

THE UNIVERSITY OF RHODE ISLAND

Biomedical & Pharmaceutical Sciences - BS

Pre-Health Profession Curriculum Sheet

120 credits Minimum

2026-2027 Catalog Year

Effective Fall 2026

Class of 2030

ABOUT THE BIOMEDICAL & PHARMACEUTICAL SCIENCE BS DEGREE:

The four-year program offers students a solid foundation in the basic sciences and expertise within the pharmaceutical and biomedical sciences. It is designed to provide educational and training experiences that prepare students for careers in the pharmaceutical, consumer product, and biomedical industries. Graduates of the BPS program will be qualified to seek a diverse range of career options that include research and development, manufacturing, product marketing, sales, quality, and administrative positions within the pharmaceutical industry; research and regulatory oversight careers within government agencies; and research and teaching positions in academia. As a prelude to many of these career opportunities, the program prepares students for graduate studies in the expanding fields of pharmaceutical and biomedical sciences. **Pre-Health Path:** In addition, the program effectively prepares students for entry into a wide variety of health professions including medicine and dentistry. + Additional prerequisites for health professional school applications.

GENERAL EDUCATION GUIDELINES:

General education is 40 credits. Each of the twelve outcomes (A1-D1) must be met by at least 3 credits. A single course may meet more than one outcome but cannot be double counted towards the 40-credit total. At least one course must be a Grand Challenge (G). No more than twelve credits can have the same course code (note- HPR courses may have more than 12 credits). General education courses may also be used to meet the requirements of the major or minor when appropriate.

General Education Credit Count				
List courses that meet general education:				
At least 40 cr. (16 or 19 in the major)				
Course in major	Cr, grade		Pre Health Course	Cr, grade
BIO 103	1		PHY 112 ⁺	3
BIO 110 or 101	3		PHY 186 ⁺	1
CHM 101	3		BIO 102 ⁺	3
COM 100	3		BIO 104 ⁺	1
MTH 103 (or choice gen ed)	3,0		WRT or ENG ⁺	
MTH131 or 141	3		PSY 113 ⁺	3
WRT 106 or 104	3		SOC 224 ⁺	3
			PHY 111 ⁺	3
			PHY 185 ⁺	1
Met by major required courses: 16 (or 19) cr		Met with add. Pre health courses: 34 (or 37) cr		
	Total Gen Ed credits		≥ 40	

General Education Outcome Audit	
List course as each outcome is met:	
	Course
KNOWLEDGE	
A1. STEM BIO110, 103, (MTH 103), MTH131	CHM101
A2. Social & Behavioral Sciences	SOC 224 ⁺
A3. Humanities	
A4. Arts & Design	
COMPETENCIES	
B1. Write effectively	WRT106/4
B2. Communicate effectively	COM100
B3. Mathematical, statistical, or computational strategies	MTH103, 131
B4. Information literacy	WRT106/4
RESPONSIBILITIES	
C1. Civic knowledge & responsibilities	COM100
C2. Global responsibilities	
C3. Diversity and inclusion	SOC 224 ⁺
INTEGRATE & APPLY	
D1. Ability to synthesize	
GRAND CHALLENGE	
G. Check that at least one course of your 40 credits is an approved "G" course	

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PREREQUISITES TO THE MAJOR:

Basic Non-Science Requirements (*also fulfill 6 cr of general education requirements)	Course	Grade	Cr	Semester Plan
Careers in Pharmaceutical Science	BPS 250		1	
Communication *B2, C1	COM 100		3*	
Research Writing (or WRT104) *B1, B4	WRT 106		3*	
Introduction to URI	URI 101		1	

