

Information Technology Department
AUP for Academic Year 2025-2026
October 2024

Describe Department/Unit

Connection to College Mission

It is the mission of the Department of Information Technology to provide courses and instruction that will meet the academic, career, and general education needs of our students, college, and communities. We provide instruction leading to associate degrees and certificates in multiple disciplines including digital media and information technology. The programs in the Department Information Technology provide life-long learning and support to students in their academic, technical, and vocational pursuits. The goals of our programs are to foster in students a lifelong desire to learn, a passion to excel, and a commitment to contribute actively to their local community.

Students earning associate degrees, certificates, and awards that are under the Department of Information Technology will be prepared to enter the job market with a variety of focuses including but not limited to: help desk providers, computer operators, desktop publishers, office clerks, administrative support specialists, information technology and cyber-security support specialists, social media marketing specialists, and web developers/designers.

Students graduating from the department's programs will be prepared to transfer to a four-year institution to continue in related fields of information technology, cyber-security, and web design/development.

Report on Improvements Made and Gaps Identified in the Prior Year

Student Equity

Business Office Technology

Total BSOT completions were the same as the college average, but success was significantly lower. Disaggregation showed the following patterns:

- There is a significant gap in Hispanic/Latino success compared to the college. And this also declined by 4% points compared to last year.
- There are also significant gaps in the success of BSOT students compared to the college among the following groups:
 - Both non-economically and economically disadvantaged students
 - First generation students
 - Financial aid students
 - Both DSPS and non-DSPS students

Digital Media Arts

Completion and Success

Total DMA completions and success are better or much better than the college, however, disaggregation shows imbalances:

- DMA distance education completion and success are still significantly below the college, although distance education success has improved 3 percentage points from the previous year. The completion rate is the same as the previous year.

- DMA financial aid students significantly below college averages, and non-financial aid students are “much better” than college averages. Both groups have improved from last year, with a 12% points increase in success for financial aid students.
- There is a similar but less pronounced, pattern with non-economically and economically challenged students. Also similarly, economically disadvantaged student success improved 15% points from last year.
- There is a significant gap among African American DMA students in both completion and success compared to college averages. Completion declined compared to last year, but success improved.

Information Technology

Overall, the IT area has improved in the gaps identified in 2024-25. Success had dropped to 74% in 2023 and has risen to 76% in 2023-24. The enrollment in the African American group significantly increased (6.5% to 9.9% or 47 to 76 students). This group was targeted for improvement in enrollment, success, completion which are reviewed below. Most other groups have also significantly increased enrollment, however, the White group has declined from 45.3% to 39.2% (329 to 302 students).

Student success rates in IT went from 74% to 76% which is 1% above the college average. Success in men fell 1% from 75% to 74% whereas women's rates rose from 72% to 77%. In the ethnicity area, African Americans rose from 59% to 67%. Hispanic/Latino success rose from 71% to 78% which was a declining area in 2023-24. Most of the groups did well and increased in success, but there were several that fell. American Indians fell from 100% to 0%. There was only one American Indian student in that area. This does not represent a reflection of the entire group. Pacific Islanders fell from 57% to 30% as enrollments increased. Only three of ten students were successful. Success overall exceeds the college average of 75% whereas IT success is 76%.

In the completion area, IT went from 86% to 87%. African American's completion rate increased by 7% which is significant. It went from 77% to 84%. Hispanic/Latino also improved from 86% to 88%. Other groups also increased including Asians from 76% to 89%, and White from 88% to 89%. Groups that did not increase their completion were American Indian from 100%-0% (1 student in the group), Filipino from 100% to 77%, Pacific Islander from 57% to 40%, and Two or More Races from 86% to 81%. Overall, students complete at higher rates but are still close to the college-wide averages.

Analysis of Student Equity

The end of Spring 2025 will complete the teach-out period for the Business Office Technology program, after which the Computer Application Specialist program in the IT discipline will be fully launched. There are a number of possible reasons for the low completion and success. The BSOT program had 20 low-unit courses, and while it seems intuitive that it would be easier for students to complete and be successful in low unit classes, a perceived slower progress through the program may impact motivation. BSOT also has a significantly higher percentage of first-generation students than DMA and IT. A consistent course experience would be particularly helpful to these students. The BSOT program, taught almost exclusively by adjunct faculty, has quite a bit of non-uniformity in course design. This has been corrected in the Computer Application Specialist program for which a full-time faculty member has applied a uniform template to all of the courses.

Both BSOT and DMA show performance gaps among economically disadvantaged students. Anecdotal evidence suggests that some students are not purchasing required textbooks or subscriptions. Starting in Spring 2025, all subscriptions (including Cengage Unlimited, MyLab IT, TestOut, and other publisher subscriptions) can be paid for with California Lottery Funds. In fact, our entire department inventory of courses will be covered except for two courses that use low-cost books. We believe this will have a significant positive impact on student completion and success in the coming year.

