

PROGRAM REVIEW Fall 2019

Program: Computer Studies (CIS/CNT/CS)

Division: STEM

Date: 10/13/19

Writer(s): LaVaughn Hart, Moh Daoud, Debbie Fields, Bill Komanetsky, Carlos Moreno, Jeff Weichert

SLO/SAO Point-Person: LaVaughn Hart

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 2019-20 academic year. It should describe plans starting now and continuing through 2020-21. This document also provides the opportunity to describe more long-term plans (optional).

Sections: The first section of this Program Review focuses on general program reflection and planning. The second section has specific questions to be filled out by all programs this year. The third section is a review of curriculum. The fourth section is a review of data for CTE programs. Only programs with curriculum need to complete Section 3, and only CTE programs need to complete Section 4.

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

Help: Contact Karin Spirn: kspirn@laspositascollege.edu

Instructions:

- 1) Please respond to each question as completely as possible.
- 2) If the requested information does not apply to your program, write "Not Applicable."
- 3) Optional: Meet with your dean to review this document before October 21.
- 4) Send an electronic copy of this form to Karin Spirn and your Dean by October 21.

Links:

Program Review Home Page: <https://bit.ly/2Y0j7fW>

Fall 2018 Program Review Updates : <https://bit.ly/2GIWzsM>

Frequently Asked Questions: <https://bit.ly/2DHLnfj>

Section One: Program Snapshot

No Significant Changes Option

Contact person: _____ LaVaughn Hart _____

By marking an X in the box above, the writers of this Program Review indicate that there have been no significant changes to their program or their program's needs in the past year. In this case, programs may opt not to complete Program Review Section One: Program Snapshot.

Programs must still complete all other sections (as applicable).

Please note: Choosing this option means that your program's information may not be included in the yearly Division Summary.

The No Significant Changes Option may only be used for two years in a row; after two years, programs must complete a full Program Review including the Program Snapshot. Our program's most recent Program Snapshot was submitted in the following semester: Fall 2018_____.

- A. Program Description: Briefly describe your program, including any information or special features of your program that will provide helpful context for readers of this Program Review.**

Examples of program descriptions can be found here: <https://bit.ly/2VwjNvZ>

- B. IR Data Review: Describe any significant trends in your program's data from the office of Institutional Research and Planning. (Note: Not all Programs have IR data packets available; if your program does not have a data packet, you may note that in the response box). You may also discuss any other data generated for your program by the Office of Institutional Research and Planning.**

IR Data packets are available here: <https://bit.ly/2lYaFu7>

Course Success Rates Dashboard can be found at the bottom of this page: <https://bit.ly/2Y9vGpl>

Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW				
<input type="checkbox"/>	Community Partnerships/Outreach	<input type="checkbox"/>	Facilities, Supplies and Equipment, Software	<input type="checkbox"/>	LPC Planning Priorities	<input type="checkbox"/>	Services to Students
<input type="checkbox"/>	Course Offerings	<input type="checkbox"/>	Financial/Budgetary	<input type="checkbox"/>	LPC Collaborations	<input type="checkbox"/>	SLO/SAO Process
<input type="checkbox"/>	Curriculum Committee Items	<input type="checkbox"/>	Human Resources	<input type="checkbox"/>	Pedagogy	<input type="checkbox"/>	Student Equity
<input type="checkbox"/>	External Factors	<input type="checkbox"/>	Learning Support	<input type="checkbox"/>	Professional Development	<input type="checkbox"/>	Technology Use

C. Other Data Review (Optional): Describe any significant findings based on other data regarding your program. Possible sources of relevant information might include, but are not limited to, the following:

- **Data generated by your program**
- **CEMC Data**
- **Labor Market Data**

Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW				
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<input type="checkbox"/>	External Factors	<input type="checkbox"/>	Learning Support	<input type="checkbox"/>	Professional Development	<input type="checkbox"/>	Technology Use

D. Accomplishments: What plans from the [2018 Program Review](#) or any [previous Program Reviews/Updates](#) have been achieved and how? You may also describe achievements that were not planned in earlier Program Reviews. Please highlight any positive impacts to students.

Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW				
<input type="checkbox"/>	Community Partnerships/Outreach	<input type="checkbox"/>	Facilities, Supplies and Equipment, Software	<input type="checkbox"/>	LPC Planning Priorities	<input type="checkbox"/>	Services to Students

	Course Offerings		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Curriculum Committee Items		Human Resources		Pedagogy		Student Equity
	External Factors		Learning Support		Professional Development		Technology Use

E. Uncompleted Plans: What plans from your 2018 Program Review have not been achieved and why?

Mark an X before each area that is addressed in your response.				Definitions of terms: https://bit.ly/2LqPxOW			
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
	Course Offerings		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Curriculum Committee Items		Human Resources		Pedagogy		Student Equity
	External Factors		Learning Support		Professional Development		Technology Use

F. Challenges, Obstacles and Needs: Describe any significant challenges, obstacles or needs for your program. Please highlight any negative impacts for students.

Mark an X before each area that is addressed in your response.				Definitions of terms: https://bit.ly/2LqPxOW			
	Community Partnerships/Outreach		Facilities, Supplies and Equipment, Software		LPC Planning Priorities		Services to Students
	Course Offerings		Financial/Budgetary		LPC Collaborations		SLO/SAO Process
	Curriculum Committee Items		Human Resources		Pedagogy		Student Equity
	External Factors		Learning Support		Professional Development		Technology Use

G. Short Term Planning: What are your most important plans (either new or continuing) for next year? Describe plans starting now and continuing through AY 20-21.

Mark an X before each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW				
<input type="checkbox"/>	Community Partnerships/Outreach	<input type="checkbox"/>	Facilities, Supplies and Equipment, Software	<input type="checkbox"/>	LPC Planning Priorities	<input type="checkbox"/>	Services to Students
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<input type="checkbox"/>	External Factors	<input type="checkbox"/>	Learning Support	<input type="checkbox"/>	Professional Development	<input type="checkbox"/>	Technology Use

H. Long Term Planning (Optional): Please detail any long-term plans for the next 3-5 years. (Only if you have significant plans, such as implementation of a grant project, creation of long-term initiatives including those using restricted funds such as Equity or SSSP, construction and outfitting of a new building).

Mark an X before to each area that is addressed in your response.			Definitions of terms: https://bit.ly/2LqPxOW				
<input type="checkbox"/>	Community Partnerships/Outreach	<input type="checkbox"/>	Facilities, Supplies and Equipment, Software	<input type="checkbox"/>	LPC Planning Priorities	<input type="checkbox"/>	Services to Students
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Section Two: Current Topics (Required for All Programs)

- A. 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:

<http://www.laspositascollege.edu/research/outcomes.php>

(Data for AY 18-19 will be available by the beginning of Fall 2019).

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.

- B. SLOs/SAOs:** Describe an example of how your program used course SLO data (SLOs) or SAO data from last year (2018-19) to impact student learning, access, achievement, or other services to students. (Copy the box below if you would like to discuss multiple examples).

Course (SLOs only): CS 21
SLO or SAO: SLO Implement the assembly equivalent of while loops, for loops and switch statements.
Describe the quantitative or qualitative results: The test used to measure this particular SLO was disappointing in 2018, where in 2019 the results were exponentially better.
Discuss any actions taken so far (and results, if known): The involved instructor restructured their course syllabus and methods to include on-line based tutoring to help improve the ability of students to access the instructor and obtain the knowledge they need to be more successful in class.
Discuss your action plan for the future: Measurements will continue to be taken to make sure that the quantitative improvements were not the result of other factors.

- C. Program SLOs (Degree/Certificate granting programs only):** Describe an example of how your program used program-level SLO data (PSLOs) from last year (2018-19) to impact student learning or achievement. (Copy the box below if you would like to discuss multiple examples).

Degree/Certificate: AS in Computer Science
Program SLO: Upon successful completion of the AS in Computer Science, it is anticipated that students will be able to professionally describe and apply their skills in the design of their complex computer systems or algorithm and be able to show how their solution is the most optimal
Describe the quantitative or qualitative results: After reviewing student(s) ability to actually deliver on this particular SLO during CS-47 (Capstone Project), results were less than acceptable.
Discuss any actions taken so far (and results, if known): Instructors throughout the program are now teaching more design and planning within their classes in the form of UML and Hierarchy charts assuring that students understand the importance of developing designs before trying to actually implement their solution. No results are yet known as the 2019/Fall semester is the first the program is making this change.
Discuss your action plan for the future: Continue to pursue these changes in course content, make modifications if necessary and measure results

D1. SLO/SAO Progress Review: To see if your program is up to date with the creation of SLO/SAOs, please consult the list available here: <https://bit.ly/2LggoKv>. List any courses or services areas that do not have SLOs or SAOs approved. These SLOs/SAOs need to be submitted to eLumen by November 18 to become active for Spring 2020; please work with your SLO/SAO coordinator.

