

Comprehensive Program Review

A. Department Information

Mission

Please enter your department's mission statement here.

De Anza's Computer Information Systems (CIS) department strives to be the leading educational institution in Silicon Valley preparing computer science students and those with related majors to transfer to other academic institutions, training students to be leaders in technology careers, and enabling all De Anza students to reach their potential in the digital technology world we live in. We value a balance of preparedness in the basics while offering courses in cutting edge technologies. We celebrate a student body where community, collaboration, and inclusiveness are fostered by the support we provide students.

How does your program mission statement relate to the mission, vision and values of the college? (<https://www.deanza.edu/about-us/mission-and-values.html>)?

COLLEGE VISION: "Empower all students to attain their educational goals, ..." parallels the first sentence of CIS Mission: "(CIS) department strives to be the leading educational institution in Silicon Valley preparing computer science students and those with related majors to transfer to other academic institutions, training students to be leaders in technology careers, and enabling all De Anza students to reach their potential in the digital technology world that we live in."

COLLEGE MISSION

"to be leaders in their communities": Appropriately CIS department trains students to be leaders in their community of technology careers.

" to realize their goals; ": CIS department enables students to reach their potential in the digital technology world that we live in.

VALUES

Innovation: "We value ... courses in cutting edge technologies."

Equity: "We celebrate a student body where community, collaboration, and inclusiveness are fostered . . ."

Developing the Human Capacity of All Students: "fostered by the support we provide students."

ISLOs CIS department mission and goals speak most directly to:

- Information literacy
- Critical thinking

Program Goals

Enter 1-3 goals for your department to be achieved by spring 2027. Each annual reflection will ask your department to report on progress in meeting your goals. Each goal should be aligned to your department's mission and the college mission. All resource requests and personnel requests should be aligned with your program's mission and goals.

Goal title	Goal description	Responsible parties	Collaboration with	Guided Pathways engagement	What evidence will be used to monitor progress?	How will you assess achievement of the goal?
Evolve with change through creation of courses and programs to empower our students reach their potential.	New course paralleling UC Berkeley Data 8 - Data Science for All	Clare Nguyen and entire CIS department	Mathematics Department with Fatemeh Yarahmadi as contact person	Once class is in place, work through villages to broadcast this addition to our program and encourage other departments to adapt/extend this curriculum to be specific to their subject area.	Data showing majors and demographics of students completing the courses and success rates for these students.	This course is intended for students other than computer science majors. Evidence is students from outside of computer science/technology majors represent a larger percentage of students from underrepresented groups than computer science/technology majors.
Increase enrollment from underrepresented groups while closing the gap.	Starting programs that draw students from underrepresented groups.	All CIS faculty and Division staff	Programs across campus	Encourage Village events and activities	Enrollment numbers and success percentages	Enrollment for Filipinx and Latinx has actually risen a small amount (1 = 2%) and the success rate shown on the Program Review Data Sheet tool has actually risen by 4% for Black, Latinx, and Filipinx students.

Changes Imposed by Internal/External Regulations or Factors

Are there factors unique to your program that may affect your enrollment, success rates or staffing that RAPP should be aware of? (e.g., curriculum changes, program reorganization, noncredit curriculum, loss of personnel, legislative mandates, etc.)

Generative AI poses threats and wonders for methods we use to challenge our students. Each such innovation that has appeared in the "classroom" has mandated changes in pedagogy including activities to teach students to use the new tool in the best way and updating methods of assessment in light of the new tool.

Of the seven full-time instructors for 2023-24, two are on Article 18 with one coming back Winter 2024 on Article 19. This added to reasons as stated in "De Anza Faculty Request Form", makes adding a second faculty position for CIS department imperative to continue keeping the Computer Information Systems program strong in reputation, enrollment numbers, and student success.

AB 1111 Common Course Numbering System particulars are unknown at this time. Being that we are one of three community colleges on the quarter calendar and there are 113 on the semester calendar, the change could negatively affect enrollment.

The department faculty join with our CTE counselor and another transfer counter quarterly inviting all CIS students to a special workshop to discuss their pathway options, including earning other CIS awards while completing their main academic goal. This is what is best for our computer science students, and it will also promote more certificates and degrees being awarded benefiting the De Anza community as we reach the end of Hold Harmless and the inception of full implementation of the new funding formula.