It is believed that peer tutors can help close gaps for the IT courses. However, there have been some challenges in obtaining peer tutors for the IT/Cyber areas. Specifically, the programming and higher-level IT/Cyber courses need tutors to help them with the challenging content.

Outcomes Assessment: Loop-Back Improvements Made

Business Office Technology

No assessments. Program is being discontinued.

Digital Media Arts

2023-24 was not an assessment year for DMA.

Information Technology

Information Technology was scheduled to report on student learning outcomes for Spring 2024 and Fall 2024, however, we received a report that had some Fall 2023 data and Spring 2024. While these were not our “planned” terms, they provided insights into IT/Cyber SLO patterns. Once we complete the Fall 2024 assessments, we will be able to finalize the SLO of the program in preparation for Program Learning Outcomes and the Program Review.

Of the courses that were planned for assessment in the Spring 2024 term only one course (IT C251) did not meet the outcomes. In IT C251 (Python), only 1 of 3 SLOs passed the 70% mark. The programming course has had challenges with student success. As a result, the IT Faculty requested that the course be offered at the IWV campus for students who needed an F2F environment. In addition, Professor Kuttig has redesigned the course and implemented a different approach to teaching programming. The new approaches appear initially to be effective as students are becoming more successful in the classroom. Once we assess in Fall 2024, we will be able to validate/verify that these new approaches have improved success.

Outcomes Assessment: Results of Last Year's Assessments

Business Office Technology

N/A

Digital Media Arts

N/A

Information Technology

All outcomes met, except 2 outcomes for IT C251.

Outcomes Assessment: Missed Targets (copy/paste sets as needed)

Business Office Technology

N/A

Digital Media Arts

N/A

Information Technology

Type

☐ AUO ☒ SLO

Outcome (Include Course Name and Number, if SLO)

IT C251 -Introduction to Programming Concepts and Methodologies (Python)

Extent of Gap

SLO #1: Design, implement, test, and debug a program that uses each of the following fundamental programming constructs: basic computation, simple I/O, standard conditional and iterative structures, and functions. (Not Met ~ 61%)

SLO #2: Apply core program control and data structures.(Not Met 50.5%)

SLO #3: Test applications with sample data. (Met – 100%)

Type of Gap (duplicate menu if more options are needed)

Need to alter/refine course content

Type of Gap (duplicate menu if more options are needed)

Need to alter/refine instructional techniques

Analysis and Plan for Improvement

Professor Kuttig redesigned the course in the Fall 2024 and implemented a new teaching approach to teaching programming. The new approaches appear initially to be effective as students are becoming more successful in the classroom. Once we assess in Fall 2024, we will be able to validate/verify that these new approaches have improved success.

Outcomes Assessment: Schedule of This Year's Assessments

Business Office Technology

N/A: The program is being discontinued.

Digital Media Arts

SLO assessments are being started.

Information Technology

SLO assessments are being finished.

Program Review

Business Office Technology

N/A: The program is being discontinued.

Digital Media Arts

This is not a program review year.

Information Technology

This is not a program review year

Last Year's Initiatives

IT/Cyber Security 23-24 Initiatives

1. Develop and implement the Computer Application Specialist Certificate of Achievement/Degree. (Completed)
2. Move remaining unused courses from BSOT to Business or Non-credit. (Completed, but we are considering re-organizing courses to shorten the required hours). Courses that were completed through CIC are: Basic Computers (pre-IT C075), Keyboarding, Word, Excel, PowerPoint, and Outlook). Three non-credit certificates were also completed.
3. Discontinue the Business Office Technology Program. (In process)
4. Hire an additional Cyber Security full time faculty member. (FT person started in Fall 2023)
5. Hire a Computer Application Specialist full time faculty member. (Did not get a position to be hired).

Measures of Success

Completion of the above items.

