SOUTH DAKOTA BOARD OF REGENTS
ACADEMIC AFFAIRS FORMS

Substantive Program Modification Form

UNIVERSITY:	**SDSU**
CURRENT PROGRAM DEGREE:	**Bachelor of Science (B.S.)**
CURRENT PROGRAM MAJOR/MINOR:	**Physics**
CURRENT SPECIALIZATION	**Science Teaching Specialization**
CIP CODE:	**40.0801 – Physics Major** **13.1316 – Science Teaching Specialization**
UNIVERSITY DEPARTMENT:	**Physics**
BANNER DEPARTMENT CODE:	**SPHY**
UNIVERSITY COLLEGE:	**Natural Science**
BANNER COLLEGE CODE:	**3T**

University Approval
To the Board of Regents and the Executive Director: I certify that I have read this proposal, that I believe it to be accurate, and that it has been evaluated and approved as provided by university policy.

Dennis D. Hedge — Vice President of Academic Affairs or President of the University

4/28/2023 — Date

1. This modification addresses a change in:

☒	Total credits required within the discipline	☒	Total credits of supportive course work
☒	Total credits of elective course work	☐	Total credits required for program
☐	Program name	☒	Existing specialization
☐	CIP Code	☐	Other (explain below)

2. Effective date of change: 2023-2024 Academic Year

3. Program Degree Level: Associate ☐ Bachelor's ☒ Master's ☐ Doctoral ☐

4. Category: Certificate ☐ Specialization ☒ Minor ☐ Major ☒

5. If a name change is proposed, the change will occur:

☐ On the effective date for all students

☐ On the effective date for students new to the program (enrolled students will graduate from existing program)

Proposed new name:

6. Is the program being modified associated with a current articulation agreement? Yes ☐ No ☒

a. If yes, will the articulation agreement need to be updated with the partner institution following the approve of the program change? Please explain: N/A

7. Primary Aspects of the Modification:

Existing Curriculum				*Proposed Curriculum (highlight changes)*			
Pref.	**Num.**	**Title**	**Cr. Hrs.**	**Pref.**	**Num.**	**Title**	**Cr. Hrs.**
Systems General Education Requirements			**33**	**Systems General Education Requirements**			**22**
Systems General Education Requirements – Electives			**6**	**Systems General Education Requirements – Electives**			**12**
						SGR #1	3
						SGR #1	3
						SGR #2	3
		SGR #3	3			~~SGR #3~~	~~3~~
		SGR #4	3			SGR #4	3
Systems General Education Requirements – Required			**27**	**Systems General Education Requirements – Required**			**10**
ENGL	101	Composition I (SGR #1)	3	~~ENGL~~	~~101~~	~~Composition I (SGR #1)~~	~~3~~
ENGL OR ENGL	201 277	Composition II (3) (SGR #1) Technical Writing in Engineering (3) (SGR #1)	3	~~ENGL~~ ~~OR~~ ~~ENGL~~	~~201~~ ~~277~~	~~Composition II (3) (SGR #1)~~ ~~Technical Writing in Engineering (3) (SGR #1)~~	~~3~~
CMST	101	Fundamentals of Speech (SGR #2)	3	~~CMST~~	~~101~~	~~Fundamentals of Speech (SGR #2)~~	~~3~~
				AIS	211	South Dakota American Indian Culture and Education (SGR #3) (Teaching Specialization Requirement)	~~--~~
GEOG	210	World Regional Geography (SGR #3)	3	GEOG	210	World Regional Geography (SGR #3)	3
PHIL	200	Introduction to Logic (SGR #4)	3	PHIL	200	Introduction to Logic (SGR #4)	3
MATH	123	Calculus (SGR #5)	4	MATH	123	Calculus (SGR #5)	4
PHYS AND PHYS	211-211L 213-213L	University Physics I & Lab (4,0) (SGR #6) University Physics II & Lab (4,0) (SGR #6)	8	PHYS AND PHYS	211-211L 213-213L	University Physics I & Lab (4,1) (SGR #6) (Major Requirement) University Physics II & Lab (4,1) (SGR #6) (Major Requirement)	--
Department Requirements *Additional required credits of coursework beyond SGRs, Major, and Support Courses*			**3**	**Department Requirements** *Additional required credits of coursework beyond SGRs, Major, and Support Courses*			**0**
		Natural Sciences (10+) Satisfying coursework must include - at least two classes with laboratory components - at least two different prefixes *(MATH and STATS courses do not count toward the Science requirement.)* (6 credits of SGR #6 are counted toward this goal and 4 credits of major coursework)	0			~~Natural Sciences (10+)~~ ~~Satisfying coursework must include~~ ~~- at least two classes with laboratory components~~ ~~- at least two different prefixes~~ ~~*(MATH and STATS courses do not count toward the Science requirement.)*~~ ~~(6 credits of SGR #6 are counted toward this goal and 4 credits of major coursework)~~	~~0~~
AIS	211	South Dakota American Indian Culture and Education	3	~~AIS~~	~~211~~	~~South Dakota American Indian Culture and Education~~	~~3~~
		One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.	-			~~One declared minor outside of the major prefix OR a second major OR a teaching specialization. The minor may be a traditional minor within one department or it may be interdisciplinary involving more than one department. The minor can be in a different college. The minor must be declared no later than the student's third semester of enrollment.~~	~~-~~
		Capstone course within major PHYS 490 Seminar	-			Capstone course within major ~~PHYS 490 Seminar~~ SEED 413 7-12 Science Methods	
		33 Upper Division Credits (300-400 level coursework inside and outside of the major)	--			33 Upper Division Credits (300-400 level coursework inside and outside of the major)	--
Major Requirements			**49**	**Major Requirements**			**57**
Major Core			43	Major Core			51