B. Enrollment Trends

Enrollment Variables and Trends

	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Unduplicated Headcount	4,783	4,919	5,381	5,179	5,363	12.1%
Enrollment	8,710	9,025	10,027	9,088	9,418	8.1%
Sections	232	246	266	268	279	20.3%
WSCH	15,683	16,270	18,103	16,325	16,691	6.4%
FTEs (end of term)	1,028	1,066	1,186	1,069	1,113	8.3%
FTEF (end of term)	24.9	26.1	28.7	27.9	27.1	8.8%
Productivity (WSCH/FTEF)	629	623	631	584	615	-2.2%

In the data table above, what does the Enrollment trend indicate? For definitions of enrollment terms, please see the glossary (<https://www.deanza.edu/ir/documents/Glossary.pdf>).

- the data trend shows an increase in Enrollment
- the data trend shows a decrease in Enrollment
- the data trend shows no change and/or flat in Enrollment

Reflect on Enrollment Trends

Discuss the factors that would help the college understand your programs' enrollment trends. How may these trends align with your program mission and goals?

Unduplicated headcount has increased by 12.1% over the last 5 years. The enrollment increased by lessor amount of 8.1% indicating we should increase our efforts to encourage students to complete the few extra classes needed to earn certificates and degrees while working on their transfer goals.

The higher increase of 20.3% in the number of sections evidences that students are seeing the worth of taking more courses than they strictly need to transfer. Students are taking some of the cutting edge courses entioned in CIS Mission statement. They recognize that their knowledge in their chosen field needs to span more areas such as data science, networking and security. Students are taking that extra class or two to earn a certificate or degree. Another cause of this trend could be that different colleges are asking for different courses from transfer students. The students who wish to apply to multiple colleges are therefore needing to take more courses. This is a positive since these extra courses strengthen and broaden their overall knowledge giving the student the founcdation to excel in their four-year studies and beyond "to be leaders in technology careers" as CIS Mission states.

The enrollment includes increases realized through the development of new courses in Python and Cloud Computing. This again is in alignment with CIS Mission statement with the promise of "offering courses in cutting edge technologies".

CTE Programs - Statewide and Regional Labor Market Trends

CTE Programs Only

1. Review and summarize the Lightcast Analyst Occupational Outlook data for your CTE program (<https://foothilldeanza.sharepoint.com/:f/s/dacteddepartments/EiRTueQ8GrNLqtlQw2twpsBMFCs7X5djTveo6Jss3W0Jg?e=1ybpnY>).
2. Cite current industry trends.
3. Provide an overview of your program advisory committee's recommendations relating to existing and new course and certificate/degree offerings. Cite additional data when applicable.

The LMI data shows number of jobs increasing at a slower rate and decreasing in the area of pure coding:

Description	Jobs 2021	Jobs 2026	Growth	% Change
Software Developers	69,953	80,431	10,478	14.98
Software Quality Assurance Analysts and Testers	9,693	11,118	1,425	14.70
Computer User Support Specialists	7,541	8,524	983	13.04
Computer Programmers	4,695	4,507	-188	-4.00
Computer Network Support Specialists	1,565	1,798	233	14.89
Database Administrators	1,131	1,234	103	9.11

However, this is hiding where the biggest growth is. According to the Bureau of Labor Statistics, it's predicted that roles in data science in the U.S. will grow 35% by 2032, with new jobs opening up worldwide in some of the most competitive industries. The industry, as it has embraced AI, machine learning and analytics is actually growing at a healthy overall percent.

Our Advisory Board recommended that we initiate the Information Technology Technical Support Certificate. The first cohort is completing the certificate in 2023-24,

They commended us for our Python programming and suggesting we extend the coursework we have begun in Python, R Programming and Data Science to include analytics, machine learning, and artificial intelligence.

They have also suggested the we expand web programming offerings. A first step was done in the revision of CIS 89D.

