

De Anza College

Program Review – Annual Update Form

- 1. Briefly describe how your area has used the feedback from the Comprehensive Program Review provided by RAPP members (if unsure, request the feedback form from your dean/manager).**

Feedback stated that the CIS Mission statement “Doesn’t describe services offered”. Thus the CIS Department Mission statement has been changed to read:

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. CIS Department offers courses that provide a strong foundation in the basics and courses on cutting-edge technologies. We celebrate a student body where community, collaboration, and inclusiveness are fostered by the support we provide students.

We also received the constructive criticism that more discussion is needed for each group with gaps. We are endeavoring to achieve that with an organic assessment of all CIS 22A. Please see response to question 7.

- 2. Describe any changes or updates that have occurred since you last submitted program review (comprehensive program review [submissions](#))**

Mirsaeid Abolghasemi has been hired as faculty full-time. Since Mirsaeid has worked as a part-time instructor in the department since 2014, he has been able to jump in teaching 4-5 classes a quarter. His recent educational pursuits were in Artificial Intelligence and that is just what is needed as we begin to offer our new curriculum (please see response to question 3).

On the other hand, we have lost Ira Oldham, a full-time faculty member with expertise in curriculum planning and programming languages. We also sorely miss Mark Sherby, our security expert, who led curriculum development in the field of cybersecurity. Also retired is part-time cybersecurity instructor Len Fisk. He was an expert in the field and Professor emeritus from California State University, Chico. Mark and Len retired as of June 30, 2023 and Ira as of June 30, 2024.

- 3. Provide a summary of the progress you have made on the goals identified in your last program review (as included in the comprehensive program review).**

Our First Goal was to create a new course paralleling UC Berkeley Data 8 - Data Science for All. We have accomplished that and much more. CIS 11 Foundations of Data Science for

All. In addition, CIS 211 was created as a support course for CIS 11 and the mirrored noncredit courses for each will be offered Fall 2025.

Artificial Intelligence was a topic in the computer science world since the mid twentieth century. With the evolution of Natural Language Processing, the cloud for storage, the amount of data and speed of information exchange, Artificial Intelligence and related fields have become a must know for those in STEM fields. Thus, we have developed CIS ? Introduction to Artificial Intelligence, CIS 7 Introduction to Prompt Engineering, CIS ? Responsible Artificial Intelligence, CIS 16A Introduction to Machine Learning, CIS 16B Foundations of Machine Learning, CIS ? Introduction Natural Language Processing, and CIS 12 Introduction to Deep Learning along with scaffolding COA, COA-Advanced, and an Associate's Degree awards all in Applied Artificial Intelligence. While we were slowed by the long wait for eLumen, all these classes and programs will be rolled out in 2026-27. Sukhjit Singh is submitting Baccalaureate Degree Program Application-Cycle 6 for Artificial Intelligence in Industrial Design.

Our Second Goal was to start programs to draw students from underrepresented groups. The following are measures we have taken to not only increase enrollment from underrepresented groups but retain those students and support them to become successful in reaching their academic goals:

- CIS Department's Foundations of Data Science Certificate of Achievement is intended to help us draw students in from all departments throughout campus.
- We have added an outreach to our student TA and tutoring programming by inviting students qualifying for financial aid to become volunteer teaching assistants and then move on to paid tutor positions.
- Multiple CIS faculty have volunteered to work as part of OER grant to develop OER materials for Project Management courses and for Foundations of Data Science Certificate of Achievement.
- We have volunteered to work on the IBM program to develop a more robust cybersecurity program.
- We continue to strive for ZTC courses whenever feasible and pedagogically sound.
- We hope to be able to continue providing zyBooks to all students in beginning programming classes.
- Please that now CodeLab is opensource, faculty continue to use this tutorial to reinforce syntax and constructs in beginning programming courses.

4. If your goals are changing, use this space to provide rationale, or background information, for any new goals and resource requests that you'll be submitting that were not included in your last program review.

Our goals are expanding but not changing.

5. Describe the impact to date of previously requested resources (personnel and instructional equipment) including both requests that were approved and were not approved. What impact have these resources had on your program/department/office and measures of student success or client satisfaction? What have you been able to and unable to accomplish due to resource requests that were approved or not approved?

Fortunately, through the deft project management ability of our CIS Lab Coordinator, Di Liu, and the Perkins and Strong Workforce Program funds provided we have been able to continue our most important strategies:

-> Peer Tutoring Program where paid tutors assist students both online and in person. It is noteworthy to add that this program is bringing alive our lab again. CIS students were very reticent about attending in person. They are much more likely to come to campus and be in the CIS Lab where they can receive peer tutoring and converse with their peers.

