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 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.

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|  | **Information Requested** | **Explanation of Information Requested.** | **Enter your answers here** |
|  | Department Name: |  | Astronomy |
|  | 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 Astronomy Department's Program Learning Outcomes are that the student will be able to 1) appraise the benefits to society of astronomical research, 2) evaluate the impact on Earth's characteristics of the evolution of the solar system, stars, and stellar systems, and 3) evaluate astronomical news items or theories about astronomy based upon the scientific method. These outcomes contribute to the College's student core competencies in communication & expression, information literacy, and critical thinking. |
| 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 | Personal Enrichment |
| 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”. | None Offered |
| 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”. | None Offered |
| 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”. | 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”. | 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> . | During the last three years, FTEF has gone from 3.5 to 3.2. The relative stability of this number reflects the constant makeup of the department during this time. It has consisted of one (1) full-time instructor who has FSAs in both Astronomy and Geology, and 2-4 part-time instructors. |
| 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. | None |
| 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. | During the last three years (2018-19 through 2020-21), the full-timer percentage has gone from 54% to 32%. Most of this change was due to the retirement of a long-time full-time instructor in June 2019. Since then, the courses taught by the one remaining full-time instructor have yielded a full-timer percentage of 32%-33%. |
| 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 Astronomy department has no staff employee specifically assigned to it, the PSME Division’s Computer Laboratory Administrator, Ching Bays, was very helpful during the pre-pandemic era in maintaining the laptops that are used by students in the Astronomy and Geology laboratory classes. Ching has also been helpful with IT needs during the pandemic. |
| 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.) | Since the end of the 2018-19 school year, when a long-time full-time instructor retired, there have been no changes in full-time staffing.  Some changes occurred in the number of part-time instructors. A new part-time instructor arrived in Winter 2020, and is leaving after Spring 2022 due to a family relocation. The other three part-time instructors have remained fairly constant (one has taught in the department for many years), except for one or two class cancellations due to low enrollment. |
|  | **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? | The biggest enrollment change during the last three years occurred between 2018-19 and 2019-20, due to the retirement of a long-time full-time instructor. This resulted in a decrease in WSCH from approximately 3200 to approximately 2600.  After that decrease, WSCH increased from approximately 2600 to approximately 2700, from 2019-20 to 2020-21.  The biggest change the department plans to make in the next year is the hiring of a new full-time instructor. The hiring process has begun as of the writing of this APRU in May 2022. |
| 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? | As a percentage of total enrollment in the Astronomy department, the enrollment from disproportionately impacted groups (African American, Latinx, Filipinx, and Pacific Islander students) has increased during the last three years, from 38% (in 2018-19) to 43% (in 2019-20) to 48% (in 2020-21).  These percentages are slightly higher than the College-wide percentages, which were 35%, 35%, and 37% during the same three years.  It is challenging to speculate on why these percentages might be higher in the Astronomy department than for the College as a whole.  The Astronomy department mostly serves transfer-bound students and Associate-degree-seeking students, essentially all of whom are seeking to fulfill a science requirement for non-science majors. As a result of this, the Astronomy department may be serving a population of students who are the first in their families to attend college. Such a population of students, in turn, may be more likely to pursue popular majors like business, rather than STEM fields.  In essence, then, the question of why these percentages are slightly higher in Astronomy than for the College as a whole may be an example of the broader question of “How can the STEM fields attract more people from disproportionately impacted groups?” |
| 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? | From 2018-19 through 2020-21, the overall success rate in Astronomy has declined from 80% to 76% to 72%.  It may be informative to note that the success rate was 79% in 2016-17, and 82% in 2017-18.  One interpretation of these data is that the success rate was around 80% prior to the pandemic, and it declined to about 74% during the pandemic.  If that interpretation is correct, then this decline is probably due to the overall difficulties students have had with school in general, and online learning in particular, since the beginning of the pandemic in the spring of 2020. All of the department’s classes have been online during the pandemic. |
| 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? | For this assessment, the Disproportionate Impact Tool (within the College’s Program Review Tool) was used for the same three school years referred to in previous parts of this APRU: 2018-19, 2019-20, and 2020-21.  Disproportionate impacts were indicated for four groups during these three years, although not all of the groups showed disproportionate impacts during all three years.  The four groups were African-American students, Latinx students, Female students, and Low-Income students. The disproportionate impacts for these groups, as compared to the College overall, are summarized as follows:  During two of the three years, African-American students succeeded at rates 15%-22% below the comparison groups, which is a somewhat larger gap than the College’s overall numbers for the same two years, which were 11%-14%.  The numbers for Latinx students showed a 10%-12% gap during all three years, which was slightly less than the College-wide gap of 12%-13$ during the same three years.  A 3%-5% gap was reported for Female students during two of the three years. During those same years, Female students College-wide were 2%-4% ahead of the comparison groups.  The department is currently in the process of implementing the most fundamental change currently available to it: Hiring a new full-time instructor. This will allow a fresh, complete new start on planning for work designed to address disproportionate impacts to groups like those identified above. |