D. Course Success

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Course Success

Computer Information System-FD

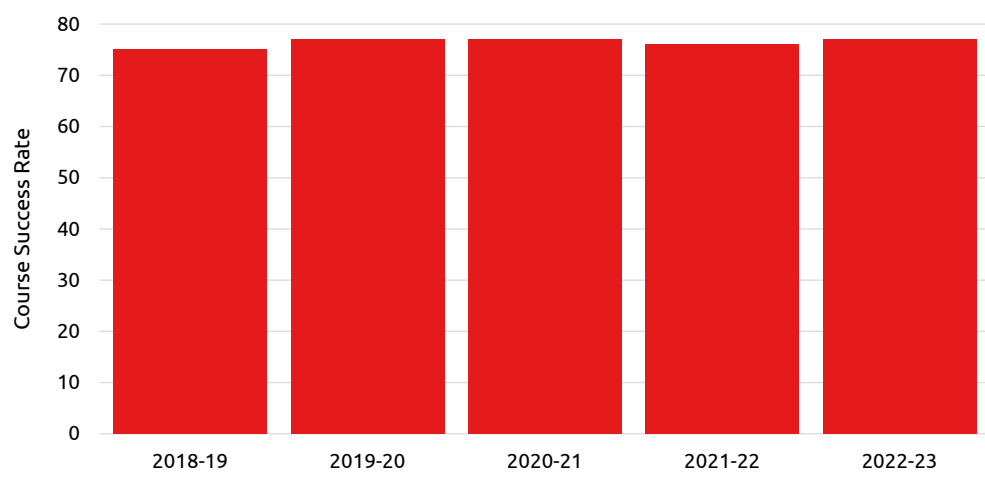
Who uses this report:

All users who want to further explore their enrollment or course success data.

What is this report:

This report is an extension of the Program Review Data Sheet. It has additional student characteristics and users can compare two groups of students at the same time.

Limits:



Limits:

Measures: Enrollments and Course Success Rate and Success Count

	2018-19			2019-20			2020-21			2021-22			2022-23		
	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count
Measures	8,710	75%	6,536	9,025	77%	6,992	10,027	77%	7,735	9,088	76%	6,951	9,418	77%	7,297

Data loaded 17-Aug-2023

In the data table above, what overall trends are you seeing in Course Success?

- the data trend shows an increase in Course Success
- the data trend shows a decrease in Course Success
- the data trend shows no change in Course Success

Exploring Course Success Rate Trends

1. What could be factors that influence success rates in your department?
2. What strategies does your department have in place to increase or maintain current success rates?
3. Are there other trends that you see when exploring different courses in the same department (How to access success rates by course: https://www.deanza.edu/ir/documents/How_to_Access_Your_Program_Review_Data.pdf)
4. How do course success rate trends align with your program goals?

1. Using raw numbers we are staying at status quo on success rates. However, when one considers the increase in enrollment during the pandemic which probably included students from outside the normal commuter student areas and given the challenges that this presents, subjectively one could conclude that efforts such as ZyBooks available to each beginning programming student, and online tutoring by peer CIS tutors supported these students from across California to succeed.
2. Strategies currently in place that we hope to continue:
 - Use of zyBooks for all beginning programming classes so that day 1 students have an engaging resource to work with
 - Peer tutoring currently available mostly online but some in person
 - Active students that are once again enjoying the CIS Lab as their community
 - CodeLab for each programming class
 - clubs including Competitive Programming Club and the new DA Hacks
 - Continue and expand noncredit offerings for all courses that do not have a prerequisite

Strategies that we would like to implement

 - Intentional use of zero cost textbooks throughout the majority of the curriculum
 - Find a sustainable replacement for zyBooks
 - Hire faculty to work in the lab directly with all students
 - Expand curriculum to those not traditionally seeing themselves as "computer" people. This includes a new Data Science for All course
 - Challenge our students with adding onto data science offerings including AI, machine learning, analytics
 - \$2500 to hire faculty as a mentor to cultivate relationships with industries of Silicon Valley
 - Mutate CCAP dual enrollment program with stated outcomes for students
3. For CIS 22A the overall success rate has remained at ~80% since 2018-19 but importantly the success rate for students of underrepresented groups has steadily risen from 60% in 2018-19 to 66% in 2022-23. The change is even more pronounced in CIS 22B where in 2022-23 the overall success rate rose 12 percentage points to 84% and the success for students from underrepresented groups rose 23% points to 73%.

Course Success with Disproportionate Impact (credit and non-credit)

Limits: 2022-23

Who uses this report:

All users who want to explore student equity and disproportionate impact in course success.

What is this report:

This report highlights student groups with a negative percentage point gap and student groups experiencing disproportionate impact. Data reflects credit sections. Student groups with "N/A" enrollment denotes suppressed data.

How to interpret the data:

A negative percentage point gap means a student group has a lower success rate than the comparison group consisting of all students not in the student group being examined. When a student group is experiencing disproportionate impact, this means that (1) there is a negative percentage point gap and (2) this gap is unlikely to be due to chance. Programs are encouraged to prioritize discussions and address the student groups experiencing disproportionate impact.