An SLO for CNT 8003 and CNT 804 were submitted to the SLO committee. Spring 20 is the first time this course is being taught and we cannot add SLOs for courses until they are scheduled.

SLOs for all CS courses are under review and will be modified to assure we are measuring the correct results to assure student success.

D2. This question has been removed.

D3. This question has been removed.

E. This question has been removed.

F. Student-Centered Funding Formula (SCFF): The state funding allocation model has shifted to include socio-economic status and student achievement metrics. LPC will begin to be funded by this model by AY 21-22. The district and college are using this opportunity to develop projects that support these funding considerations and the needs of our students. The projects should help LPC achieve the goals listed below.

Goals for SCFF Projects

- Ensuring eligible students receive financial aid, if desired
- Removing barriers that hinder students from moving toward their goals
- Offering additional information and support about educational pathways
- Offering academic support that increases English/math completion in the first year
- Enhancing career readiness through coursework
- Increasing completion of degrees and certificates
- Increasing transfers and transfer readiness

F1. SCFF Actions Taken: Describe one initiative or action your program or area has taken in support of one of the goals in the list above.

- What was the action?
- What was the result, if known?
- If your action or initiative was successful, please explain why and whether it could be used in other areas or scaled for use across the campus.
- If your action or initiative was not successful, please indicate why (lack of resources, unforeseen variables, etc.)
- If you did not take any actions in support of the goals above, you may write “N/A.”

The disciplines in the Computer Studies area have been reviewing courses, certificates and degrees to ensure that all of these are up to date and meet student needs. It is too early to determine if the curriculum changes already made have resulted in increased completion.

F2. Future Strategies (optional): Please describe any possible strategies or actions that your program or the college could use to support the goals listed above. What resources would be needed?

In CIS, we are reviewing the Business Information Worker model curriculum to determine how we can align our curriculum with the requirements of this statewide template.

In CS, we are reviewing our CS 2 and CS 20 course outlines to determine their alignment with C-ID descriptors. By aligning our courses to C-ID descriptors, our students will be able to move more easily between our program, programs at other community colleges, and CSU programs.

In CNT, we continue to develop our relationship with Google and JFF with regard to the Google IT Support Certificate. Incorporation of the Google curriculum into our existing courses has increased enrollment in those courses significantly. We believe there is opportunity to increase enrollments and completions.

G. Student Equity and Achievement Program: To ensure equitable outcomes for vulnerable student populations, Las Positas College plans to close equity gaps in the areas listed below. For each area/metric, the listed impacted groups have had proportionately lower rates than other groups.*

Area/Metric	Impacted Groups
Access: Enrollment at LPC	Black or African American (Female), Black or African American (Male), Filipino (Female), White (Female)
Readiness: Completion of both transfer-level Math & English	American Indian or Alaska Native (Female), Black or African American (Female), Black or African American (Male), Hispanic or Latino (Male/All), First Generation (Male/All), Foster Youth (Female), Foster Youth (Male), LGBT (All)
Retention: Retention from Fall to Spring	Black or African American (Female/All), First Generation (Female/All), Foster Youth (Male)
Completion: Completion of an Associate Degree, Certificate	American Indian or Alaska Native (Male/All), Asian (Male), Black or African American (Male/All), Native Hawaiian or other Pacific Islander (Female), Native Hawaiian or other Pacific Islander (Male), Foster Youth (Male), LGBT (Female), LGBT (Male)
Completion: Transfer to a Four-Year Institution	Disabled (Male/All), Black or African American (Female), Hispanic or Latino (Male), Native Hawaiian or other Pacific Islander (Female), Native Hawaiian or other Pacific Islander (Male), First Generation (Female), Foster Youth (Male), LGBT (Female)

*The full list of impacted groups with supporting data can be found here: <https://bit.ly/2XZVGDd>

G1. Equity Actions: Describe any actions your program has taken in the past two years (2017-2019) or actions currently in progress to improve the metrics above for the impacted groups listed (for example, to increase the ability for African American students to enroll in classes at LPC, or to increase the ability of LGBT students to complete Associate’s Degrees or Certificates). What has been the effect of these actions, if known?

Computer Science faculty have been working with an ETR to develop an NSF grant proposal to fund a program to increase the number of underrepresented populations in the Computer Science field. The program, currently name Code Jam, will provided the opportunity for students who are considering a career in Computer Science but are underprepared or not confident of their preparation to participate in a week-long program that provides foundational programming skills, interaction with Computer Science faculty, study skills development, and interaction with potential future classmates. As part of the grant, there will be outreach to populations that are underrepresented in our Computer Science classes and within the programming field as a whole. These include, but are not limited to: LatinoX, women, and Africian-Americans.