Status

- ☐ Not Yet Started
- ☐ In Progress
- ☐ Not Attempted
- ☐ Withdrawn
- ☐ Completed

Reminder of Initiatives for the Current Year

1. Hire full time Masters of Science faculty to staff Cyber Security Baccalaureate Degree program
Not completed
2. Launch Computer Application Specialist program
Completed
3. Launch Computer Basics noncredit program
In Process
4. Finish teach-out period of Business Office Technology program
In Process – Completion May 2025

Plan Initiatives for Next Year

Digital Media Arts

Initiative

Digital Media and Marketing Certificate dual enrollment program at Burroughs High School

Plan

1. Obtain approval and support among Cerro Coso and Burrough High School stakeholders. Completed
2. Identify a qualified and willing instructor at the high school. Completed
3. Identify a start schedule. Completed. Planned start is Fall 2025
4. Burroughs to upgrade their labs. In progress
5. Burroughs instructor to shadow Cerro Coso faculty in our online classes. In progress
6. Develop specific 2-year schedule rotation. Not yet started

Measure of Success

Actual offerings of Digital Media and Marketing classes at the high school

Status

- ☐ Not Yet Started
- ☒ In Progress
- ☐ Not Attempted
- ☐ Withdrawn
- ☐ Completed

Information Technology

Initiative

Microsoft Application Certificate dual enrollment program at Burroughs High School

Plan

Work with the CTE Dean to develop a dual enrollment program at Burroughs High School including the following steps:

1. Explore if they have a qualified teacher to teach classes in Microsoft Office and the baseline classes including IT C075 (Computer Literacy) and IT C101 (Introduction to Computer Information Systems).
2. Meet with Burroughs CTE administrators to explore offering classes in the next year (2025-2026).
3. Coordinate with college faculty and high school faculty to implement.

Measure of Success

The CAS program will be started at Burroughs High School as a new dual enrollment program.

Status

- ☒ Not Yet Started
- ☐ In Progress

- ☐ Not Attempted
- ☐ Withdrawn
- ☐ Completed

Digital Media Arts & Information Technology

Initiative

Use of Lottery Funds for student subscriptions

Plan

1. Create course inventory list of required materials. Completed.
2. Appropriately identify lottery funded subscriptions in eCampus. Not yet started.
3. Communicate process to students. Not yet started.
4. Students obtain required subscriptions for the Spring and subsequent terms. Not yet started.

Measure of Success

Students obtain required subscriptions for course at no cost.

Status

- ☒ Not Yet Started
- ☐ In Progress
- ☐ Not Attempted
- ☐ Withdrawn
- ☐ Completed

Evaluate Resource Needs

Facilities

Digital Media Arts

No facilities needs are requested.

Information Technology

Facility needs are currently being met.

Information Technology

Digital Media Arts

Continued support for student access to LinkedIn Learning is needed. New and future support for student subscriptions with California Lottery funds is requested. Both of these funding sources enable our department to almost entirely eliminate learning resource/textbook costs for students.

Information Technology

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Marketing

Digital Media Arts

Funding is needed annually for social media and Google marketing of Fall courses so students can enter the pathway during the optimal time of year. This marketing has proven to make a significant difference in enrollments. We also need continued support for printing flyers and brochures for outreach events, such as Career Day, the Desert Empire Fair, and community presentations.

Information Technology

The IT/Cyber program will continue to need marketing funds and marketing is needed each semester for the programs. Brochures and banners were developed but we had some additional certificates (Cloud Computing and Linux Administration) that may need new brochures and/or we can update our current brochures. Additionally, our Data Analyst I certificate is not represented in any of our brochures and needs to be added as well. With the addition of a new certificate (Computer Application Specialist), we will need additional marketing materials and advertisements.

In addition, as we are moving more classes back on campus, we need a continual marketing campaign to let potential students know that they can take classes on campus in Ridgecrest.

Professional Development

Digital Media Arts

LinkedIn Learning remains the most valuable resource for professional development for digital media arts faculty. The California Community College Chancellor's Office provides access to this for all faculty.

Information Technology

Funding for professional development (WASTC training sessions) and attendance at the ICT conference in January as well as other professional conferences. Attendance at statewide Cyber meetings is also needed.

Other Needs

Digital Media Arts

N/A

Information Technology

N/A

Staffing Requests

1000 Category- Certificated Positions

Computer Application Specialist Instructor

Location: CC Online, Ridgecrest/IWV

Justification:

A full-time faculty member is requested to lead the new Computer Application Specialist program. The previous iteration of this program was the Business Office Technology program, which was overseen by a full-time faculty member before she retired. The program had overall acceptable enrollments due to dual-enrollment at California City and Tehachapi high schools, however, those dual-enrollment programs

languished when the high school teachers retired. This effect underscored the need to bolster regular enrollments in the program through online and on-ground delivery, described in the 2021 Business Office Technology Program Review.

Further discussion with the Business Office Technology and Information Technology advisory committees illuminated an opportunity to increase demand for the program by shifting away from a focus on secretarial skills and toward a focus on general computer applications skills, which are transferable to more careers, especially within our service area. In the new iteration of the program, the 1-unit incremental courses have been combined into single 3.0 unit classes for each major application. Some classes have been removed (e.g. keyboarding), and others have been added (e.g. cloud-based applications).

