De Anza College

Instructional Annual Program Review 2021-22

**Instructions**: The first column is section and question number, followed by ask without explanation The third column fully describes the information that the IPBT is requesting. The blank or fourth column is where you will type your response. Save program review as a Word document. This is the document you will send to your Dean. It will be posted on the De Anza website in pdf format.

In addition to this document, please also submit to your Dean the Resource Request spreadsheet making sure facilities requests are on “Facilities” tab and large-ticket items are on Large-ticket Items” tab.

Due: Friday May 6, 2022

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|  | **Information Requested** | **Explanation of Information Requested.** | **Enter your answers here** |
|  | Department Name: |  | Engineering |
|  | Program Mission Statement: | How does your program mission statement relate to the mission of De Anza College and our Institutional Core Competencies”? (<https://www.deanza.edu/about-us/mission-and-values.html> ). | The Program Mission Statement is expressed in terms of the Department PLO’s: • Students will demonstrate familiarity with the wide range of engineering disciplines and the general requirements and skills necessary to pursue a career in those areas. • Students will demonstrate a general understanding of engineering project development cycle including analysis, design, implementation, documentation, and refinement. They will also demonstrate a familiarity with the tools commonly used during those phases. • Students will demonstrate the necessary discipline specific technical knowledge and skills required to successfully transfer to an engineering baccalaureate program. The Department Mission aligns with the College Mission and Core Competencies by: • challenging students of every background to develop their intellect, character and abilities and skills in relation to engineering – including the development of “soft” skills such as group and community action and leadership and social responsibility  • preparing students who wish to pursue studies and/or careers in engineering to realize their goals; • preparing students to effectively communicate technical and other ideas through writing and speaking • expecting students to be able to find and generate information and to judge its validity and usefulness through critical judgement • establishing connections between engineering and cultural, social and environmental values and actions |
| I.A.1 | What is the Primary Focus of Your Program? | Choose from General Education, Transfer. Career/Technical, Learning Resources/Academic Services, personal enrichment or N/A | Transfer |
| I.A.2 | Choose a Secondary Focus of Your Program. | Choose from General Education, Transfer. Career/Technical, Learning Resources/Academic Services, personal enrichment or N/A | Basic skills |
| I.B.1 | # Certificates of Achievement Awarded | State the number of Certificates of Achievement awarded during the 2020-21 academic year. Please refer to: <https://www.deanza.edu/ir/AwardsbyDivision.html> . If you do not offer Certificates of Achievement please state “none offered”. | 0 |
| I.B.2 | # Certificates of Achievement-Advanced Awarded: | State the number of Certificates of Achievement - Advanced awarded during 2020-21 academic year. Please refer to  <https://www.deanza.edu/ir/AwardsbyDivision.html> If you do not offer Certificates of Achievement” please state “none offered”. | 0 |
| I.B.3 | # ADTs (Associates Degrees for Transfer) Awarded | State the number of Associate Degree Transfer awarded by you department during the 2020-21 academic year. Please refer to <https://www.deanza.edu/ir/AwardsbyDivision.html> . If you do not offer Associate Degree Transfer, please state “none offered”. |  |
| I.B.4 | # AA and/or AS Degrees Awarded: | State the number of Associate of Arts or Associate of Science degrees awarded during the 2020-21 academic year. Please refer to <https://www.deanza.edu/ir/AwardsbyDivision.html> .If you do not offer Associate of Arts or Associate of Science Degree, please state “none offered”. |  |
| I.B.5. | Trends in # Total Awards | If applicable to your program, has total number of certificates and degrees increased, decreased or stayed the same? What thoughts do you have on these changes? |  |
| I.B.6. | Strategies to Increase Awards | What strategies (1, 2, 3. . . .) does your department have in place to ensure students are obtaining awards when it is applicable to their educational goal? (e.g. Outreach, In-reach, graduation workshops, collaborations with other offices, etc.) |  |
| I.C.1 | CTE Programs: Review of Perkins Core Indicator and SWP Outcomes Metrics | Review the most recent Perkins Core Indicator and SWP Outcomes Metrics data for your program(s). Cite planned interventions and activities to enhance student and program outcomes.  Perkins Core Indicator Reports provided by Margaret Bdzil. Cal-PASS Launchboard SWP Metrics: <https://www.calpassplus.org/LaunchBoard/Home.aspx> | https://www.calpassplus.org/LaunchBoard/Home.aspx |
