

YEARLY PLANNING DISCUSSION TEMPLATE

General Questions

Program Name Physics and Astronomy Academic Year 2024-2025

1. Has your program mission or primary function changed in the last year?

No.

2. Were there any noteworthy changes to the program over the past year? (eg, new courses, degrees, certificates, articulation agreements)

No.

3. Is your two-year program map in place and were there any challenges maintaining the planned schedule?

4. Were there any staffing changes?

None.

5. What were your program successes in your area of focus last year?

Maintained or increased enrollment.

Learning Outcomes Assessment

- a. Please summarize key results from this year's assessment.

All sections studied (PHYS 161 Fall and Spring) met or exceeded the benchmark of 70%.

- b. Please summarize your reflections, analysis, and interpretation of the learning outcome assessment and data.

Current practices are adequate for students to meet benchmarks.

- c. Please summarize recommendations and/or accolades that were made within the program/department.

R. Jorstad prepared a new course workbook for PHYS 162 during Fall sabbatical and successfully used it for an offering in Spring 2025.

- d. Please review and attach any changes to planning documentation, including PLO rubrics, associations, and cycles planning.

No changes for now.

Distance Education (DE) Modality Course Design Peer Review Update (Please attach documentation extracted from the *Rubric for Assessing Regular and Substantive Interaction in Distance Education Courses*)

- a. Which courses were reviewed for regular and substantive interactions (RSI)?

PHYS 110

- b. What were some key findings regarding RSI?

- Some strengths: **Novel discussion platforms such as Zulip are useful for student interaction and instructor-student communication.**
- Some areas of possible improvement: **Uncertainty regarding quiz and exam security given the availability of generative AI based homework and assignment solution services.**

- c. What is the plan for improvement?

Attempt a hybrid (in-person exams) as opposed to an entirely online version of the same course.

CTE two-year review of labor market data and pre-requisite review

- a. Does the program meet documented labor market demand?

N/A

- b. How does the program address needs that are not met by similar programs?

N/A

- c. Does the employment, completion, and success data of students indicate program effectiveness and vitality? Please, explain.

N/A

- d. Has the program met the Title 5 requirements to review course prerequisites, and advisories within the prescribed cycle of every 2 year for CTE programs and every 5 years for all others?

N/A

- e. Have recommendations from the previous report been addressed?

N/A

Use the tables below to fill in **NEW** resources and planning initiatives that **do not apply directly to core topics**. ***This section is only used if there are new planning initiatives and resources requested.***

Sample:

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	ER Obj-2 Video Speeches for Student Learning and enhancement
Planning years:	(The academic years this will take to complete) 2021-22 to 2024-25
<p align="center">Description:</p> <p>(A more detailed version of initiative. Please include a description of the initiative, why it is needed, who will be responsible, and actions that need to happen, so it is completed.)</p> <p>The success levels of our courses have indicated that students need to be able to review their own speeches. Videotaping the student's speech provides a very constructive approach to review and improve their oratory skills.</p>	
<p>What college plans are associated with this Objective? (Please select from the list below):</p> <p> <input type="checkbox"/> Ed Master Plan <input type="checkbox"/> Student Equity Plan <input type="checkbox"/> Guided Pathways <input type="checkbox"/> AB 705 <input type="checkbox"/> Technology Plan <input checked="" type="checkbox"/> Facilities Plan <input type="checkbox"/> Strong Workforce <input type="checkbox"/> Equal Employment Opp. <input type="checkbox"/> Title V </p>	

Resource Requests: Please use the Resource Request Excel template located on the Program Review web page to enter resource requests for equipment, supplies, staffing, facilities, and misc. resources needed. Send completed excel document along with completed program view core topic for signature.