| 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. | The department had not identified other groups besides the previously-listed, disproportionately-impacted groups. However, analysis of disproportionate impacts in Section II.D, above, showed that Female students succeeded at slightly lower rates than for the college as a whole. |
| III.B. | Program Success | Describe any events/program changes/successes that you would like to share relative to your equity efforts? | The most important success for the Astronomy department has been getting authorization to hire a new full-time instructor.  The department prepared an application to IPBT near the end of calendar year 2021, and approval came early in 2022. As of the writing of this APRU, the District has publicly posted the position announcement, and the hiring committee will be doing its work during Spring Quarter 2022.  During the advocacy process for this position, someone (possibly the College’s Faculty Director for the Office of Equity, Social Justice, and Multicultural Education) pointed out that an argument can be made that hiring a new full-time instructor can be generally beneficial for student equity. The department concurred with this view, and is grateful that the hiring process is moving forward. |
| III.C. | Equity Planning and Support | Has equity work generated any need for resources? If so, what is your request? Include staff/position needs. | See III.D., below |
| 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 | The arrival of a new full-time instructor in Fall 2022 will be a watershed event for the department. It is possible that they may bring fresh perspectives on issues such as:   * Astronomy education strategies * Recent research into astronomy education * Strategies for improving student learning outcomes * Strategies for increasing student equity outcomes   The current department coordinator envisions making two transitions that will be highly relevant to equity planning and progress, starting in Fall 2022. These transitions, and their timeline, will be planned in consultation with the new instructor’s tenure review committee. The reason for this is so that they can be incorporated into the new instructor’s early-career years in way that is appropriate within the context of the tenure-review process.  The first transition will be to for the new instructor to assume the department coordinator duties, on an appropriate timeline. As a result, the coordinator position will shift from the author of the current APRU to the new instructor.  The second transition will be to create a department-wide plan for:   * Examining the department’s course offerings, and deciding whether to create new and/or different courses to serve our students * Examining the Student Learning Outcomes for our courses, and deciding if we want to change them * Writing new Student Learning Outcomes if deemed necessary * Creating a structured, yearly plan for collecting and examining SLO data * Developing a departmental plan for trying to close the equity gap * Within the context of the plan for closing the equity gap, developing strategies for iteratively changing the plan as necessary, in response to assessments and new developments   The `onboarding’ of a new full-time instructor will mark the beginning of a new era, and the current coordinator hopes it can also mark the development of a straightforward plan for year-on-year data collection, assessment, and the formulation and implementation of strategies for improving student outcomes. |
| 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? | At an appropriate time during the 2022-23 school year, as determined in consultation with the new instructor’s tenure review committee, the Astronomy department would benefit from a comprehensive planning session with the College’s SLO Coordinator. |
|  | **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.. | During the Spring 2020 – Spring 2022 period, the faculty in the Astronomy department concentrated on keeping their online classes running smoothly, and did not implement any specific enhancements based on SLO assessments. |
| 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. | Astronomy 4, Astronomy 15 |
|  | **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: |  |
| V.C.1 | Faculty Position(s) Needed | Describe each request as: “Replace due to Vacancy”, “Growth”, or if none state “None Needed Unless Vacancy” | The department has received authorization to hire a new full-time faculty member, and the hiring process is under way during Spring Quarter 2022. |
| 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. |  |
| 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. |  |
| V.E | Equipment Requests | List all equipment resource needs on the Excel spreadsheet. Be sure to include to justification and costs in appropriate columns. | The department is not requesting any new equipment at this time. Equipment needs will be assessed once the new full-time faculty member is teaching at the College; this assessment will happen some time after Fall Quarter 2022. |
| V.F | Facility Request | List all facility needs on the spreadsheet. Be sure to include to justification and costs in appropriate columns. | The Astronomy department works in collaboration with the Division of Community Education, because that Division operates the De Anza College Planetarium. Astronomy classes are taught in the Planetarium. Because the Planetarium is an integral part of Astronomy instruction, the department uses these APRU documents to help Community Education communicate its needs, vis-à-vis the Planetarium. The following paragraph is a summary from Community Education, regarding the Planetarium:  “Planetarium Equipment:  In 2016, the Planetarium installed two industrial, theater-quality Sony digital projectors for its immersive fulldome system. The projectors work together to project seamless 4k x 4k video imagery on our 50-ft. dome to simulate the sky as seen from any point on Earth; to simulate flights anywhere in the Universe in realtime; and to present pre-rendered, immersive, professional scientific visualizations and models of astronomy and science concepts. These projectors are now obsolete and reaching their end of life. To mitigate disruption to Planetarium operations, the Planetarium staff has pre-emptively ordered spare parts. However, some parts are no longer manufactured by Sony. We hope the ordered parts will give the projectors about four years of life from now, but these projectors will eventually need to be replaced. Given this timeline, the computer hardware powering the projectors—a rack of 6 industrial-grade server computers—will also need replacing at the same time. The Planetarium industry standard is for vendors to offer turnkey system packages that include both computers and projectors together to ensure systems work together properly. Depending on the exact specifications, the cost for fulldome systems (including installation) can range from $650,000 to $1.6M.” |
| 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? | See Section III.E, above. |
| 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. |  |
| 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 | Marek Cichanski |
|  | Last Updated: | Give date of latest update |  |