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**College of Alameda**

2022-23 Program Review – ASTR

**Lead Author:**

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| **Andrew Park** |

**Program Overview**

Provide your program’s mission statement. If your program does not have a mission statement, what is your timeline for creating a mission statement?

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| The mission of the Astronomy Department at College of Alameda is to introduce students to the Universe and insight into its mysteries. Students will learn how observations have shaped theories of basic astronomical phenomena and the evolution of the Universe.  We provide comprehensive and flexible programs that empower students to achieve their goals through offering of online and face-to-face sections of introductory astronomy. |

List your program faculty and/or staff

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| Andrew Park  Andrew Fittingoff  Dietmar Krauss-Varban (retiring Fall 2022)  Stephen Asztalos  Araceli Lopez-Garibay (incoming hire Spring 2023)  Amanda Truitt (incoming hire Fall 2022 intersession) |

Describe your current utilization of facilities, including labs and other space

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| In-person ASTR lecture classes are scheduled in similar matter as other CoA in-person classes (shared classrooms in H building or Science Annex). Available lecture demos for ASTR are stored in PHYS stockroom within ATLAN 100. |

List your program goals from your most recent Program Review or APU. Then, provide an update on the status of the goal. Has your program achieved the goal? Have any of your goals been revised or any still in progress? Lastly, make sure to discuss which College or District goal your program goal aligns to.

If no program goals exist or if this is your first program review, work to create 2-3 goals and align them with a College or District goal.

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| **Program Goal** | Maintain or Increase ASTR 1/10 offering, and maintain/procure supplies and equipment for ASTR lecture demos. |
| Status: In-Progress or Complete? | In-Progress;  combined two previous indefinite-duration goals into this one. |
| Which college or district goal is aligned with your program goal? | College Goal 1: Student Access &  College Goal 6: Teaching and Learning |

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| **Program Goal** | Regular online ASTR/PHYS faculty meeting during semester; hold the first meeting by February 2023 |
| Status: In-Progress or Complete? | In-Progress;  Modified previous goal to set a timeline |
| Which college or district goal is aligned with your program goal? | College Goal 6: Teaching and Learning |

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| **Program Goal** | As part of regular online ASTR/PHYS faculty meeting, discuss assessments and possible improvement of pedagogy and improved assessments |
| Status: In-Progress or Complete? | Completed in part (retained our astronomy instructors through a few assessment cycles).  In-Progress in part;  Modified previous goal to tie assessment efforts to ASTR/PHYS faculty meeting |
| Which college or district goal is aligned with your program goal? | College Goal 6: Teaching and Learning |

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| **Program Goal** | Provide opportunities for students to participate in astronomical observations |
| Status: In-Progress or Complete? | Complete – opportunities provided in the regular course of ASTR lecture courses |
| Which college or district goal is aligned with your program goal? | College Goal 6: Teaching and Learning |

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| **Program Goal** | Evaluate feasibility of offering ASTR lab section at CoA, in coordination of Merritt’s ASTR lab section; short update by May 2023 |
| Status: In-Progress or Complete? | New – This is a new goal whose possibility we started discussing in Fall 2022. |
| Which college or district goal is aligned with your program goal? | College Goal 1: Student Access |

**Enrollment Trends**

Chart

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**[Enrollment Trends Dashboard link](https://app.powerbi.com/view?r=eyJrIjoiNWJlOWZmYTEtNTY0MC00MDhkLWE5OTAtYmJjZjIxNzJiNWViIiwidCI6ImVlYTE2YTE2LTQ4YWYtNDc3Yi05MTEzLTA1YjFjMDExMjNmZiIsImMiOjZ9&pageName=ReportSection86d6f65e2fb41a73da4d)**

Discuss enrollment trends over the past three years

*For additional analysis, click on the Enrollment Trends Dashboard, set the filters to Alameda and your discipline*

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| ASTR as a discipline had a steady-to-moderately-positive enrollment trend over the years. While there had been a slight decline in enrollment through the COVID years, current enrollment is over and above 2018-2019 levels. There is a need for continued innovation in teaching practices, particularly with greater widespread availability of online general-education science lecture courses, as CoA’s healthy ASTR enrollment trend was in a significant part due to CoA ASTR instructors’ offering online lecture courses in a discipline where distance education was not common. |

Describe effective and innovative teaching strategies used by faculty to increase student learning and engagement.