The Computer Application Specialist program has been locally approved and is now undergoing regional and state approval. The Business Office Technology program is now in teach-out mode. The data below reflects historic Business Office Technology students.

1. Are there too few or too many students enrolling for particular classes or majors?

	2018-19	2019-20	2020-21	2021-22	2022-23
Course Count	19	19	20	20	20
Section Count	39	41	46	44	40
First Day Enrollment	1,058	1,083	1,023	956	986
Census Enrollment	803	839	798	711	868
Students Per Section	20.6	20.5	17.3	16.2	21.7
First Day Waitlist Total	1	10	18	3	7
FTES	57	49	44	50	60
FTEF	5.46	5.46	6.99	6.65	5.86
FTES to FTEF Ratio	10.4	9.0	6.3	7.5	10.3

Census enrollments and full-time equivalent students (FTES) have improved slightly over the past 5 years, with a dip during the pandemic. Productivity also dipped during the pandemic, but is only 0.1 below 2018-19. While there are improvements, the program needs dedicated leadership by a full time faculty member with industry experience.

2. Are there too many courses or programs that are under capacity?

Yes, the retiring Business Office Technology program includes more courses than are effectively serving students. The new Computer Applications Specialist program eliminates unnecessary course and adds new courses that have been requested by the advisory committee.

3. Are courses “core mission”?

Yes, this program of study is a Career Technical Education program, tying it to the College mission of providing “degrees and certificates in transfer and career technical education” and offering “learning opportunities that develop ethical and effective citizenry.” This program also provides life-long learning and support to students in their academic, technical, and vocational pursuits. One of the goals of this

program is to foster a lifelong desire to learn, a passion to excel, and a commitment to contribute actively to the local community. One of the community college's core missions is to serve the workforce needs of employers. There is a workforce shortage in our service area, region, state, and nationally. The Naval Air Warfare Center at China Lake, local contractors, and other businesses have a continual need for entry-level workers for computer operators, software experts in Office, Help Desk support, and other entry-level IT support jobs.

4. Are courses overscheduled?

There will be a new long-term schedule and the classes will be scheduled through the semester instead of the 8-week cycle that has been done previously. They will be rotated throughout the year as to not be overscheduled and to be well enrolled. They will initially be offered online, but there is an intention to bring the program back on campus during the evening hours to align with potential local working student schedules in the evening. Students will not have to juggle schedules to get one of the three short courses but will take one comprehensive course for each software application.

5. Is there capacity to offer courses or programs at different times and/or locations?

With the re-focus of this program, we will initially be offered online, but there is an intention to bring the program back on campus during the evening hours to align with potential local working student schedules in the evening. There are opportunities to build new dual enrollment programs that will be more attractive due to the emphasis on software specialization and job opportunities. This is an ideal program for high school students to prepare them for entry-level work and to support their continued academics. A full-time faculty member will be the champion of this program and marketing promotion in the IWW area will need to be done to advertise the offering.

6. Is there a workforce shortage in the service area or region?

Yes. There will be an ongoing and continual need for entry-level computer operators with software specialization skills. workers as well as administrative assistants. Incumbent workers also need ongoing updating of skills as they promote up in their organizations. Students can expand their opportunities beyond the office environment to IT entry-level jobs, Help Desk jobs and other computer operator positions.

7. What are the costs and/or lost revenue from gaps between student demand and course or program capacity?

This program has had a full-time faculty member developing and modifying the ever-changing needs for employers. The absence of a full-time faculty member to continue these efforts with an advisory committee will stagnate the program and cause gaps between students and availability as well as placement in employment. This will also impact on our relationship with employers in our service area. Additionally, direct losses in potential FTES and apportionment will cost the college.

8. In support of your proposal, provide the following data:

- a. Size of wait lists in the discipline. The waitlists for the BSOT courses over the past 5 years has been 1, 10, 18, 3, and 7.
- b. Department productivity, previous year. Productivity dipped during the pandemic, but has recovered. Currently at 10.3, it is only 0.1 below 2018-19.

- c. Number of full-time faculty currently in the department. 1.930 (330%) (However, this figure represents faculty who have primary responsibility over other programs. We do not have a full-time faculty member assigned to this program.)
- d. Number of adjunct faculty. 3.393 (58.0%)
- e. Overload. Data not given
- f. Summer. 0.532 (9.1%)
- g. Number of certificates awarded, previous year. 3 (This is only the full certificate. We did not receive award data from IR on the smaller certificates.)
- h. Number of degrees awarded, previous year. 3
- i. Core curriculum classes. 20
- j. CTE classes with workforce data (wage/high demand). 20
- k. Number of students at first day and census, previous year. 986/868

Information Technology/Cyber Security for Baccalaureate program

Location: Ridgecrest/IWV

Justification

Are there too few or too many students enrolling for particular classes or majors?