| I.C.2 | CTE Programs: Labor Market Demand and Industry Trends: | Review and summarize statewide and regional labor market (LMI) data for occupations that are closely aligned with your program. Cite current industry trends. 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.  California EDD LMI Info: <https://www.labormarketinfo.edd.ca.gov/cgi/dataanalysis/areaselection.asp?tablename=occprj> |  |
| I.D.1 | Academic Services and Learning Resources: # Faculty Served | Only for programs that serve staff or students in a capacity other than traditional instruction, e.g. tutorial support, service learning, etc. State number of faculty served per year (Fall, Winter and Spring): Provide number from previous year, and # increase or decrease. To the extent possible, specify what data you used to arrive at this number. |  |
| I.D.2 | Academic Services and Learning Resources: # Students Served | Only for programs that serve staff or students in a capacity other than traditional instruction, e.g. tutorial support, service learning, etc. State number of students served per year (Fall, Winter and Spring): Provide number from previous year APRU, and # increase or decrease. To the extent possible, specify what data you used to arrive at this number. |  |
| I.D.3 | Academic Services and Learning Resources: # Staff Served | Only for programs that serve staff or students in a capacity other than traditional instruction, e.g. tutorial support, service learning, etc. State number of staff served per year (Fall, Winter and Spring): Provide number from previous year APRU, and # increase or decrease. To the extent possible, specify what data you used to arrive at this number. |  |
| I.E.1 | Full Time Faculty (FTEF) | For ALL programs: State the number of FTEF assigned to your department/program. Refer to your program review data sheet:  <https://www.deanza.edu/ir/program-review.20-21/index.html> . |  |
| I.E.2 | # Student Employees | If applicable to your program, state number of student employees and if there were any changes between number this academic year and the previous two academic years. |  |
| I.E.3 | Full Time Load as a % | State the percentage of courses taught by full-time faculty (exclude overload). Refer to your program review data sheet. <https://www.deanza.edu/ir/program-review.20-21/index.html> or access within the program review tool. |  |
| I.E.4 | # Staff Employees | If applicable to your program, state number of staff employees and if there were any changes. ONLY report the number of staff that directly serve your program. Deans will make a report regarding staff serving multiple programs. | Although the Engineering Department has no staff employee specifically assigned to it, the PSME Division’s Computer Laboratory Administrator, Ching Bays, has been very helpful in supporting various Engineering classes and their laboratory operations and equipment. |
| I.E.5 | Changes in Employees/Resources | Briefly describe how any increase or decrease resources/employees (exclude teaching faculty) has impacted your program. What strategies does your program have in place to ensure students are being supported and able to reach their full capacity when faced with these changes and challenges**?** (e.g. Mentors, embedded tutors, extended lab hours, instructional support, non-credit support, etc.) |  |
|  | **Enrollment** |  |  |
| II.A | Enrollment Trends | What changes in enrollment have you seen in the last three years? Refer to <https://www.deanza.edu/ir/program-review.20-21/index.html> or access within the program review tool. You do not need to list enrollments; rather reflect on enrollment trends. What strategies does your department have in place to increase or maintain current enrollment trends? | Enrollment declined during the past 5 year review period by 2.4%, which is less than the overall campus decline during the same period. However, very large fluctuations in enrollment have occurred during those five years, including a positive growth of about 70% from last years. These fluctuations are to a large part a result of the number of qualified instructors who are available to teach in this discipline from year to year. The sudden and unexpected death of a popular and effective instructor about four years ago initiated a steep decline in enrollment, and a leave taken by another instructor two years ago further exacerbated the problem. During the past years we have lost instructors who have found full-time positions in other Colleges and in industry. The enrollment potential for the department is relatively high and enrollments are limited by lack of any full-time faculty in the department and by the time and effort required to recruit, train, and retain qualified part-timers. |
