

Faculty Request Form - Fall 2025

Department/Area and Name of Submitter

Computer Science & Information Systems (CIS) Submitted by Department Chair Mary Pape

Details on Faculty Positions Requested

* if requesting more than one position within the same area, please provide the area's priority ranking for each position to help inform RAPP of the priority preferences as determined by the area.

Position Name	Replacement or Growth	Retirement/Resignation Date	Instruction, Non-Instruction, Both	If Both, indicate the ratio
CIS Faculty	Replacement	August 2025	Instruction	

Guiding Principles

De Anza College's mission and Educational Master Plan serve as guiding principles for programs to facilitate continuous development, implementation, assessment and evaluation of their program effectiveness as part of ongoing planning efforts.

De Anza identified the following areas within its Educational Master Plan:

- Outreach, Retention, Student-Centered Instruction and Services, Civic Capacity for Community and Social Change

Through its Equity Plan Re-Imagined, it identified the following framework to work towards narrowing long-standing equity gaps:

- Racial Equity: Faculty members, classified professionals and administrators should: recognize the realities of race and ethnicity for students of color. Develop intersectional understanding of the ways in which institutional racism shapes educational access, opportunity and success for Black, Filipinx, Latinx, Native American, Pacific Islander and other disproportionately affected students.
- Student Success Factors: The College should ensure students: Feel connected to the college; Have a goal and know what to do to achieve it; Actively participate in class and extracurricular activities; Stay on track – keeping their eyes on the prize; Feel somebody wants them to succeed and helps them succeed; Have opportunities to contribute on campus and feel their contributions are appreciated.

Based upon these guiding principles above, please refer back to the comprehensive program review and annual program review update to inform your response below (see the following areas in the comprehensive program review: Reflect on Enrollment Trends, CTE Programs - Statewide and Regional Labor Market Trends, Exploring Course Success Rate Trends, Exploring Gaps in Successful Course Completion by Ethnicity, Teaching and Learning Strategies, Trends in Awards and Staffing Needs).

A. Instructional Faculty

Faculty Position Request Data Sheet

Limits: From 2020-21 to 2025-26

Fill Rates					
Business/Computer Systems - Computer Information System-FD					
	2020-21	2021-22	2022-23	2023-24	2024-25
Enrollments	10,027	9,086	9,428	9,958	9,133
Sections	266	268	279	309	340
Fill Rate	96%	90%	96%	93%	87%

Success and Equity					
Business/Computer Systems - Computer Information System-FD					
	2020-21	2021-22	2022-23	2023-24	2024-25
Success Rate	77%	76%	77%	77%	78%
Withdraw Rate	14%	13%	11%	10%	8%
Equity Gaps	-15%	-14%	-16%	-18%	-10%

Faculty Load Ratios					
Business/Computer Systems - Computer Information System-FD					
	2020-21	2021-22	2022-23	2023-24	2024-25
Full Time	31%	32%	25%	21%	22%
Part Time	56%	56%	64%	70%	69%
Overload	13%	12%	11%	9%	9%
FTEF (full time only)	8.9	8.9	6.8	6.3	6.4

Awards					
Business/Computer Systems - Computer Information System-FD					
	2020-21	2021-22	2022-23	2023-24	2024-25
Certificates	147	86	90	90	65
Associate Degrees	34	32	22	37	35
Associate Degree for Transfer	145	119	127	144	122

Data is for the academic year, including summer term and early summer/second spring terms for Foothill College. Enrollments include students who are counted for apportionment for the report years (i.e., Apprenticeship, noncredit and other students who do not necessarily have a reported grade). Cross-listed courses are included in the home department. Some courses may continue to be listed but no longer have data due to renumbering or because the course was not offered in the past five years.

1. How does the department use the data listed above to develop, adapt, and improve teaching and learning to respond to the needs of changing environments, populations served, and evolving institutional and state priorities? Be sure to refer back to your Comprehensive Program Review form and Annual Program Review Update form to inform your response.

