of goals to garner greater efficiencies and avoid duplication of effort.

2a. The following table lists the *Vision for Success* indicators that we must align to as a college and as a district. Please look at your program data (Tableau) for each of the following *Vision for Success* indicators. Please address all indicators that are relevant to your program, set your program goal, indicate the action steps, timeline and responsible parties to achieve program goals.

Vision for Success Indicators and ACCJC Indicator	Program Set Goals for 2021-2022	Action Steps	Timeline	Responsible Parties	Notes
<b>Course Success</b>	77.6%	N/A. Continue Maintaining			
<b>Degrees ( AA, AS, ADT)</b>	AS-49.2% AST-3.6%	AST: N/A. Continue Maintaining AS: <ul style="list-style-type: none"> <li>Increase sections of Bio 20 &amp; Bio 21 with the opening of the new Brentwood Center</li> <li>Add Prerequisite for Bio 20 to include Chem 25 and/or Eng 100</li> </ul> Redesign Bio 21 to be a GE course	Starting Fall 2020  Add after increase in number of sections Fall 2021	All Bio Dept Faculty  All Bio Dept Faculty  Primary: Course Lead of Bio 21 Secondary: All Bio Dept Faculty	
<b>Certificates of Achievement</b>	N/A				
<b>Unit Reduction</b>	N/A				

<b>CTE Jobs</b>	N/A				
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2b. The Vision for Success Goal 5—Equity. The College has identified three disproportionately impacted (DI) populations: African-American, economically disadvantage students (low income), and foster youth students. The College’s goal is to reduce the equity achievement gap on course success for disproportionately impacted (DI) student populations. Please look at your program data (Tableau) for each of the following DI population. Please pick one or more DI populations that are relevant to your program, set your program goal, indicate the action steps, timeline and responsible parties to achieve program goals.

Course Success by DI Population	Program Set Goals for 2021-2022	Action Steps	Timeline	Responsible Parties	Notes
<b>African American</b>	75.8%	Encourage all faculty participation in equity-mindedness training FLEX workshops; Encourage PT faculty participation in FAM (Faculty Advising Mentoring) Equity Hour Program; Increase student’s awareness and participation in UMOJA, MESA, CalWORKs/EOPS/CARE, BOEP; Invite speakers from above programs to speak to faculty & staff during Department’s Flex workshops; Implement mentoring programs (peer-to-peer, teacher/student); Create summer bridge programs; Invite guest speakers to increase visibility of African Americans in STEM & healthcare professions; Invite LMC Alumni to speak to classes “Alumni Spotlight”; Include/increase “Science Spotlights” which showcase African Americans who have made contributions in STEM and healthcare; Select course TAs that reflect diverse populations (esp. African Americans)	SP20	All Bio Faculty & Staff	
<b>Low Income</b>	79.5	Increase the number of Zero Textbook Costs sections for our courses; Encourage all faculty participation in equity-mindedness	SP20	All Bio Faculty & Staff	



		<p>training FLEX workshops;                      Encourage PT faculty participation in FAM (Faculty Advising Mentoring) Equity Hour Program;                      Increase student's awareness and participation in EOPS/CARE;                      training FLEX workshops;                      Encourage PT faculty participation in FAM (Faculty Advising Mentoring) Equity Hour Program;                      Increase student's awareness and participation in EOPS/CARE;</p>			
<b>Foster Youth</b>		<p>Increase the number of Zero Textbook Costs sections for our courses;                      Encourage all faculty participation in equity-mindedness training FLEX workshops;                      Encourage PT faculty participation in FAM (Faculty Advising Mentoring) Equity Hour Program;                      Increase student's awareness and participation in EOPS/CARE;</p>	SP20	All Bio Faculty & Staff	

### 3. Assessment Update and Effectiveness (August 26-Sept 30)

- a. Please review the data provided on assessment status of courses in your discipline in Cycle 2 (2017/18-2020/21), if there were any courses that were not assessed in Cohorts 1 and 2, please (a) list them, (b) explain why they were not assessed, (b) when are you going to assess them, and (c) who is going to assess them.