	A	B	C	D	E	F	G	H
1								
2								
3		Enter equipment requests below. Equipment is defined as having useful life of more than one year AND a purchase price of more than \$200 each including tax. This includes all items that are part of the initial purchase.		EQUIPMENT NEEDS				
4								
5								
6								
7								
8								
9								
10								
11		Dept	Program	Source	Year	Initiative (Objective) Reference	Resource Need	Requested Item(s) Please include per item
12		English	English Rhetoric	Yearly Planning and Core	2022-2023	ER OBJ - 2	Equipment	/video cameras \$600 each
13								
14								
15								
16								
17								
18								
19								
20								

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	Annual Maintenance
Planning years:	2025-2026
<p align="center">Description:</p> <p><i>Maintenance, Repair, and Replacement of Physics Demo and Lab components and consumables (such as liquid nitrogen). Each item < \$200</i></p>	
<p>What college plans are associated with this Objective? (Please select from the list below):</p> <p> <input type="checkbox"/> Ed Master Plan <input checked="" type="checkbox"/> Student Equity Plan <input type="checkbox"/> Guided Pathways <input type="checkbox"/> AB 705/1705 <input type="checkbox"/> Technology Plan <input type="checkbox"/> Facilities Plan <input type="checkbox"/> Strong Workforce <input type="checkbox"/> Equal Employment Opp. <input type="checkbox"/> Title V </p>	

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	Upgrade PASCO
Planning years:	<i>(The academic years this will take to complete)</i>
<p align="center">Description:</p> <p><i>The classroom set of data collection apparatus is needed for many labs in all physics courses. The current generation of the equipment still works, but is coming to the end of the time for which PASCO offers service and replacement parts and guarantees compatibility with new instruments. If we continue to use PASCO products as is common practice in many peer institutions, then we will eventually have to upgrade. If currently available resources do not permit upgrading the whole set, upgrading in stages before the upgrade issue becomes critical would be beneficial.</i></p>	
<p>What college plans are associated with this Objective? (Please select from the list below):</p> <p> <input type="checkbox"/> Ed Master Plan <input checked="" type="checkbox"/> Student Equity Plan <input type="checkbox"/> Guided Pathways <input type="checkbox"/> AB 705/1705 <input type="checkbox"/> Technology Plan <input type="checkbox"/> Facilities Plan <input type="checkbox"/> Strong Workforce <input type="checkbox"/> Equal Employment Opp. <input type="checkbox"/> Title V </p>	

New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	Desktop Replacements
Planning years:	2025-26
<p align="center">Description:</p> <p><i>This does not include the podium computer in M-205, which I think should fall under classroom technology upgrades. This item is less urgent (the desktops are still working reliably) but arguably more important since the desktops are needed to operate the current proprietary data collection tools (PASCO, Rspec, etc.) with their accompanying proprietary software.</i></p>	
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New Program Planning Initiative (Objective) – Yearly Planning Only	
Title (including number):	Raspberry Pi 5
Planning years:	2023-24
<p align="center">Description:</p> <p><i>The goal is to reduce equipment costs and simplify upgrades by using open source hardware and software. It may also be pedagogically beneficial. Another part of this project will be proposed for an Innovation Fund grant, but would require multiple cycles to reach parity with the existing proprietary systems. Therefore, this item, while a potentially important investment and relatively low-cost, can't be called urgent since it is currently only in planning stages.</i></p>	
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Planning years:	<i>(The academic years this will take to complete)</i>
<p align="center">Description:</p> <p><i>(A more detailed version of initiative. Please include a description of the initiative, why it is needed, who will be responsible, and actions that need to happen, so it is completed.)</i></p>	
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Area of Focus Discussion Template

ENROLLMENT TRENDS AND EFFICIENCY

Enrollment Trends and Efficiency – look for areas of growth or decline, relationship to the college and similar programs, and head count (enrollment and full-time equivalents for students and full-time equivalents faculty). Sample activities include the following:

Possible topics:

- Review FTES, headcount and enrollment trends disaggregated by population groups.
- Assess trends in productivity.
- Review retention and success rates by modality and disaggregated by population groups.
- Analyze the throughput of students from every completion and assess time to completion and disproportionate impact.
- Collaborate with guided pathways success teams to determine if programmatic barriers exist.
- Establish program goals for success rates.