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| Andrew Fittingoff pioneered the online Astronomy course on the new Canvas LMS, making use of advanced features of Canvas. Dietmar Krauss-Varban made extensive use of lecture slides, including high-quality astronomical photos. Andrew Park developed course material that aligns with OpenStax *Astronomy*, an open educational resource (OER) that is freely available to students. Stephen Asztalos brings his teaching philosophy from years of teaching comparable courses at CSU. |

How does the discipline, department, or program maintain the integrity and consistency of academic standards with all methods of delivery, including face to face, hybrid, and Distance Education courses?

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| Andrew Fittingoff, Dietmar Krauss-Varban, and Andrew Park all teach face-to-face classes in Astronomy or in related fields such as Physics. This varied and ongoing experience of our ASTR instructors ensure that the same academic standards are maintained with all our courses across all modes of instruction. |

**Curriculum**

Have all your course outlines of record in CurriQunet been reviewed within the past three years?

[](https://peralta.curricunet.com/)

**https://peralta.curricunet.com/**

☑ Yes ☐ No, please explain:

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| ASTR 1 was last updated Fall 2019  ASTR 10 was last updated Fall 2019 |

Please list any planned changes from the current semester forward for curriculum (courses, degrees, and/or certificates) and the rationale for those changes (e.g., labor market data, advisory committee recommendations, transfer institution changes, industry trends, state-wide transfer model curriculum).

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| No planned changes in curriculum. |

How is your program meeting the needs of students, and/or articulation with four-year institutions?

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| We offer online ASTR 1 sections as we see the demand; we also ensure at least one section of ASTR 1 is available in-person for the students who benefit from in-person instruction (vs. asynchronous online instruction). We monitor articulation agreements with UCs and CSUs (for physical science general education courses that our ASTR department offers, there isn’t a specific learning/skill objective needing to be met), and we will wait to offer ASTR 10 again, until UC has fully approved it for its GE areas. |

**Student Learning Outcomes Assessment**

List your Student Learning Outcomes

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| ASTR 1:  SLO1 - Differentiate between planets, stars, galaxies, and the universe in terms of scale.  SLO2 - Explain and discuss basic astronomical phenomena, including the seasons, the phases of the Moon, eclipses, and planetary motion.  SLO3 - Explain and discuss the origin, development, and properties of planetary systems, stars, galaxies, and the universe.  SLO4 - Explain how theories in astronomy are based on observations.  ASTR 10:  SLO1 - Explain and discuss basic astronomical phenomena, including the seasons, the phases of the Moon, eclipses, and planetary motion.  SLO2 - Differentiate between planets, stars, galaxies, and the universe in terms of scale.  SLO3 - Explain and discuss the origin, development, and properties of planetary systems, stars, galaxies, and the universe. |

Please provide a high-level summary and your program’s interpretation of your SLO findings over the past year.

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| (latest SLO assessment available – Fall 2019; we need to catch up) Students struggle with numerical questions, such as use of scientific notation and metric conversions. Instructor will provide more practice opportunities. |

What were the most important things your department learned from assessment? Did implementation of your action plans result in better student learning?

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| We are still early in sustained assessment and improvement cycle to report anything significant. We do need to assess more consistently and involve more faculty (especially part-time faculty) in assessing and discussing assessment results. |

Have you assessed your program learning outcomes (PLOs) within the past few years? How have your assessments informed improvements/changes to your program. If you have not assessed your PLOs, explain the plan to assess and the expected timeline.

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| ASTR department does not have a certificate or a degree with associated PLOs. We would like to participate in PLO assessments for degrees that list ASTR courses for breadth or degree-specific requirements (e.g. associate in liberal arts). |

College of Alameda Institutional Learning Outcomes (ILOs) were created to guide educational programs and services. They include:

* **Problem Solving:** Solve problems and make decisions in life and work using critical thinking, quantitative reasoning, community resources, and civil engagement.
* **Communication and Technology:** Use technology and written and oral communication to discover, develop, and relate critical ideas in multiple environments.
* **Creativity:** Exhibit aesthetic reflection to promote, participate and contribute to human development, expression, creativity, and curiosity.
* **Diversity:** Engage in respectful interpersonal communications, acknowledging ideas and values of diverse individuals that represent different ethnic, racial, cultural, and gender expressions.
* **Civic Responsibility:** Accept personal, civic, social and environmental responsibility in order to become a productive local and global community member.

How does your program participate in assessing the Institutional Learning Outcomes (ILOs)? If your program has not participated, how will you plan to incorporate these outcomes within your program?

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| We have not participated; we will discuss ILOs at the next online meeting of ASTR/PHYS faculty. |

**Course Completion**

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| College | Academic Year | Subject | Total Graded | Course Completion | Course Completion Rate |
| Alameda | 2022 | ASTR | 257 | 184 | 72% |
| Alameda | 2021 | ASTR | 247 | 190 | 77% |
| Alameda | 2020 | ASTR | 255 | 195 | 76% |
| Alameda | 2019 | ASTR | 220 | 151 | 69% |
| Alameda | 2018 | ASTR | 214 | 142 | 66% |

Consider your course completion rates over the past three to five years (% of student who earned a grade of "C" or better).