Computer Science & Information Systems Department uses data on **fill rates and general enrollment** along with CTE LMI data in deciding upon number of sections to offer, to initiate new courses and programs, to update courses and programs, and to delete courses. CIS Department is meeting the current job market

demands and student needs by introducing new programs in Data Science, multiple new programs in Artificial Intelligence, and increasing offerings in Cybersecurity.

Enrollment and unduplicated headcount increased every year since 2012-13 (first year data available) through the 2020-21 year. Underlying these aggregated enrollment numbers was the message that enrollment in our CIS 22A, CIS 22B, and CIS 22C core courses had begun to decrease slightly in 2015-16. The introduction of Python programming language courses in Fall 2016 offset this decrease. *The two core Python courses — CIS 41A: Python Programming and CIS 41B: Advanced Python Programming — equip students with essential skills for transferring into computer science and related majors.* Python has long been recognized as a key language for data analysis and is currently at the forefront of data science and artificial intelligence. *As data science becomes increasingly important across all fields, these courses provide students with a strong foundation to pursue further studies in computer science, data science, and AI.*

Schedule of courses for 2025-26 includes an exciting addition of CIS 11 Foundation of Data Science for All with a support corequisite course and mirrored noncredit courses. These offerings are in acknowledgment that students across all disciplines need skills to select relevant data, apply suitable algorithms, and present their findings effectively in their future careers.

In 2020-21 CIS 9: Introduction to Data Science course was added providing introduction to data analytics, machine learning and natural language processing. With the AI Revolution this one course is being replaced effective Fall 2026 with seven courses, a Certificate of Completion, Certificate of Achievement, Certificated of Achievement - Advanced, and AA Degree all in AI. The new courses include Introduction to AI, two new courses in machine learning, a course on ethical use of AI, Introduction to Deep Learning, and a Prompt Engineering course. Each course is matched with a mirrored noncredit course. These new credit and noncredit courses are part of new certificate and degree awards. *Earning one or more of these certificates or degrees will allow students to demonstrate their skills, helping them secure internships and land their first job.*

For the 2026-27 academic year, CIS 9: Data Science course will be replaced by seven new courses under the umbrella of AI. These include Introduction to AI, two new courses in machine learning, a course on ethical use of AI, Introduction to Deep Learning, and a Prompt Engineering course. Each course is matched with a mirrored noncredit course. These new credit and noncredit courses are part of new certificate and degree awards. There has been a 64% increase in the number of awards earned between 2019-20 and 2023-24. The addition of these certificates and degrees should keep the number of awards earned increasing.

Please see response to 1. Part C. and 2. for our use of Success and Equity Data and Awards Data.

Please see response to 4, 5, and 6 for our use of Faculty Awards Data.

B. Non Instructional Faculty

1. Describe the data used to develop, adapt, and improve teaching, learning, and/or support to enable this position to respond to the needs of changing environments, populations served, and evolving institutional and state priorities (this may include a description of the population served, student needs and experiences from surveys or focus groups, or ratios related to the number of students served relative to current occupational standards, be sure to refer back to the program review where applicable).

- NA -

C. Instructional and Non Instructional Faculty Justifications

1. How does this request align with the goals in the Educational Master Plan? (refer back to the comprehensive program review areas: Mission and Program Goals and annual program review questions 2-4).