New features:

To display only student groups with disproportionate impact, click on the link "Click here to show only groups with disproportionate impact." To add a comparison unit that is one level higher (e.g., course level compared to department level), **be sure to select a college, division, department or course**, then click on the link "Click here to show and compare disproportionate impact with [X]".

Success rate

The number of students receiving an A, B, C or P grade divided by the total number of students receiving a grade. Rate is rounded.

Comparison success rate

The success of all students except for the group being examined (e.g., the comparison success rate for Latinx students is the success rate of all students who are not Latinx). Rate is rounded.

Additional successes needed to erase percentage point

This value provides a way for practitioners to think of gaps in terms of student successes, and illustrates the number of additional successes needed to avoid a percentage point gap.

Legend:

Yellow: Student groups experiencing a negative percentage point gap that is not statistically significant

Orange: Student groups experiencing disproportionate impact according to the Percentage Point Gap Minus One (PPG-1) method¹

Currently showing all groups. [Click here to show only groups with disproportionate impact.](#)

[Click here to show and compare disproportionate impact with .](#)

Hide cells with fewer than students

Business/Computer Systems - Computer Information System-FD						2022 Summer to 2023 Spring	
Number of sections: 279							
Student group	Enrollment at census	Student group success rate	Comparison success rate	Percentage point gap	Chart	Additional successes needed to erase percentage point gap	
All Students (Computer Information System-FD, 279 sections)	9,418	77%	77%	0			
Asian	5,244	81%	72%	+9			
Black	274	58%	78%	-20		55	
Filipinx	457	70%	78%	-7		34	
Latinx	1,278	65%	79%	-15		186	
Native American	34	53%	78%	-25		9	
Pacific Islander	46	70%	78%	-8		4	
Unknown ethnicity	713	85%	77%	+8			
White	1,372	77%	78%	-1		8	
Female	3,054	79%	77%	+3			
Male	6,242	77%	79%	-2		155	
Non-Binary	0						
Unknown gender	122	70%	78%	-7		9	
Foster youth	15	53%	78%	-24		4	
Individuals with disabilities	218	75%	78%	-3		7	
Low Income	3,428	69%	82%	-13		442	
Not Low Income	5,990	82%	69%	+13			
Veterans	207	68%	78%	-10		21	

¹The PPG-1 method follows the CCCCO method for calculating disproportionate impact. Disproportionate impact is when (1) a student group's PPG value is less than -2 (e.g., -3, -4, -5, etc.) and (2) the absolute PPG value is greater than the calculated margin of error. PPG is calculated by comparing a student group's success rate against the success rates of all students except for the group being examined (e.g., Latinx PPG is Latinx success minus the success of all students except for Latinx students).

In the data table above, what does the data indicate about the Success rate of various ethnic groups within your department compared to the comparison group for the most recent academic year? (i.e., as displayed in the Percentage point gap column)

The Percentage point gap between Asian students and all other students shows:

- there is no gap (e.g., 0)
- there is a negative gap of 5-percentage points or less (e.g., -5)
- there is a negative gap greater than 6 percentage points (e.g., -6)
- there is a positive percentage point gap (e.g., +2)

The Percentage point gap between Black students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between Filipinx students and all other students is:

- there is no gap

- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between Latinx students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between White students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap of one additional group of your choice:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap
- not applicable

Exploring Gaps in Successful Course Completion by Ethnicity

1. What differences do you see in successful course completion rates by ethnicity?
2. What are your thoughts on these differences?
3. Are there other trends that you see when drilling into the data that may be important for your department to explore (e.g., foster youth, individuals with disabilities, low income, veterans)?
4. Which additional student group did you choose to explore and why?
5. How do these trends align with your program's mission and goals?

Differences definitely show a huge disparity in success by all underrepresented groups in relation to Comparison Success Rate.

For Santa Clara County, 25% of population is Latinx. In California it is 39.4% and we are now drawing enrollment from the entire state. Yet CIS department at De Anza enrolled 1,278 Latinx students representing only 13.6% of our CIS students.

Looking further into both Foster Youth and Low Income since I would assume high percent of intersection with these two groups. Both groups have negative gaps greater than 5 percentage points. We do provide beginning programming students with free zyBooks digital text but low income students come with so many stressors. And it is difficult to see yourself as belonging with your dying notebook against others in the class that have \$1000+ MacBook Air laptop. Yes, financial aid can be used but I worry how far a student's financial aid can stretch. I look forward to a day when each and every student gets a new computer. It is also why I do hope we can increase remote access to our computers in the lab.

