

2018-2019 Program Review Cycle



Instructional Programs

CAN Program Review (Instructional) - Astronomy (Odd Year)

Program Review Narratives

2018-2019

Instructional Program Review (IPR)

Lead Contact Person: Attila Elteto

Writing Team: Attila Elteto

Executive Summary

0. Executive Summary: The Astronomy program is continuing to improve incrementally. We are modifying existing content delivery, updating equipment, and we are working with architects designing new facilities. We are also developing and assessing strategies to improve female and minority class participation.

The Astronomy Department continues to deliver student club and public outreach events as well.

Program Context

1. Mission: The Physics & Astronomy Department endeavors to prepare students for successful transfer to four-year institutions, to provide the prerequisite foundation in physical sciences for further work in engineering and the sciences, to foster critical thinking and active learning, and to fulfill the needs and interests of students by having a well-rounded curriculum of lecture and laboratories.

2. Articulation: No known changes.

3. Community & Labor Needs: No known changes.

Looking Back

4. Curricular Changes: No significant changes. Astronomy continues to be offered both on campus and online to accommodate student schedules.

5A. Progress Report - IPC Feedback: The mission statement for the Physics/Astronomy department was provided. Assessment of changes in community/technology/labor needs was not conducted beyond the transfer credit needs of students. ASTR 100 has been listed as a part of the campus GE Pathways program in line with the wider statewide initiative. Impact of new equipment provided below. Plan on outreach to female students described below.

PLOs not provided because Astronomy is part of the Physics/Astronomy department. Refer to the Physics plan. There is continued outreach to the community regarding our general semesterly star parties. Though we have offered to make our resources available to the Outreach Office we have not heard back.

5B. Progress Report - Prior Action Plans: The Learning Center made limited online tutoring available through Canvas. Updates to our inventory (replacement of old equipment, such as 8" telescopes and galileoscope kits) continues.

6A. Impact of Resource Applications: The online tutoring has no report of having an impact as of date.

The Galileoscope kits have made the associated lab available for more students to individually try.

The first 8" replacement has just recently been tested and was easier to operate, and generated more engagement from students.

6B. Impact of Staffing Changes: Not applicable.

Current State of the Program

7. Enrollment Trends: Fill rates remained approximately the same (between 80-90%) during the Spring/Fall semesters, as well as the summer (hovering in the 70s). Total Census headcount remains statistically steady since the last review cycle (negligible drop since 2016).

8-A. Access & Completion: The overall success (currently 68%, 64% in 2016/17) and retention rates (81%-82%) have been steady since the last review cycle. Hispanic students continue to have success rates below average, but the success rate is holding steady (around 65%). Under-represented groups (Blacks, Pacific Islanders, Filipino etc.) have small number statistics and their success rates continue to fluctuate, and hence are still vulnerable. During the last data cycle there was an anomaly of lower white student success rate (58%), but the last data for this group has them back around the historically more normal of 72%. Success and retention based on gender has remained steady since the last review cycle, with both genders having about an

equal rate of success (about 65-67%) and retention (about 81-82%) . The proportion of female students continues to be low (50%) compared to college-wide statistics (60%).

8-B. Completion - Success Online: With few exceptions the Not-online success and retention rates are either equivalent to, or outperform (by 5% or more) the DE sections , though there have been marginal improvements in some categories.

9A. SLO Assessment - Compliance: SLOs are intermittently assessed for Astronomy but are up to date. The last assessment for ASTR 100 and ASTR 101 were in 2017.

9B. SLO Assessment - Impact: As of the last SLO review success rates were acceptable but marginal for ASTR 100 (near 70%), and good for ASTR 101 (near 90%).

In ASTR 100 we have experimented with modifications to existing study aids (study guidelines, introduction to online tutorials, clarifications of assignments). We will assess the impact of these modifications upon the next SLO review, but no major changes to delivery methods or content focus are expected.

In ASTR 101 we have high rate of success, though there continues to be ambiguity in the assessment of objectives due to lab grades being evaluated for both format and content simultaneously. Content evaluation based on exam scores continues to be lower than lab report scores. Only slight modifications in content delivery and assessment were warranted.