Existing Curriculum				*Proposed Curriculum (highlight changes)*			
Pref.	**Num.**	**Title**	**Cr. Hrs.**	**Pref.**	**Num.**	**Title**	**Cr. Hrs.**
CHEM	112	General Chemistry I	3	CHEM	112	General Chemistry I	3
CHEM	112L	General Chemistry I Lab	1	CHEM	112L	General Chemistry I Lab	1
CHEM	114	General Chemistry II	3	CHEM	114	General Chemistry II	3
CHEM	114L	General Chemistry II Lab	1	CHEM	114L	General Chemistry II Lab	1
EE	216	Linear Circuits I & Lab	3	EE	216	Linear Circuits I & Lab	3
EE	216L	Linear Circuits I Lab	1	EE	216L	Linear Circuits I Lab	1
MATH	125	Calculus II	4	MATH	125	Calculus II	4
MATH	225	Calculus III	4	MATH	225	Calculus III	4
MATH	321	Differential Equations	3	MATH	321	Differential Equations	3
PHYS	119	First Year Seminar in Physics	1	PHYS	119	First Year Seminar in Physics	1
PHYS	211	University Physics I (SGR #6)	--	PHYS	211	University Physics I (SGR #6)	4
PHYS	211L	University Physics I Lab (SGR #6)	--	PHYS	211L	University Physics I Lab (SGR #6)	1
PHYS	213	University Physics II (SGR #6)	--	PHYS	213	University Physics II (SGR #6)	4
PHYS	213L	University Physics II Lab (SGR #6)	--	PHYS	213L	University Physics II Lab (SGR #6)	1
PHYS	316	Measurement Theory and Experiment Design	2	PHYS	316	Measurement Theory and Experiment Design	1
PHYS	316L	Measurement Theory and Experiment Design Lab	0	PHYS	316L	Measurement Theory and Experiment Design Lab	1
PHYS	331	Introduction to Modern Physics	3	PHYS	331	Introduction to Modern Physics	3
PHYS	341	Thermodynamics	2	PHYS	341	Thermodynamics	2
PHYS	343	Statistical Physics	2	PHYS	343	Statistical Physics	2
PHYS	421	Electromagnetism	4	PHYS	421	Electromagnetism	4
PHYS	451	Classical Mechanics	4	PHYS	451	Classical Mechanics	4
PHYS	490	Seminar (Capstone)	2	~~PHYS~~	~~490~~	~~Seminar (Capstone)~~	~~2~~
Science Teaching Specialization Requirements			6	Science Teaching Specialization Requirements			6
PHYS OR PHYS	185-185L 187-187L	Astronomy I and Lab (3,0) Astronomy II and Lab (3,0)	3	PHYS OR PHYS	185-185L 187-187L	Astronomy I and Lab (2,1) Astronomy II and Lab (2,1)	3
PHYS	437	Foundations of Health Physics	3	PHYS	437	Foundations of Health Physics	3
Teaching Specialization Requirements			**34**	**Teaching Specialization Requirements**			**37**
AIS	211	South Dakota American Indian Culture and Education (Department Requirements)	--	AIS	211	South Dakota American Indian Culture and Education ~~(Department Requirements)~~	3
EDFN	101	Exploration of Teaching & Learning	1	EDFN	101	Exploration of Teaching & Learning	1
EDFN	340	Adolescent Development in Educational Contexts	3	EDFN	340	Adolescent Development in Educational Contexts	3
EDFN	351	Teaching & Learning I	1	EDFN	351	Teaching and Learning I	1
EDFN	352	Teaching & Learning II	3	EDFN	352	Teaching and Learning II	3
EDFN	352L	Teaching & Learning II Lab	2	EDFN	352L	Teaching and Learning II Lab	2
EDFN	453	Teaching and Learning III	3	EDFN	453	Teaching and Learning III	3
EDFN	453L	Teaching and Learning III Lab	4	EDFN	453L	Teaching and Learning III Lab	4
EDFN	454	Teaching & Learning IV: Student Teaching	11	EDFN	454	Teaching and Learning IV: Student Teaching	11
SEED	413	7-12 Science Methods	3	SEED	413	7-12 Science Methods (Capstone)	3
SEED	450	7-12 Reading & Content Literacy	2	SEED	450	7-12 Reading & Content Literacy	2
SEED	456	Capstone/Action Research	1	SEED	456	Capstone/Action Research	1
Electives *(Taken as needed to complete any additional degree requirements)*			**1**	**Electives** *(Taken as needed to complete any additional degree requirements)*			**4**

