

Comprehensive Program Review Report



Program Review - Astronomy

Program Summary

2021-2022

Prepared by: Quinn MacPherson and Marc Royster

What are the strengths of your area?: The Astronomy 10 course counts as a General Education requirement. It is a transferable course that is typically completed by students as they prepare to transfer out of COS to a four-year university. This course is offered to all majors on campus ranging from Liberal arts to Science and Engineering. Enrollments in this course have traditionally been very high and are increasing, as a result, we have expanded sections with an online summer session in 2021 and a planned second section in spring 2022. In particular, the additional section is scheduled in the evening to encourage enrollment from students that may not be available during the day.

FTES by year
2018-19: 10.6
2019-20: 9.6
2020-21: 14.75

The success rate of this course has fluctuated slightly in the past three years. The success rate for this program has increased from the mid 50's to the mid 70's over the past few years according to the college's data dashboard.

Success Rates including EW

Fall 2018: 56.9%
Spring 2019: 54.5%
Fall 2019: 67.3%
Spring 2020: 57.4%
Fall 2020: 67.3%
Spring 2021: 70.7%
Summer 21: 75.7%

This course shares the Physics/Engineering budget and occasionally benefits from existing grants. This has lead to an improvement by providing better opportunities for learning.

In order to improve classroom interaction using computer simulations, the spring 2022 offerings will be held in lecture room JM 223 which has student computers. Both existing online applets and custom programs will be utilized to further engage students.

What improvements are needed?: Replacement full-time faculty member: Astronomy 10 is taught by faculty members who also teach physics and physical science courses. There are currently two full-time faculty members devoted to teaching physics. Having two full-time faculty members allows the course to be taught in person by a full-time instructor rather than online by an adjunct. It also allows us to increase the number of sections we offer to meet student demand. In Spring 2021 Sirin Sadah retired and her load is currently being covered by a full-time temporary position (Dr. Royster). We need this position to be returned to a full-time tenure track position if we are going to continue to offer our planned courses.

Describe any external opportunities or challenges.: I don't have access to this yet. Will fill out when we do.

Overall SLO Achievement: I don't have access to this yet. Will fill out when we do.

Changes Based on SLO Achievement: I don't have access to this yet. Will fill out when we do.

Overall PLO Achievement: I don't have access to this yet. Will fill out when we do.
Changes Based on PLO Achievement: I don't have access to this yet. Will fill out when we do.
Outcome cycle evaluation: I don't have access to this yet. Will fill out when we do.

Action: Budget for Astronomy

We need to have a specific budget for Astronomy. I will work closely with our Department Dean, and the Division Chair to identify the specific needs of this course and agree on an adequate amount for equipment and supplies.

Leave Blank: Continued Action

Implementation Timeline: 2020 - 2021

Leave Blank:

Leave Blank:

Identify related course/program outcomes: All three course outcomes of Kepler's Third Law, Stellar Luminosity, and Einstein's Equation could be improved once this action is completed.

District objectives #1 and #7 are linked to this action.

Person(s) Responsible (Name and Position): Shirin Sadeh(instructor) , Francisco Banuelos, Dean, and Ryan Froese, Division Chair

Rationale (With supporting data): There is currently no budget for the Astronomy course while there are many expenses for this 3 hour per week course. This course has its own specific needs which require resources allocation. Our success rate in this program has increased by 14% since the 2018-2019 academic year. Enrollment in this program proves to be consistently high and this necessitates a closer and more attentive response to the ever growing needs of this program.

Priority: Medium

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2020 - 2021

08/28/2020

Status: Continue Action Next Year

We still need to improve our budget allocation for this program. I will continue to work closely with our Area Dean and Division Chair to make every effort to get adequate equipment and supplies for this program.

Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Equipment - Instructional - Specific departmental budget. (Active)

Why is this resource required for this action?: The Astronomy program currently does not have a specific budget allocated to it.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 3000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 1.1 - The District will increase FTES by 1.75% over the three years

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.2 - Increase the number of students who transfer to a four-year institution by 10 percent over three years

District Objective 3.1 - By 2021, increase the placement rates into transfer-level English and transfer-level math for targeted groups that fall below the District Average.

District Objective 3.2 - By 2021, increase the percentage of students in targeted groups who complete transfer-level English (by 10 percentage points) and transfer-level math (by 5 percentage points) within their first year

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District Objective 4.1 - Increase the use of data for decision-making at the District and department/unit level

District Objective 4.2 - Improve organizational effectiveness by strengthening operations of and communication between District departments, divisions, and constituents

District Objectives: 2013-2015

2013-2015: District Objective #1 - District Objective #1 for 2013-2015: Provide effective academic support services as measured by an increase in the rate at which students successfully complete courses.

2013-2015: District Objective #7 - District Objective #7 for 2013 - 2015: Allocate resources based on an accountable and systematic District-wide planning and budget development process that links this allocation to Institutional Program Reviews and the Strategic Plan.

District Objectives: 2015-2018

District Objectives - 1.1 - Increase overall enrollment by 1.75% annually

District Objectives - 2.1 - Increase the number of students who are transfer-prepared annually.

District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.

District Objectives - 2.3 - Increase course success and completion rates in pre-transfer English, Math, and English as a Second Language courses annually.

District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.

District Objectives - 3.1 - Reduce the achievement gap of disproportionately impacted student groups annually, as identified in the Student Equity Plan.

District Objectives - 4.1 - Improve operational systems based upon data driven decision-making as described in the COS 2.0 manuals.

District Objectives - 4.2 - Improve the efficiency, effectiveness and communication of human, physical, technological, and financial resources to advance the District Mission.