10. PLO Assessment: Astronomy is part of the Physics/Astronomy Program. PLO assessment is found under the Physics program review.

Looking Ahead

11. Program Planning: On the Astronomy side of the department we are working with architects to design and construct permanent mounts/sheds for our telescope setup. This should make observations for astronomy classes (especially ASTR 101) more readily available, and events, such as the Astronomy Club's Star Party more frequent or more widely attended.

The Physics/Astronomy department also suffers from disproportionately low class participation by women/minorities. We are working with other faculty, for example through the IWITTS program to work on classroom strategies to increase proportional participation.

Program Review Narrative Status: Complete

Objective: Building telescope observation platform

Design, construct, and test the new platform, mounts, and housing for our telescopes. This has been an ongoing project for a few years, but the first time included under "objectives" now that there is more certainty about the project being completed. Success will be measured by increased participation and engagement in observations.

Objective Status: 1 - New (PR)

Objective Year: 2019-2020

Estimated Start Date:

Estimated Completion Date:

Please select the college goals with which this objective aligns.: Organizational Development - Focus institutional resources on the structures, processes, and practices that invest in a diverse student population and prioritize and promote equitable, inclusive, and transformative learning.

Please select the district goals with which this objective aligns.: District Goal #4 - Ensure Necessary Resources Are Available To Implement This Strategic Plan Through Sound Fiscal Planning And Management Of Allocations. Protect Community-supported Status And Undertake The Development Of Innovative Sources Of Revenue That Support Educational Programs Beyond That Which Is Available From Community And State Allocations.

Objective: Update old equipment: 8" telescopes

Old telescopes that are awkward to setup and operate need to be decommissioned/donated, and replaced by more modern, easy to use equipment.

Objective Status: 2 - Continuing (PR)

Objective Year: 2019-2020

Estimated Start Date:

Estimated Completion Date:

Please select the college goals with which this objective aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success.

Please select the district goals with which this objective aligns.: District Goal #4 - Ensure Necessary Resources Are Available To Implement This Strategic Plan Through Sound Fiscal Planning And Management Of Allocations. Protect Community-supported Status

CAN Program Review (Instructional) - Astronomy (Odd Year)

And Undertake The Development Of Innovative Sources Of Revenue That Support Educational Programs Beyond That Which Is Available From Community And State Allocations.

Action Plans

2018-2019 - Acquire and test new Meade LX 200 telescopes. Free up storage from old, outdated 8" Orion telescopes (perhaps donate them to other schools).

There were three Meade 8" LX200 telescopes approved, the first one of which was acquired and tested in the fall of 2018. The remaining two will be acquired and tested by the end of Spring, 2019. (Active)

Who's Responsible for Completing this Action Plan?: Attila Elteto

Estimated Completion Date: End of Spring, 2019.

Objective: Increase women/minority participation in Astronomy classes

Astronomy class participation is dominated by white males. In Physics we are already working with the IWITTS program to measure, evaluate, and work on strategies to increase participation by women. Astronomy classes could benefit from similar practices. The measure of success will also be based on the surveys and observations used in that program.

The IWITTS program has a long term plan to first assess class climate (level of comfort, participation rate, etc.) as well as the role of the instructor (what strategies increase or decrease these) for students in the classroom. Some of these strategies (awareness, group work, relatability of content etc.) are already being tested in both physics and astronomy. However we are waiting on results from a more comprehensive student survey on their experiences before taking further steps.

Objective Status: 1 - New (PR)

Objective Year: 2019-2020

Estimated Start Date:

Estimated Completion Date:

Please select the college goals with which this objective aligns.: Student Completion/Success - Provide educational and student services programs that highlight inclusivity, diversity, and equity in their mission to help students meet their unique educational goals and minimize logistical and financial barriers to success., Community Connections - Build and strengthen collaborative relationships and partnerships that support the needs of, reflect, and enrich our diverse and vibrant local community., Organizational Development - Focus institutional resources on the structures, processes, and practices that invest in a diverse student population and prioritize and promote equitable, inclusive, and transformative learning.

Please select the district goals with which this objective aligns.: District Goal #1 - Develop and Strengthen Educational Offerings, Interventions, and Support Programs that Increase Student Access & Success