1. What data were analyzed and what were the main conclusions?

FTES and FTES/FTEF ratios and waitlist sizes. Taken together, Physics and Astronomy have an FTES/FTEF ratio of 17 for 2024-25. This is 36% higher than the overall college average. For physics, the ratio is increasing at an average rate of 9% per year since 2021. The trend is significant because for AY 23-24 (the most recent year for which no FT physics faculty were on sabbatical) the combined Astronomy, Physics, and physics faculty-taught portion of Physical Science overloads taken on by FT faculty (not counting the contribution of PT faculty) add up to 2 FTEF. Put another way, each of the three current full-time faculty are on average contributing two thirds of an additional faculty member's load.

At this point, high efficiency in terms of student/faculty ratios begins to impact students. Despite accommodating as many students as possible in existing sections (for 2024-2025, physics courses have a fill rate of 105%), we are starting to have to add sections of courses (as in Fall '23 for PHYS 161). Staffing constraints also prevent us from pursuing initiatives to add course offerings that would help students complete and transfer sooner or better align with requirements at transfer institutions.

The conclusion is that we should plan to add a full-time Physics instructor.

2. Based on the data analysis and looking through a lens of equity, what do you perceive as *challenges* with student success or access in your area of focus?

Currently, we have difficulty staffing some necessary sections (due to low part-time faculty availability). There is also a lack of staff to offer additional sections to meet student demand and/or accelerate degree progress.

3. What are your plans for change or *innovation*?

The addition of a full time physics faculty member. A potential innovation would be a combined position with another discipline but this has yet to be explored.

4. How will you *measure* the results of your plans to determine if they are successful?

**FTES/FTEF ratios to make sure they are more in line with college-wide averages.
Improved student time to transfer or degree.**

Validation for Program Planning Process: If you have chosen to do the Validation this year, please explain your process and the findings.

1. Who have you identified to validate your findings? (Could include Guided Pathway Success Teams, Advisory Committee Members, related faculty, industry partners or higher education partners)

N/A

2. Are there specific recommendations regarding the core topic responses from the validation team?

N/A

Based on the narratives for the prompts above, what are some program planning initiatives and resources needed for the upcoming years? Use the tables below to fill in **NEW** resources and planning initiatives. ***This section is only used if there are new planning initiatives and resources requested that pertain to the Core Topic only.***

Sample:

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Dept	Program	Source	Year	Initiative (Objective) Reference	Resource Need	Requested Item(s) Please include per item
English	English Rhetoric	Yearly Planning and Core	2022-2023	ER OBJ - 2	Equipment	~ /ideo cameras \$600 each

Enter equipment requests below. Equipment is defined as having useful life of more than one year AND a purchase price of more than \$200 each including tax. This includes all items that are part of the initial purchase.

EQUIPMENT NEEDS

Ready Accessibility: Investigate 87%

New Program Planning Initiative (Objective) – Core Topic Only	
Title (including number):	Add Faculty
Planning years:	2025 -
<p align="center">Description:</p> <p>The physics program seeks to add a faculty member to address difficulties with staffing sections for which sufficient students exist, but part-time faculty with the appropriate expertise cannot be found. Such a position could potentially be joint with another discipline.</p>	
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New Program Planning Initiative (Objective) – Core Topic Only	
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Planning years:	<i>(The academic years this will take to complete)</i>

Description:

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- ☐ Title V

New Program Planning Initiative (Objective) – Core Topic Only

**Title (including
number:**

Planning years: *(The academic years this will take to complete)*

Description:

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Planning years:

(The academic years this will take to complete)


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Program Review Signature Page:



Brian Youngblood (Jun 17, 2025 14:09 PDT)

Brian Youngblood

Program Review Lead

6/13/25

Date


Sean Abel (Jun 17, 2025 14:12 PDT)

Program Dean

Date



Vice President, Academic Affairs

Date

[illegible]

[illegible]

Building maintenance, furniture requests, repairs

FACILITIES

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Finite subalgebras require to be finite-dimensional, can consist of requests for locally verifiable, finite assignments, local requests, etc...

[illegible]












Physics and Astronomy PReview 2024-25

Final Audit Report

2025-07-17

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