This new position request will serve the new Cyber Security Baccalaureate of Science degree that has now been provisionally approved by the California Community Colleges Chancellor's Office (CCCCO). It was expected that we will get final approval no later than March 2024 by the Board of Governors, however, we have had several iterations with CSU and the CCCC on duplication. There were four initial CSUs that objected, but two have withdrawn and CCCC is in the process of meeting/resolving any duplication concerns. We anticipate that these will be resolved in the next few months and we will be able to offer the BS starting in Fall 2025. In anticipation of final approval, we need to move forward with a full-time position to provide instruction to incoming students.

Cerro Coso Institutional Research Office developed a student survey to assess student interest in a bachelor's program in cyber security. We developed the survey and then sent it to graduates, former students enrolled in the major classes, and current students. 920 surveys were sent out and 106 students responded. Of the 106 students who responded, 67 (63.2%) were current students and 39 (36.8%) were former students. Of these students, there was substantial student interest in a bachelor's program with 91 students (88%) either very interested or interested in enrolling in the program.

Are there too many courses or programs that are under capacity?

No. The new program will consist of the following new courses and have not yet been scheduled:

Baccalaureate-degree required courses:

- IT C280: Introduction to Cloud Computing (3 units, lower division)
- IT C290: Linux Administration I (3 units, lower division)
- IT C292: Linux Administration II (3 units, lower division)
- IT C320: System Logs and Event Management (3 units)
- IT C330: Network Security (3 units)
- IT C350: Windows Forensics (3 units)

- IT C400: Cyber Incident Response (3 units)
- IT C420: Operational Security Architecture – Security class (3 units)
- IT C430: Threat Intelligence (3 units)
- IT C450: Systems and Network Auditing (3 units)
- IT C460: Enterprise Security Architecture (3 units)
- IT C470: Penetration Testing (3 units)
- IT C480 Cloud Security (3 units)

Upper-division general education courses:

- ENGL C301: Technical Writing for Professionals (4 units)
- PARA C300: Ethics & Cyber Law (3 units)
- PSYC C300: Industrial and Organizational Psychology (3 units)

Several of the courses (IT C280, C290, C292) are currently taught at the associate's level and have plenty of room in the sections to provide for the students to enroll, the 10 additional classes in the major will require additional staffing with higher-level degrees and experience. The baccalaureate courses will require a master's degree plus sufficient experience in the field. In our current full-time and adjunct pool, only two have the combination of education and experience qualified to teach these courses. We will need to move several of those adjuncts' loads to other faculty at the associate's level to provide room for the upper-division course. Those lower-division courses require a bachelor's degree, and we can more easily hire AS-level adjuncts.

Are courses “core mission”?

Yes. One of the community college's core mission is to serve the workforce needs of employers. There is a workforce shortage in our service area, region, state, and nationally.

Cyber Security professionals are in critical demand to protect our individual security, business security, and international security. The Bureau of Labor Statistics projects that Information Security jobs will grow much faster than other occupations from 2021-2031 at about 35%. It is listed as the eighth fastest occupation in the United States.

The Naval Air Warfare Center at China Lake, local contractors, and other businesses are having a difficult time hiring for both information technology and cyber security positions. The shortage is expected to increase. From 2013 to 2019, cyber security jobs demand increased by 94%, and information technology job demand increased 30% (“Recruiting Watchers for the Virtual Walls? June 2019, Burning Glass).

Additionally, we serve Edwards Air Force Base, Mojave Spaceport as well as many other businesses that need to protect computerized systems, and networks, and secure their data as well as NAWS.

Are courses overscheduled?

No. The courses in the baccalaureate program have not been scheduled, but you can see from the sequencing table below that there will be two to three additional upper-division courses scheduled immediately when the program is offered. As the BS program rolls from semester to semester the number of courses will increase and will require additional specialized full-time faculty.

Course	Units	CSU GE	Course	Units	CSU GE
Junior Year					
IT C290	3		IT C292	3	
IT C320	3		IT C350	3	
IT C330	3		IT C400	3	
ENGL C301	4	Upper GE	PARA C300	3	Upper GE
Fall Total Units	13		Spring Total Units	12	
Senior Year					
IT C280	3		IT C430	3	
IT C420	3		IT C460	3	
IT C450	3		IT C480	3	
IT C470	3		PSYC C300	3	Upper GE
Fall Total Units	12		Spring Total Units	12	

Is there capacity to offer courses or programs at different times and/or locations?

With the start of the baccalaureate program, we will initially be offering all upper-division courses online, but there is an intention to bring the program to campus during the evening hours to align with potential local working student schedules in the evening.

