

Submit originals and one copy and electronic copy to Governance/Faculty Senate Office (email electronic copy to jbharvie@alaska.edu)

PROGRAM/DEGREE REQUIREMENT CHANGE (MAJOR)

SUBMITTED BY:

Department	Physics	College/School	CNSM
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See <http://www.uaf.edu/uafgov/faculty-senate/curriculum/course-degree-procedures/> for a complete description of the rules governing curriculum & course changes.

PROGRAM IDENTIFICATION:

DEGREE PROGRAM	Physics
Degree Level: (i.e., Certificate, A.A., A.A.S., B.A., B.S., M.A., M.S., Ph.D.)	B.S.

A. CHANGE IN DEGREE REQUIREMENTS: (Brief statement of program/degree changes and objectives)

The Physics department is changing the one semester course PHYS 313 "Thermodynamics and Statistical Physics" (4 cr) to a two semester sequence of two 2-cr courses: "Thermal Physics" (PHYS 351, proposed, currently offered as the trial course PHYS 393) and "Statistical Physics" (PHYS 451, proposed, currently offered as the trial course PHYS 493.) This proposal is to change the degree requirements from PHYS 313 to PHYS 351 AND PHYS 451.

B. CURRENT REQUIREMENTS AS IT APPEARS IN THE CATALOG:

PHYS 313 – Thermodynamics and Statistical Physics.....4

C. PROPOSED REQUIREMENTS AS IT WILL APPEAR IN THE CATALOG WITH THESE CHANGES:

(Underline new wording ~~strike through old wording~~ and use complete catalog format)

~~PHYS 313 – Thermodynamics and Statistical Physics.....4~~
PHYS 351 – Thermal Physics.....2
PHYS 451 – Statistical Physics.....2

D. ESTIMATED IMPACT

WHAT IMPACT, IF ANY, WILL THIS HAVE ON BUDGET, FACILITIES/SPACE, FACULTY, ETC.

Physics Department has offered PHYS 313 annually. It is now offering the two new courses annually. The total number of credits is unchanged, and there is thus no net impact on budget, facilities/space, faculty, etc..

E. IMPACTS ON PROGRAMS/DEPTS:

What programs/departments will be affected by this proposed action?
 Include information on the Programs/Departments contacted (e.g., email, memo)

No departmental or programmatic impacts.

F. IF MAJOR CHANGE - ASSESSMENT OF THE PROGRAM:

Description of the student learning outcomes assessment process.)

Student learning outcomes for the BS Physics program is unaffected by this change; that process only indirectly utilizes the outcomes of this specific sub-topic of the field.

RECEIVED

SEP 12 2013

Dean's Office

College of Natural Science & Mathematics

Governance
9/24/13 TLP

JUSTIFICATION FOR ACTION REQUESTED

The purpose of the department and campus-wide curriculum committees is to scrutinize program/degree change applications to make sure that the quality of UAF education is not lowered as a result of the proposed change. Please address this in your response. This section needs to be self-explanatory. If you drop a course, is it because the material is covered elsewhere? Use as much space as needed to fully justify the proposed change and explain what has been done to ensure that the quality of the program is not compromised as a result.


The Physics department is changing the one semester course PHYS 313 "Thermodynamics and Statistical Physics" (4 cr) to a two semester sequence of two 2-cr courses: "Thermal Physics" (PHYS 351, proposed, currently offered as the trial course PHYS 393) and "Statistical Physics" (PHYS 451, proposed, currently offered as the trial course PHYS 493.)

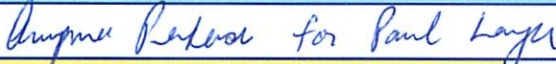
The curricular trend at peer and peer-aspirant institutions is to separate the two topics, as motivated by the finding (here and elsewhere) that student learning of the material is improved; in part, doing so allows students to gain exposure to other topics in physics before tackling topics in statistical mechanics, and doing so also allows them to build more fully on the understanding of the topics in classical thermodynamics. The curricular changes are transparent; exactly the same level and scope of topics have been carried forward from PHYS 313 to the sequence PHYS 351 + PHYS 451.

Since introducing the two trial courses last year, the department has been approving petitions from students to use those two courses to satisfy the degree requirement for PHYS 313. This proposal is to formally change the degree requirements from PHYS 313 to PHYS 351 and PHYS 451.

APPROVALS:

	Date	12 SEP 2013
Signature, Chair, Program/Department of:		

	Date	9-23-13
Signature, Chair, College/School Curriculum Council for:		
CNSM		

	Date	9-24-2013
Signature, Dean, College/School of:		

ALL SIGNATURES MUST BE OBTAINED PRIOR TO SUBMISSION TO THE GOVERNANCE OFFICE

	Date	
Signature, Chair, UAF Faculty Senate Curriculum Review Committee		