Teaching and Learning Strategies

1. What teaching and learning strategies might be helpful in narrowing any gaps in successful course completion?
2. How do the listed teaching and learning strategies align with your program's mission and goals?

There are two prongs to increasing success of program among those of underrepresented groups and it is not merely "closing the gap". CIS department wishes to increase the number of students from underrepresented groups. CIS department wants to support these and all students to be successful at De Anza and beyond - whether transfer of direct to careers.

CIS is currently expanding Data Science offerings to include courses directed toward students from majors outside computer science and related fields. This will begin with Data Science for All course and necessary support course(s).

We have developed guidelines to ensure that our curriculum is accessible to all students and potential students:

1. Any new course that does not have a prerequisite will have a mirrored noncredit course.
2. Any new course will be developed with zero textbook cost in mind. Hence, the application to the ZTC Grant.
3. The entire Project Management curriculum has been written as mirrored noncredit coursework effective Fall 2024.
4. The entire database and related cloud computing and data analytics including R Programming curriculum has been written as mirrored noncredit coursework effective Fall 2024.

CIS Department is currently working on three grants where each is focused on outcomes in keeping with our equity goal.

- Zero Textbook Cost Program- Acceleration Grant - in process of applying
- Partners with UC Santa Cruz in Servingness in Computing through Baskin Engineering Excellence Scholars Program - awarded
- University of San Francisco the [NSF S-STEM](#) grant to support economically challenged students. Application due in February 2024

Formalizing CIS offerings at Fremont Union High School District and will kick this off 2023-24 into more of a program with specific outcomes for the students.

CIS faculty support clubs as advisors and just by being there when asked. Clubs foster foster success because the members support each other. Women in Computer Science is one such club. The activities and members in this club promote women's success and each other's success. There are twice as many male students as female students yet females have a slightly higher success rate. Keeping the success of WICS club in mind, we need to celebrate the success of our students from underrepresented groups. In the classroom students need to feel valued. Suggest that we assess our students sense of value and engagement as well as an indirect assessment of how each feels they have attained the course level outcomes. Ideally field trips out to organizations such as Google and Facebook can be arranged once again. Invite panelists representing these underrepresented groups who currently have careers in technology to present their story to the students.

Our peer tutoring program is a definite success. To augment this, propose offering part-time faculty a .024 - .048 quarter load to be tutors in the lab. The faculty member would spend one to two hours per week with students on campus in the lab during times when students tend to be there. This benefits the students to have more guaranteed hours of assistance and benefits the part-time instructors. The result would be students are more supported and part-time instructors have a greater knowledge if abd emotional tie to the CIS program.

We did put in place the Google Information Technology Technical Support Certificate and we look to start another of these. These Google sponsored programs offer an immediate avenue to an entry IT career at the same time as preparing the student for a more rigorous program in IT.

Trends in Awards

saved report - pivot

Degrees and Certificates by Ethnicity

Computer Information System-FD

Who uses this report:

All users who need degree and certificate data.

What is this report:

This report provides the degree and certificate counts by college, division and department. Additionally, all users could explore degree and certificate awarded by ethnicity and gender.

Measures: Awards

Award Group	Ethnicity	2018-19	2019-20	2020-21	2021-22	2022-23
Associate in Arts	Asian	14	7	15	9	4
	Black	1	1	1	1	2
	Filipinx	1	3	2	4	2
	Latinx	6	1	6	10	2
	White	3	10	8	7	11
	Unknown ethnicity			2	1	1
	Total	25	22	34	32	22
Associate in Science-Transfer	Asian	38	60	104	71	89
	Black		2	2	7	4
	Filipinx		3	5	11	2
	Latinx	6	7	6	10	7
	Native American	1			1	
	Pacific Islander		1			
	White	14	15	25	14	16
	Unknown ethnicity			3	5	9
	Total	59	88	145	119	127
Credit Certificate-Transcriptable	Asian	77	72	77	41	41
	Black	2	2	1	3	6
	Filipinx		5	5	2	7
	Latinx	9	4	16	10	6
	Native American	1			2	
	Pacific Islander	1				2
	White	18	23	39	22	17
	Unknown ethnicity	1	1	9	5	1
	Total	109	107	147	85	80
Noncredit Certificate	Asian				1	7
	Latinx					1
	White					1
	Unknown ethnicity					1
	Total	0	0	0	1	10
Total		193	217	326	237	239

Data loaded 24-Oct-2023

In the data table above, what are the trends in regard to the number of awards within your program?