G2. Equity Challenges: Describe any challenges your program has faced in promoting equity and equity-based decision making in the metrics listed above (or any other areas).

One of the biggest challenges will be determining the most effective way to reach students who may not have considered the IT fields as potential careers. Student in some of these underrepresented populations may not believe that they have ability to succeed in the IT area because they have lacked the opportunity or encouragement to explore their potential.

While we will have a grant to fund the startup of this effort, we will have to determine how to incorporate this into our overall CS program. We are looking into developing noncredit courses and hope to have them in place by Spring 21.

H. Program Review Suggestions (optional): What questions or suggestions do you have regarding the Program Review forms or process?

**Section Three: Curriculum Review
(Programs with Courses Only)**

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

Curriculum Updates

A. Title V Updates: Are any of your courses requiring an update to stay within the 5 year cycle? List courses needing updates below.

Course #	Name	Responsible
CIS/CNT/CS 43	Professional Communications	Vicky
CIS 50	Intro to Computing Info Tech	Debbie
CIS 60	Systems Analysis and Design	Debbie
CIS 62	PROJECT MANAGEMENT	Pav
CIS 9003	ORACLE: Database Programming with PL/SQL	Debbie
CIS 9004	ORACLE: Database Administration	Debbie
CNT 52/CIS 66	Networking Fundamentals	Moh/Jeff
CS 1	Computing Fundamentals I	Bill/Carlos
CS 2	Computing Fundamentals II	Bill/Carlos
CS 7	Introduction to Computer Programming Concepts	Bill/Kyu
CS 31	Java Programming	Bill
CS 47	Capstone Project	Bill

B. Degree/Certificate Updates: Are any degrees/certificates requiring an update to do changes to courses (title, units) or addition/deactivation of courses? List needed changes below.

CIS—Review Certificates of Accomplishment for Project Management and Web Development to and remove/replace classes that are no longer being offered. Review Computer Applications Software Certificate of Achievement to and consider restructuring to enable completing in one year.
 CNT—Consider impact of deactivating CNT 50/CIS 65 and CNT 54 on degrees and certificates. Update degrees/certificates in CNT and CIS as needed if decision is made to deactivate these classes.
 CS—Review the Computer Programming for the Web Certificate of Achievement.

C. DE Courses/Degrees/Certificates: Detail your department’s plans, if any, for adding DE courses, degrees, and/or certificates. For new DE degrees and/or certificates (those offered completely online), please include a brief rationale as to why the degree/certificate will be offered online.

We have no plans at this time to add any degrees/certificates that are fully online.

**Section Four: CTE Updates
(CTE Programs Only)**

A. Labor Market Conditions: Examine your most recent labor market data. Does your program continue to meet a documented labor market demand? Does this program represent a training need that is not duplicated in the college's service area? (Please note: your labor market data should be current within two years. Contact [Vicki Shipman](#) or the current CTE Project Manager for access to data).

Yes, all three programs in the Computer Studies cluster show documented labor market demand (LMI data as of April 18 and December 18). There are limited opportunities within the college's service area for students to obtain the training that we offer in our programs. We do have articulation agreements with local high schools that offer a few entry-level in networking and computer applications.

B. Advisory Boards: Has your program complied with advisory board recommendations? If not, please explain.

Yes, we have an active Computer Studies Advisory board. We have created a CyberSecurity Certificate of Achievement in response to the Advisory board's input on the need for cybersecurity.

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

(Contact [Vicki Shipman](#) or the current CTE Project Manager for help accessing the data).

C1. Does your program meet or exceed the regional and state medians **for increased enrollments, completions, and/or transfer since your last program review**? If not, what program improvements may be made to increase this metric?

CIS—Yes on enrollment; Yes, on Completed 12+ CTE units in one year
CNT—Yes on enrollment; Yes, on Completed 12+ CTE units in one year
CS—Yes on enrollment; insufficient data on completion (transfer)

C2. Does your program meet or exceed the regional and state medians **for students gaining employment in their field of study**? If not, what program improvements may be made to increase this metric?

No regional or state medians available at this time.

C3. Does your program meet or exceed the regional and state medians **for student employment rates after leaving the college**? If not, what program improvements may be made to increase this metric?

No regional or state medians available at this time.

C4. Does your program meet or exceed the regional and state medians **for increased student earnings and median change in earnings**? If not, what program improvements may be made to increase this metric?

No regional or state medians available at this time.