Full-time faculty are generally closer to the pulse of the college and have the opportunity to spend more of their day involved in activities focused on the Educational Master Plan goals. These goals support all students

but are particularly focused on students are experiencing the greatest disproportionate impacts across all metrics:

- *Outreach to Historically Under presented Populations* – While CIS department works with Outreach by attending spring Open House, high school campus visits, Villages Open House, Welcome Day the number of full-time faculty is spread thin to cover all of these.
- CIS Department has developed 29 mirrored non-credit courses. Since these are both free and since non-credit classes mean students do not need to feel pressured into earning an 'A', we hope to entice students who do not see themselves as technology people to try a CIS course or two and realize they can after all see themselves in a technology focused career
- CIS 11 with mirrored noncredit CIS 311 and support courses CIS 111X/311X assume no prior programming experience and welcome all students to study in this exciting area that touches on most careers that are students will be entering.
- *Course success & retention* –
 - Faculty are adopting to zero-cost textbooks
 - Volunteer Teaching Assistant program and paid peer tutoring program. For paid peer tutors we have reached out to those eligible for financial aid. Not only does that open up more funds to support the program but it means tutees are working with tutors who are experiencing the same financial insecurities as they are.
 - Faculty are involved in creating OER and ZCT resources
- Assist students in transfer – Faculty are the first line of support to encourage and advise students in transfer offering them nuances in how to be successful in transferring and beyond.
- Degree and certificate training – Continue and increase workshops to encourage students to attain certificates and degrees as they work toward goal of transferring.
- Work with Advisory Board to update requirements and offerings for courses, certificates and degrees.
- Workforce training – Develop more certificates.

Note: The statistics show that during 2024-25 CIS Department closed the equity gap by 8 percentage points.

2. How does this request align with the College's Equity Plan Re-Imagined? (refer back to the comprehensive program review areas: Exploring Gaps in Successful Course Completion by Ethnicity and Teaching and Learning Strategies)

The CIS Department's overall success has climbed steadily from 75% in 2018-19 to 78% in 2024-25. For the first time since 2018-19 the success gap for our students from underrepresented groups narrowed -18% in 2023-2 to -10% 2024-25.

The measures we have in place:

- Robust volunteer teaching assistants along with paid peer tutoring program
- Providing free digital textbooks to each student in each beginning C++ programming class
- Increase use of access to zero cost resources across more classes.
- CIS faculty, both part-time and full-time have been availing themselves of professional development opportunities centered on equity
- The department uses discussion features of Canvas to exchange ideas on pedagogy and curriculum development on a regular basis.
- Make use of Connect early alert app
- Work with DSPS office

Note Bene: Please note that we would not be where we are if it were not for our part-time instructors.

- There is a part-time instructor who has been spending hour upon hour with one student so that one student can succeed. And that faculty member has involved CIS tutoring, DSS Office, Connect to assist. More could not be asked of anyone, full-time or part-time instructor.

- For a small stipend a part-time CIS faculty member made connections with Google and Facebook providing our students not only guests speakers and great trips to their campuses but also Google was instrumental in establishing Information Technology Technical Support COA. This certificate is aimed at the student who needs immediate employment and does not see themselves (yet) as a computer scientist.
- Part-time instructors show up to assist at every Welcome Day, Spring Open House, hackathon, Computer Programming Contest.
- When a course outline comes up for revision, the part-time instructor(s) who have been teaching that course give their input on the updates.
- Part-time instructors remain involved in ongoing discussions in the Department's Canvas shell for faculty
- Part-time faculty volunteer as faculty advisors for clubs

3. How does the position support on-going college operations and/or student success? (refer back to the comprehensive program review areas: Exploring Course Success Rate Trends, Exploring Gaps in Successful Course Completion by Ethnicity, Teaching and Learning Strategies)

During the 2024-25 academic year 69% of classes were taught by part-time faculty. This percentage compared to 51% for De Anza College as a whole highlights why it is difficult to fold new trends into curriculum, embrace CPL and CPT, and maintain a continuous line of communication with multiple advisory boards. Not to mention interfacing with students more as faculty club advisors and supporting student efforts in programming competitions and hackathons. Back in 2012-13 only 39.6% of CIS classes were taught by part-time faculty.

From 2018-19 the number of full-time instructors has decreased by TWENTY-EIGHT percent (-28%) while the unduplicated headcount has increased by FIFTEEN PERCENT (+15%). Bringing the number of faculty back up closer to what we had in 2018-19 will increase student success and our ability to be evolving the curriculum as the industry evolves.