[**Course Completion Dashboard link**](https://app.powerbi.com/view?r=eyJrIjoiNjc2MDhiNTEtNTJhZi00MDM0LTk5NDItNTRiY2EzMGI1NTZiIiwidCI6ImVlYTE2YTE2LTQ4YWYtNDc3Yi05MTEzLTA1YjFjMDExMjNmZiIsImMiOjZ9&pageName=ReportSection86d6f65e2fb41a73da4d)

How does the course completion rate for your program or discipline compared to your college's Institution-Set Standard for course completion of **67%**?

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| Completion rate for ASTR meets or exceeds the institution-set standard. |

How does the department's Hybrid course completion rates compare to the college course completion standard? Use the course completion dashboard to disaggregate.

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| CoA ASTR department has not offered hybrid courses to date. |

Are there substantial differences in course completion rates between face to face and Distance Education/hybrid courses? If so, how does the discipline, department, or program address this?

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| Completion rate for DE ASTR courses are at about the discipline average (expected, because a supermajority of courses offered are online; in 2019-20, headcount for in-person classes was 33; in 2021-22, headcount for in-person classes was 8), and to the extent there is a difference, completion rate for online sections are better. |

If your program offers dual enrollment courses, examine the data, and discuss the course completion rates compared to the overall program rate.

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| ASTR department does not offer dual enrollment courses, although we would welcome the opportunity to offer dual enrollment courses. |

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| College | Academic Year | Subject | Total Graded | Total Retained | Course Retention Rate |
| Alameda | 2021-2022 | ASTR | 257 | 215 | 83% |
| Alameda | 2020-2021 | ASTR | 247 | 204 | 83% |
| Alameda | 2019-2020 | ASTR | 255 | 214 | 84% |
| Alameda | 2018-2019 | ASTR | 220 | 186 | 85% |
| Alameda | 2017-2018 | ASTR | 214 | 170 | 79% |

On average the course retention rate (number of students are retained in the course) for College of Alameda has been **85%** for the past three years. Examine the course retention rates for your program over the last three years. How does your program or discipline course retention rates compare to the college?

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| Retention rate for ASTR is comparable to the average course retention rate at the college. |

College of Alameda continues to focus on access, equity, and success. The goal is to create an inclusive environment where all students can thrive and meet their education and career goals.

To address equity gaps and work towards achieving equity in educational outcomes, examine your program data for evidence of disproportionate impact (DI). Using the percentage point gap method to identify DI, subgroups whose course completion rate falls more than -3 percentage points below the All Students success rate are highlighted red. The Margin of Error value (MOE) is used to determine the presence of DI using the Point Gap Method. Values lower than the corresponding MOE are reflective of disproportionate impact (i.e., pink highlighted cells). Groups with 10 students or less are excluded from the analysis.

Note: The table reflected use 2021-22 course data to calculate DI.

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| **College** | **Subject** | **Target Population** | **Census Enrollment** | **Success Rate** | **PPG Index** | **MOE** | **DI Identified** |
| Alameda | ASTR | All Students | 257 | 71.6 |  |  |  |
| Alameda | ASTR | Asian | 41 | 92.7 | 21.1 | -13.8 | FALSE |
| Alameda | ASTR | Black / African American | 50 | 74.0 | 2.4 | -12.5 | FALSE |
| Alameda | ASTR | Decline to State / Unknown | 10 | 60.0 | -11.6 | -28.0 | FALSE |
| Alameda | ASTR | DSPS/SAS | 25 | 72.0 | 0.4 | -17.7 | FALSE |
| Alameda | ASTR | Female | 151 | 70.9 | -0.7 | -7.2 | FALSE |
| Alameda | ASTR | First Generation | 137 | 67.9 | -3.7 | -7.6 | FALSE |
| Alameda | ASTR | Hispanic / Latino | 84 | 61.9 | -9.7 | -9.6 | TRUE |
| Alameda | ASTR | Male | 97 | 73.2 | 1.6 | -9.0 | FALSE |
| Alameda | ASTR | Two or More | 24 | 58.3 | -13.3 | -18.0 | FALSE |
| Alameda | ASTR | Unknown / NR | 6 | 50.0 | -21.6 | -36.1 | FALSE |
| Alameda | ASTR | White | 50 | 78.0 | 6.4 | -12.5 | FALSE |

What can your discipline, department, or program do to improve course completion for disproportionate impacted groups?