| II.B. | Enrollment Trends for disproportionately impacted student groups | Using the program review data tool, what is the enrollment of African American, Latinx, Filipinx, and Pacific Islander students as a percentage of your entire program compared to other student groups in campus-wide percentages? You do not need to list enrollments, but rather reflect on what the trends look like. Link to equity plan and strategic plans   1. What could be contributing to the differences? 2. What strategies does your department have in place to increase or maintain enrollment of these student groups?   Are there other trends that you see when drilling into the data that may be important to explore? | During the past five year report period the engineering enrollment of African American, LatinX, and FilipinX students has increased by 4.6%. Though the numbers of underrepresented students in engineering increased over the years, they still remain underrepresented as 29% of the total engineering enrollment. This number are far higher than national averages, but still leave significant room for improvement |
| II.C. | Overall Success Rate | What changes in student success rates have you seen in the last three years? You do not need to list success rates, rather reflect on trends in success rates.   1. What could be factors that influence success rates? Please refer to: <https://www.deanza.edu/ir/program-review.20-21/index.html> 2. What strategies does your department have in place to increase or maintain current success rates? | The overall success rate has decreased from 91% to 86% during the past 5 year review period. Like other parameters this number has fluctuated widely through last 5 years from 86% to 93%. |
| II.D. | Success, Non-Success and Withdraw Rates for disproportionately impacted student groups | Using the [Disproportionate Impact Tool](https://www.deanza.edu/ir/program-review.18-19/Access_DI_tool.pdf) within the [Program Review Tool](http://deanza.edu/ir/PRGuide_PrintingPDF.pdf) explore differences in success rates by ethnicity, gender and special student populations (foster youth, individuals with disabilities, Veterans and low income students). Of the rows that are highlighted (which indicate there are disproportionate impacts for that group):   1. What differences do you see in successful course completion rates? 2. What are your thoughts on these differences?   What strategies might be helpful in closing gaps in successful course completion? | Current engineering success rates for African American, LatinX, and Filipinx students differ by about 6% from those of all other students in the program. This compares to an 8% gap in the College overall. |
| II.E. | Changes Imposed by Internal/External Regulations | Address program changes implemented as a response to changes in College/District policy, state laws, division/department/program level requirements or external agencies regulations? How did the change(s) affect your program? (e.g. any curriculum, reorganization of program AB 705, noncredit curriculum, loss of personnel, etc.) |  |
|  | **Equity** | In order to meet the goals within our [State Equity Plan](https://www.deanza.edu/sssp-se-bsi/documents/DAC_Student_Equity_Plan_2019-22_Final.pdf), [Institutional Metrics](http://deanza.edu/ir/planning/planning_files/InstitutionalMetrics_2019_4.29.19.pdf), and [Educational Master Plan](http://deanza.edu/ir/state-of-the-college-related-information/documents/EMP2015-2020_3-11-16.pdf), the following section asks you to reflect on questions focused on student equity to help inform our goals. |  |
| III.A. | Equity Plans for groups other than the acknowledged disproportionately impacted groups | Are there other groups of students besides the acknowledged disproportionately impacted groups of African American, Latinx, Filipinx, and Pacific Islander students that your department intentionally focused support for. | Most importantly there are two areas in which improvement and focus are needed; 1) increasing the absolute numbers of African American, LatinX, and FilipinX students entering engineering and 2) increasing the number of women participating in engineering programs. Many areas which traditionally form a recruiting pool for engineering (such as mathematics, physics, computer science, and the applied technologies) share a similar recruiting issue. A campus wide effort to increase the numbers of underrepresented students in science and engineering is required. The Department needs to work more closely with the STEM Success Program to recruit underrepresented students and to continue to support them toward a successful fulfillment of their educational goals. An additional STEM Success Counselor who could dedicate themselves to organizing such a recruitment and support system would be invaluable. |
| III.B. | Program Success | Describe any events/program changes/successes that you would like to share relative to your equity efforts? |  |
| III.C. | Equity Planning and Support | Has equity work generated any need for resources? If so, what is your request? Include staff/position needs. |  |
