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 Friday, December 2, 2022.
- All deans or managers will forward the completed form to the Program Review Committee Chair by Friday, December 9, 2022.
- A sample update form that includes a review of data section is available here:

SUBMISSION:

Program: CIS   Division: Business   Date: 3/9/2023

☐ 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: __Anna Carlin_____

PPRC Endorsement: Yes ☐   No ☐

Revised 09/30/22

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.

Computer Information Systems

Course **Success** Institution-Set Standard		Completion (Retention) Institution-Set Standard	
Below Standard:	Less than 61.2%	**Below Standard:**	Less than 74.5%
Warning:	Between 61.2% and 64.6%	**Warning:**	Between 74.5% and 78.6%
+:	Above 64.6%	**+:**	Above 78.6%

Course Success and Completion by Program

Subject	Enrollments	Avg. Success	Success Standard	Avg. Completion	Completion Standard
CIS	2,333	65.0%	+	80.2%	+
CISG	307	52.1%	Below Standard	77.5%	Warning

Course Success and Completion by Course

Course	Enrollments	Avg. Success	Success Standard	Avg. Completion	Completion Standard
CIS 100 F	459	68.0%	+	85.2%	+
CIS 103 F	73	75.3%	+	80.8%	+
CIS 104 F	6	33.3%	Below Standard	50.0%	Below Standard
CIS 106 F	65	52.3%	Below Standard	67.7%	Below Standard
CIS 107 F	70	78.6%	+	90.0%	+
CIS 109 F	57	73.7%	+	84.2%	+
CIS 111 F	450	58.0%	Below Standard	80.2%	+
CIS 123 F	14	14.3%	Below Standard	21.4%	Below Standard
CIS 142 F	38	47.4%	Below Standard	78.9%	+
CIS 149 F	7	85.7%	+	85.7%	+
CIS 150 F	17	52.9%	Below Standard	82.4%	+
CIS 152 F	128	60.2%	Below Standard	66.4%	Below Standard
CIS 153 F	11	36.4%	Below Standard	72.7%	Below Standard
CIS 154 F	20	30.0%	Below Standard	45.0%	Below Standard
CIS 157 F	10	70.0%	+	70.0%	Below Standard
CIS 160 F	92	50.0%	Below Standard	69.6%	Below Standard
CIS 165 F	35	74.3%	+	88.6%	+
CIS 166 F	23	82.6%	+	95.7%	+
CIS 168 F	14	64.3%	Warning	71.4%	Below Standard
CIS 171 F	37	40.5%	Below Standard	56.8%	Below Standard
CIS 180 F	102	80.4%	+	82.4%	+
CIS 181 F	19	63.2%	Warning	94.7%	+
CIS 182 F	9	77.8%	+	88.9%	+
CIS 183 F	15	66.7%	+	80.0%	+
CIS 201 F	274	72.6%	+	88.0%	+
CIS 205 F	16	75.0%	+	75.0%	Warning
CIS 217 F	43	69.8%	+	79.1%	+
CIS 221 F	29	58.6%	Below Standard	69.0%	Below Standard
CIS 222 F	15	80.0%	+	93.3%	+
CIS 223 F	25	48.0%	Below Standard	52.0%	Below Standard
CIS 226 F	138	73.9%	+	84.1%	+
CIS 290 F	21	76.2%	+	90.5%	+
CIS 295 F	1	100.0%	+	100.0%	+
CISG 100 F	159	58.5%	Below Standard	78.6%	+
CISG 110 F	80	43.8%	Below Standard	71.3%	Below Standard
CISG 112 F	19	47.4%	Below Standard	94.7%	+
CISG 160 F	27	55.6%	Below Standard	77.8%	Warning
CISG 170 F	22	36.4%	Below Standard	77.3%	Warning

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.

The CIS program exceeded the institutional standard set for success and completion. Reasons for this could be attributed to:
- **Improved tutoring support for CIS general classes**
- **Improved tutoring support for CIS programming classes**
- **Toward the end of the semester, Instructors review of the curriculum and suggested next courses**
- **Flexible scheduling –daytime, nighttime, online, hybrid, and on-campus**
- **Offering a variety of CIS discipline certificates**

The CISG program's Success rate is below at 52.1% compared to the institution's 64.6%. The CISG Completion rate is at 77.5% compared to the institution's 77.5% resulting in a Warning rating. Reasons for the ratings are:
- **Increase in online classes resulted in a greater number of students not completing**
- **Offering additional programming related classes in order to improve certificate completion**
- **Lack of tutoring resources for CISG students**
- **Complex subject matter**

Action items for the CISG program could be:
- **Develop improved tutoring resources for the CISG program.**

Institutional Student Learning Outcomes (ISLOs)

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?

N/A

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?

N/A

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.