In addition to striving for each student to be supported in their academics, we also need to offer our students the courses that will give them the cutting edge especially when they are choosing an emphasis within computer science/engineering. The main areas of study for the department are computer science (programming languages), information technology, cybersecurity, database systems, artificial intelligence, networking, and project management. Each of these areas experiences its own emerging trends. The desire is for each branch to have a full-time faculty member as its champion. Our new faculty member hired Fall 2024 is focused on our artificial intelligence program. With the retirement of Mark Sherby we are in need of another faculty member with experience in and an academic background focused on security..

4. Why is the position needed and how would the position contribute to the health, growth, or vitality of the program? (refer back to the comprehensive program review area: Staffing Needs and annual program review questions 5 & 6)

This new position:

CIS Department is currently authoring courses geared to new technologies of data science, AI (as requested by the Chancellor), machine learning, natural language processing. These courses will be part of COA and COAA certificates and AA degree. Next step planned is a BA degree in area of AI. One more person will make this process go more swiftly and we are going to need full-time faculty who can teach the courses and who can lead teaching courses where there are multiple sections.

With the AI Revolution came a resurgence of a bigger need of experts in Cybersecurity. Under the support of Dean Karia, current CIS faculty have pushed on with incorporating IBM CyberCampus into our existing CyberSecurity program which is leading to the expansion of the program and training of faculty, full-time and

part-time faculty. On the suggestion of President Torres the CIS department has applied for the NSA Cybersecurity CAE-CD designation.

Full-time faculty are the ones that the heavy lift of developing and updating curriculum falls upon. Another person will speed this process up and means there will be more full-time faculty to work with on curriculum. This will build collegiality.

Full-time faculty are generally more versed in the pedagogy of teaching. This will assist in closing the gap in the case of students from underrepresented groups.

Expand ability to avail ourselves of grants in collaboration with University of California campuses and California State Universities. Currently we work with UC Santa Cruz in the implementation of Servingness in Computing through Excellence Scholars Transfer Pathway, have received grant funding for OER development funds, and plan to apply for NSA Cybersecurity Designation.

CIS faculty are also exploring ideas on offering a Bachelor's degree in the area of Data Science and related technologies.

However, there is just only so much that seven full-time faculty with one on Article 18, two on PDL for one quarter over three years, and with department supporting a total of 0.678 release time can do.

5. Describe the current staffing and history of staffing in your area and how the current staffing affects the health, growth, or vitality of the program. (refer back to the comprehensive program review area: Staffing Needs and annual program review update questions 5 &6)

All CIS faculty give extra of their time and energy by adding students to their class sections over the 40 maximum. This is especially appreciated since some of our more cutting-edge or 'boutique' classes do not necessarily draw a full 40 students per class. 96% fill rate evidences this extra effort from each faculty member. High fill rates indicate that we do manage resources well.

There are currently 37 active part-time faculty. CIS faculty have always valued part-time faculty to instruct the "cutting-edge" classes. Currently this is the case when part-time faculty teach the following courses: CIS 5 Swift Programming, CIS 3 Business Information Systems, CIS 4 Computer Literacy, CIS 44H R Programming, CIS 44F Introduction to Big Data and Analytics, CIS 46 Fundamentals of Digital Security, CIS 57 Website Administration, CIS 102 Ethical Hacking, CIS 104 Digital Forensics and Hacking Investigation, CIS 105 Cloud Security Fundamentals to list a subset.

