Physics

Program Review

and Discontinuance

We've been here before

- Four years ago, the former provost proposed cutting Physics
- Review by PRC, UAC, and Senate concluded it was worth keeping
- Provost agreed and did not cut at all

What has changed?

- Since 2021, staffing in Physics has decreased, realizing savings
- Major numbers same (even as EWU enrollment declined dramatically)
- EWU Physics is 70th percentile for majors compared to peer institutions

- We are now a polytechnic

What has changed?

These all suggest Physics is viable and should be maintained

Why cut?

We are told this is **not** about saving any money.

Cutting Physics degrees would not save the university any money. In fact, it would cost EWU money to cut, according to our calculations and official SRA figures.

Why cut?

No reasons have been articulated to us.

Our dean could not answer this question.

PRC observes:

"What still appears to be missing is a clear rationale for the Program Discontinuance process."

PRC observes:

"The programs considered for discontinuation during the current process were moved to the PRD process because the programs could not reach an agreement with their given dean, with what appears to be no established or recommended criteria."

Seeking rationale:

The Physics program has not been able to get any clear rationale from administration, other than the CSTEM dean's opinion that the program is "not viable."

This opinion is not based on comparison to other institutions, cost–benefit analysis, or standards established by the university.

PRC's recommendation

"The program appears to be viable in supporting students to reach their career goals. As EWU transitions to becoming a polytechnic university it is hard to envision the elimination of programs in the hard sciences like physics as anything other than weakening the overall mission and vision of

the rebranding.”

PRC's recommendation

Retain both bachelor's degrees and both minors.

Provost's initial recommendation

Degrees and minors should all be entirely eliminated, but "the content remains important to be offered. Consider integrating content into other degree offerings."

Integrating content

We appreciate the sentiment, but…

Poll: raise your hand if your program volunteers to add quantum mechanics, electrodynamics, and Einstein's theory of relativity to your degrees.

Impact of discontinuance

- Inability to attract quality new faculty (job description same as community college)
- Likely loss of faculty
- Less support for students in service courses (Biology, Mechanical Engineering, Exercise Science, Electrical

Engineering, and so on)

Need for tenure-line faculty

Lecturers are not stable staffing for Physics.

Hiring and evaluating lecturers
requires discipline expertise.

Impact on students outside of Physics

- Over 4 full-time faculty are needed to teach introductory service courses in physics
- Major required to attract and retain faculty
- Physics majors are crucial as tutors

Legislative priorities

The State has recently funded building the Interdisciplinary Science Center and remodeling Science.

Physics is a key occupant, including with custom-designed research labs.

Summary

- Physics degrees generate net revenue for Eastern
- Most of what we do is vital service to other programs
- The major is crucial for attracting faculty
- Two years into SRA, no benefits to

cutting Physics have been articulated

Questions?

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Appendix

PRC on the minor

"Elimination of the minor provides no foreseeable benefit to the university or students."

Comparison to peers

EWU Physics is 70th percentile for number of majors among four-year institutions that grant physics bachelor's degrees as their highest degree.

(Source: AIP)

Comparisons

Gonzaga has 38% fewer majors, but 100% more full-time faculty (167% more tenure-line faculty).

WSU, a PhD-granting R1, has the same number of physics majors as EWU when normalized by overall undergrad enrollment.

Stability of staffing

- One tenured faculty member left for a school not trying to cut physics
- One PhD lecturer left for a TT position at a community college (more stability)
- Two other PhD lecturers left for the private sector (more money)
- One PhD lecturer retained only because of research with majors and teaching

upper division

SRA

The Academic Programs Task Force recommended retaining our BS (now BS-professional), the larger degree.

There are no benefits to discontinuing the smaller degree or minors while retaining the larger degree.

SRA

So why did they put the smaller degree and minors into the bottom quintile?

Because they were forced to put 20% of the budget in the bottom quintile, regardless of merit.

SRA

The SRA rankings are not directly relevant to this discussion.

The SRA task force was required to use stack ranking, which has been abandoned by private companies as harmful and illogical.

Stack ranking

"Many companies adopted it, only to abandon it later, citing undesirable side effects on morale and teamwork… Forcing a relative ranking on what purports to measure an absolute level of performance… is illogical."

(*Noise*, Kahneman, Sibony, and Sunstein)

Physics program review, Faculty Senate, December 9, 2024

Context: distant past

- 30 years ago Physics had 8 tenure-line positions
- Today it has the same number of majors with only 3 tenure-line faculty and 2 lecturers

Physics cost

Official SRA estimates of cost were that the physics degrees bring in somewhere between $6440 and $15,757 of **net** revenue, after all expenses.

CSTEM dean on cost:

According to PRC: Dean Bowman said there is no additional cost to offering physics degrees at EWU.

PRC in 2021:

"There would be no savings in cutting the programs."

Why two BS options?

- BS–professional prepares for grad school and more technical careers (about 80% of recent grads)
- BS–general is for less technical careers or double majors (about 20% of recent grads)
- BS–general courses entirely contained within BS–professional

- BS–general will also replace BAE

Articulated standards

When questioned, Dean Bowman said the

Physics program should have 100 majors.

No bachelor-granting institutions have this except Cal Poly Pomona and San Luis Obispo (both much larger enrollment than Eastern).

BAE sidenote

All science BAEs are being redone under a new model for science ed. Physics will participate (if allowed).