Trends in Associate Degrees awarded show:

- an increase in the number of Associate Degrees awarded
- a decrease in the number of Associate Degrees awarded
- no change in the number of Associate Degrees awarded
- Not applicable

Trends in Associate Degrees for Transfer awarded show:

- an increase in the number of Associate Degrees for Transfer awarded
- a decrease in the number of Associate Degrees for Transfer awarded
- no change in the number of Associate Degrees for Transfer awarded
- Not applicable

Trends in Credit Certificates awarded show:

- an increase in the number of Credit Certificates awarded
- a decrease in the number of Credit Certificates awarded
- no change in the number of Credit Certificates awarded
- Not applicable

Trends in Non Credit Certificates awarded show:

- an increase in the number of Noncredit Certificates awarded
- a decrease in the number of Noncredit Certificates awarded
- no change in the number of Noncredit Certificates awarded
- Not applicable

Reflecting on Trends in Awards

1. What trends do you see across awards in your department?
2. How do the trends in awards align with your program's mission and goals?

Students are focused on transferring. CIS Department must continue and increase the outreach to students on the value of certificates.

I do feel that there is an opposite force in the are of articulation of CIS courses for transfer. As more four-year institutions are changing their transfer requirements, De Anza's CIS students are scrambling to take more courses to apply at multiple colleges. The most obvious one, is that to be competitive to transfer to CS at UC Irvine a student needs our Python classes CIS 41A and CIS 41B but they also need to complete the CIS 22A-22B-22C pathway to apply at other schools.

We will continue to hold quarterly workshops where we discuss pathways to certificates and degrees with transfer goal in mind. We will also widen automatic awarding of certificates/degrees.

Reflecting on Award Offerings

1. For each program leading to an award, identify any courses that have not been offered in the last two years. Briefly explain why the courses have not been offered. For courses that will not be offered, how does your program plan to update the program so that students can complete the requirements?
2. Based on a review of course offerings and the number of awards offered and conferred, is your department planning on removing any degrees or certificates from the college catalog? If so, please list those being removed and a short explanation as to why.
3. Does your department have any plans to offer new degrees or certificates? If so, please list and provide a short explanation as to why.

1. Please know that there are some courses that we intentionally do not offer since they are on subjects that are currently not demanded by the industry but they have not completely gone away: CIS 26A, CIS 30A&B, and CIS 14B. About four years ago, C# became asked for and we pivoted and offered CIS 30A and 30B a couple of times. For some such as CIS 89D we are waiting for the updated curriculum is effective before attempting to offer the course again.

Concerning are some of the brand new classes that we attempted to offer but were canceled due to low enrollment: CIS 37 Java for Mobile Development (perhaps a victom of change in numbering), CIS 95F Managing Cloud Projects, and CIS 95K Program Management - A Practicum. However, in all cases there is a choice for students so simply blocking that one course will not block the ability to earn the certificate although it could mean a push in the time to earn it.

We also developed a guideline whereby if it is the only offering of a course for the academic year, it is offered online.
2. The paperwork has been entered to delete the Perl course and the Programming in Perl certificate as of Fall 2024. This is due to Python doing the work of Perl but more efficiently in terms of the learning curve AND Python can do much, much more, too.
3. Curriculum work has begun on a new Data Science for All course as well as support courses. We plan on broademomg data science offereings. There will be Data Science certificate. We also have begun expanding Web Programming.

Staffing Trends

Faculty Workload

Faculty Workload Business/Computer Systems - Computer Information System-FD						
	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Full Time Load	8.7	9.0	8.9	8.9	6.8	-21%
Full Time %	34.9%	34.4%	30.9%	31.8%	25.2%	-28%
Overload	2.6	3.2	3.6	3.4	2.9	15%
Overload %	10.3%	12.3%	12.6%	12.0%	10.8%	6%
Part Time Load	13.7	13.9	16.2	15.7	17.4	27%
Part Time %	54.9%	53.3%	56.5%	56.1%	64.0%	17%
Total FTEF	24.9	26.1	28.7	27.9	27.1	9%

What trends do you see in the last five years in regard to the Full Time %? (i.e., percentage of classes being taught by full time faculty, not including overload or summer)

- the data trend shows an increase in Full Time %
- the data trend shows a decrease in Full Time %
- the data trend shows no change in Full Time %

Staffing Needs

Provide a brief overview of your department's staffing needs. Personnel requests are to be submitted on a separate form.

