

CAREER AND TECHNICAL EDUCATION – SUPPLEMENTAL QUESTIONS

CTE programs must conduct a full program review every 4 years. The full review includes answering these supplemental questions. Every two years (once between full reviews) these supplemental questions must be answered and submitted to Academic Affairs for posting on the College website.

Use labor market data, advisory committee input, institutional data, and the provided CTE 2-year Program Review data to respond to the following questions:

1. How strong is the occupational demand for the program? As you analyze demand over the past 5 years and projected demand for next 5 years, address state and local needs for the program.

According to The Occupational outlook Handbook, U.S. Bureau of Labor Statistics Labor Market Statistics, Employment of computer and information technology occupations are projected to grow 11 percent from 2019 to 2029, much faster than the average for all occupations. These occupations are projected to add about 531,200 new jobs. Demand for these workers will stem from greater emphasis on cloud computing, the collection and storage of big data, and information security.

The median annual wage for computer and information technology occupations was \$88,240 in May 2019, which was higher than the median annual wage for all occupations of \$39,810. Refer to the following table for more details.

OCCUPATION	JOB SUMMARY	ENTRY-LEVEL EDUCATION	2019 MEDIAN PAY
<u>Computer and Information Research Scientists</u>	Computer and information research scientists invent and design new approaches to computing technology and find innovative uses for existing technology.	Master's degree	\$122,840
<u>Computer Network Architects</u>	Computer network architects design and build data communication networks, including local area networks (LANs), wide area networks (WANs), and Intranets.	Bachelor's degree	\$112,690
<u>Computer Programmers</u>	Computer programmers write and test code that allows computer applications and software programs to function properly.	Bachelor's degree	\$86,550
<u>Computer Support Specialists</u>	Computer support specialists provide help and advice to computer users and organizations.	See How to Become One	\$54,760
<u>Computer Systems Analysts</u>	Computer systems analysts study an organization's current computer systems and find a solution that is more efficient and effective.	Bachelor's degree	\$90,920
<u>Database Administrators</u>	Database administrators (DBAs) use specialized software to store and organize data.	Bachelor's degree	\$93,750
<u>Information Security Analysts</u>	Information security analysts plan and carry out security measures to protect an organization's computer networks and systems.	Bachelor's degree	\$99,730
<u>Network and Computer Systems Administrators</u>	Network and computer systems administrators are responsible for the day-to-day operation of computer networks.	Bachelor's degree	\$83,510

OCCUPATION	JOB SUMMARY	ENTRY-LEVEL EDUCATION	2019 MEDIAN PAY
<u>Software Developers</u>	Software developers create the applications or systems that run on a computer or another device.	Bachelor's degree	\$107,510
<u>Web Developers</u>	Web developers design and create websites.	Associate's degree	\$73,760

Computer Occupations

Note: The following data reflects the job market in the Compton College 7.5-mile service area.

Job Estimates - 2018: 10,721 (41% below national average in terms of job availability per area)

Percent Change in Number of Jobs from 2013-2018: +11.2% (National average: +14.8%)

Projected Change in Jobs from 2018-2022: +1.7% (National average: +7.8%)

Area Location Quotient: 0.59 (Numbers above 1.00 mean the occupation is more concentrated in the area compared to the nation. Numbers below 1.00 mean the occupation is less concentrated in the area).

Top 10 Industries Employing Computer Occupations (Compton College Service Area)

Industry	% of Occupation in Industry (2018)	% Change in Industry Jobs (2013-2018)
Local Government, Excluding Education and Hospitals	5.2%	+12%
Software Publishers	5.1%	+41%
Other Aircraft Parts and Auxiliary Equipment Manufacturing	4.8%	+11%
Corporate, Subsidiary, and Regional Managing Offices	4.4%	+12%
Temporary Help Services	4.2%	+38%
Custom Computer Programming Services	3.8%	+11%
Computer Systems Design Services	3.7%	+16%
Wired Telecommunications Carriers	2.7%	-2%
Administrative Management and General Management Consulting Services	2.3%	+50%
Data Processing, Hosting, and Related Services	2.2%	+33%

Note: The following data reflects the job market in California.

Job Estimates - 2018: 683,073 (17% above national average in terms of availability per state)

Percent Change in Number of Jobs from 2013-2018: +20.4% (National average: +14.8%)

Projected Change in Jobs from 2018-2022: +8.9% (National average: +7.8%)

State Location Quotient: 1.17 (Numbers above 1.00 mean the occupation is more concentrated in the state compared to the nation. Numbers below 1.00 mean the occupation is less concentrated in the state).

Top 10 Industries Employing Computer Occupations (California Statewide)

Industry	% of Occupation in Industry (2018)	% Change in Industry Jobs (2013-2018)
Custom Computer Programming Services	17.7%	+17%
Computer Systems Design Services	11.7%	+23%
Software Publishers	6.1%	+35%
Internet Publishing and Broadcasting and Web Search Portals	4.6%	+85%
Corporate, Subsidiary, and Regional Managing Offices	3.6%	+23%

Electronic Computer Manufacturing	3.1%	+39%
Data Processing, Hosting, and Related Services	2.9%	+81%
Other Computer Related Services	2.3%	+19%
Temporary Help Services	2.1%	+48%
Local Government, Excluding Education and Hospitals	1.7%	+13%

- How does the program address needs that are not met by similar programs in the region?
We at CIS department are aware that the computer related job opportunities within Compton and surrounding area is lower than those in the state. To overcome this problem, we have developed more courses and programs to make our students more marketable. Computer Repair and Troubleshooting program known as A +, has been developed recently and we are in the process of developing a coding program in Swift in conjunction with Apple apps programming. We are also planning to develop an internship and externship program to prepare students for the job market in the area they are trained and certificate.
- What are the completion, success, and employment rates for the students? Discuss any factors that may impact completion, success, and employment rates. If applicable, what is the program doing to improve these rates?