Basic Science /Math Requirements (*also fulfills 10 or 13 cr general education reqs)	Course	Grade	Cr	Semester Plan	QPA
General Biology (or BIO101) *A1	BIO 110		3*		
General Biology Lab *A1	BIO 103		1*		
Human Anatomy & Physiology I	BIO 220		3		
Human Anatomy and Physiology I lab	BIO 221		1		
Human Anatomy and Physiology II	BIO 222		3		
Human Anatomy and Physiology II lab	BIO 223		1		
General Chemistry I *A1	CHM 101		3*		
General Chemistry I Lab	CHM 102		1		
General Chemistry II	CHM 112		3		
General Chemistry II Lab	CHM 114		1		
Organic Chemistry Lab	CHM 226		2		
Organic Chemistry I	CHM 227		3		
Organic Chemistry II	CHM 228		3		
Medical Microbiology (or 211)	CMB 201		3		
Medical Microbiology lab	CMB 202		1		
Biochemistry	CMB 311		3		
Precalculus (MTH103, placement) *A1	MTH 103		3* or 0		
Calculus (or MTH141) *A1, B3	MTH 131		3*		
Statistics (or STA 307, 3 cr; or STA 409, 4 cr)	STA 308		4		
Pre-professional QPA of 2.3 or higher					

BPS Progression, Retention, and Graduation requirements

BPS students request transfer from University College (UC) to the College of Pharmacy (PHARM) during the semester in which they are enrolled to complete all science and mathematics pre-requisite courses (BIO 103, 110, 220, 221, 222, 223; CHM 101, 102, 112, 114, 227, 228; CMB 201, 202, 311; MTH 131 or 141; and STA 308 or 307 or 409). Transfer requests from UC to PHARM will be reviewed and acted upon after grades are posted for the enrolled courses. For students who are off-sequence, consideration for transfer to PHARM may be considered prior to completion of CHM228, CMB311, or STA308.

Only those students having an equal or greater than 2.30 quality point average in the required pre-requisite courses (BIO 103, 110, 220, 221, 222, 223; CHM 101, 102, 112, 114, 227, 228; CMB 201, 202, 311; MTH 131 or 141; and STA 308 or 307 or 409), and an overall cumulative grade point average of 2.00 or above will be admitted to the College of Pharmacy for the B.S. Biomedical and Pharmaceutical Sciences degree. Applicants not meeting the criteria will not be considered for admission to the college.

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MAJOR REQUIREMENTS:

Major Requirements (Courses specifically listed are required, 33 credit)				
3 rd and 4 th Year	Course	Grade	Cr	Semester Plan
Pharmaceutics I: Biopharmaceutics	BPS 301		2	Fall
Essential Pharmacokinetic Concepts	BPS 306		2	Spring
Principles of Medicinal Chemistry	BPS 313		2	Fall
Pharmaceutics II	BPS 315		4	Fall
Human Drug Metabolism	BPS 325		2	Spring
Intro to Pharmaceutical Research	BPS 345		3	Sp.Yr 2 or Fall Yr 3
Pharmaceutical Pharmacology I	BPS 401		3	Fall
Pharmaceutical Pharmacology II	BPS 402		3	Spring
GMPs in Manufacture of Pharmaceuticals	BPS 425		3	Spring
Formulation and Manufacturing Lab	BPS 443		2	Spring
Biotechnology, Biologics, and Biosimilars	BPS 446		3	Spring
Techniques in Medicinal Chemistry and Molecular Biology lab	BPS 451		4	Fall
Experiential Education, ≥ 260 hours, 3.33 hr/week for 13 weeks per 1 credit enrolled Fall or Spring semester, proportional for summer or J-term **List enrolled credits under Prof Electives	BPS 460, 497, or 498		0**	Fall, Spring, Summer (See Experiential Ed coordinator)

BPS Professional Electives (18 credits required)				
*** Students have the option to tailor their academic program to prepare them for the specific career paths that they choose by taking 18 credits of pre-approved BPS professional electives. <i>Must be at 300-level or above. May also count toward minor, 2nd major, general education, honors project, experiential education.</i> At least 9 of the 18 cr of Professional Electives must be under BPS, PHP, or PHC course codes.				
Course Name	Course Code (300+)	Grade	Cr	Semester Plan
	BPS/PHC/PHP			
	BPS/PHC/PHP			
	BPS/PHC/PHP			
General Genetics* (fulfills BIO minor)	BIO 352*		4	BIO102/104 prereq.
0-12 credits to make ≥ 120 total				
(Exact number will vary by student according to transfer credits, general education choices, non-degree credits, initial math placement, credits taken for experiential education, etc.)				