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| At the online meeting of PHYS/ASTR faculty, we will discuss the disparate impact identified in Hispanic / Latino population, with the goal of identifying what could be done in our teaching practices to address this. |

**Degrees & Certificates Conferred**

Does your program offer any degree/certificate programs? If your program does not, skip this section and continue to **Engagement**

Since the last program review, what has the discipline, department, or program done to improve the number of degrees and certificates awarded?

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For more information on awards: [**Degrees & Certificates Dashboard link**](https://app.powerbi.com/view?r=eyJrIjoiZjU2M2M5MzItOTcwZi00Y2U1LWJmODUtYTc0YjlhZGI2ZDhjIiwidCI6ImVlYTE2YTE2LTQ4YWYtNDc3Yi05MTEzLTA1YjFjMDExMjNmZiIsImMiOjZ9&pageName=ReportSectionde32556e136b0a8caccd)

Increasing the number of students who complete a certificate or degree is a shared goal across CoA’s Ed Master Plan Goals, PCCD Goals, the Chancellor’s Office Vision for Success, the Student-Centered Funding Formula, and Guided Pathways. What is planned for the next 3 years to increase the number of certificates and degrees awarded?

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**Engagement**

Discuss how faculty and staff have engaged in institutional efforts such as committees, presentations, and departmental activities. Please list the committees that full-time faculty participate in.

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| No full-time faculty regularly teaches in ASTR. The sole full-time faculty with FSA in ASTR (Andrew Park) mostly teaches PHYS courses; his involvement in institutional efforts will be noted on PHYS program review. |

Discuss how faculty and staff have engaged in community activities, partnerships and/or collaborations.

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| The part-time faculty in ASTR teach across the district at our sister campuses, including Laney and Merritt. |

Discuss how adjunct faculty members are included in departmental training, discussions, and decision-making.

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| We communicate regularly by email, but we still need to include some real-time discussion opportunities, which is the reason we want to hold regular online meeting of PHYS/ASTR faculty at CoA. |

**Prioritized Resource Requests Summary**

In the boxes below, please add resource requests for your program. If there are no resource requested, leave the boxes blank.

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| **Resource Category** | **Description/Justification** | **Estimated Annual Salary Costs** | **Estimated Annual Benefits Costs** | **Total Estimated Cost** |
| Personnel: Classified Staff |  |  |  |  |
| Personnel: Student Worker |  |  |  |  |
| Personnel: Part Time Faculty | ASTR courses are in demand, and about half of our course sections being offered in Fall 2022 are in intersession. We would like to offer more courses in regular session, or possibly second 8-week session. | ?? | ?? | ?? |
| Personnel: Full Time Faculty |  |  |  |  |

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| **Resource Category** | **Description/Justification** | **Total Estimated Cost** |
| Professional Development: Department wide PD needed | Support for department-wide meeting and SLO assessment efforts is needed. We would like to request a small stipend payment for time part-time faculty spend on assessing SLOs and attend department-wide meeting to discuss SLO assessment results. | $500 - $1000 for all PT faculty participating |
| Professional Development: Personal/Individual PD needed | Individual faculty will request through PD committee. |  |

**Prioritized Resource Requests Summary - Continued**

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| **Resource Category** | **Description/Justification** | **Total Estimated Cost** |
| Supplies: Software |  |  |
| Supplies: Books, Magazines, and/or Periodicals |  |  |
| Supplies: Instructional Supplies | ASTR lecture demos need continued maintenance. | $500 |
| Supplies: Non-Instructional Supplies |  |  |
| Supplies: Library Collections |  |  |

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| **Resource Category** | **Description/Justification** | **Total Estimated Cost** |
| Technology & Equipment: New | There are spaces on CoA campus that can be used to host astronomical observation opportunity (“Star Party”). We need new equipment, specifically telescope, to make this possible. The budget requested here is for entry-level telescopes and accessories capable of observing planets and their features (moons of Jupiter and rings of Saturn). | $2500 |
| Technology & Equipment: Replacement |  |  |

**Prioritized Resource Requests Summary - Continued**

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| **Resource Category** | **Description/Justification** | **Total Estimated Cost** |
| Facilities: Classrooms |  |  |
| Facilities: Offices |  |  |
| Facilities: Labs |  |  |
| Facilities: Other |  |  |

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| **Resource Category** | **Description/Justification** | **Total Estimated Cost** |
| Library: Library materials |  |  |
| Library: Library collections |  |  |

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| **Resource Category** | **Description/Justification** | **Total Estimated Cost** |
| Other |  |  |