We are also beginning work with the local high schools to build a pathway to our cyber security and information technology programs in a dual enrollment model. Once we begin this dual enrollment program, we will have a continuing pathway of students for our cyber security program. While this is a great model, it will put further strain on our AS-level faculty as it will increase the enrollments.

Is there a workforce shortage in the service area or region?

The College has tailored its programs to meet the needs of the communities for these two objectives, but Cerro Coso's efforts do not stop there. Because of the unique qualities of the communities that the College operates in, Cerro Coso Community College has designed, implemented, and continues to seek new programs that fit the constituencies' needs. The Main Campus acts as the role model for this program. Searles Valley Minerals Corporation and the China Lake Naval Air Weapons Station (NAWS) have been working with the College since the early 70s to provide training programs and courses for their personnel that will integrate state-of-the-art technology with up-to-the-minute information to help keep employees the best educated and productive in the world. Nowhere else is this as important than at NAWS. Nearly 90% of all NAWS employees are government-contracted civilians working to develop and improve defense systems for the United States. These highly educated computer scientists, engineers, and physicists are always looking to update their skills in a variety of areas, including the College's information technology, cyber security, and career technical programs. The proposed Cyber

Security Defense & Operations Bachelor of Science degree has been an emerging field for the past six years and Cerro Coso developed the Cyber Security Certificate of Achievement and Associate of Science degree to start to meet this need. While the A.S. degree and associated COA have been a popular and growing program, our employers, regional, state, and nation require higher education than an AS to meet current and future needs to protect information and our national security.

Cyber Security professionals are in critical demand to protect our individual security, business security, and international security. The Bureau of Labor Statistics projects that Information Security jobs will grow much faster than other occupations from 2021-2031 at about 35%. It is listed as the eighth fastest occupation in the United States. A bachelor's degree is becoming increasingly required for these occupations. In the Cerro Coso Community College service area, we serve five counties, 18,000 square miles (about twice the area of New Jersey) from Tehachapi to Lee Vining to Death Valley and Kern River Valley. Our expansive service area is primarily rural and remote with no California State University adjacent. We serve one of the largest Naval Research facilities (Naval Air Warfare Center at China Lake), a hub of advanced technologies at Mojave Spaceport, and the center for NASA at Edwards Airforce Base. Additionally, we serve mining and manufacturing, renewable energy, and other traditional businesses (banking, education, retail, and recreational). All these employers require cyber security professionals to secure networks for national defense, emerging technologies, and traditional business organizations.

Data from the Bureau of Labor Statistics provides an overview of the cyber security (information security) profession and the increasing need for a bachelor's degree. Lightcast shows a significant difference in the current and future educational requirements. The difference educational requirements for jobs in Cyber Security/Information Security requiring an BS degree versus an AS degree is 2101 postings or 48% of the total postings. There are 495 postings or 11% of total postings for an associate degree versus those requiring a BS degree of 2,596 postings or 59% of total postings.

Wages in cyber security/information security are significantly higher than other professions with a median wage of \$102,600 per year or \$49.33 per hour in 2021. (<https://www.bls.gov/ooh/computer-and-information-technology/information-security-analysts.htm#tab-1>). Per the Lightcast report (attached), wages in the IWV (Indian Wells Valley) area are 5% higher than the national average at \$46,608, while the national median wage is \$44,412. There is a significant pay rate difference between those that have a BS versus an AS.

At the most recent Advisory Committee meeting and the desktop review of the developed courses, employers overwhelmingly support the baccalaureate program and will move to have the name of the program moved to the Human Resources registry so that incoming graduates from our program will earn credit for the bachelor's degree and enter at a higher classification and higher pay. The projected entry amount for someone who completes this program is \$80,000 to start.

What are the costs and/or lost revenue from gaps between student demand and course or program capacity?

In the program application, we supplied the information below on the cost and projected budget for the program. We anticipated and planned for the offering of the program and the costs associated with it including hiring two additional full-time faculty.

The following is a projected budget for the program's first six years. The projections below anticipated an earlier start, but the costs are the same.