-> zyBooks continues to be available free of charge to all our beginning programming students.

-> De Anza College is part of the grant UC Computing Transfer Support Program

6. How have these resources (or lack of resources) specifically affected disproportionately impacted students/clients?

Our tutoring program is curtailed by short budget. More challenging is making sure that the student is eligible for financial aid so that Perkins Funds may be used. Our pool is smaller and the situation makes diversity within the group of tutors even more difficult to achieve with these budget restrictions.

Students having free access to zyBooks is a boost to retaining our beginning programming students. The exercises in zyBooks ensure a strong knowledge of the basics for our students. The withdrawal rate for 2023-24 continued to decrease to 7%.

7. Refer back to your Comprehensive Program Review under the section titled Assessment Cycle as well as the SLO website (<https://www.deanza.edu/slo/>) for instructional programs. In the table below provide a brief summary of one learning outcome, the method of assessment used to assess the outcome, a summary of the assessment results, a reflection on the assessment results, and strategies your area has or plans to implement to improve student success and equity. If your area has not undergone an assessment cycle, please do so before completing the table below.

Table 1. Reflection on Learning Outcomes (SLO, AUO, SSLO)

Learning Outcome (SLO, AUO, SSLO)	CIS 22A Beginning Programming Methodologies in C++: Design solution, create algorithms, code in C++, document, debug, and test program for an introductory level program using
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	appropriate design methodology incorporating elementary C++ programming constructs.						
Method of Assessment of Learning Outcome (please elaborate)	<p>Quiz asking the students to handwrite a function that would print their name N times, skipping the Mth iteration, and return the sum of N and M.</p> <p><i>Thank you to Dan Halabe for creating this assessment, administering it on day one of his in-person CIS 22B Intermediate Programming Methodologies in C++ class Winter 2025.</i></p>						
Summary of Assessment Results	<p>Of the 50 students in the room, 47 returned the quiz. I rated each along several dimensions: declare a function, code a counting loop, code a conditional, and so on, and a summary score. I categorized each as: "A" mastery, "B" limited, or "C" no capability demonstrated.</p> <table border="1" data-bbox="440 856 1149 1031"> <tr> <td>A. Mastery</td> <td>15 students</td> </tr> <tr> <td>B. Limited capability</td> <td>9 students</td> </tr> <tr> <td>C. No capability</td> <td>23 students</td> </tr> </table>	A. Mastery	15 students	B. Limited capability	9 students	C. No capability	23 students
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Reflection on Results	Correlating with assignments later in the course, approximately 80% of students submitting code that seems they did not author fall into the "No capability" category.						
Strategies Implemented or Plan to be Implemented (aka: enhancements)	<p>Fearing that students did not know what they did not know, the assessment was returned to each student with one star, two stars, or three stars. The instructor explained to the students that if they received one or two stars they were probably not prepared. Students were invited to meet with the instructor of CIS 22B on a one-on-one basis to prepare a plan to strengthen their foundational programming skills.</p> <p>Materials were prepared to review concepts/skills that were to be mastered in CIS 22A. This included starting with a special review chapter from zyBooks.</p> <p>Group of instructors who teach CIS 22A will be convened to collaborate on ways to improve pedagogy that will help reduce number of underprepared students entering CIS 22B.</p>						

Done? Please email this form to your dean/manager.

8. Dean Manager Comments:

The CIS Department continues to lead the way in creating innovative courses and supporting student success. Adding classes in artificial intelligence, machine learning, and data science shows a strong response to industry trends and student interest. The department's work on affordable, accessible learning materials, like OER projects and free zyBooks access for some programming classes through Strong Workforce, helps reduce financial barriers and promote equity.

The department has focused on outreach and inclusion by recruiting underrepresented students and creating pathways for volunteer teaching assistants to become paid tutors. These efforts help build a more diverse and welcoming learning environment. Programs like tutoring and low-cost books have also played a key role in reducing course withdrawal rates and improving student success.

I support efforts to close learning gaps, like improving CIS 22A to better prepare students for CIS 22B, and introducing new courses in data science, AI, and cybersecurity. I also support hiring new faculty and providing resources such as affordable teaching materials and tutoring to keep reducing equity gaps and helping students succeed.

The hard work and dedication of the CIS faculty and staff are vital for preparing students for rapidly evolving tech careers while promoting equity and inclusion. I appreciate all their efforts.