Summary of Credits Physics (B.S.) – Science Teaching Specialization			
System General Education Requirements	**33**	**System General Education Requirements**	**22**
Department Requirements *Additional required credits of coursework beyond SGRs, Major, and Support Courses*	**3**	**Department Requirements** *Additional required credits of coursework beyond SGRs, Major, and Support Courses*	**0**
Majors Requirements	**49**	**Majors Requirements**	**57**
Teaching Specialization Requirements	**34**	**Teaching Specialization Requirements**	**37**

Existing Curriculum				*Proposed Curriculum (highlight changes)*			
Pref.	**Num.**	**Title**	**Cr. Hrs.**	**Pref.**	**Num.**	**Title**	**Cr. Hrs.**
Electives *(Taken as needed to complete any additional degree requirements)*			**1**	**Electives** *(Taken as needed to complete any additional degree requirements)*			**4**
		Total number of hours required for specialization	113			Total number of hours required for specialization	104
		Total number of hours required for degree	120			Total number of hours required for degree	120

8. Explanation of the Change:

The Department of Physics identified the following changes to the Physics (B.S.) - Science Teaching Specialization:

- Removed a specific course selection from SGR #1 and SGR #2 to allow students more flexibility in meeting their System General Education requirements.
- Departments updated zero credit lab courses and adjusted the credits between the lecture and labs to accurately reflect contact time.
- PHYS 211-211L University Physics I & Lab and PHYS 213-213L University Physics I & Lab increased from 4+0 to 4+1 credit courses.
- The capstone requirement changed from PHYS 490 Seminar to SEED 413 7-12 Science Methods to more accurately address the teaching specialization of the major.
- Removed the department requirement to complete 10+ credits of Natural Science coursework. This language is redundant to current program requirements. The requirement was carried over when the department transitioned from the College of Arts and Sciences to the College of Natural Sciences.