Cost Estimates	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Associate Cost						
1000's Academic Salaries (1 full-time @ 1.000; part-time/overload @ 0.667)	\$85,168.20	\$108,897.40	\$111,079.84	\$113,316.83	\$115,609.75	\$117,489.95
3000's Employee Benefits	\$37,984.00	\$43,228.00	\$43,704.00	\$44,193.00	\$44,694.00	\$45,188.00
4000's Supplies & Materials	\$7,500.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
5000's Services/Operating Expenses	\$14,500.00	\$6,000.00	\$6,000.00	\$6,000.00	\$6,000.00	\$6,000.00
6000's Equipment	\$500.00	\$500.00	\$500.00	\$10,000.00	\$500.00	\$500.00
Total Estimated Associate Cost	\$145,652.20	\$161,625.40	\$164,283.84	\$176,509.83	\$169,803.75	\$172,177.95
Bachelor Cost						
1000's Academic Salaries (1 additional full-time; additional part-time/overload @ 1.333)	*	*	\$92,488.20	\$130,497.40	\$132,679.84	\$134,916.83
3000's Employee Benefits	*	*	\$39,604.00	\$48,006.00	\$48,482.00	\$48,971.00
4000's Supplies & Materials	*	*	\$3,000.00	\$3,000.00	\$3,000.00	\$3,000.00
5000's Services/Operating Expenses	*	*	\$6,000.00	\$6,000.00	\$6,000.00	\$6,000.00
6000's Equipment	*	*	\$500.00	\$500.00	\$500.00	\$500.00
Total Estimated Bachelor Cost	\$0.00	\$0.00	\$141,592.20	\$188,003.40	\$190,661.84	\$193,387.83
Estimated Net Costs for Full Program (Associate + Bachelor)	\$145,652.20	\$161,625.40	\$305,876.04	\$364,513.23	\$360,465.59	\$365,565.78

The table below represents the estimated revenue and enrollment for the program. As you can see, when the program commences we will begin to see a recovery of any additional costs in the second year.

Revenue Estimates	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Associate Enrollment**	20	38	42	46	50	54
Base Credit* (\$4,840 per FTES)		\$86,290.29	\$155,986.29	\$172,248.69	\$188,511.09	\$204,773.49
Supplemental Allocation* (\$1,145/student eligible)	*	\$13,740.00	\$26,106.00	\$28,854.00	\$31,602.00	\$34,350.00

CTE +9.0 units* (\$645 per student)	*	\$12,900.00	\$24,510.00	\$27,090.00	\$29,670.00	\$32,250.00
Associate Degree* (\$1,935 per completer)	*	*	\$24,768.00	\$27,864.00	\$29,412.00	\$32,508.00
Bachelor Enrollment**			20	40	44	48
Additional \$84/unit	*	*	\$31,920.00	\$66,864.00	\$73,584.00	\$80,304.00
Base Credit* (\$4,840 per FTES)	*	*	*	\$122,797.71	\$233,647.54	\$256,879.54
Supplemental Allocation* (\$1,145 per student eligible)	*	*	*	\$13,740.00	\$27,480.00	\$30,228.00
CTE +9.0 units* (\$645 per student)	*	*	*	\$12,900.00	\$25,800.00	\$28,380.00
Baccalaureate Degree* (\$2,580 per completer)	*	*	*	*	\$41,796.00	\$46,440.00
Additional Funding						
Categorical Funding (Strong Workforce, Perkins, Other)	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00	\$40,000.00
Estimated Revenue/Funding Potential	\$40,000.00	\$152,930.29	\$303,290.29	\$512,358.40	\$721,502.63	\$786,113.03
Estimated Net Revenue (Revenue minus Costs) for Full Program (Associate + Bachelor)	(\$105,652.20)	(\$8,695.11)	(\$2,585.75)	\$147,845.17	\$361,037.04	\$420,547.25

* SCFF allocations applied in the subsequent year at KCCD; dollar amounts based on 2022-23 Advance Rates; supplemental allocation assumes 60% of students eligible, consistent with college average

** Enrollment projections assume 80% retention per year at associate level, 90% retention per year at baccalaureate level

In support of your proposal, provide the following data:

Size of wait lists in the discipline

This is not relevant to this position as we will be offering new courses that are not included in the new program.

Department productivity, previous year (N/A)

Number of faculty currently in the department

There are three full-time faculty that teach in the IT/Cyber area. The bachelor's degree is highly specialized and requires a master's degree and at least two years of experience in cyber security. Currently, one full-time faculty member has some cyber security experience but does not have a master's degree. The second and third full-time faculty member has a master's degree but very limited experience in the topics that our cyber security requires.

The faculty load of a full-time faculty member load is estimated below:

FALL CLASSES

Year 1	Year 2	Year 3	Year 4	
0.333	0.333	0.333	0.333	
0.400	0.267	0.333	0.333	
	0.333	0.333	0.333	
			0.267	
0.733	0.933	1.000	1.267	3.933

SPRING CLASSES

Year 1	Year 2	Year 3	Year 4	
0.333	0.267	0.333	0.200	
0.333	0.333	0.333	0.200	
0.333		0.333	0.333	
1.000	0.6	1.000	0.733	3.333

Number of adjunct faculty

We currently have four adjunct faculty. Of the four adjunct faculty, only two have the required master's degrees and associate experience. They are currently teaching in the AS program, so courses will need to be shifted to provide them the opportunity to teach in the baccalaureate program.

