



## Minor in Biomedical and Pharmaceutical Sciences, Catalog Year 2024 – 2025

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The 18-credit Biomedical and Pharmaceutical Sciences minor is open to all majors at the university except PharmD, BS Pharmaceutical Sciences, and BS Neuropharmacology majors. Because most of the 300+ level courses have pre-requisites of chemistry and/or biology, the minor is most appropriate for the following majors: BS Cell and Molecular Biology, BS or BA Biology, BS or BA Chemistry, BS Biotechnology, BS Medical Laboratory Science, BS Animal Science and Technology, BS Biomedical Engineering. Note that BS Chemical Engineering majors are better suited for the Minor in Pharmaceutical Formulation and Manufacturing.

The minor is designed for students who wish to explore key aspects but not a full degree in biomedical and pharmaceutical sciences, including pharmacology, medicinal chemistry, pharmaceuticals, drug design, cannabis, formulation, manufacturing, and other unique courses offered by the Biomedical and Pharmaceutical Sciences department faculty. The minor in Biomedical and Pharmaceutical Sciences helps students to prepare for careers in biomedical research and/or pharmaceutical industry.

### REQUIREMENTS FOR MINOR IN BIOMEDICAL AND PHARMACEUTICAL SCIENCES ARE:

1. Students must complete a minimum of 18 credit hours for the minor using the specifications below.
2. A minimum GPA of 2.0 must be earned in the 18 credits required for the minor and course may not be taken under the pass-fail option.
3. A maximum of 3-credits required for a major field of study may be applied to both the major and minor programs. **Courses may not be simultaneously counted for another minor.**

Name: \_\_\_\_\_

Student ID Number: \_\_\_\_\_

Major: \_\_\_\_\_

Expected Graduation Date (mm/yyyy) \_\_\_\_\_

Course List		Credits	Grade Earned
<b>Maximum 9 credits of 100- or 200-level courses from BPS/PHP/PHC course codes:</b>			
*Course meets General Education criteria.			
BPS 136*	The Oceans and Human Health*	A1, B2	3
BPS 203*	Herbal Medicines and Functional Food*	A1, B4	3
BPS 204G*	Nanotechnology: It's a Small World*	A1, B4, G	3
BPS/PSY 205G*	The Challenged Brain*	A1, B4, G	3
BPS 206	Foundations of Cannabis Studies		3
BPS 208G*	Tissue Engineering: To Precision Medicine and Beyond*	A1, G	3
BPS 240	Introduction to Biomedical Research		3
BPS 250	Professional Development and Careers in Pharmaceutical Science		1
PHP 201	Introduction to the U.S. Health Care System		3
PHP 203G*	Understanding Cancer: Basics and Beyond*	A2, G	3
PHP 207G*	Introduction to Safety and Quality in Health Care*	A2, G	3
		Subtotal	Max 9 cr
		=	



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At least 9 credits of 300-level or 400-level courses in BPS/PHP/PHC course codes:			
**Course has pre-requisite(s) which must be met prior to enrollment.			
BPS 301**	Pharmaceutics I: Biopharmaceutics**	2	
BPS 306**	Essential Pharmacokinetic Concepts**	2	
BPS 312**	Cannabis Chemistry and Pharmacognosy**	3	
BPS 313**	Principles of Medicinal Chemistry**	2	
BPS 314**	Cannabis Therapeutics**	3	
BPS 315**	Pharmaceutics II: Dosage Forms**	4	
BPS 316**	Cannabis Product Development**	3	
BPS 321**	Introduction to the Principles of Pharmacology**	3	
BPS 325**	Human Drug Metabolism**	2	
BPS 333**	Nursing Pharmacology**	3	
BPS 340**	Veterinary Pharmacology**	3	
BPS 345**	Introduction to Pharmaceutical Research**	3	
BPS 352**	Personal Cosmetics**	3	
BPS 401**	Pharmaceutical Pharmacology I **	3	
BPS 402**	Pharmaceutical Pharmacology II**	3	
BPS 425**	GMPs in the Manufacture of Pharmaceutical Products**	3	
BPS 426**	cGMP Environmental Risks, Control and Monitoring**	3	
BPS 432**	Neuropharmacology in the CNS**		
BPS 436**	Psychotropic Drugs and Therapy**	3	
BPS 443**	Formulation and Manufacturing Laboratory**	2	
BPS 445**	Natural Product Drugs**	3	
BPS 446**	Biotechnology, Biologics, and Biosimilars**	3	
BPS 450**	Practical Tools for Molecular Sequence Analysis**	3	
BPS 451**	Techniques in Medicinal Chemistry and Molecular Biology**	4	
BPS 455**	Protein Molecular Modeling for Biomedical Sciences**	3	
BPS 460**	Pharmaceutical Science Internship/Field Experience**	0-6	
BPS 497 or 498**	Special Problems in Biomedical and Pharmaceutical Sciences**	0-6	
		Subtotal =	Minimum 9 cr
		Total =	Minimum 18 cr

\*Course meets General Education criteria; \*\*Course has pre-requisite(s) which must be met

BPS Department Chair or Minor Coordinator Signature

Date signed

Return the signed form to student's Assistant/Associate Dean for signature and posting to e-campus

Student's Assistant/Associate Dean

Date signed

Date posted to e-campus