Issue is the majority of classes in our core courses (CIS 22A, CIS 22B, CIS 22C, and CIS 21JA) should be taught by full-time faculty. For the core courses we wish for the students to be well-supported knowing that their learning is the main goal. To accomplish this, best practices need to be developed and more importantly they must be practiced by all faculty teaching these classes. Industry background partners bring wonderful accomplishments and knowledge to the department but should be supported in conveying that knowledge to beginning students. **Looking at the schedule for this Fall 2025 there are a total of 26 sections counting as "core classes" for transfer. Nineteen of these sections or 73% are being taught by part-time instructors.**

LinC program (Abeer Alameer - FT) with CIS 22A beginning programming course and MATH 1A first quarter calculus in Fall quarter and CIS 22B intermediate course and MATH 1B second quarter calculus for Winter quarters. It should be noted that with Abeer on PDL Winter 2025 we were unable to offer this for 2025-26. Yes, there are six other faculty considered full-time permanent: one on tenure-track Phase II, one not teaching Fall 2025 as contracted through Article 18, and one on PDL for Fall 2025.

6. Explain how the work will be accomplished if the position is not filled. (refer back to the comprehensive program review areas: Staffing Needs and annual program review update questions 5 & 6)

Without another new faculty hire:

The CIS Department will not be able to expand the course offerings into data science, cloud computing, AI, etc. as much and as quickly as we would like to.

Our efforts in partnering with IBM in cybersecurity program and in applying for NSA Cybersecurity CAE designation will not be as robust.

The CIS Department will need to:

- Continue indefinitely with providing students in the beginning programming courses with zyBooks at no charge to the student.
- Broaden Volunteer Teaching Assistants and Paid Peer Tutoring programs.

The CIS Department will not be able to expand noncredit offerings as quickly as we would like to.

We will not be able to support all computer science student clubs.

Fewer faculty to plan events and outreach to industries and feeder schools.

The department will be slower to embrace credit for prior learning, providing students with internship or research opportunities, and developing creative pathways for individual groups.

7. Other information, if any.

Enrollment has grown since 2018-19 by 9% while the College declined 11%. But we have grown also in number of sections offered, number of part-time faculty, noncredit offerings, success percentage, number of courses, certificate, and degrees. All while we have decreased in full-time faculty - losing four full-time faculty:

1. Spera Georgiou (12/16/2022)
2. Mark Sherby (6/30/2023)
3. Ira Oldham (6/30/2024)
4. Manish Goel (8/31/2025)

. . . and only one new hire (Fall 2024).

>>>>>NOTE BENE: **The current AI revolution—spanning Data Science, Artificial Intelligence, Machine Learning, Prompt Engineering, and Deep Learning—is fundamentally different from the technological shifts that began in the 1960s. Those earlier changes largely focused on how we communicated with computers: operating system upgrades, the development of languages to search databases, and transitions from programming languages like FORTRAN to ALGOL, Python, C, C++, Java, and R. Today's shift is not just about new languages or systems—it's about entirely new tools that redefine how technology works *for* us. To prepare students effectively, educators must have a foundational understanding of these emerging fields.**

Dean/Manager Comments (Deans, please review the form for completeness and clarity and provide additional details as needed)

The CIS Department is expanding rapidly to meet workforce demand in Cybersecurity, Artificial Intelligence, and Data Science, in alignment with De Anza's Educational Master Plan and Equity Plan Re-Imagined. We are investing in advanced technologies and partnerships, applying for NSA CAE-CD designation, collaborating with IBM CloudRange for live cybersecurity simulations, and integrating Generative AI and prompt-engineering courses to prepare students for the evolving tech landscape.

Our Industry Advisory Board has highlighted the accelerating speed of technological change and the need to provide students with experiential learning, reinforcing the importance of keeping our curriculum and

student experiences current. Yet the department's full-time faculty has declined by nearly 30% since 2018-19, while enrollment has grown 15% and awards over 60%. With about 70% of sections taught by part-time instructors, dedicated full-time faculty leadership is essential to sustain innovation, strengthen industry collaboration, and ensure equitable, student-centered pathways into high-demand technology careers. Thank you for your consideration.

This form is completed and ready for acceptance.