A. The Computer Information Systems department is requesting three full-time CIS Instructors due to our 2022 request for one faculty position was **denied** even though it ranked #4 by both the deans and the Faculty Allocation Committee. The two additions would support our Programming, Cloud Computing, Data Analytics and Cybersecurity career paths, meet student demand, and serve the projected job growth, as supported by the following:

1. The CIS Department ranked **3rd** college-wide in the issuance of **23** certificates after Counseling and Tech & Engineering programs.
2. Based on input from our industry advisory committee meetings, programming skills are foundational to careers on cybersecurity, cloud computing, and data analytics.
3. Our Center of Academic Excellence in Cyber Defense (CAE-CD) designation from the NSA and DHS requires an annual report of the Cybersecurity program which includes the retention and recruitment of experienced faculty to develop and teach cybersecurity courses such as Application Security. Upon renewal, we could risk losing our CAE-CD designation if the qualified faculty cannot support the program.
4. The data provided is for the whole CIS department and does not reflect the particulars of the Cybersecurity program. The Cybersecurity program **cannot** get adjuncts to teach and consequently may not be able to offer all the required classes necessary for students to complete their degrees and certificates.
5. According to the Bureau of Labor Statistics below, the projected national average employment change from 2021 to 2031 is **5.3%** while the projected employment change for computer and mathematical occupations is **15.4%** (3 times the national average), programming is **22%** (4 times the national average) and information security analysts is **34.7%** (7 times the national average).

Bureau of Labor Statistics Fastest Growing Occupations 2021 and projected 2031 https://www.bls.gov/emp/tables/fastest-growing-occupations.htm					
2021 National Employment Matrix title	Employment, 2021 (in thousands)	Employment, 2031 (in thousands)	Employment change, 2021-31 (in thousands)	Percent employment change, 2021-31	Median annual wage, 2021
Software developers	1,425.9	1,796.5	370.6	26.0	$120,730
Web developers	95.3	124.1	28.9	30.3	$77,030
Data scientists	113.3	153.9	40.5	35.8	$100,910
Information security analysts	163.0	219.5	56.5	34.7	$102,600

Total, all occupations	158,134.7	166,452.1	8,317.4	5.3	$45,760

6. The CIS department now exists with **4.5 full-time faculty** following a reduction of **45%** (almost half!) from 2018 due to retirements. In Fall 2022, the CIS department experienced a **faculty reduction of 2.5** due to 2 full-time CIS instructors retiring and one instructor only working one semester (.5). In Spring 2018, **3** full-time faculty retired.

Every aspect of our lives involves programming, from your bank app on your smartphone to YouTube. Programming skills can help in the job search even when students are not interested in technology-specific fields and can build employer-desired 21st-century **transferable skills** like **problem-solving** and **critical thinking**. Increased automation still requires knowledgeable employees to build and troubleshoot these tools.

Nearly the entire globe is either connected or quickly seeking ways to increase connections. Computer programming offers many different benefits, such as:
- Cybersecurity: Developers build the solutions we need to keep our online interactions safe from threat actors. Mastery of different programming languages helps students launch their careers in this high-demand field. Nationally there are over 700,000 open positions in cybersecurity, of which, over 77,000 are in California, and over 25,000 are in our local areas of Los Angeles, Long Beach, and Anaheim (cyberseek.org).
- Data science and artificial intelligence: This field is projected to grow 35.8% (7 times the national average) by 2031 and needs software engineers to build environments suitable for processing and visualizing the data necessary to train models for data science and machine learning projects.
- Web development and design: Designers leverage computer programming skills to build online experiences in fields like eCommerce or entertainment. This field is expected to grow 30.3% (6 times the national average) by 2031.
- Marketing and business operations: Computer programmers can also help businesses manage operations by building apps and tools for internal use or customer-facing solutions.

B. Dedicated tutoring and classroom support for CIS and CISG programming classes. This will help increase the completion and success rate of CIS classes.

C. Additional classrooms that support combined in-class and Zoom presentations. This will allow students to not only attend more real-time lectures but to attend in-person classes when needed.

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: Anna Carlin   Email: acarlin@fullcoll.edu   Phone: x27210

Division: Business & CIS   Department: CIS   Total Requested $:

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	3 full-time faculty members at 108,688 (Class C, Step 10) = $$$326,064	College Budget
Facilities		
Equipment	$2,500 for in-class and Zoom presentations for 1 classroom	
Supplies		
Computer Hardware	Server for data analytics and cloud computing approximately $5,000	Perkins and/or Strong Workforce
Computer Software		
Training	Current cloud computing and Data Analytics training $15,000 for 2 faculty members	Perkins and/or Strong Workforce
Other		
Total Requested Amount:	$363,564	

Approval:

Dean: Signature/Approval: Carlos Ayon   Date: 3/9/2023

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