

# BIOCHEMISTRY- PRE-PHARMACY (B.S.)

## Student Learning Outcomes

- Students will demonstrate knowledge of discipline- specific content related to macro- principles describing the 3 domains of biology and the molecular nature of life.
- Students will use critical thinking by demonstrating the ability to recognize the components of a problem, formulate a strategy to solve the problem, apply comprehensive scientific knowledge to execute a solution and then evaluate the effectiveness of the solution.
- Students will demonstrate communication skills reflective of professional standards consistent biology-related associations (i.e. FASEB).
- Students will demonstrate discipline- specific core laboratory and calculation- based skills related to the characterization and classification of life forms, their components and habitats and in the molecular analysis of living species.
- Students will demonstrate readiness for post-baccalaureate entry into a workforce or acceptance into graduate or professional programs in Biology and/or health professions.
- Students will demonstrate global perspective in their understanding of how biological factors affect economics, health, technology and the environment.

## Recommended

- A Global Learning (GL) Experience (<http://catalog.walsh.edu/undergraduate/academic-services/#globallearning>)

## Required

- General Education Requirements (<http://catalog.walsh.edu/undergraduate/general-education-curriculum/>)
- Internship

Code	Title	Hours
<b>Biochemistry- Pre-Pharmacy</b>		<b>92.5-94.5</b>
<b>Biology Requirements</b>		<b>31-33</b>
BIO 101	FD: T1:Principles of Biology I	3
BIO 101L	Principles of Biology I: Lab	1
BIO 102	Principles of Biology II	3
BIO 102L	Principles of Biology II: Lab	1
BIO 206	Microbiology	3
BIO 206L	Microbiology: Lab	1
BIO 209	Anatomy/Physiology I	3
BIO 209L	Anatomy/Physiology I: Lab	1
BIO 210	Anatomy/Physiology II	3
BIO 210L	Anatomy/Physiology II: Lab	1
BIO 306	Cell Biology	3
BIO 390	Biology Internship	1-3
BIO 402	CH: Genetics	3
BIO 402L	Genetics: Lab	1
BIO 414	Cellular Molecular Tech	3
<b>BIO/CHEM (Biochemistry)</b>		<b>7</b>
BIO 307	Essential Biochemistry	3

or CHEM 307 Essential Biochemistry		
BIO 403	Clinical Biochemistry	3
or CHEM 403 Clinical Biochemistry		
CHEM 198	Chemistry Seminar	1
CHEM 398	Premier Skills/Professionalism	1
<b>Chemistry</b>		<b>16</b>
CHEM 101	FD:T1:Princ of Chemistry I	3
CHEM 101L	Principles of Chemistry I: Lab	1
CHEM 102	Principles of Chemistry II	3
CHEM 102L	Principles of Chemistry II:Lab	1
CHEM 208	Organic Chemistry I	2
CHEM 201L	Organic Chemistry I: Lab	1
CHEM 209	Organic Chemistry II	2
CHEM 202L	Organic Chemistry II: Lab	1
CHEM 210	Organic Chemistry III	2
<b>Physics</b>		<b>8</b>
PHYS 101	Principles of Physics I	3
or PHYS 201 Physics with Calculus I		
PHYS 101L	Principles of Physics I: Lab	1
PHYS 102	Principles of Physics II	3
or PHYS 202 Physics with Calculus II		
PHYS 102L	Principles of Physics II: Lab	1
<b>Math</b>		<b>9</b>
MATH 210A	Calculus I	3
MATH 211	Calculus II	3
MATH 221	Statistics	3
<b>NEOMED Courses</b>		<b>21.5</b>
Human Anatomy Physiology and Pathophysiology I		5
Intro to Pharmaceutical Sciences		5.5
Human Anatomy Physiology and Pathophysiology II		4
Pharmacodynamics/Pharmacokinetics		4
Immunology and Biotechnology		3

Math and Science requirements in major also fulfill core requirements; MATH 155 and MATH 156 are prerequisites for MATH 210A.

The first 3 years at Walsh will include the first page of this curriculum sheet as well as the majority of the general education curriculum. #t may require some summer courses to complete this major in the 3 + 2 window. #Check with your advisor for details.

At the end of the spring semester in year 3, students will begin graduate courses at NEOMED working towards their Doctorate of Pharmacy. At the end of year 4, the BS in Biology from Walsh will have been earned and you will graduate from Walsh.