Course	Reason course was not assessed	When course will be assessed	Faculty Responsible for Course Assessment
COURSE 001			
COURSE 002			

- b. Discuss the results of any outcomes assessments (e.g. CSLO) performed this year. What changes, if any, are planned to improve student success?

Biosc-05

As a result of the assessment, two CSLOs were rewritten for clarity. A couple of major assignments changed, along with some of the assessments for those assignments.

Biosc-07

In Bio7, as a result of the assessment process, we reduced the CSLOs from 4 to 3 and simplified the wording of the 3 to reflect the conceptual themes and foundational skills of the course (matter and energy flow, changing ecosystems, and process of science). As a result of the assessment results, we made curricular shifts in a few of the labs with an increased focus on utilizing evidence to support claims, specifically practicing the process of using class-wide data to support findings in lab.

Biosc-10

As a result of the assessment, there were no changes to the CSLOs. A few assignments used for CSLO assessment were modestly changed.

Biosc-40

The CSLO assessment process has shown that we are doing well with our students' performance in meeting the CSLOs. There were no changes made to them. We will work to improve identifying students early in the semester who find the volume challenging and offer additional resources and support. We will also incorporate into the curriculum even more visually enhanced, instructional resources and study tools in both lecture and lab; include more histological drawings/assignments and cadaveric on-line activities; and expand our use of critical thinking and problem based learning through case studies.

Nutri-055

As a result of the assessment, there were no changes made to the CSLOs. To improve student success, students will be asked more questions on the topics in class, include more in class assignments or group discussions on the topic(s) to cement what is being covered in lecture, reword questions on exams for better clarification, and implement additional research projects on the topic(s).

#### 4. Course Outline of Record Updates (August 26 – Sept 30)

Please review the data provided on the status of COORs in your discipline. (Note: These data do not reflect courses submitted after May 2019. For each COOR that has *not* been updated since May 2019, please indicate the faculty member responsible for submitting the updated COOR to the Curriculum Committee by **November 1, 2019**.)

Course	Faculty Responsible for COOR Update
COURSE 001	
COURSE 002	
COURSE 003	

#### Impact of Resource Allocation

If you have received funding via the Resource Allocation Process, you will be asked by the Office of Business Services how the resource helped you in achieving your program goals.

## 5. Resource Needs (Feb 1 – Feb 28)

Resource needs to meet goals, if any. If there are no requests, this section may be skipped.

<b><u>Faculty/Staff Resource Request</u></b>			
Department/Unit Goal - Reference #		Strategic Goal and/or Objective - Reference #	
Department/Unit Name		Position Name/Classification	FTE
Position Type	Funding Duration	Funding Source	Est. Salary & Benefits
<input type="checkbox"/> Faculty R/T <input type="checkbox"/> Classified <input type="checkbox"/> Manager <input type="checkbox"/> Student	<input type="checkbox"/> On-going/Permanent <input type="checkbox"/> One-time	<input type="checkbox"/> Operations (Fund 11) <input type="checkbox"/> Other <input type="text"/>	
Justification:			

<b><u>Operating Resource Request</u></b>		
Department/Unit Goal - Reference #		Strategic Goal and/or Objective - Reference #
Department/Unit Name		Resource Type
		<input type="checkbox"/> Equipment <input type="checkbox"/> IT Hardware/Software <input type="checkbox"/> Supplies <input type="checkbox"/> Facility Improvement <input type="checkbox"/> Service/Contract <input type="checkbox"/> Other
General Description		Est. Expense
Justification:		

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<b>Professional Development Resource Request</b>	
Department/Unit Goal - Reference #	Strategic Goal and/or Objective - Reference #
Department/Unit Name	Resource Type
	<input type="checkbox"/> Conference/Meeting <input type="checkbox"/> Materials/Supplies <input type="checkbox"/> Online Learning <input type="checkbox"/> IT Hardware/Software <input type="checkbox"/> Other
General Description	Est. Expense
Justification:	