



Instructional Annual Program Review Update Form

BACKGROUND:

Program Review (PR) is an integral part of the campus planning process. As programs and areas monitor their progress on the current comprehensive four-year program review, changes in need and scope can be expected. This PR Update Form is designed to outline and request modifications to the current program review that occur between comprehensive four-year review cycles, as needed.

Examples of a requested change include new information such as action plans, outcomes modifications, personnel changes, technology needs, and capital expenditures requirements. As programs and areas monitor their progress on the previous comprehensive four-year program review, the form provides the basis to suggest a change in plans and processes to improve student success and institutional effectiveness.

DIRECTIONS:

This form shall be completed annually by ALL instructional programs.

- All instructional programs must submit their Annual Program Review Update Form to their dean or manager by **Monday, March 6.**
- All deans or managers will forward the completed form to the Program Review Committee Chair by **Monday, March 13.**

SUBMISSION:

Program: Computer Science Division: Math/CSci Date: 02/23/23

We have reviewed our most recent self-study and **have not identified** any significant changes that necessitate resource requests for the upcoming academic year. *(Complete only pages 1 and 2)*

We have reviewed our most recent self-study and **have identified** significant changes that necessitate additional resource requests, which are attached in our submission. *(Complete the entire form)*

Program Signature(s):  Printed Name: Andrew V. Clifton

PPRC Endorsement: Yes No

Revised 01/27/2023

Part 1: Review of Data

Institution Set Standards (ISS)

1. Use the data provided by the Office of Institutional Effectiveness (OIE) to review your course completion and success rates and provide a comparison to the Institution Set Standards for course completion and success rates.

In our Fall 2021 Program Review we reported that our completion rate for 2020/2021 was **63.7%**, while our success rate was **51.3%**. This was slightly lower than the previous year, and unfortunately this downward trend in success has continued into 2021/2022: while our current completion rate ticked up to **66.8%**, our success rate has declined to **47.3%**. Both of these are more than 10% below the institutional averages of 78.6% and 64.6%, respectively.

2. If your program meets or exceeds the standard for completion and success, to what do you attribute your success? If your program does not meet this standard, please examine the possible reasons, and note any actions that should be taken, if appropriate.

There are several reasons why students in Computer Science courses may have a lower success rate compared to the average of students in other subjects.

1. **Difficulty:** Computer science courses can be more challenging than other subjects because they often require a high level of technical proficiency and mathematical aptitude. Many students find programming languages and algorithms difficult to understand and apply. Like many STEM courses, computer science courses often have a strong emphasis on precision and correctness.
2. **Prerequisite knowledge:** Computer science courses may require prerequisite knowledge which is not fully captured in the official course prerequisites. If a student has not taken the necessary foundational courses or lacks the prerequisite knowledge, they may struggle in the more advanced classes.

To address this, we continue to pursue the addition of a “CSci 0” course (SAP #3 in 2021 program review) which would introduce students to the basic concepts of computer science in a lower-intensity course.

3. **Workload:** Computer science courses can have a heavy workload, requiring students to spend significant amounts of time coding, debugging, and completing assignments. This workload can be surprising and overwhelming for some students.
4. **Lack of Support:** Some students may struggle in computer science courses due to a lack of support. Unlike other subjects, computer science courses may not have as many resources available to students, such as tutors or teaching assistants, which can make it harder for students to get the help they need.

We continue to emphasize to students the availability of the CSci Lab (located inside the Math Lab) as a place where students can receive tutoring without an appointment, and we are grateful for Academic Support Services offering appointment-based CSci tutoring as well.

5. **Under-representation:** There is a gender gap in computer science, where fewer women than men pursue degrees in the field. This can lead to a lack of diversity in computer science classrooms, which can make it harder for women and underrepresented groups to succeed in the subject.

We are exploring a partnership with the Center for Inclusive Computing at CSU Fullerton with the goal of providing better support and mentorship for our underrepresented students.

Institutional Student Learning Outcomes (ISLOs)--Do Not Complete Spring 2023

All programs will compare their CSLO attainment to the Global Awareness ISLO.

1. Describe your program's participation in assessment of Institutional Student Learning Outcomes (ISLO's). Specifically, how does your CSLO attainment, for the courses that are mapped to the Global Awareness ISLO, compare to Fullerton College's ISLO attainment?
2. Does the SLO data show significant achievement gaps among demographic groups in your program? If so, where are the gaps and what steps can your program take to shrink them? If not, to what do you attribute your success in minimizing the achievement gap?

Part 2: Additional Resource Request Reasoning and Support

Request Justification (Note: Expand all areas as needed to support your resource request)

Briefly summarize your new / modified resource request. Is it imperative that this resource request be processed now rather than during the next comprehensive program review?

1. If the Resource Request is personnel-related, include support and associated details/data in support of this request.
2. How will this additional resource allocation specifically enhance your program's services, activities, processes, etc. to continue or improve student learning and achievement?
3. How will this resource enhance your area or program? Have you considered the College Mission or Strategic Initiatives, physical/organizational restructuring, and or your program's goals for improvement, as stated in your last program review?

Provide any additional information that supports your request in the space below. Expand as necessary.

With the addition of the new 2400 Humanities building we have been able to reserve two rooms in the 600 building (622A and B) as permanent Computer Science classrooms, something we have never had before. Due to this, we are requesting substantial funds to upgrade these classrooms and equip them with all the necessary technology.

Due to the smaller size of the 622* classrooms, we are requesting \$15,000 to upgrade the two projectors (and, if necessary, media stations) while repositioning the projector screens and possibly projectors so that we can use the projectors and whiteboards simultaneously.

While many of our students own laptops, not all bring them to class, and many do not own one at all. In order to make in-class hands-on activities available to all students, we are requesting \$5,000 to purchase a classroom set of thirty (30) Chromebook laptops. (All of our programming exercises are performed on our CSci department server — fccsci.fullcoll.edu — hence the limited computing power of Chromebooks is not an issue.) This would ensure that we could create in-class activities without worrying about who does and does not have access to a laptop.

Part 3: Resource Request Funding

Directions:

- Complete and submit this section ONLY if you have a NEW resource request
- Each NEW resource request must include the associated justification (Page 3).
- Complete as many resource requests, as necessary. Support each resource request with appropriate and relevant detail (Page 3).

Submission:

Requested by: Andrew Clifton Email: aclifton@fullcoll.edu Phone: 27418

Division: Math/CSci Department: Computer Science Total Requested \$: 20,000

This request is intended as an update to a previously submitted program review. List and provide the cost to implement this request. Describe equipment location and include a description of additional space or maintenance, if needed.

Type of Resource	Requested Dollar Amount	Potential Funding Source
Personnel		
Facilities		
Equipment	\$15,000 — Two (2) upgraded classroom projectors (classrooms 622A and 622B)	
Supplies		
Computer Hardware	\$5,000.00 — One classroom set (30) of Chromebook laptops.	
Computer Software		
Training		
Other		
Total Requested Amount:	\$20,000	

Approval:

Dean: Signature/Approval: Carlos Ayon

Date: 3/9/2023

Rank (if appropriate): Dean Priority Ranking: _____ of _____