Associate of Science Degrees Awarded

	2014-2015	2015-2016	2016-2017	2017-2018
Computer Information Systems	2	2	1	0
Computer Science (Transfer)	0	0	0	1
Total	2	2	1	1

Success Rates

	FA2015	SP2016	FA2016	SP2017	FA2017	SP2018
Computer Information Systems	71.1%	67.1%	73.1%	66.7%	75.7%	77.6%

Employment Rates

	2014-2015	2015-2016	2016-2017	2017-2018
Computer Information Systems (TOP Code: 0702)	100%	100%	--	100%

Computer Software Development (TOP Code: 0707)	33%	100%	100%	--
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Source: CCCC CO CTE Core Indicator Summary Report

As shown in tables above, degree completion rate has the lowest rate among the three areas. This is mostly due to students finding a job before completing all required courses to obtain their degree. Financial hardship could be an important factor to prevent students completing their studies. Success rate shows a healthy increase in spring of 2018 in comparison to those prior. This should not stop us from setting a higher success rate for the years to come. Our success rate goal for next period is at 80%. Employment rate is at high 100% in CIS and we are striving hard to keep it at this rate. Although we do not show any data for Computer Software Development, but in the near future when Swift coding program is offered, we will see some results in this area as well.

4. If there is a licensure exam for students to work in their field of study, please list the exam and the pass rate. If there are multiple licensure exams in the program, include them all. Discuss any factors that may impact licensure exam pass rates. If applicable, what is the program doing to improve these rates?

We have offered A+ and Network + programs recently. These two programs are licensure. We have not had any students finishing these programs to take the exam. In addition, experiencing Covid-19 time period, course offering for these two programs are on hold because they require an ample amount of time for students to do hands on activities.

5. Is the advisory committee satisfied with the level of preparation of program graduates? How has advisory committee input been used in the past two years to ensure employer needs are met by the program? Describe any advisory committee recommendations that the program is either unable to implement or is in the process of implementing.

Advisory committee meeting is held every semester with the members of the committee. Along with an ongoing communication with the committee members, this meeting is an opportunity for CIS faculty and staff to meet with the committee members to discuss issues to improve and strengthen the program. During these meetings, members will talk about the latest happening in industry and will look into the CIS program content. At times, they propose changes and modifications to the program. For example, A+ and Network + have been developed based on the committee member' suggestions.

California Education Code 78016 requires that the review process for CTE programs includes the review and comments of a program's advisory committee. **Provide the following information:**

- a. Advisory committee membership list and credentials

- Anthony D. Mays- Software Engineer at Google
 - Reza Rezaei, Owner/President CamTek Inc. Cypress Ca. Hardware Engineer. 17 year experience of computer networking and system security.
- b. Meeting minutes or other documentation to demonstrate that the CTE program review process has met the above Education Code requirement.

The following is the advisory board meeting:

Career Education Advisory Committee Meeting Minutes March 7, 2019 7:30-9:30am

Vision

Compton College will be the leading institution of student learning and success in higher education.

Mission Statement

Compton College is a welcoming environment where the diversity of our students is supported to pursue and attain academic and professional excellence. Compton College promotes solutions to challenges, utilizes the latest techniques for preparing the workforce and provides clear pathways for transfer, completion and lifelong learning.

Meeting Participants please refer to meeting sign in sheets for meeting attendance.

Meeting Minutes

- I. Welcome Address • Dr. A talked to the attendee about the separation from El Camino and the importance of establishing advisory committees.
- II. • Dr. Murray discussed the Compton College and the requirement and purpose of the Advisory Committee. He asked the industry representatives to assist the faculty. II.
- III. Explanation of Regional Consortium • Dr. Alex Davis, Executive Director-LA/OC Regional Consortium, Asst. Vice Chancellor or Dr. Davis provided her background and gave the meeting attendees the history and outline of the Regional Consortium. She talked about the funding (local & regional) and the population the Consortium serves • Dr. Davis discussed the role of the College CEO in the Consortium, and how they advocate on behalf of the students, faculty and campus.

- IV. State of the Region Conference (Oct. 9-11) o Regional Consortium 3rd Thursday of the month III. K12 Strong Workforce & Career Pathways
- V. Amy Kaufman- LA/OC Regional Consortium o Gave a presentation on the 4 Industry Revolutions (PowerPoint) Discussed the 4 types of leaders (social supers, data driven, disrupters, and talent champions) Talked about the phrase “How Might We?”
- VI. Keynote Speaker •Anthony D. Mays- Software Engineer at Google, Anthony gave us a look at his background and journey to Google •He was a foster child/ and grew up in Compton, CA, Self-taught computer programmer by age 8, Attended CAMS at CSUDH, and UC Irvine. His saying is “teach computer science or learn computer science) •Discussed how technology changed the way we look at the world. Time is now to get into to computer science industry, (low barrier to entry, high demand low supply, and the underserved population).
- VII. Industry Questionnaire- Lynell Wiggins went over the Advisory Committee Handbook with the meeting attendees. Provided the Table Prompt for each advisory committee • Committee members were given time to brainstorm with each other and answer some questions as they relate to each discipline and the industry VI. Conclusion – Lynell Wiggins Meeting Adjourned. The next scheduled meeting is to be determined.