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Proposed Semester Sequence for Pre-Health Profession Students

Fall	Spring	BPS Milestones	Pre-Health Milestones
Year One			
BIO 110* and 103*, 3+1 cr.	BIO 102* and 104*, 3+1 cr.	- Complete BIO, CHM, & MTH pre-reqs - Pre-Professional GPA ≥ 2.30 - Complete ≥ 29 cr.	- Aim for a GPA ≥ 3.6 - Gen ed can include SOC224 or PSY113 - Attend a pre-health 101 info session - Investigate research opportunities, direct patient care/clinical experience
CHM 101* and 102, 3+1 cr.	CHM 112 and 114, 3+1 cr.		
MTH 103*, 3 cr. ; or choice Gen Ed*	MTH 131*, 3 cr.		
COM 100*, 3 cr.	WRT 106*, 3 cr.		
URI 101, 1 cr.			
(15 cr. Total, 13 gen ed)	(14 cr. Total, 10 gen ed)		
Year Two			
BIO 220 and 221, 3+1 cr.	BIO 222 and 223, 3+1 cr.	- Complete BIO, CHM, CMB, STA pre-reqs - Pre-Professional GPA ≥ 2.30 - Complete ≥ 60 cr. - Meet progression standards for move from UC to BPS	- Aim for a GPA ≥ 3.6 - Gen ed can include SOC224 or PSY113 - Get involved in service, CFRP, shadowing - Start research and direct patient care/clinical experience
CHM 227, 3 cr.	CHM 228, 3 cr.		
CMB 201 and 202, 3+1 cr.	CHM 226, 2 cr.		
BPS 250, 1 cr.	STA 308 (or 307 or 409), 4 cr.		
PHY 111* and 185*, 3+1 cr.	CMB 311, 3 cr.		
(16 cr. Total, 4 gen ed)	(16 cr. Total)		
Year Three			
BPS 301, 2 cr.	BPS 306, 2 cr.	- Advanced knowledge of pharmacology, medicinal chemistry, pharmacokinetics, and pharmaceuticals. - Knowledge of laboratory methods, biologic medications, and choice specialty areas - Maintain Professional GPA ≥ 2.3, Cumulative GPA ≥ 2.0	- Aim for a GPA ≥ 3.6 - Prof elective can include BIO 352 - Finish coursework for entrance exams - If applying in junior year, Complete pre-health requirements by first semester - Take MCAT spring semester
BPS 313, 2 cr.	BPS 325, 2 cr.		
BPS 315, 4 cr.	BPS 425, 3 cr.		
BPS 345, 3 cr.	BPS 443, 2 cr.		
PHY 112* and 186*, 3+1 cr.	Prof Elective/*Gen Ed choice, 3 cr		
	Prof Elective/*Gen Ed choice, 3 cr.		
(15 cr. Total, 4 gen ed)	(15 cr. Total)		
Year Four			
BPS 401, 3 cr.	BPS 402, 3 cr.	- Advanced knowledge of pharmacology, medicinal chemistry, pharmacokinetics, and pharmaceuticals. - Knowledge of laboratory methods, biologic medications, and choice specialty areas - Maintain Professional GPA ≥ 2.3, Cumulative GPA ≥ 2.0 - Complete ≥ 120 cr. for graduation	
BPS 451*, 4 cr.	BPS 446, 3 cr.		
Prof Elective/*Gen Ed choice, 3 cr.	Prof Elective/*Gen Ed choice, 3 cr.		
Professional Elective, 3 cr.	Professional Elective, 3 cr		
Professional Elective, 3 cr.	Professional Elective, 3 cr.		
(16 cr. Total)	(15 cr. Total)		