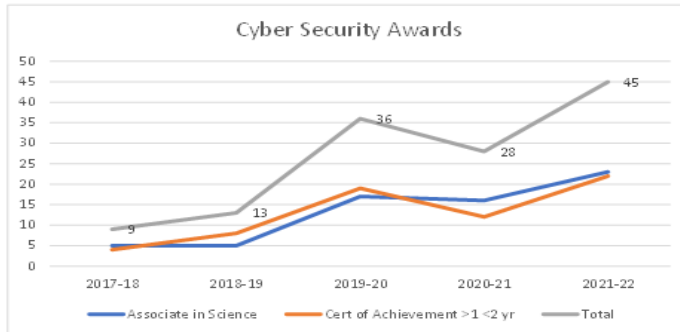
Number of certificates awarded, previous year

The number of awards and certificates has continually grown since the start of the program except the COVID years. It is anticipated with the start of the BS program; these numbers will increase.

*Cerro Coso Community College - Cyber Security Technician Certificate and Cyber Security Technology
Associate of Science Enrollment and Completion Data*

Awards

	2017-18	2018-19	2019-20	2020-21	2021-22	
Associate in Science	5	5	17	16	23	
Cert of Achievement >1 <2 yr	4	8	19	12	22	
Total	9	13	36	28	45	131



7000 Category – Management Position

Career Center Director

Cerro Coso Community College's Career Center has been lacking key personnel to be able to sustain essential services and reach its full potential within the areas of Career Technical Education (CTE). The Career Center is responsible for a number of career readiness and job skills services. One of the most vital, being the intake and onboarding of student workers, which impacts the productivity of multiple administrative departments at the college. At this time, that duty has been supported by the classified staff in the Office of Instruction and cannot be sustained.

In addition to student workers, another avenue of employability for students is through employer job postings (currently integrated using Job Speaker platform), work-experience courses, apprenticeships, and internships (both paid and unpaid). The college currently doesn't have the capacity to expand on all of these areas under the current structure of the Career Center, which historically was run by one classified Job Development Specialist position.

After the retirement of our former Job Development Specialist, the Office of Instruction pursued recruitment of a replacement, under the same model. There were two failed recruitments for this position. As a standalone position previously, the Career Center struggled to provide the full scope of services in an efficient manner for students. It is recommended that we reevaluate the potential for this department and provide adequate support to sustain and grow the career services available to students and the community.

As part of the accountability for categorical grants, Perkins and Strong Workforce, the college needs to report on progress toward the following metrics:

- student employment rates (Perkins)

- percentage of students employed in their field of study (SWP)
- median annual earnings (SWP)
- students who attain a living wage after completion (SWP), and
- students employed in 2nd fiscal quarter after completion (SWP/Perkins)

Attainment of the regional living wage is also a metric within the Student-Centered Funding Formula. Allocating the necessary support staff to the Career Center will enable us to assist students to reaching not only their educational goals, but also their career and workforce preparation goals.

Career Technical Education is requesting the following positions to support the Career Center goals and vision: Program Coordinator (COF), Program Manager (COF)

The duties of the Program Coordinator (Career Services) – COF proposed position include:

- Coordinate and support the administration of various career exploration events with local high schools, college, and community
- Develop and coordinate job skills workshops such as resume building, interview preparation, soft skills training, dress for success
- Prepare student worker application packets, update information as needed on instructions and forms
- Coordinate student worker rosters, board documents, and timely management of student worker applications in collaboration with human resources department
- Develop and coordinate student worker onboarding and training on Web Time Entry
- Support student retention towards career pathways using variety of career exploration tools, job readiness skills
- Attend meetings with Career Technical Education team as needed
- Present at faculty chair meetings, counseling, and outreach workshops on campus regarding career services available
- Monitoring compliance and maintaining database of internship contracts
- Monitoring compliance and maintaining database of CalJobs and Employer Training Resource programs
- Monitor the careerservices@cerrocoso.edu email inbox and facilitate responses as applicable
- Manage and maintain accurate information on Job Speaker platform to include: building employer recruitment opportunities, promoting features to students and employers, interacting with employment features, maintaining accurate records, building job posts, recommending students
- Create social media posts and marketing materials to promote upcoming workshops
- Maintain accurate records of employer database
- Assist students with job placement assistance
- Assist and guide students to services available to support their career goals
- Advise and assist students in need with obtaining student services from campus and/or community resources through referral to these offices or agencies; support internship programs as assigned
- Develop and coordinate orientations, seminars and workshops designed to familiarize students with educational and career opportunities.