1. What are full time faculty needs to ensure the program's health, growth or vitality?
2. What are classified staffing needs to ensure the program's health, growth or vitality?
3. What strategies does your program have in place to ensure students are being successful when faced with the current staffing ratios?
4. What strategies does your program have in place to retain new faculty, if applicable?

1. FULL-TIME FACULTY NEEDS:
Percentage of course sections being taught by full-time faculty has been steadily decreasing since 2018-19. It has fallen 28%! Percentage is at a new low of 25.2% at the very time that there are so many branches of computer science/technology to be taught: minimum of four programming languages, networking, database management, data science, cloud

computing, security, project management and the list goes on. Thank you for the one new hire. Note that the percentage of courses being taught by full-time faculty across De Anza campus is 37.7%. With the new hire (assuming no change in FTES) we will be at 28.8%. Even with one more that would be 32.4% - still 5+ percentage points below the average for the College. And, we are involved in everything: CTE program, partners with UCSC, dual enrollment program with Fremont Union High School District, noncredit, Google certificate, LinC program, greater than 5 computer science clubs with a Hackathon, CMC National Programming Contests, ZTC including trying for the Grant, . . . Please one more replacement. Also we have two on article 18.

2. CLASSIFIED STAFF

Faculty need to have the software installed and running smoothly on the computers both in the classrooms and in the lab. Student login needs to be smooth. Students need to be able access the software swiftly and without snags and they need to be able to store their work.

Lab Coordinator has taken on the task of making this happen for each faculty member.

Lab Coordinator for CIS Lab along with the lab technician see that students' support needs are met. Theirs is the task to implement and oversee the tutoring program.

Recently the lab coordinator shared a presentation with faculty illustrating how through Canvas the link to the CIS Peer tutoring page can be in the main left frame.

In all, the our Classified staff needs have been met.

3. Peer tutoring program serves our students needs. The program pivoted to 100% online in Spring 2020. Fall 2023 has been the beginning of some in-person tutoring.

CIS department proposes to augment our peer tutors with CIS faculty who are assigned one to two hours per week to the lab with the purpose of assisting all students with their questions/doubts. The instructor would recieve 0.024 - 0.048 of load for this quarterly assignment. It would need to be in person and at times when students generally need assistance. Precedence has been set. CIS Department had this program in place pre-2000 and now it is in place for STEM areas at Foothill College.

Assessment Cycle

Student Learning Outcomes Assessment Cycle

Navigate to <https://www.deanza.edu/slo/#post> which will take you to an accordion listing of SLO assessments under "Student Learning Outcomes and Assessments Summaries by Division"

1. Summarize the dialogue that has resulted from SLO and/ or PLO assessments.
2. What specific strategies has your department implemented, or plan to implement, based on the results of the SLO/PLO assessments conducted?
3. How do these strategies align with the program's mission and goals.

CIS 22A and CIS 22B form the beginning of the transfer pathway for the majority of our students and also these are courses contained in many CIS CTE Certificates and Degrees. In 2018-19 the success rates were 75% and 72% respectively for these courses.

Our contract with zyBooks to provide all beginning programming students has helped bring success rates for both CIS 22A Beginning Programming Methodologies Using C++ and for CIS 22B Intermediate Programming Methodologies Using C++. For CIS 22A the overall success rate has remained at ~80% since 2018-19 but importantly the success rate for students of underrepresented groups has steadily risen from 60% in 2018-19 to 66% in 2022-23. The change is even more pronounced in CIS 22B where in 2022-23 the overall success rate rose 12 percentage points to 84% and the success for students from underrepresented groups rose 23% points to 73%.

Dean/Manager Comments

I support the program review goals and initiatives proposed by the CIS department including their request to hire a new faculty. Given the rapidly expanding scope of CIS, I also support the faculty and resource requests for the department so they can continue to offer better student support and also ensure the advancements they have planned are realized, and the department can remain at the forefront of innovation.

STOP. Do not submit form. Please inform your dean/manager when the form is complete. They will submit the form when they have added their comments above.

This form is completed and ready for acceptance.