| III.D. | Departmental Equity Planning and Progress | Identify which of the following resources you need? How would the resource help?   * Professional Development – what areas? * Enhanced support for students * Departmental Collaborations * Best Practices * Coaching/Consultation |  |
| III.E. | Assistance Needed to close Equity Gap | Would you like assistance with identifying strategies and/or best practices and/or resources to help facilitate student success? |  |
|  | **Assessment Cycle** | Navigate to <https://www.deanza.edu/slo/> and click “TracDat is gone” which will take you to accordion listing SLO assessments under “Student Learning Outcomes and Assessments Summaries by Division:” |  |
| IV.A | SLOAC Summary | Describe an accomplishment or enhancement that resulted from SLO assessment starting with Spring 2020 through end of Spring 2022.. |  |
| IV.B | Assessment | List the names of the courses in your department (e.g. CIS 22A) that are planned to be assessed by the conclusion of 2021-22 academic year. |  |
|  | **Resource Requests** |  |  |
| V.A | Budget Trends | Over the past five academic years, describe impact, if any, of external or internal funding trends that you might be currently dealing with ( eg COVID demands) upon the program and/or its ability to serve its students.  If you don’t work with budget, please ask your Division Dean to give you the information. |  |
| V.B | Funding Impact on Enrollment Trends | Over the past five academic years, describe the impact, if any, of external or internal funding changes upon the program’s enrollment and/or its ability to serve its students. Refer to Program Review data sheets for enrollment information: | Providing a modest equipment budget for the engineering program will encourage student projects that enhance their educational experience, provide engagement and excitement, and meet the hands on component of curriculum required by transfer institutions. |
| V.C.1 | Faculty Position(s) Needed | Describe each request as: “Replace due to Vacancy”, “Growth”, or if none state “None Needed Unless Vacancy” |  |
| V.C.2 | Justification for Faculty Position(s): | Do you have assessment data available to justify this request for a faculty position? If so provide the SLO/PLO assessment data, reflection, and enhancement that support this need. If not, provide other data to support this need. | With 100% of sections taught by part-time faculty and with long term potential growth dependent on the active participation of a full-time faculty member, we anticipate a need for a full time faculty member in the future. We have been given one position but for growth purposes at least one more position would be optimal. |
| V.D.1 | Staff Position(s) Needed | Choose: “Replace due to Vacancy”, “Growth”, “None Needed Unless Vacancy”  Only make request for staff if relevant to your department only. Division staff requests should be in the Dean’s summary. |  |
| V.D.2 | Justification for Staff Position(s): | Do you have assessment data available to justify this request for a staff position? If so, provide the SLO/PLO assessment data, reflection, and enhancement and/or CTE Advisory Board input to support this need. If not, provide other data to support this need. | Shared STEM Success Counselor; see equity discussion above |
| V.E | Equipment Requests | List all equipment resource needs on the Excel spreadsheet. Be sure to include to justification and costs in appropriate columns. | Please see the spreadsheet |
| V.F | Facility Request | List all facility needs on the spreadsheet. Be sure to include to justification and costs in appropriate columns. | Please see the spreadsheet |
| V.G | Other Needed Resources | List any other resource needs on the spreadsheet. Be sure to include to justification and costs in appropriate columns. |  |
| V.H.1 | Staff Development Needs | Based on what you have written above, what professional development support/resources do you need to achieve your goals? |  |
| V.H.2 | Staff Development Needs Justification | Please provide reasons for your professional development needs. If you have assessment data available to justify this request for professional development, please provide the SLO/PLO assessment data, reflection, enhancement, and/or CTE Advisory Board input, etc. to support this need. If not, provide other data to support this need. | Equity training addressing very specific STEM issues, including adequate funding for (100%) part-time faculty. Additional funding for part-time faculty to update and improve curriculum. |
| VI. | Closing the Loop | Over the last five years, how did you assess the results of the requested resources, and what were those results? How do you plan to reassess the outcomes after receiving each of the additional resources requested this year |  |
|  | Submitted by: | APRU writer’s name | Merhdad Khosravi |
|  | Last Updated: | Give date of latest update | 5/20/2022 |