



**SOUTH DAKOTA BOARD OF REGENTS  
ACADEMIC AFFAIRS FORMS**

*Barbara H. [Signature]*  
[Redacted]



numerical gap was also noted for general internal medicine physicians, an occupation that requires a high-level understanding of pharmacology and toxicology.

- 6. Provide estimated enrollments and completions in the table below and explain the methodology used in developing the estimates (*appropriate year*).**

The estimates below are based on discussion with leadership within the SDSU College of Natural Sciences, taking into account current student enrollment in pre-health professional programs and student feedback indicating a desire for more coursework opportunities in the areas of pharmacology and toxicology.

<i>Estimates</i>	<b>Fiscal Years*</b>			
	<b>1<sup>st</sup></b> <b>FY 24</b>	<b>2<sup>nd</sup></b> <b>FY 25</b>	<b>3<sup>rd</sup></b> <b>FY 26</b>	<b>4<sup>th</sup></b> <b>FY 27</b>
<b>Students enrolled in the minor (fall)</b>	10	15	15	15
<b>Completions by graduates</b>	0	9	14	14

\*Do not include current fiscal year.

- 7. What is the rationale for the curriculum? Demonstrate/provide evidence that the curriculum is consistent with current national standards.**

The required curriculum in this minor meets undergraduate pharmacy education requirements for the Pharm.D. degree according to the Accreditation Council for Pharmacy Education (ACPE).<sup>3</sup> ACPE requirements for education in the areas of pharmacology and toxicology would be expected to meet or exceed pharmacology and toxicology education requirements for most healthcare-related professional programs.

- 8. Complete the tables below. Explain any exceptions to Board policy requested.**

**A. Distribution of Credit Hours**

<b>Pharmacology &amp; Toxicology</b>	<b>Credit Hours</b>	<b>Percent</b>
Requirements in minor	18	100%
Electives in minor	0	0%
Total	18	

<sup>3</sup> Accreditation Council for Pharmacy Education, Standards 2016, <https://www.acpe-accredit.org/pdf/Standards2016FINAL2022.pdf>

## B. Required Courses in the Minor

Prefix	Number	Course Title	Prerequisites for Course	Credit Hours	New (yes, no)
BIOL OR BIOL	325-325L  326-326L	Physiology & Lab (4)  Biomedical Physiology & Lab (4)	BIOL 325/L: (BIOL 151 or BIOL 153 or BIOL 221) and (CHEM 106 or CHEM 112).  BIOL 326/L: (BIOL 153 or BIOL 221) and CHEM 114.	4 (7)	No
PHA	352	Pathophysiology, Pharmacology, Toxicology I	BIOL 325 OR BIOL 326	3	No
PHA	353	Pathophysiology, Pharmacology, Toxicology II	PHA 352	3	No
PHA	452	Pathophysiology, Pharmacology, Toxicology III	PHA 353	4	No
PHA	453	Pathophysiology, Pharmacology, Toxicology IV	PHA 452	4	No
Subtotal				18	

\*Credit hours in parentheses ( ) indicate prerequisite courses not counted in the minor requirements. The net number of prerequisites not counted is 7. These prerequisites are fundamental to general education coursework and major requirements (BIOL 151, BIOL 153, BIOL 221, CHEM 106, CHEM 112, and CHEM 114) for students in health-related

Explain general mechanisms of drug action, principles of pharmacokinetics/pharmacodynamics, and reasons for individual variations in drug response.

Compare and contrast pharmacokinetics and pharmacodynamics with toxicokinetics and toxicodynamics.

Describe the pharmacology of medications used in the treatment of diseases related to the adrenergic and cholinergic systems.

Describe the pharmacology of central nervous system drugs, behavioral/addiction medications, and analgesic medications.

Describe general concepts of immunopharmacology, pulmonary pharmacology, anticancer pharmacology, endocrine pharmacology and antimicrobial therapy.

Explain mechanisms of toxicity and recognize adverse effects of medications and other poisons.

Recommend appropriate treatment for a poisoned patient.

	Program Courses that Address the Outcomes				
	BIOL 325-325L				
	OR				
<b>Individual Student Outcome</b>	BIOL 326-326L	PHA 352	PHA 353	PHA 452	PHA 453
Describe basic cell physiology, neural, hormonal, and neuroendocrine control systems.	X				

Board approval for a university to offer programs off-campus and through distance delivery.

A. Complete the following charts to indicate if the university seeks authorization to deliver the entire program on campus, at any off campus location (e.g., USD Community Center for Sioux Falls, Black Hills State University-Rapid City, Capital City Campus, etc.) or deliver the entire program through distance technology (e.g., as an online program)?

	Yes/No	Intended Start Date
On campus	Yes	2023-2024 Academic Year

	Yes/No	If Yes, list location(s)	Intended Start Date
Off campus	No		

	Yes/No	If Yes, identify delivery methods Delivery methods are defined in <a href="#">AAC Guideline 5.5</a> .	Intended Start Date

Distance Delivery  
(online/CEMC /Artifact)

