

**COMMITTEE RECOMMENDATION FOR
College of Natural Sciences and Mathematics
Department of Physics Graduate Programs**

STRENGTHS:

- A high research productivity evidenced by many externally funded research grants as well as published projects in many peer-reviewed professional journals.
- Regular work in NASA, NSF, and DOE panels, proving prominence on the national and international stage.
- Productive graduate program that has a higher than average graduate student number per FTE than national average. Surveys indicating high success in postgraduate employment.
- Richness of research by faculty and research requirements of the program allow students to always have access to research.
- The collaboration between the Physics department and Geophysical Institute allows both mutual benefits, notably additional benefits for students.
- Physics is a fundamental science which engineering and most other sciences on campus need for their degrees

WEAKNESSES:

- Although the undergraduates per FTE number is about the national average, there aren't enough undergraduates to provide enough graduate students with TA positions.
- A reduction in faculty over time has led to a decreased amount of research assistant positions for graduate students, as well as some difficulty in teaching full curriculum.
- Inability to hire more faculty has made diversifying and invigorating the department difficult.

OPPORTUNITIES:

- Diversification of the physics program via new concentrations

THREATS:

- Inability to hire new faculty is leading to lack of diverse and available research opportunities for students, as well as a lack of people that can bring in more external funding.
- Lack of general comprehension by outsiders regarding difference between fiscal productivity and research productivity for the department
- Deletion of either PhD might prove hazardous, but specifically Space Physics as it is a specialized program and central to UAF's space grant and research enterprise.

CENTRALITY TO MISSION:

- A central science at UAF, many of the other sciences and engineering would have difficulty existing without the physics graduate program, which provides TAs to teach the physics labs these other departments are requiring their students to take .

- PhD in Space Physics central to UAF's mission as a space grant school, research done through Poker Flats and HAARP.

INDICATORS OF QUALITY:

- Highly productive faculty in the area of research, which leads to opportunities for students and strength in future student employment

COST-EFFECTIVENESS:

SCH

Metric	Detail	FY16	FY17	FY18	FY19	FY20
SCH	PHYS - Grad	419	420	367	390	338
SCH	PHYS - External	263	213	121	92	95

Majors

Metric	Detail	FY16	FY17	FY18	FY19	FY20
Majors	MS Physics	6	4	4	9	9
Majors	PHD Physics	14	13	11	11	12
Majors	PHD Space Physics	7	7	7	5	5

Degrees

Metric	Detail	FY16	FY17	FY18	FY19	FY20
Degrees	MS Physics	3	0	1	1	3
Degrees	PHD Physics	2	2	0	0	0
Degrees	PHD Space Physics	2	1	2	0	1

FTEs

Metric	Detail	FY16	FY17	FY18	FY19	FY20
FTEs	Adjunct FTEs	0	0	2.2	1.2	0.6
FTEs	Faculty FTEs	5.4	4.7	4.8	4.7	4.4
FTEs	Staff FTEs	1.6	1.5	1.4	1.3	1.4
FTEs	Student FTEs	4.8	4.8	5.3	4.5	4

Expenditures

Metric	Program	Detail	FY20
Instructional Expenditures	CNSM Physics	Unrestricted	1107216.3
Salaries and Benefits	CNSM Physics	Unrestricted	1072654.1

Physics MS

RECOMMENDATION:	ADDITIONAL COMMENTS:	DATE FOR FOLLOW-UP:
Continuation: 2 votes		
Continuation w/ improvement plan: 6 votes	Explore low graduation rates and how to better support students to completion.	1 year

Physics PhD

RECOMMENDATION:	ADDITIONAL COMMENTS:	DATE FOR FOLLOW-UP:
Continuation: 1 vote		
Continuation w/ improvement plan: 4 votes	Despite having nearly double the students as Space Physics at any given point in time, the same amount of students or an even smaller amount of students graduate from this degree. Evaluate why students are not graduating sooner or at all. Consider the need for this program separate from Space Physics.	1 year
Revision or restructure: 2 votes		
Deletion: 1 vote		

Space Physics PhD

RECOMMENDATION:	ADDITIONAL COMMENTS:	DATE FOR FOLLOW-UP:
Continuation: 5 votes		
Continuation w/ improvement plan: 2 votes		
Revision or restructure: 1 vote		