

The Flexible Emphasis Physics Major is designed to allow students the freedom to achieve significant preparation in an area that will complement physics. The resulting physics major will have an emphasis in an area such as: business, biophysics, geophysics, information systems, mass communications, medical physics, or statistical process control. A student is advised to work closely with an advisor as emphasis courses are chosen.

Freshman Year	F	S
Chem 112,112L*, General Chemistry I and Lab or Chem 106,106L, Chemistry Survey and Lab	4	
Chem 114*, General Chemistry II or Chem 120, Elementary Organic Chemistry		3
Engl 101*, Composition I	3	
Math 123*, Calculus I		4
SpCm 101*, Fundamentals of Speech		3
SGR Goal 3, (Social Science) (Catalog p xx) * (G)		3
SGR Goal 4, (Humanities and Arts)* (Catalog p xx-xx) (G)	6	
IGR Goal 2**, Wellness (Catalog p xx)		2
◇◇ Directed Electives	<u>3</u>	<u>3</u>
	16	15

Sophomore Year	F	S
CSc 150, or CSc 213, or CSc 218 (a programming language)		3
Engl 201*, Composition II, or Engl 277, Tech. Writing in Engineering		3
Math 125, Calculus II	4	
Math 225, Calculus III		4
Phys 211,211L, University Physics I and Lab or Phys 111,111L, Introduction to Physics I and Lab	4	
Phys 213-213L, University Physics II and Lab or Phys 113,113L, Introduction to Physics II and Lab.		4
SGR Goal 3 (Social Science) (Catalog p xx) *	3	
◇◇ Directed Electives	<u>5</u>	<u>3</u>
	16	17

Junior Year	F	S
Math 321, Differential Equations	3	
Phys 316, Meas. Theory and Exp. Design (AW)	2	
Phys 331, Introduction to Modern Physics	3	
IGR Goal 1**, (Land & Nat Res.) (Catalog p xx)		3
IGR Goal 3**, (Soc. Resp.) (Catalog p xx)		3
Physics Electives	5	
◇◇ Directed Electives	<u>3</u>	<u>10</u>
	16	16

Senior Year	F	S
Phys 451, Classical Mechanics or Phys 471, Quantum Mechanics or Phys 421, Electromagnetism	4	4
Phys 490, Seminar	1	1
Physics Electives	5	5
◇ Technical Electives	10	10
◇◇ Directed Electives	<u>2</u>	<u>2</u>
	16	16

* The 30 credit Board of Regents System General Education Requirements (SGRs) must be completed as part of a student's first 64 credits. See the Catalog, pages xx-xx for details. Courses that are part of these credits are indicated by an asterisk (*). Check especially the six credits for each of goals 3 and 4 which require courses from two different disciplines.

** South Dakota State University has an 8-9 credit Institutional Graduation Requirement (IGRs). See the Catalog, pages xx-xx for details. These requirements are indicated by a double asterisk (**).

(G) The BOR General Education requirements (SGRs) include an International/Global Diversity requirement. See the Catalog, page x for details.

(AW) The BOR General Education requirements (SGRs) include an Advanced Writing requirement. See the Catalog, page x for details.

Students must take the proficiency examination after completing 48 credits. English 101, and a course in each of the SGR areas of social science, arts and humanities, mathematics, and natural science must be taken prior to taking this exam.

- ◇ Technical electives will be selected with the assistance of the student's advisor from courses offered by the Electrical Engineering, Physics, Computer Science, Chemistry, Biology, and Mathematics departments. A complete list of departmental approved technical electives is available in the Physics Department office. Any departures from this list must be approved by the Head of the Physics Department.

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Name _____
 Date _____

28 credits in physics

Phys 211, University Physics I and Lab or	
Phys 111, Intro to Physics I and Lab	4 _____
Phys 213, University Physics II and Lab or	
Phys 113, Intro to Physics II and Lab.	4 _____
Phys 316, Measurement Theory and Experiment Design ..	2 _____
Phys 331, Introduction to Modern Physics	3 _____
Phys 421, Electromagnetism or	
Phys 451, Classical Mechanics or	
Phys 471, Quantum Mechanics	4 _____
Phys 490, Physics Colloquium	1 _____
Physics Electives	10 _____

15 credits in mathematics

Math 123, Calculus I	4 _____
Math 125, Calculus II	4 _____
Math 225, Calculus III	4 _____
Math 321, Differential Equations	3 _____

7 credits in chemistry

Chem 112, 112L, General Chemistry I and assoc. Lab or	
Chem 106, 106L, Chemistry Surv. and assoc. Lab .	4 _____
Chem 114, General Chemistry II or	
Chem 120, Elementary Organic Chemistry	3 _____

3 credits in computer science

Csc 150, Computer Science I, or	
Csc 213, Intro. to Programming with FORTRAN or	
Csc 218, Intro. to C/C++/UNIX for Engineers	3 _____

46 credit in additional electives

◇ Technical Electives	20 _____
◇◇ Additional Electives	26 _____

21 additional credits of BOR (SGR) requirements

SGR Goal 1, Engl 101*, Composition I	3	_____	
SGR Goal 1, Engl 201*, Composition II (or Engl 277)	3	_____	
SGR Goal 2, SpCm 101,101A*, Fund. of Speech and Lab	3	_____	
SGR Goal 3, Social Science* (Catalog p xx - 2 disciplines)	3	_____	
SGR Goal 3, Social Science* (Catalog p xx-xx) (G)	3	_____	
SGR Goal 4, Humanities & Fine Arts* (Catalog p xx)	3	_____	
SGR Goal 4, Hum. & Fine Arts* (Catalog p xx-xx)(G)	3	_____	
SGR Goal 5, Mathematics * (Catalog p xx) (3)	0	<u>above</u>	Math 123
SGR Goal 6, Natural Science * (Catalog p xx) (6)	0	<u>above</u>	Chem 112,114

8 credits of SDSU (IGR) requirements

IGR Goal 1, Land & Nat Res. (catalog p xx)	3	_____
IGR Goal 2, Wellness (Catalog p xx)	2	_____
IGR Goal 3, Soc Resp. / Cultural (Catalog p xx)	3	_____

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